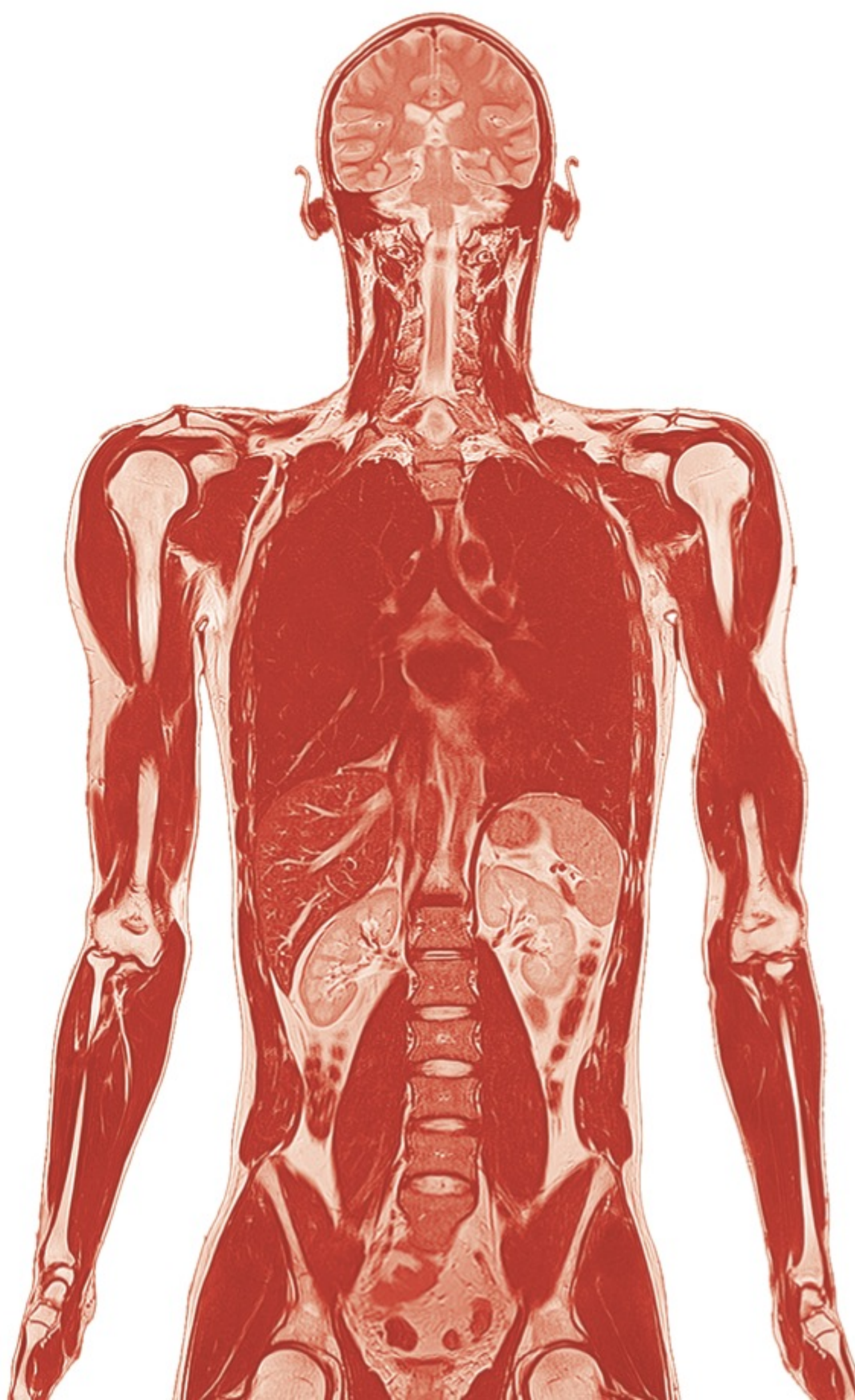


Heuck | Steinborn | Rohen | Lütjen-Drecoll

ATLAS DE RESSONÂNCIA MAGNÉTICA DO SISTEMA MUSCULOESQUELÉTICO



2^a
edição


Manole

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**Andreas Heuck
Marc Steinborn
Johannes W. Rohen
Elke Lütjen-Drecoll**

Com a colaboração de
Huberta Weiss e Jörg Pekarsky

Com 1.140 ilustrações

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Prefácio

Este Atlas de ressonância magnética do sistema musculoesquelético é a segunda edição do *MR-Atlas der Extremitäten* [Atlas de ressonância magnética das extremidades], que apesar de esgotado, até hoje ainda é muito consultado. Além disso, os livros já publicados, que são semelhantes na abordagem de combinar técnicas de imagem e ilustrações detalhadas, atestam que a concepção original da primeira edição estava correta.

Decerto, não se tratava apenas da necessidade de se obter mais detalhes, mas almejávamos um extenso guia de toda a anatomia seccional, que descrevesse o sistema musculoesquelético. O atual nível de aperfeiçoamento da qualidade da imagem de ressonância magnética, com melhor representação, e, ao mesmo tempo, avaliação de pequenas estruturas anatômicas nos incentivaram a renovar o Atlas por completo.

O conhecimento cada vez maior de detalhes anatômicos e de sua importância foi outra razão para nos atentarmos à precisão e à exatidão de detalhes nas ilustrações, bem como para inserirmos uma grande quantidade de termos anatômicos.

Este novo Atlas é dividido em três partes: “Coluna vertebral”, “Membro superior e cingulo do membro superior” e “Membro inferior e cingulo do membro inferior”, nas quais específicas regiões anatômicas são representadas em sentido craniocaudal e em cada um dos três planos clínicos de secção.

O objetivo é fornecer informações sobre as principais estruturas anatômicas por meio da

comparação de ilustrações detalhadas e esquematicamente elaboradas e imagens de ressonância magnética T1 e T2 de alta resolução, nítidas e facilmente apreensíveis. Nesse sentido, as ilustrações se referem a estruturas específicas, que ficam subentendidas na ressonância magnética mas que são muito importantes para o diagnóstico. Especialmente em regiões clinicamente “desafiadoras” (p. ex., articulações da mão e do cotovelo), uma grande quantidade de informações servirá de base para uma análise sofisticada e moderna e para a avaliação dos exames de ressonância magnética. São apresentadas também aquelas regiões extensas do sistema musculoesquelético, que, por causa das difíceis condições de diagnóstico, são pouco exploradas na literatura e no cotidiano, mas estão sempre presentes em exames de rotina (p. ex., braço e antebraço).

Este Atlas não pode e não deve substituir o estudo de livros e artigos científicos. Ele deve servir como uma ajuda prática, clara e, ao mesmo tempo, aprofundada para um trabalho diário. Esperamos, portanto, que ele seja uma obra de referência não apenas para radiologistas e ortopedistas, mas também para fisioterapeutas e profissionais de outras áreas da saúde como cirurgia, medicina física e de reabilitação, reumatologia e oncologia.

Primavera de 2009

Andreas Heuck
Marc Steinborn
Johannes W. Rohen
Elke Lütjen-Drecoll

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A concepção e a produção deste Atlas não seriam possíveis sem a colaboração e o apoio de muitas pessoas.

A maior contribuição neste projeto foi da Sra. Huberta Weiss (de Munique, Alemanha), com a elaboração extremamente dedicada e profissional dos exames de ressonância magnética, e do Sr. Jörg Pekarsky (de Erlangen, Alemanha), com seu esforço incansável e eficaz na criação das ilustrações anatômicas.

A Sra. Herta Fischer também produziu com grande dedicação ressonâncias magnéticas para dois capítulos.

Colocaram-se gentilmente à disposição como modelos anatômicos nos exames de ressonância magnética: Sra. Amella Bleicher, Sra. Stefanie Surwald, Sr. Andreas Arnoldi, Sr. Stefan Schöninger e Sr. Fabian Sommer.

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Marc Steinborn
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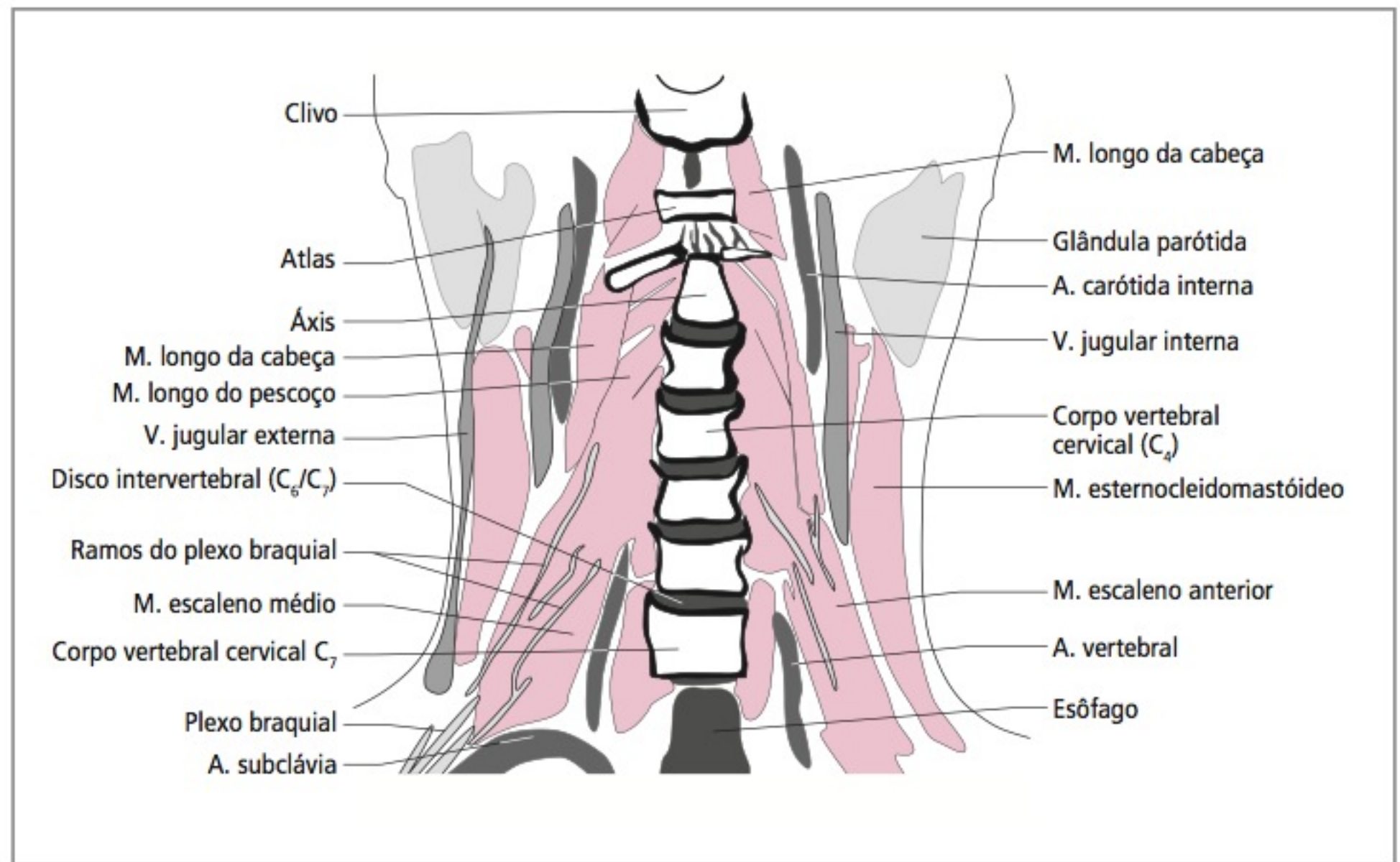
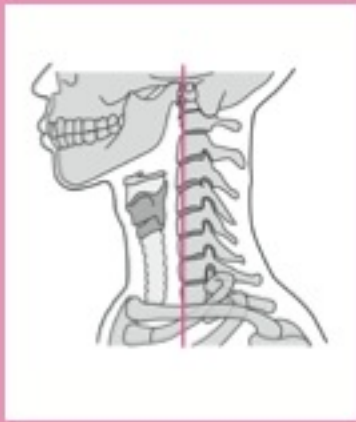
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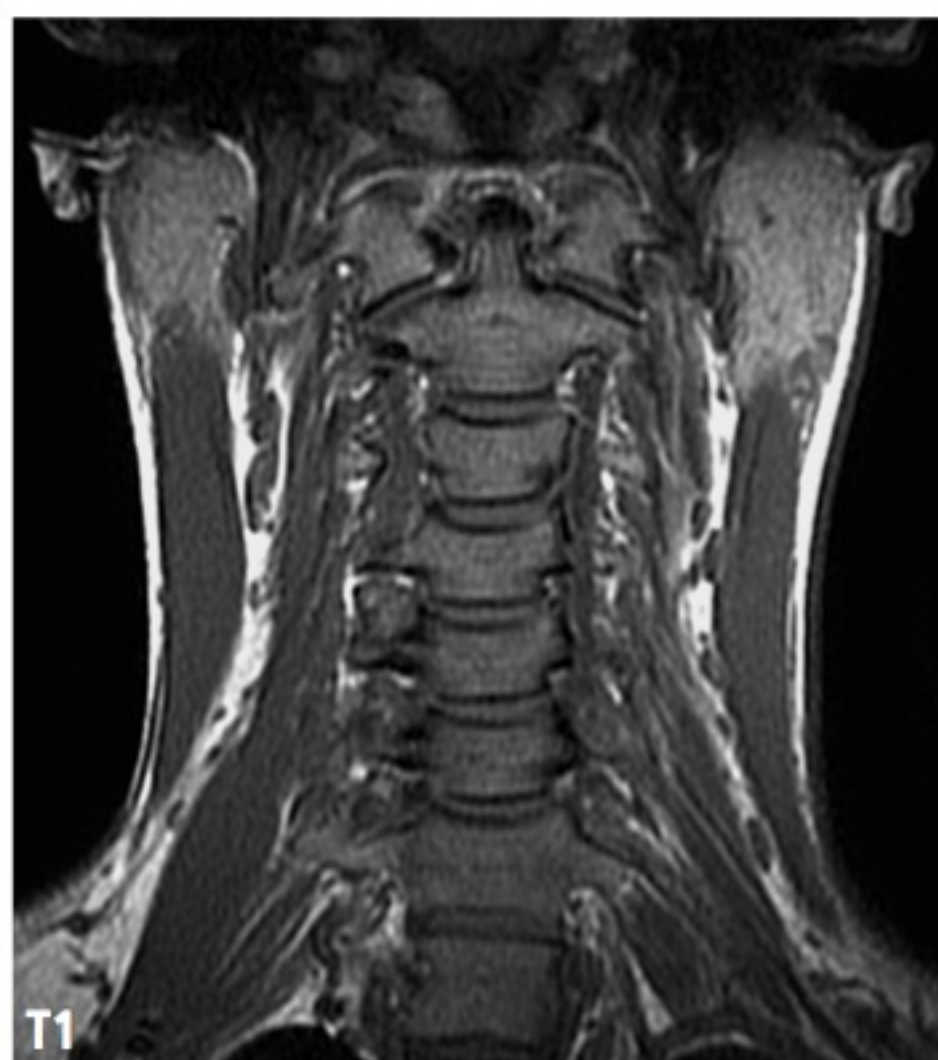
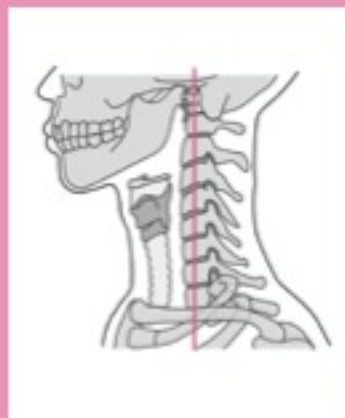
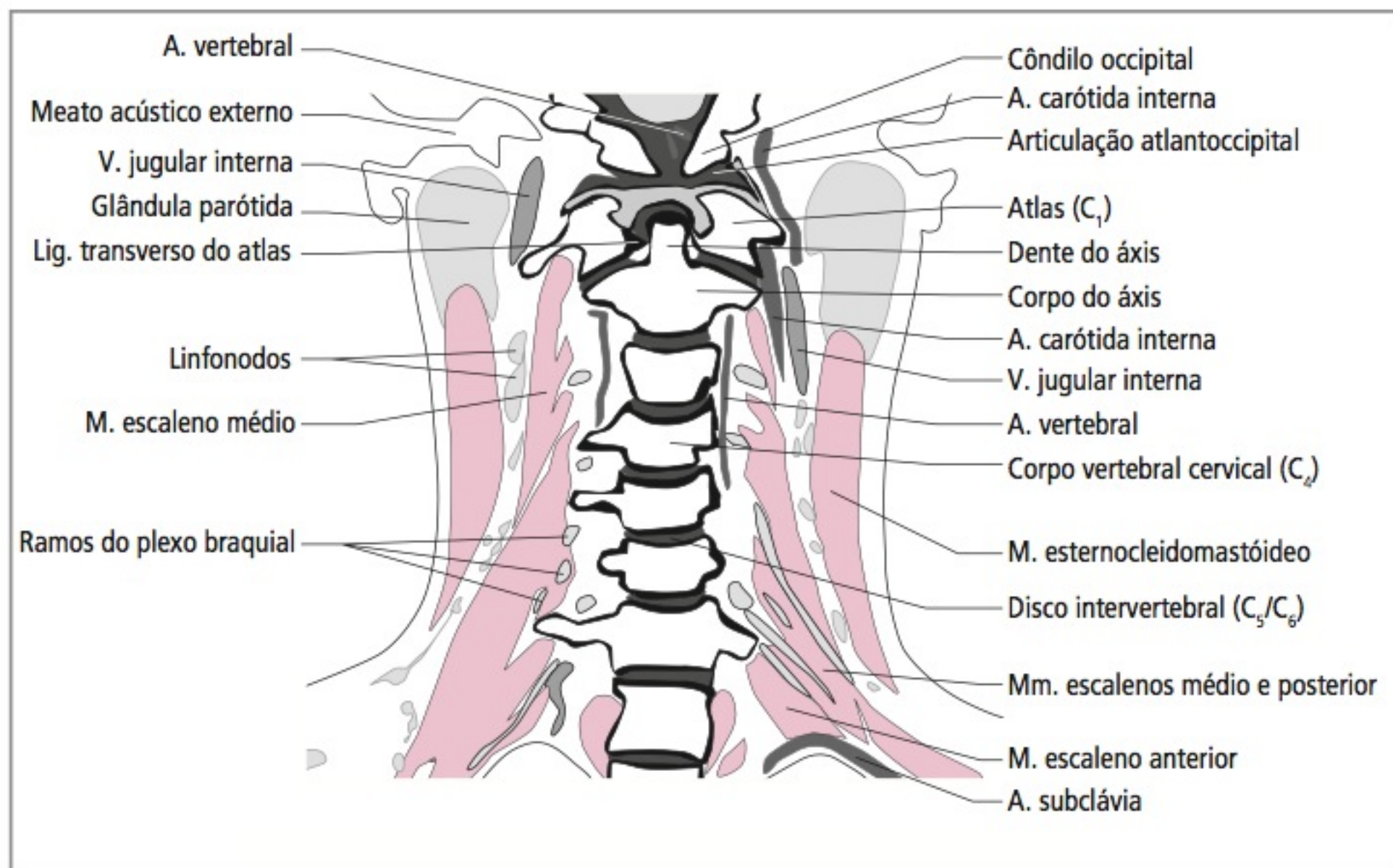
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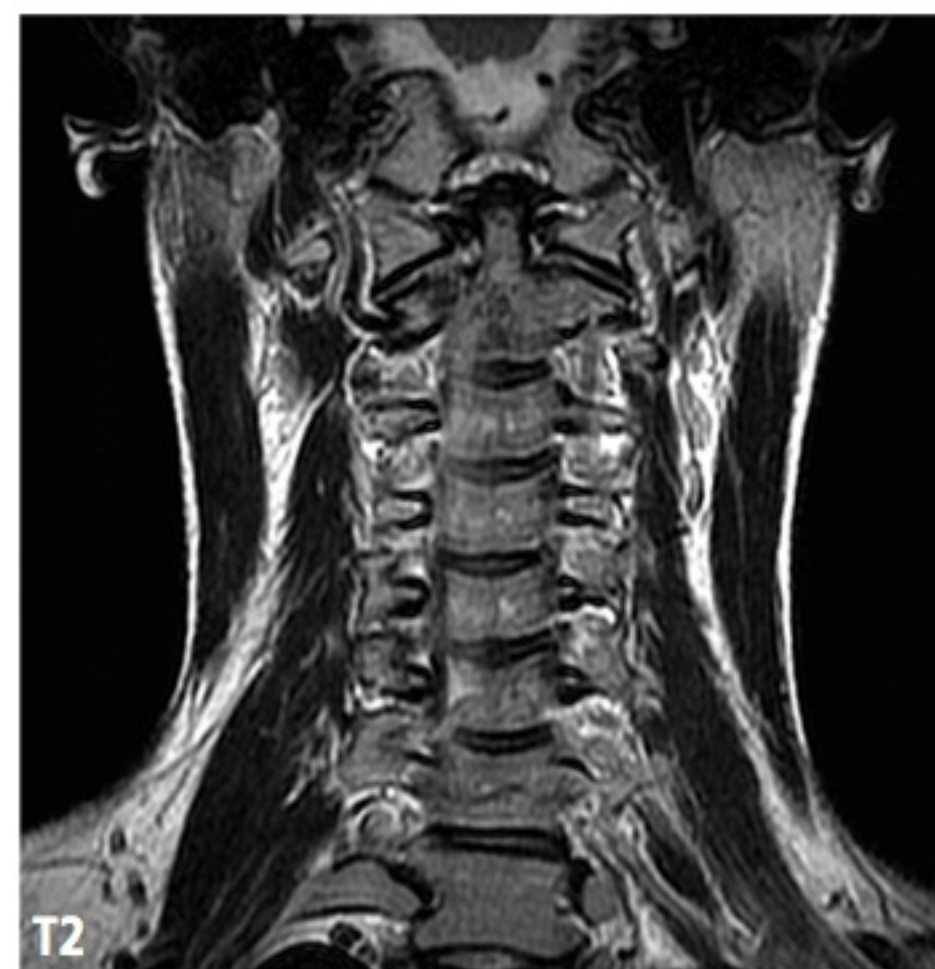
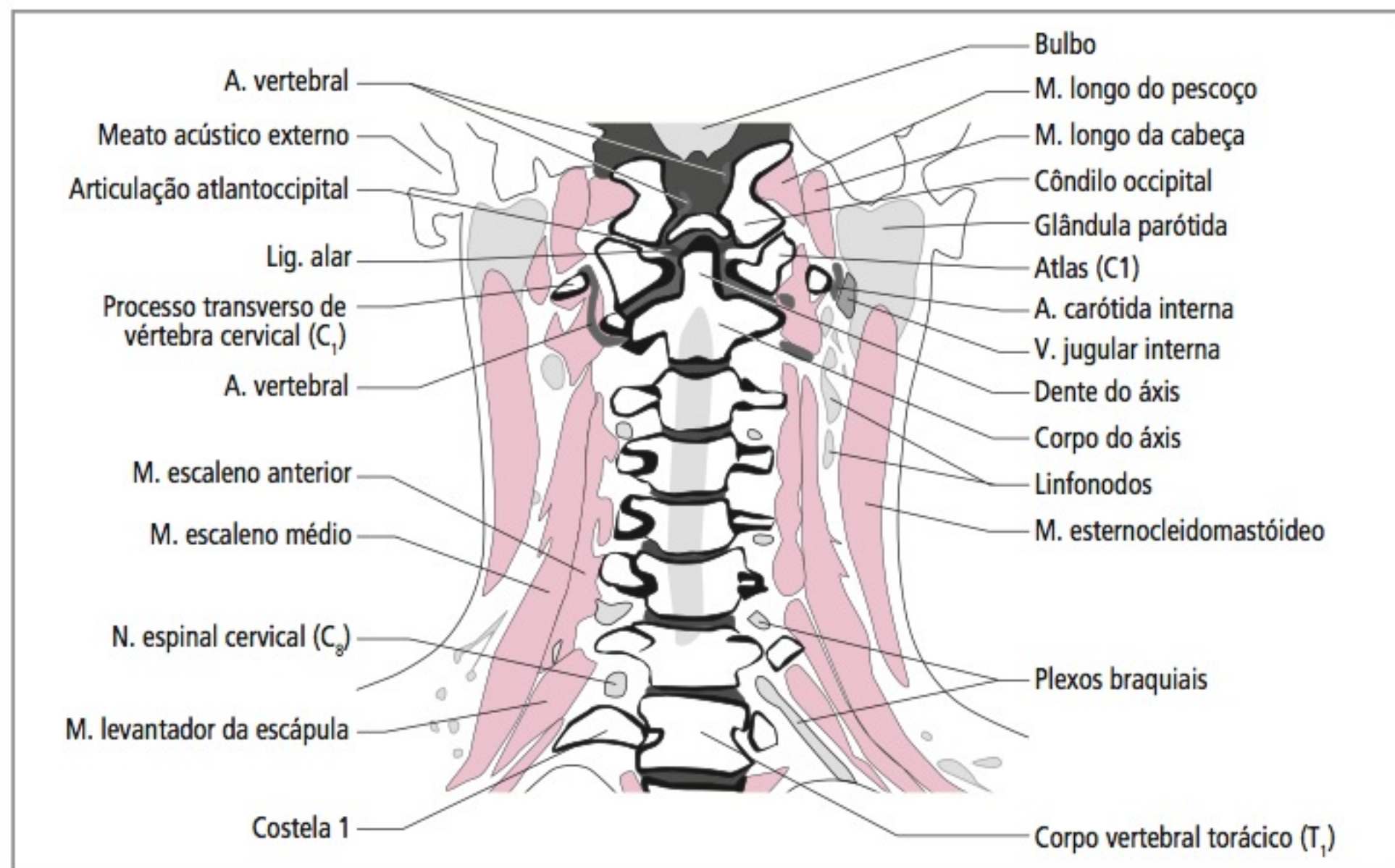
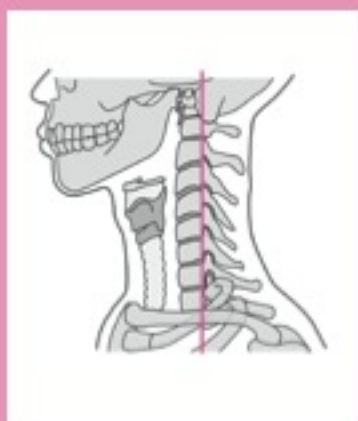
- **secção coronal:** de ventral (anterior) para dorsal (posterior);
- **secção sagital:** de medial para lateral;
- **secção axial:** de cranial (superior) para caudal (inferior).

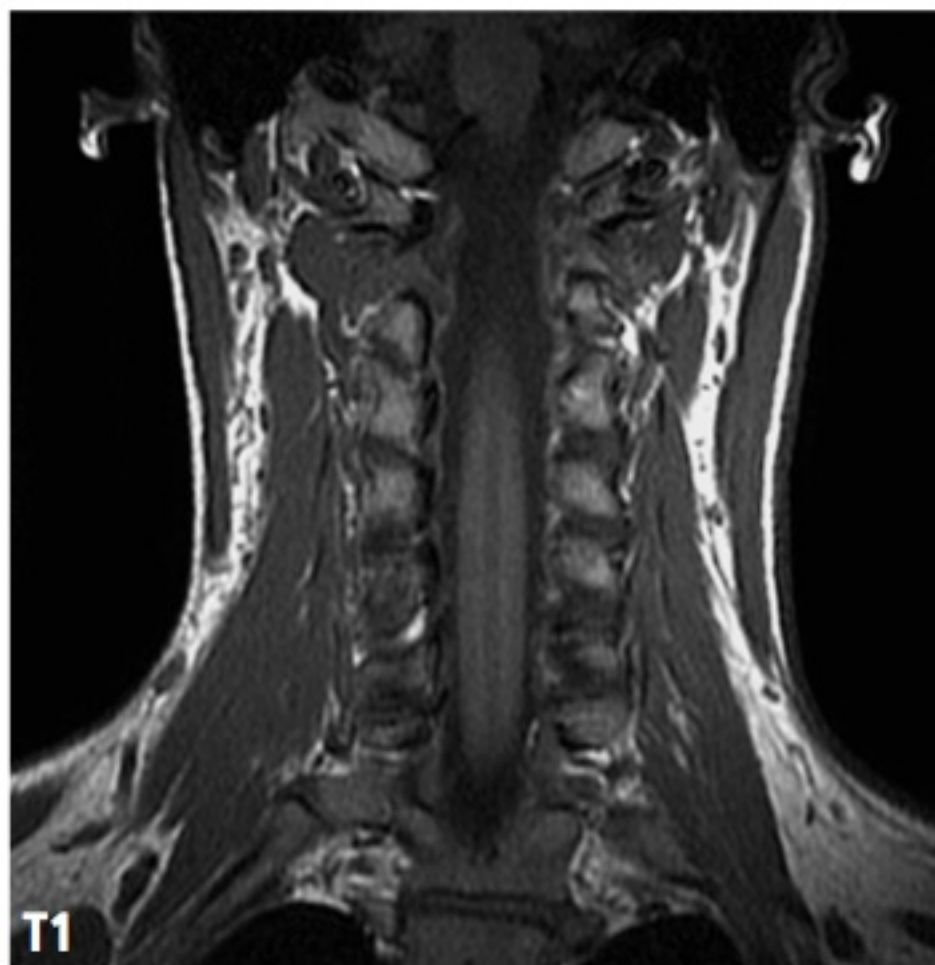
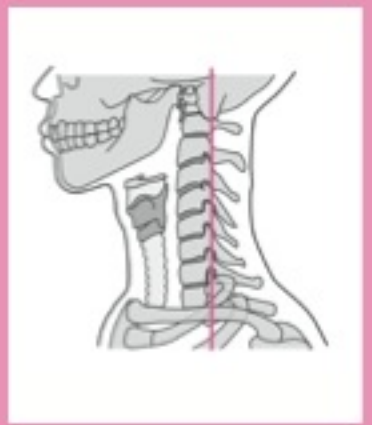
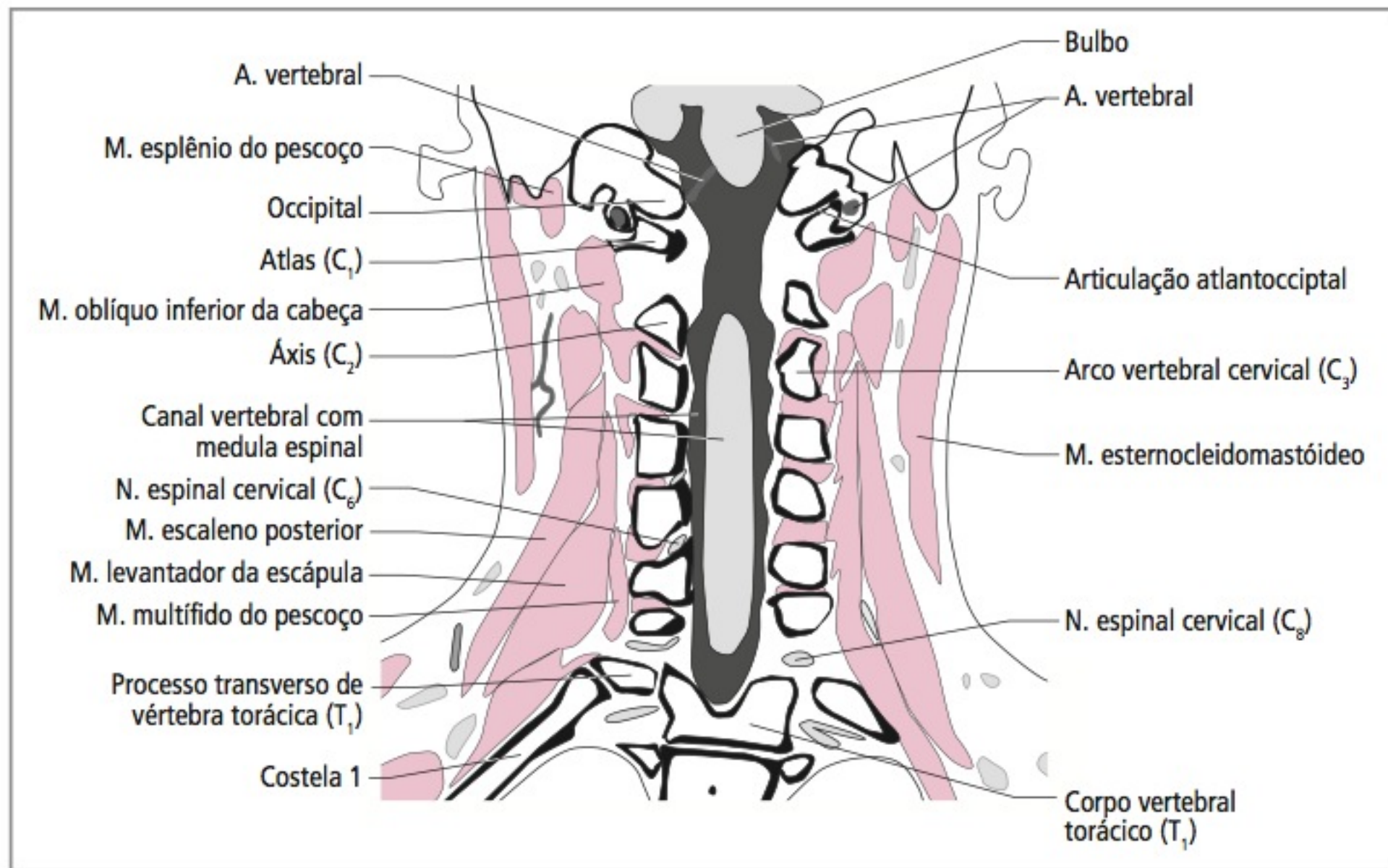


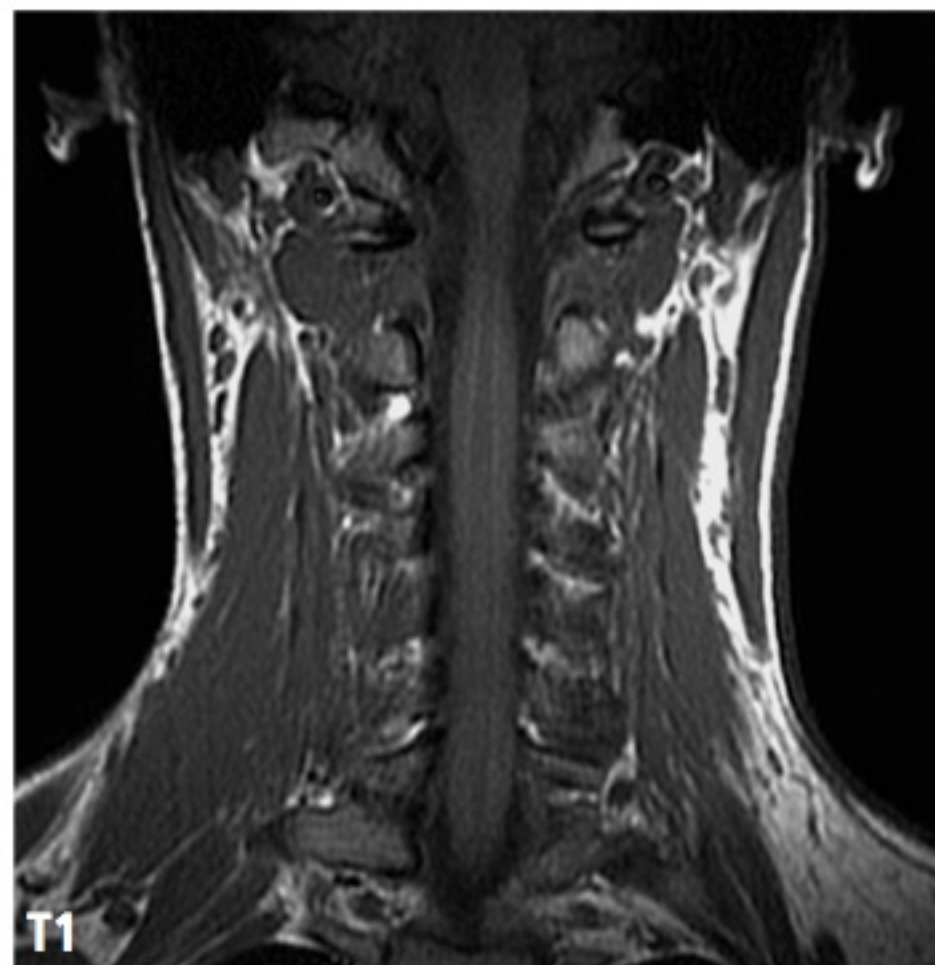
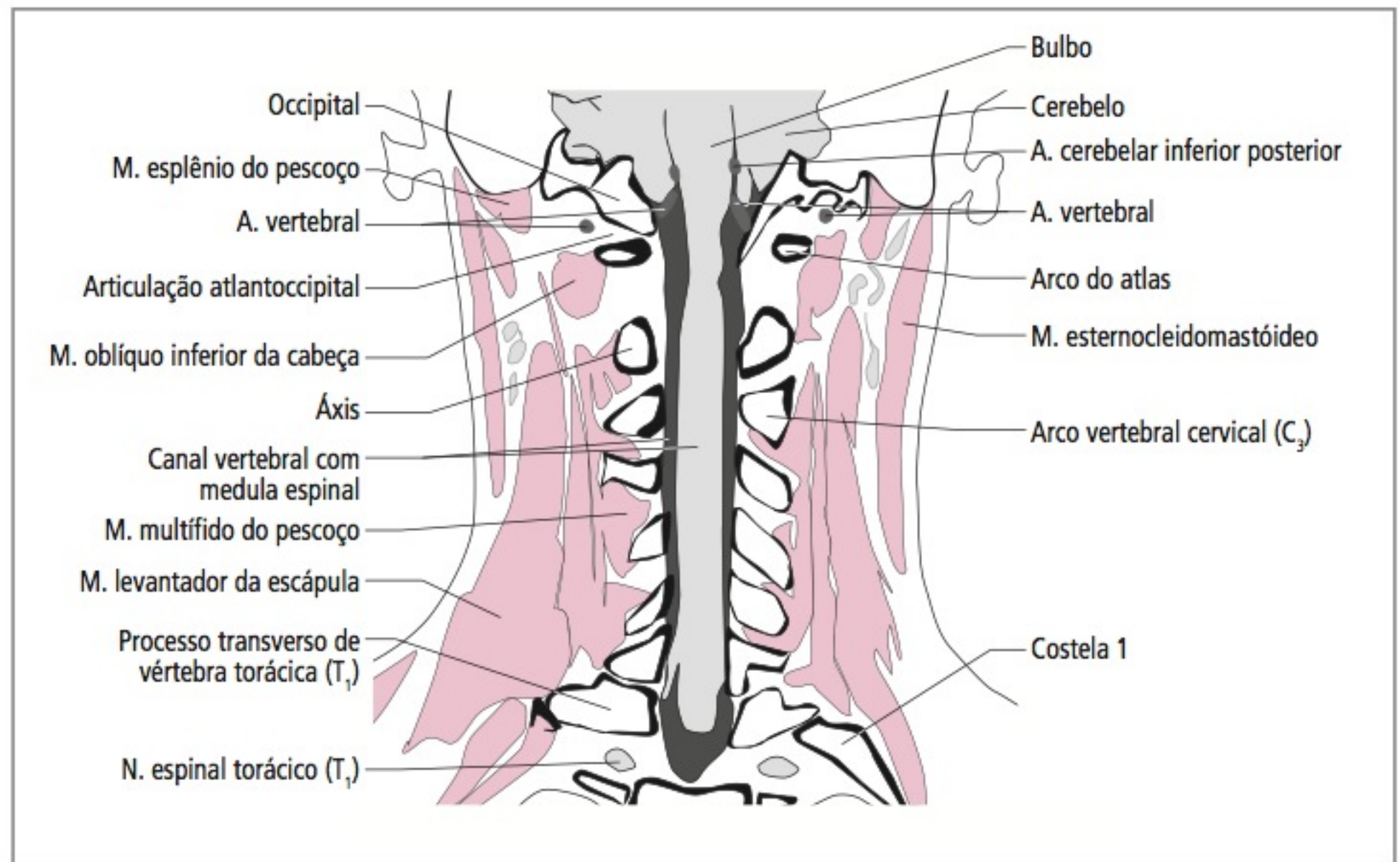
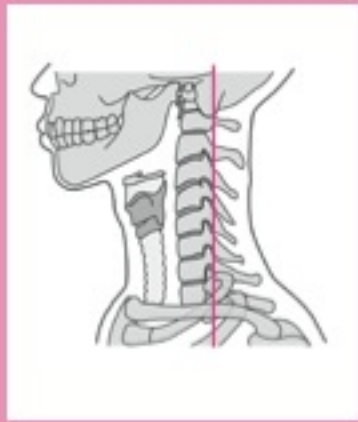
Coluna vertebral

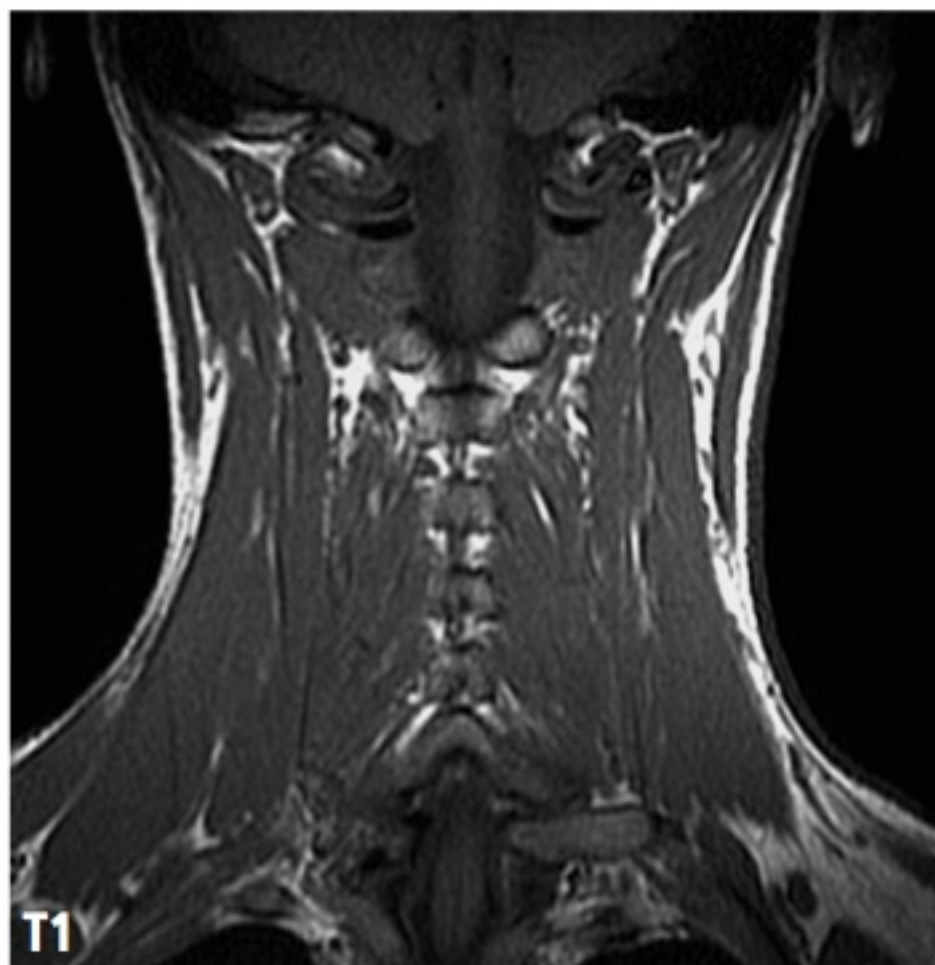
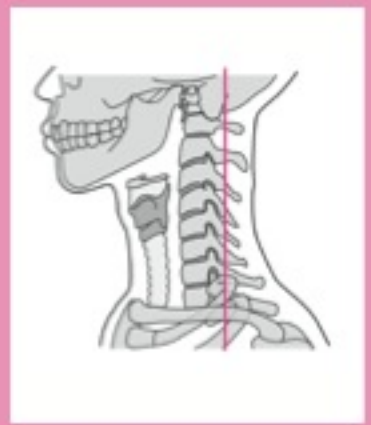
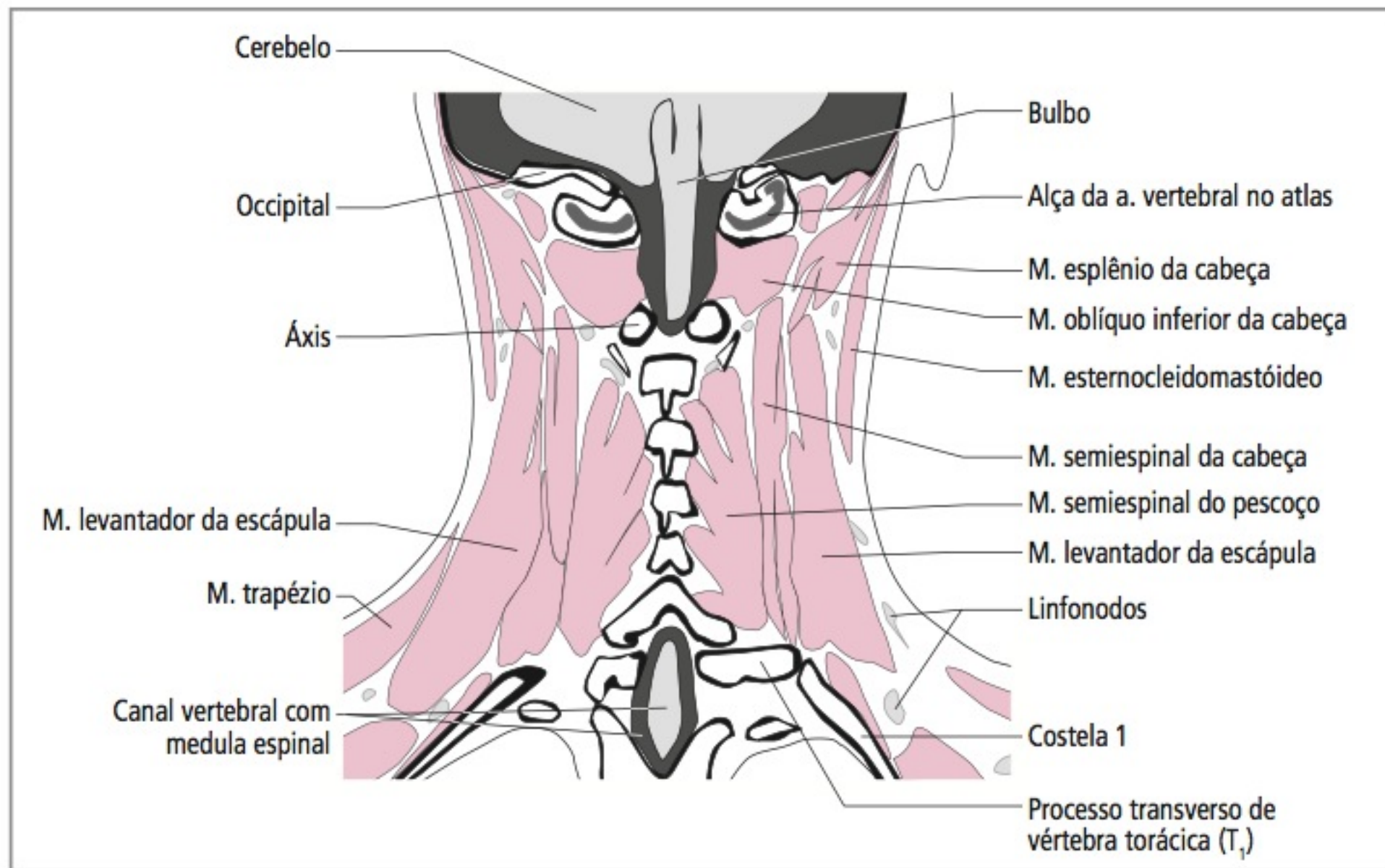


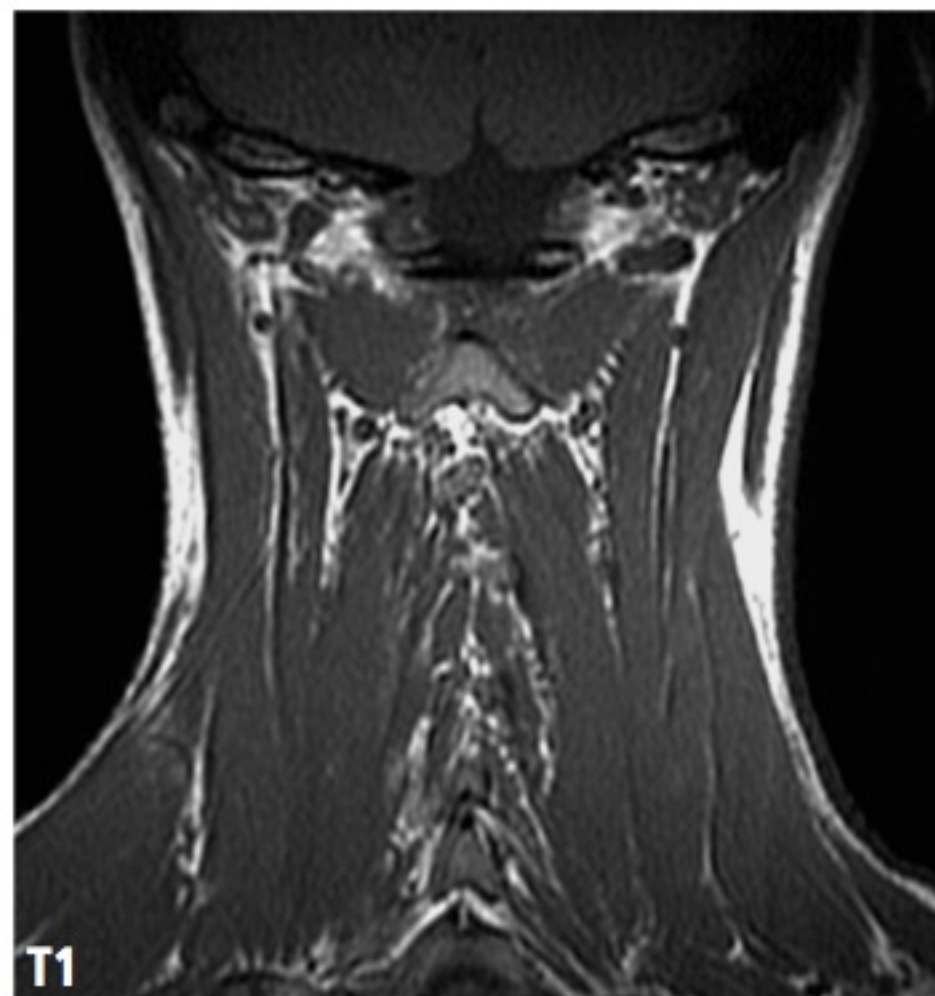
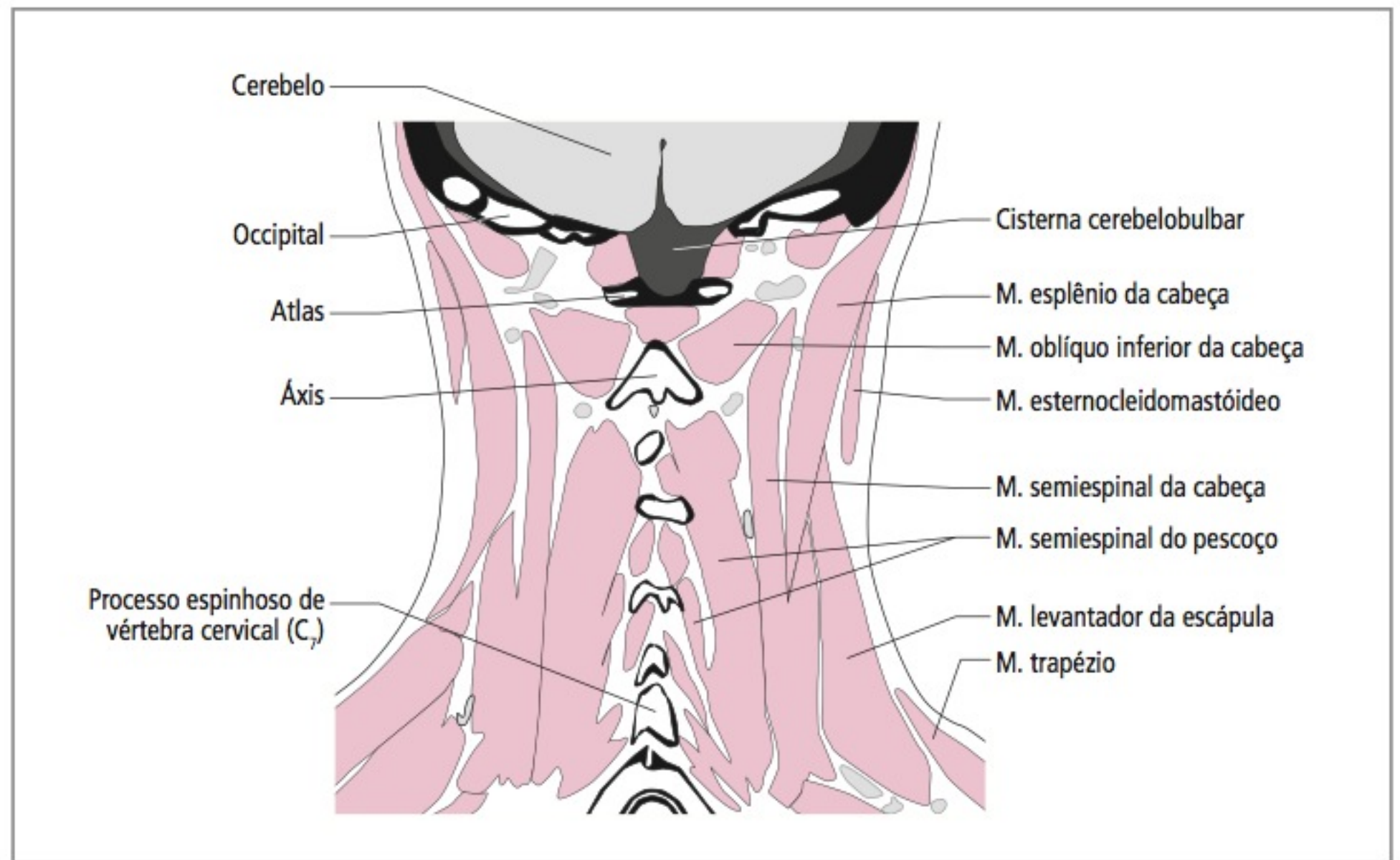
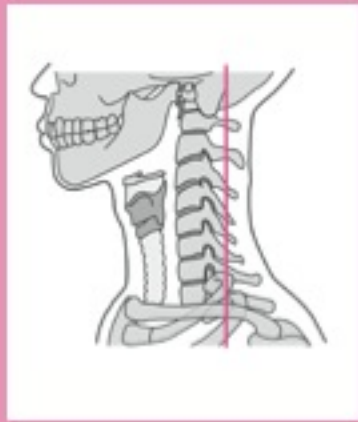


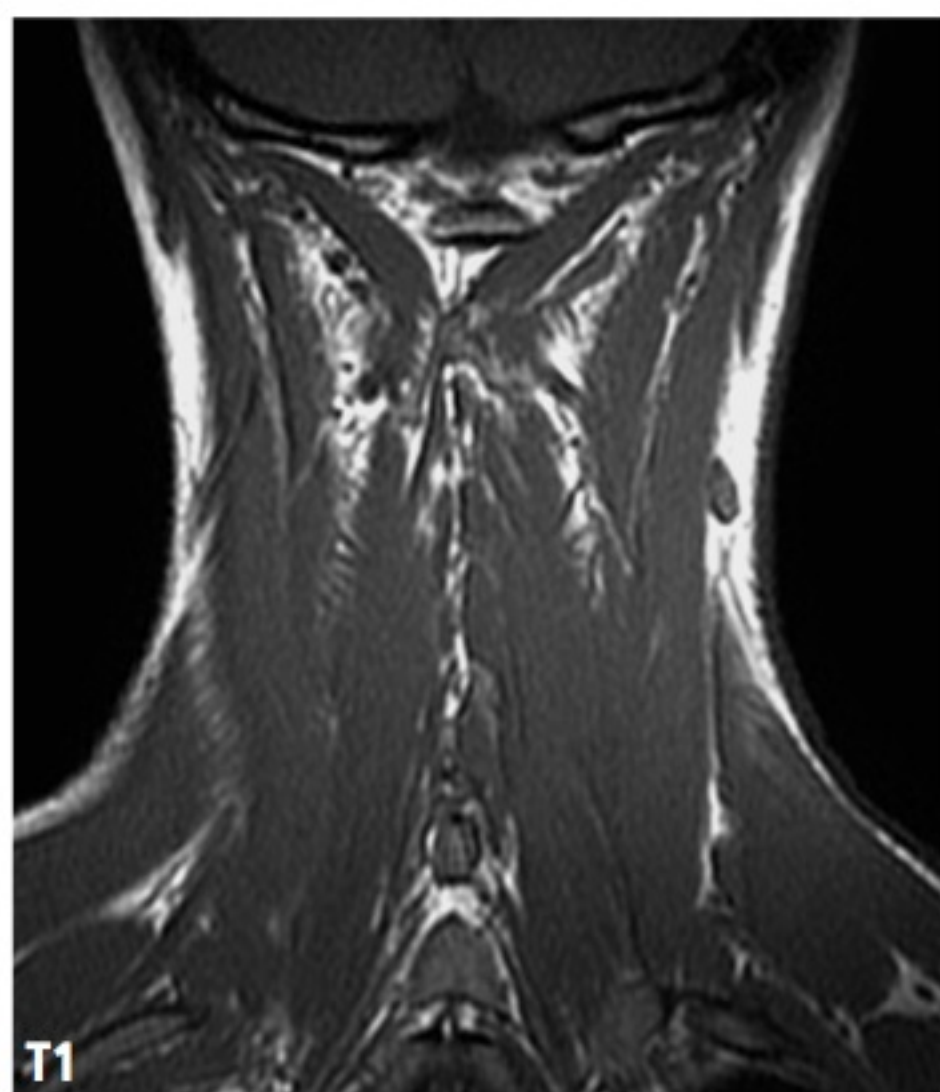
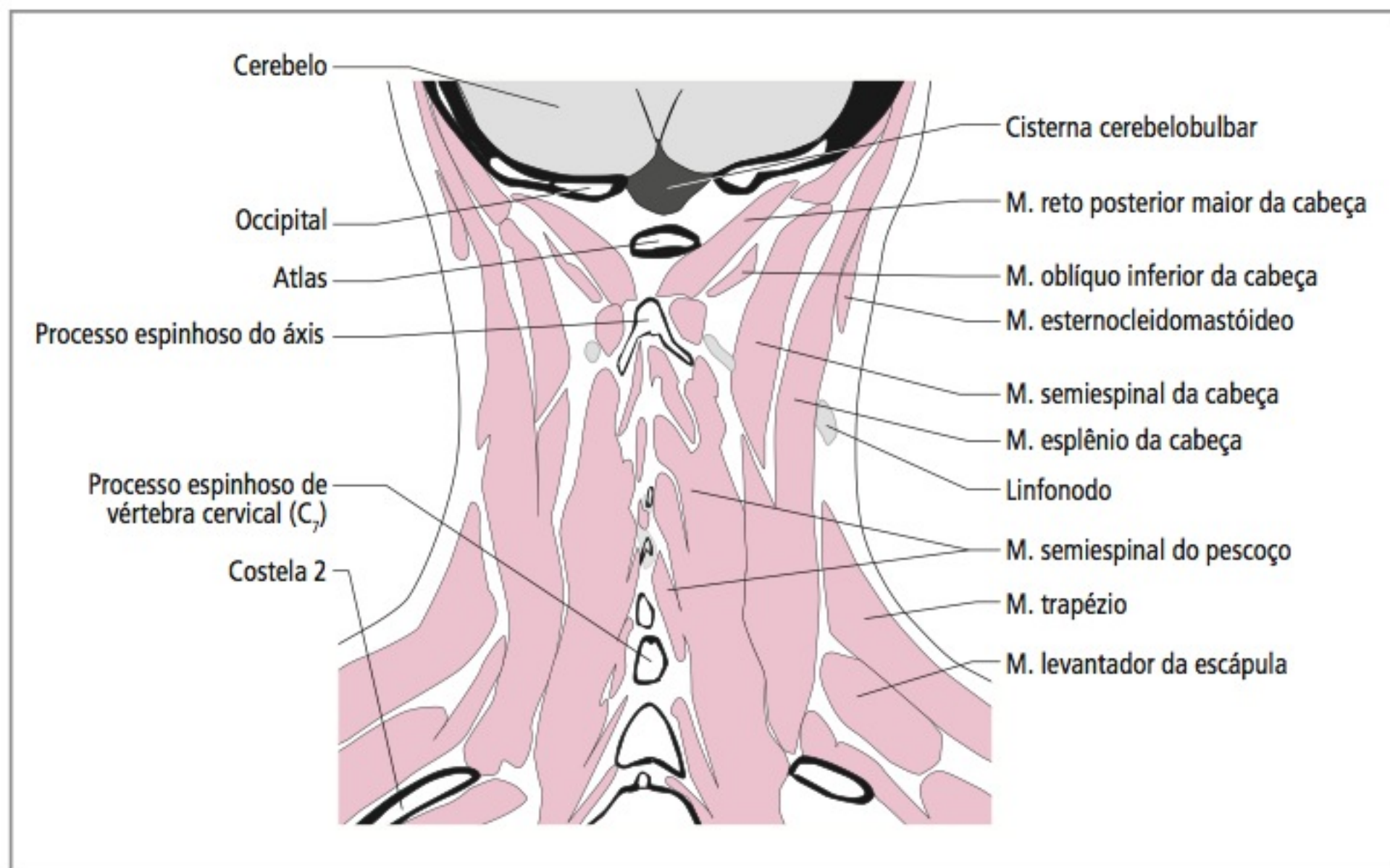


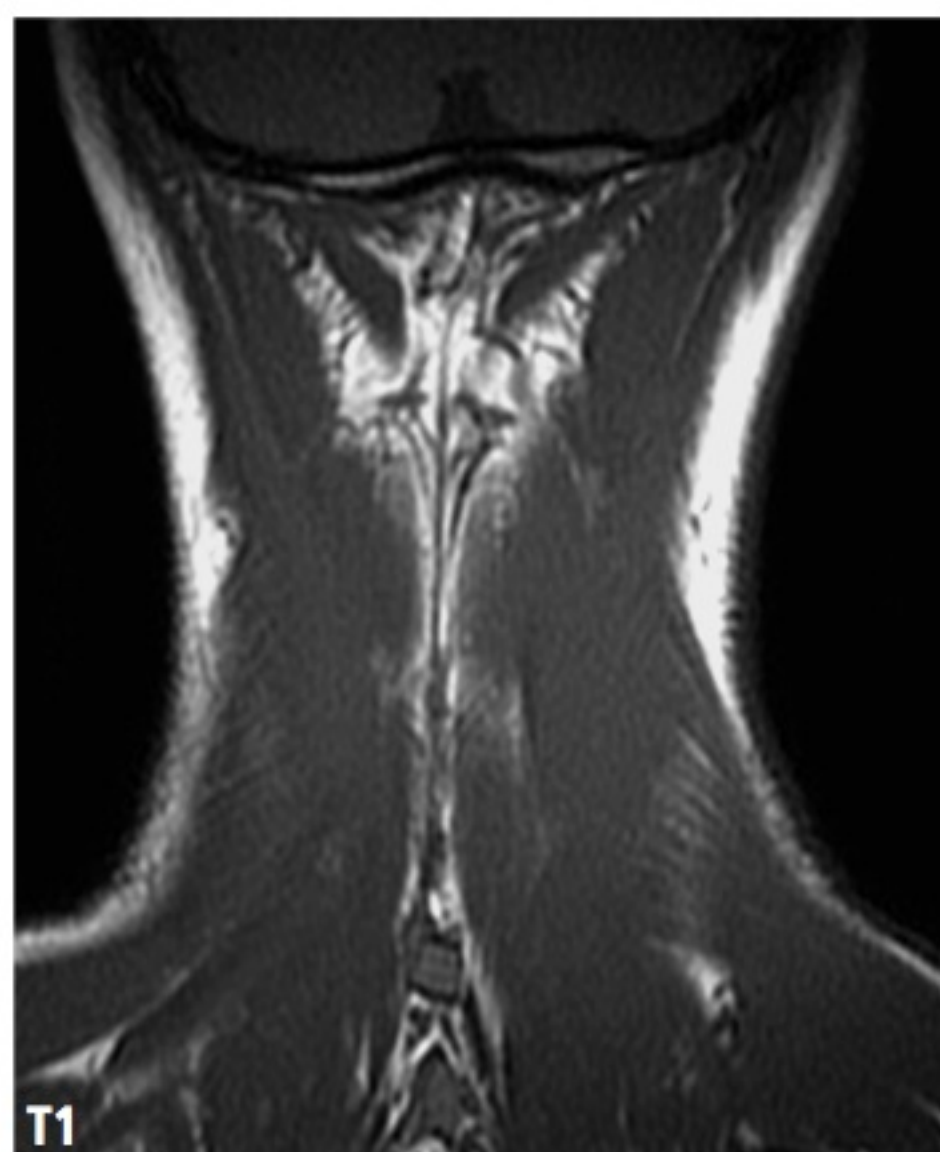
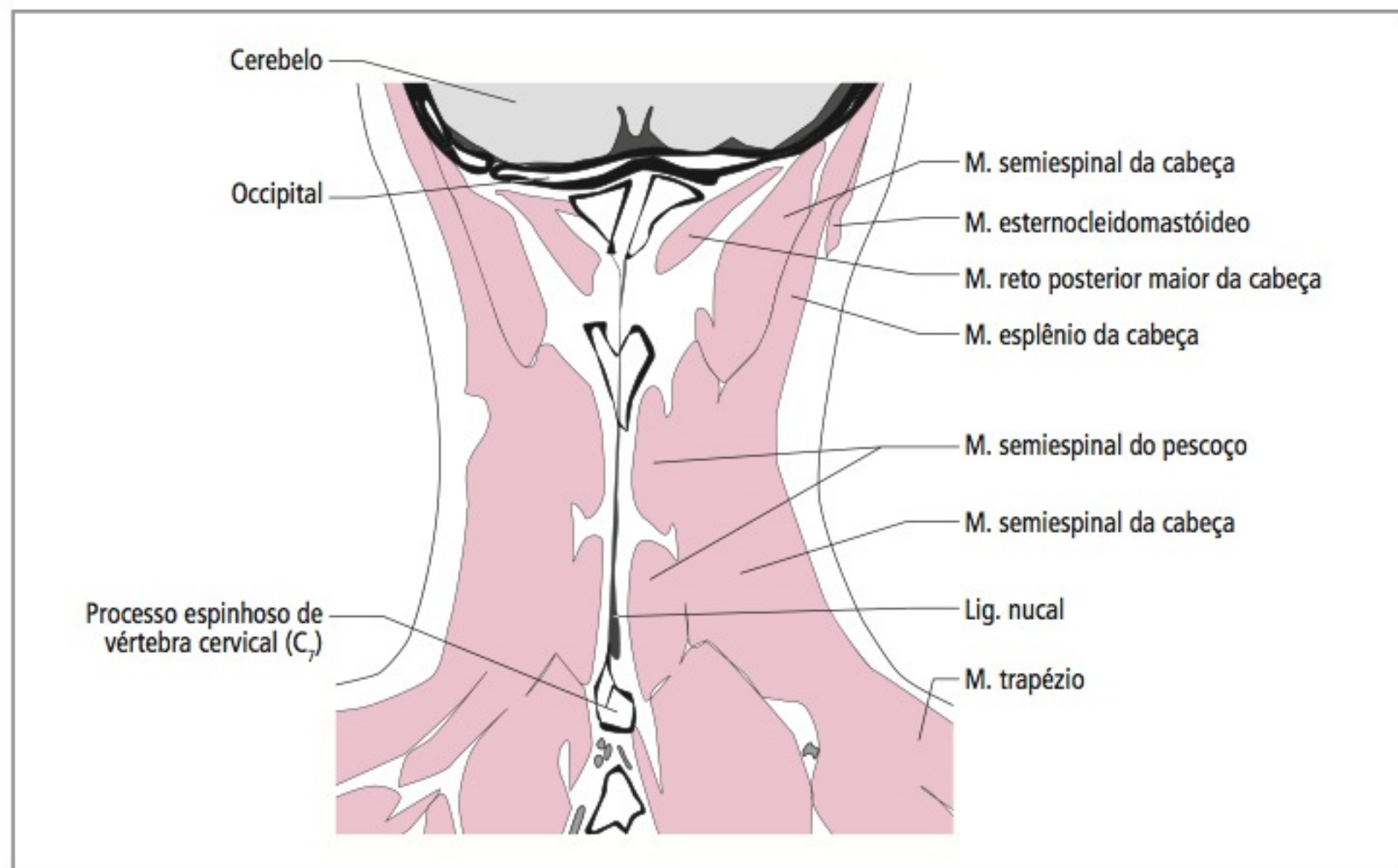


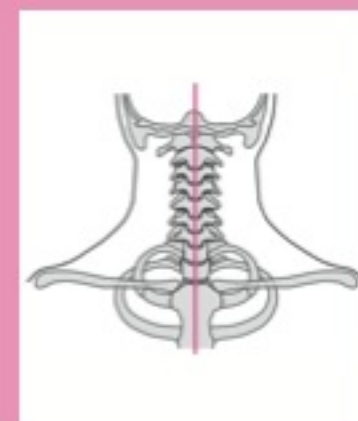
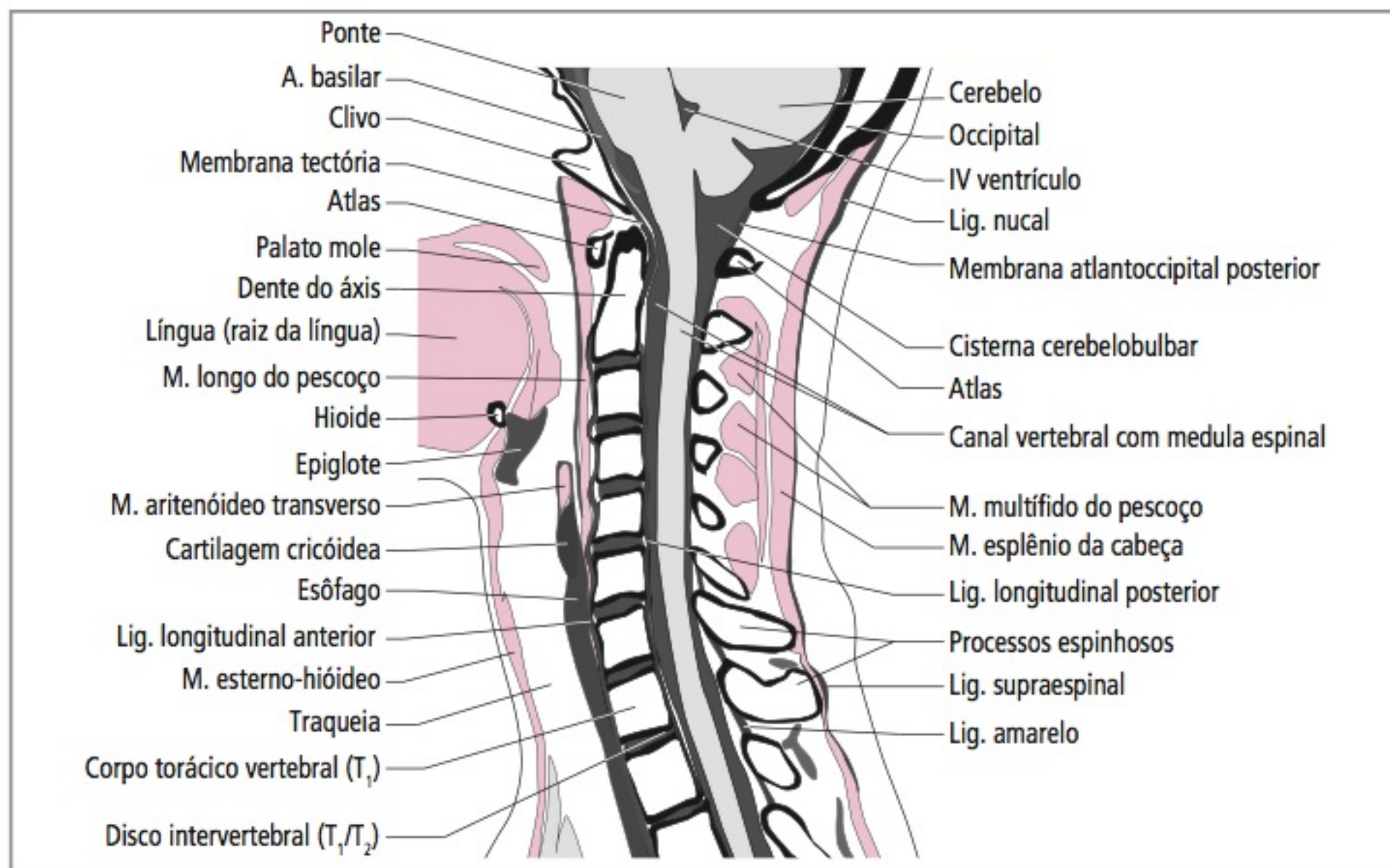


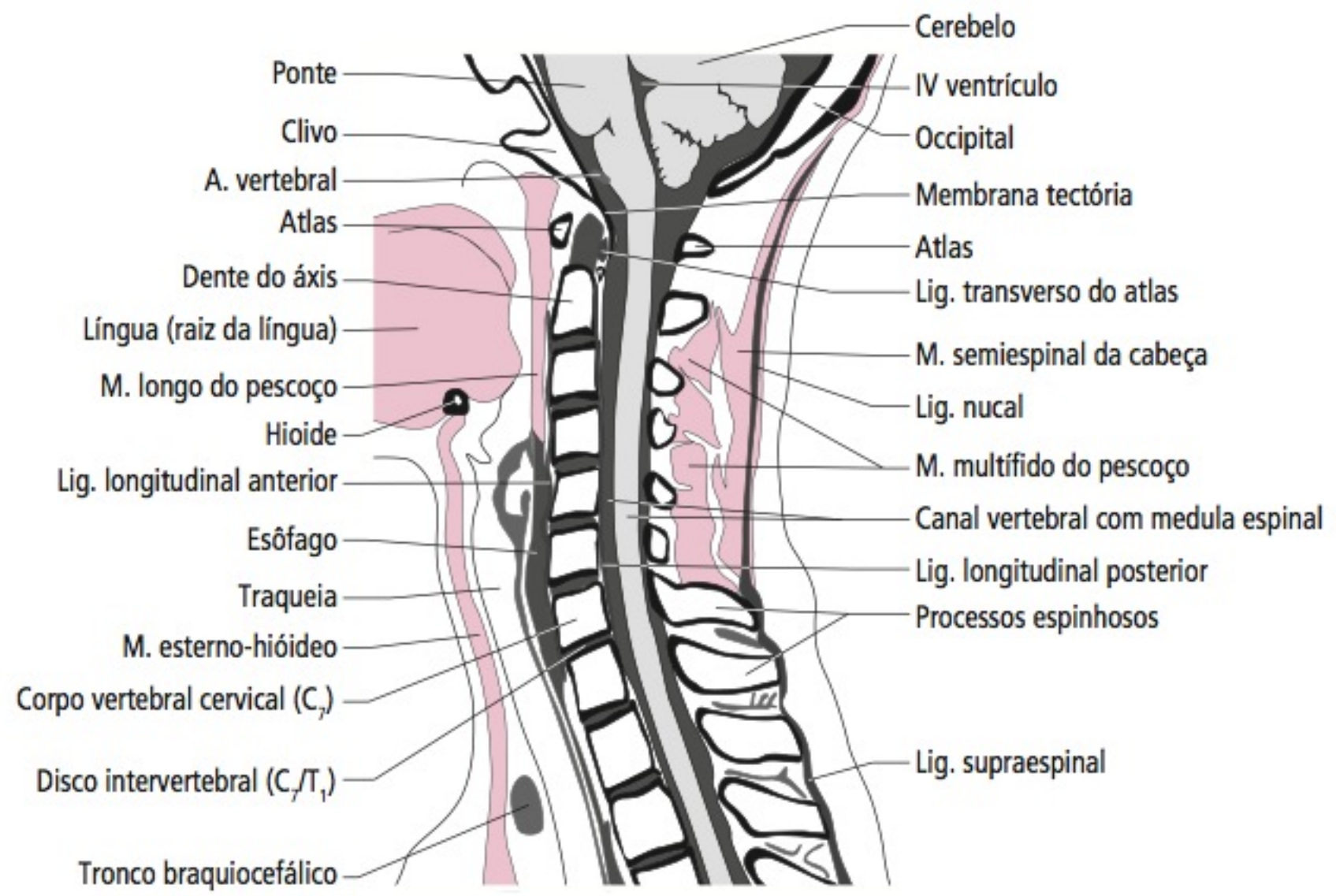
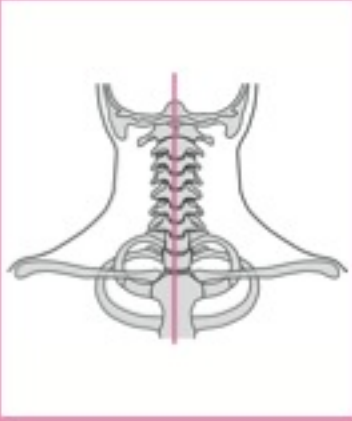


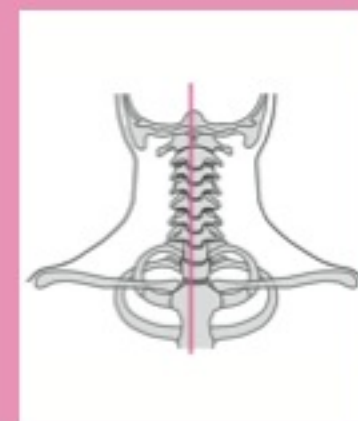
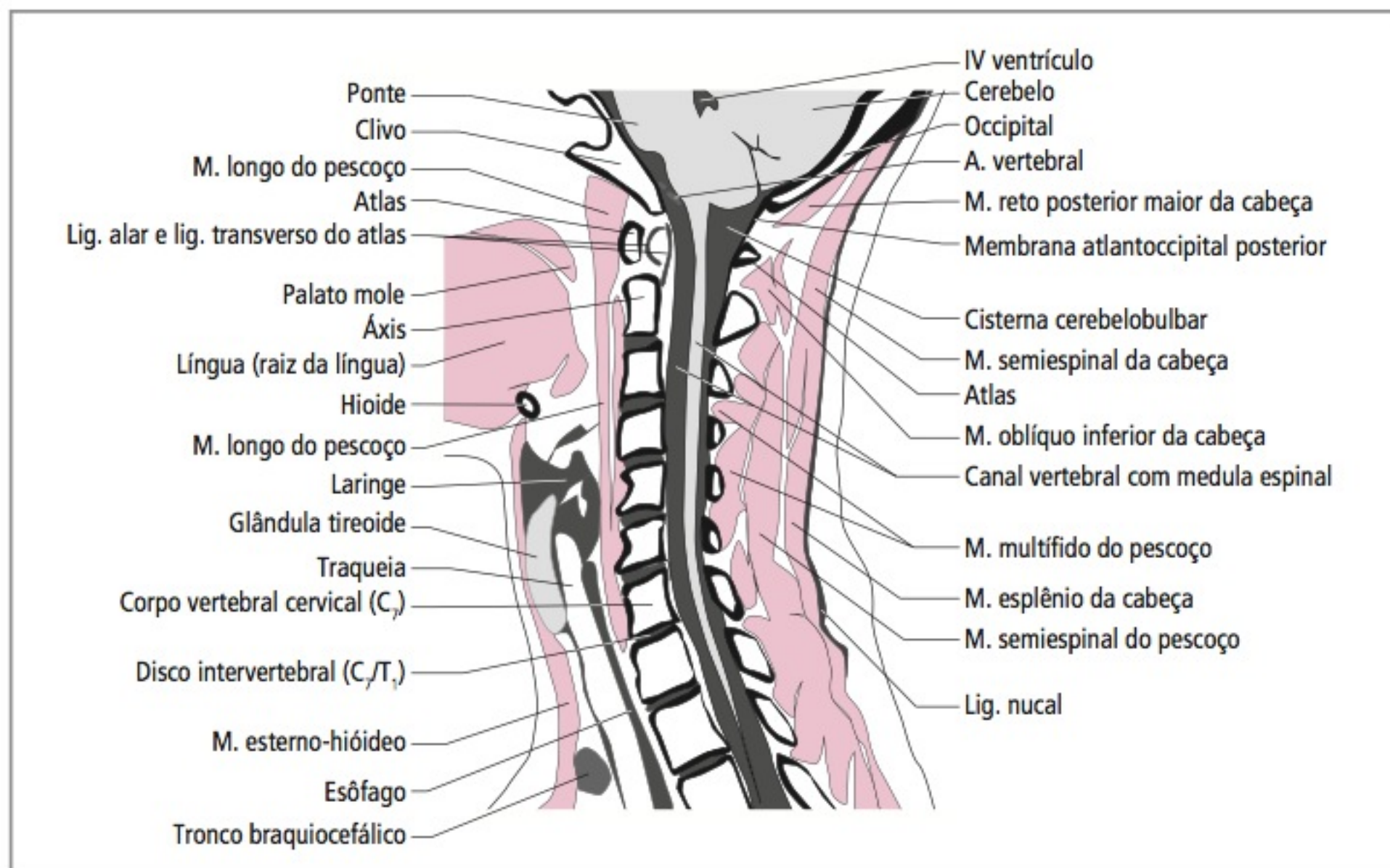


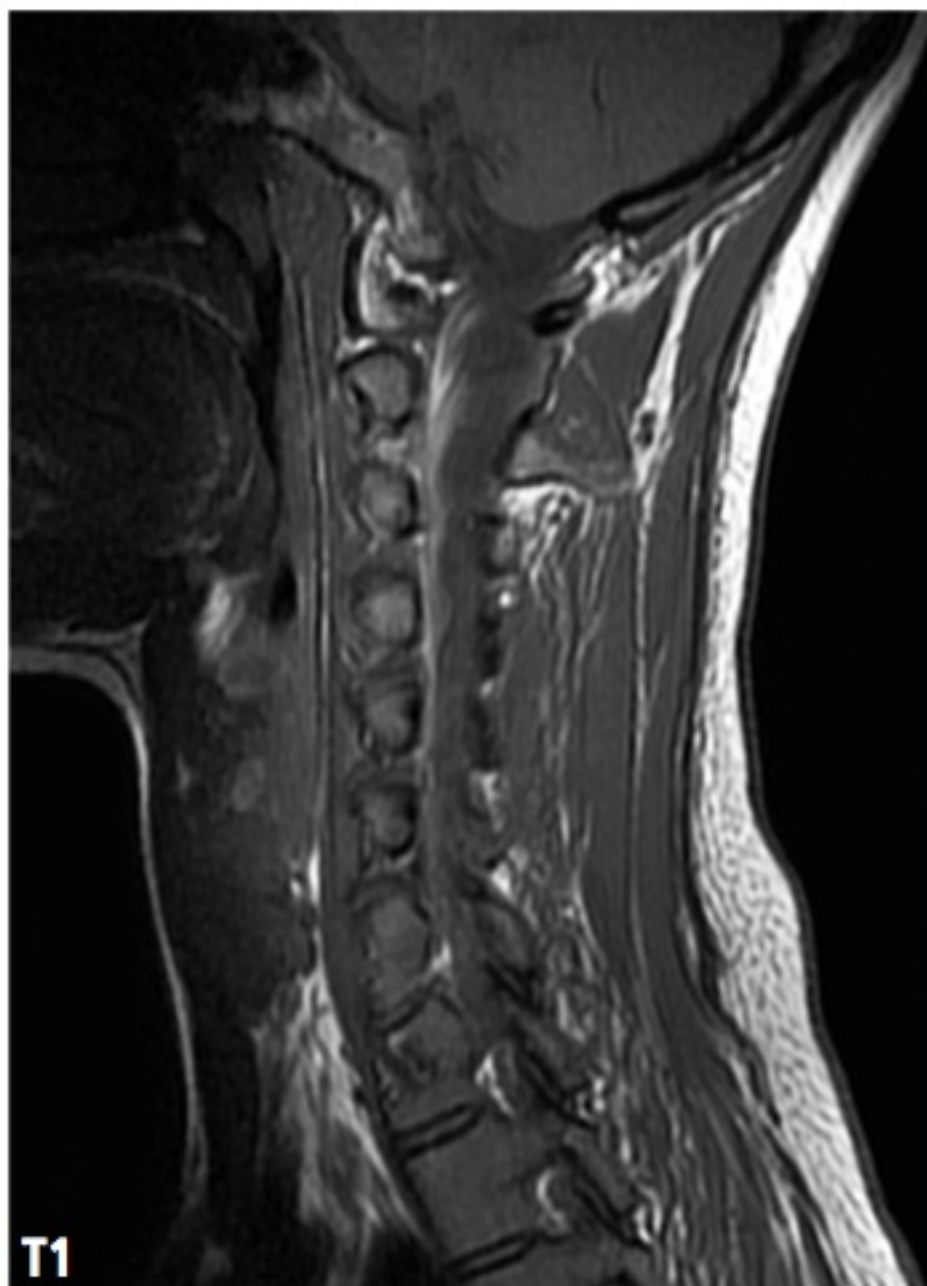
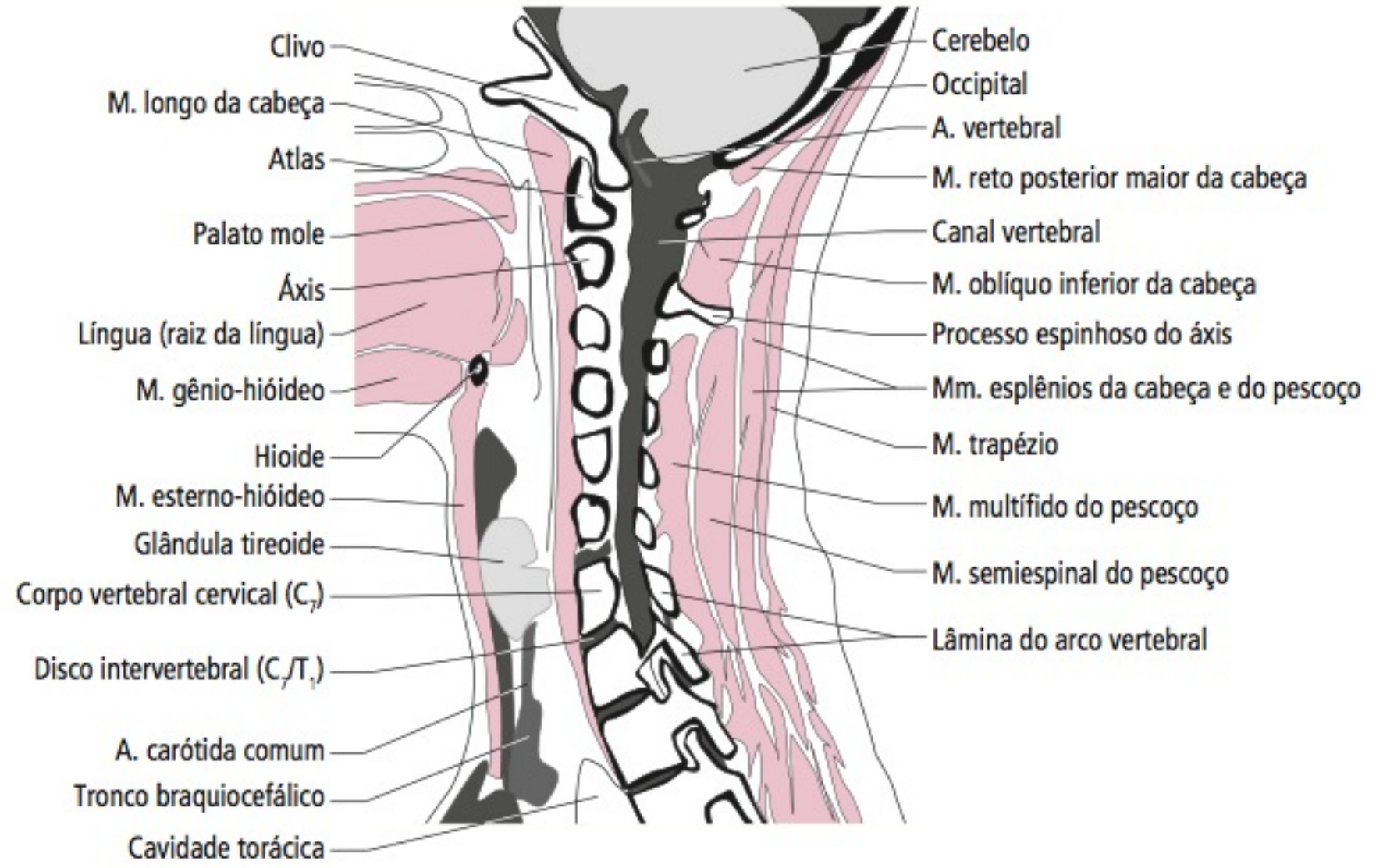
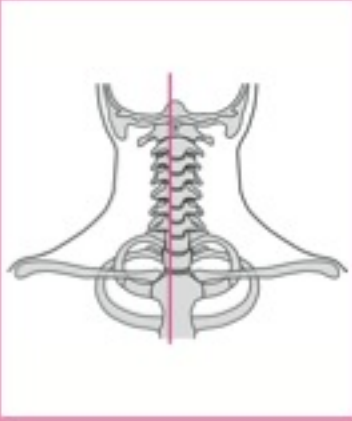


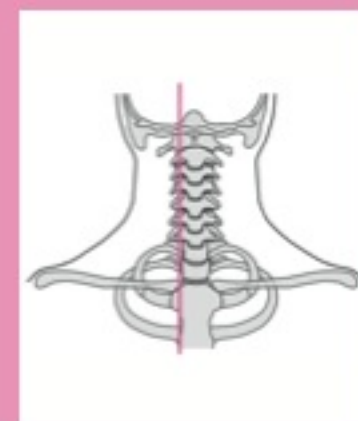
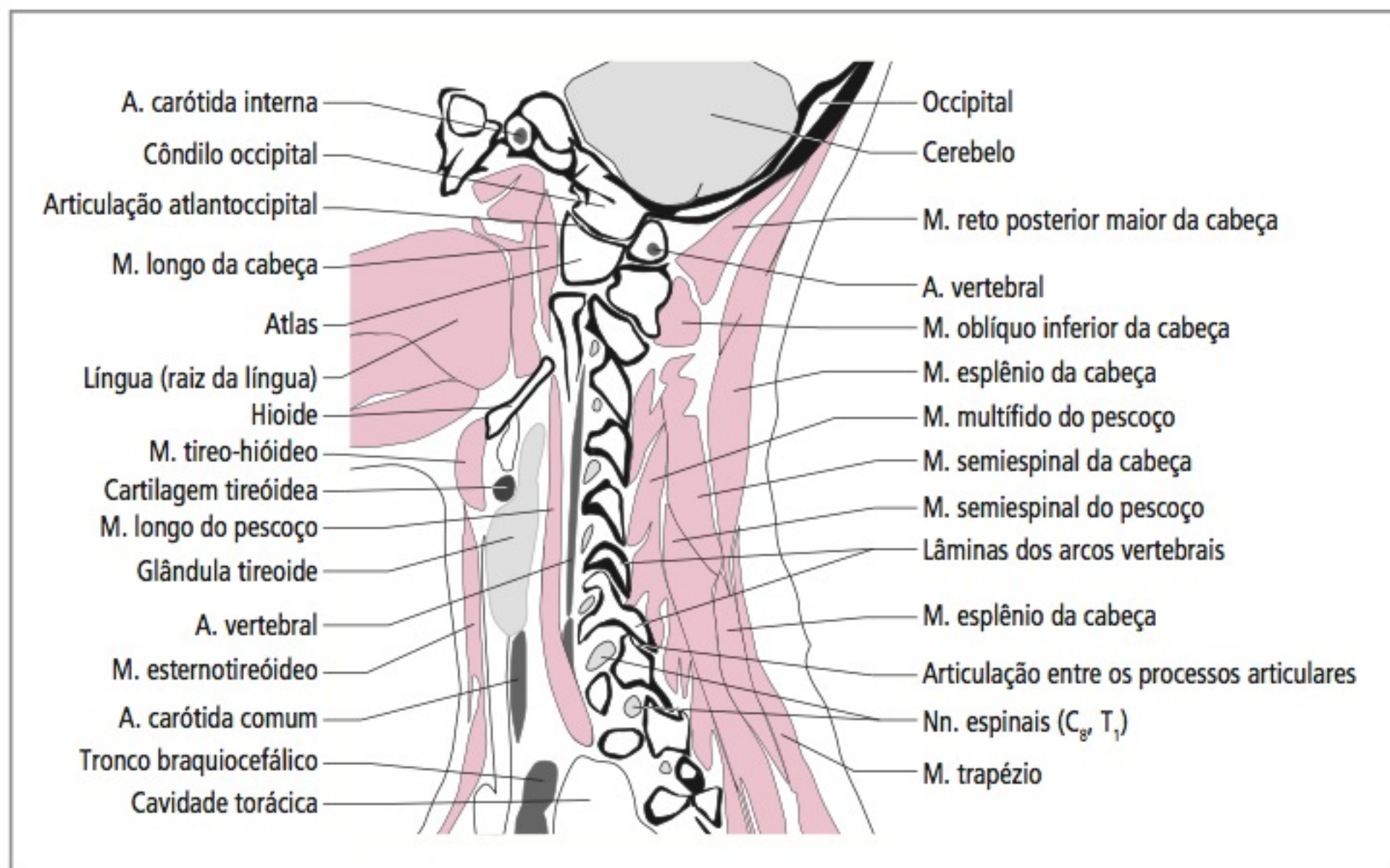


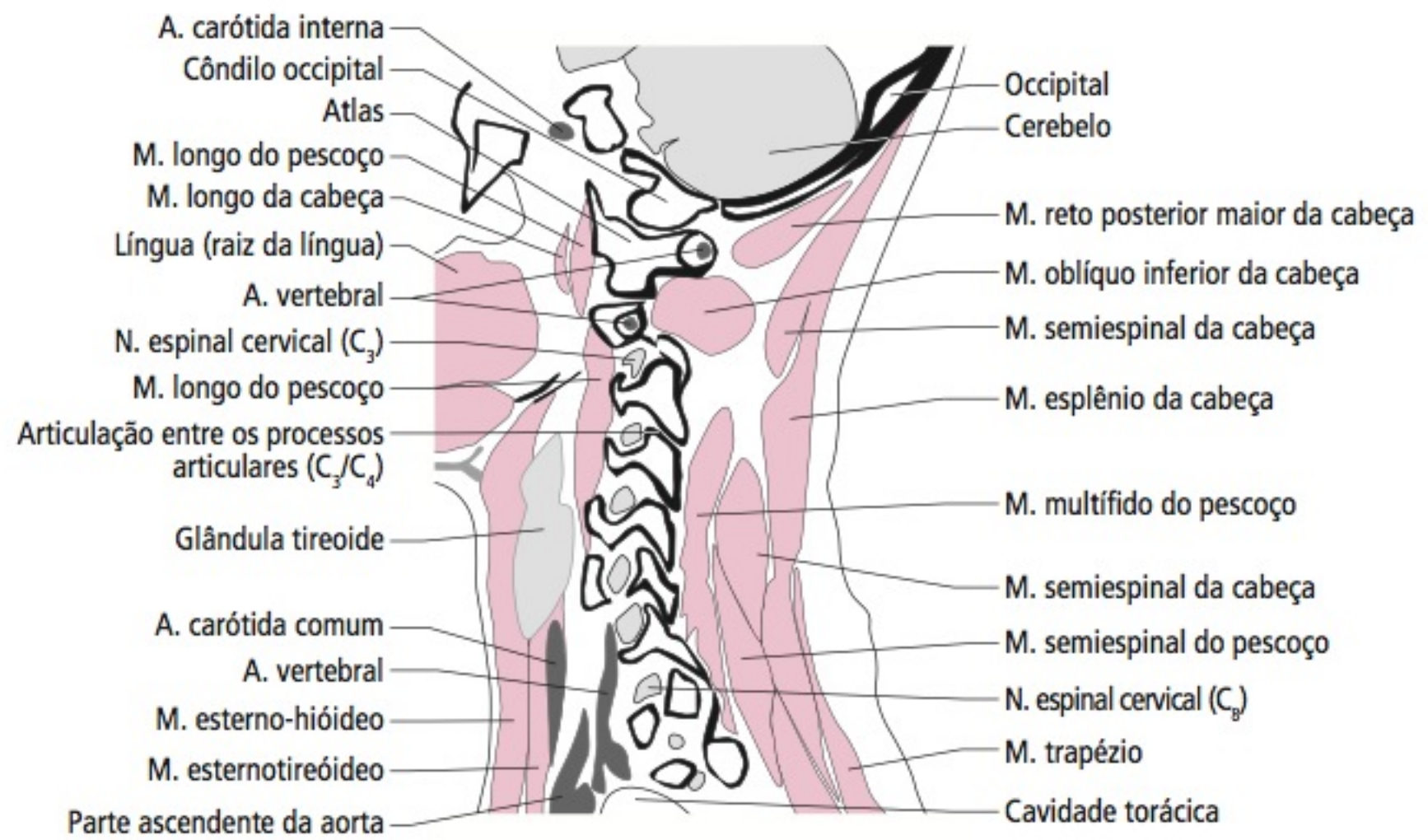
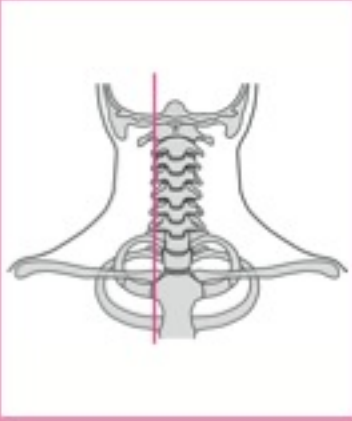


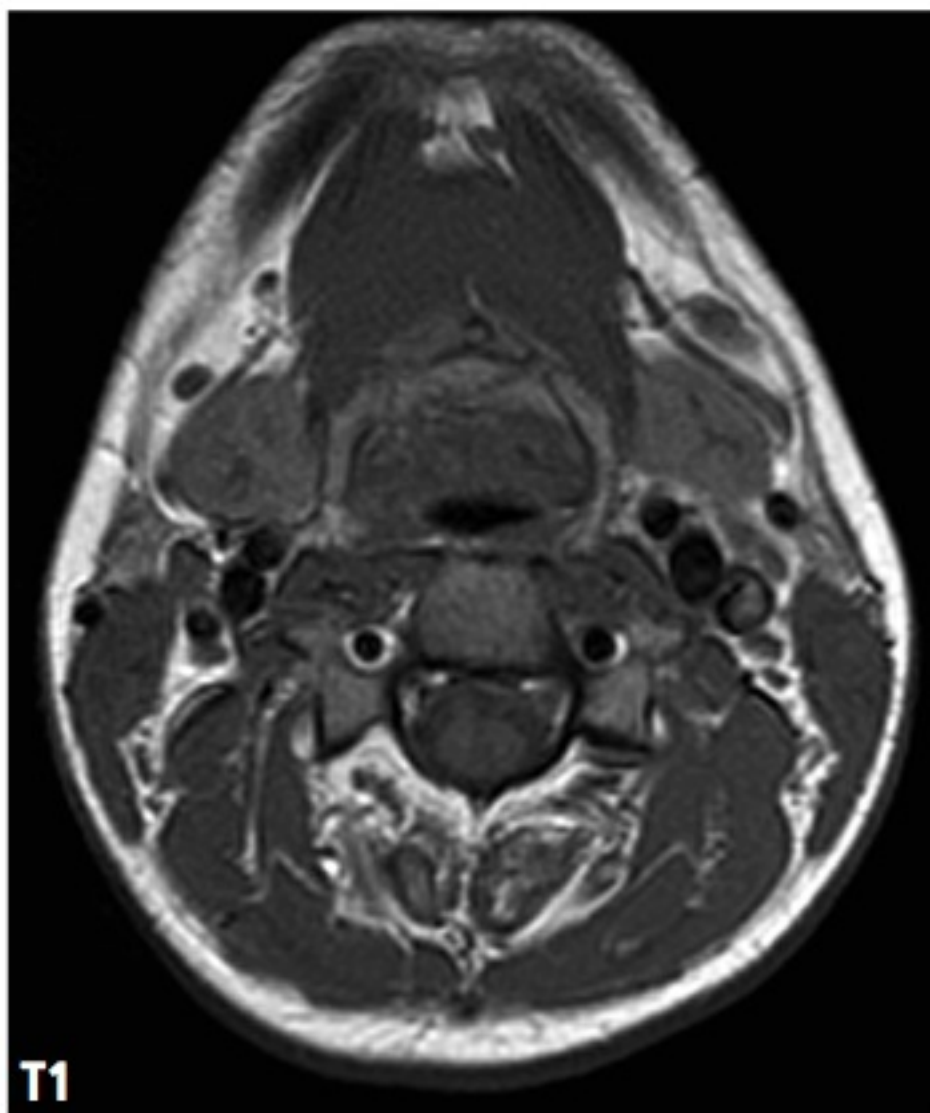
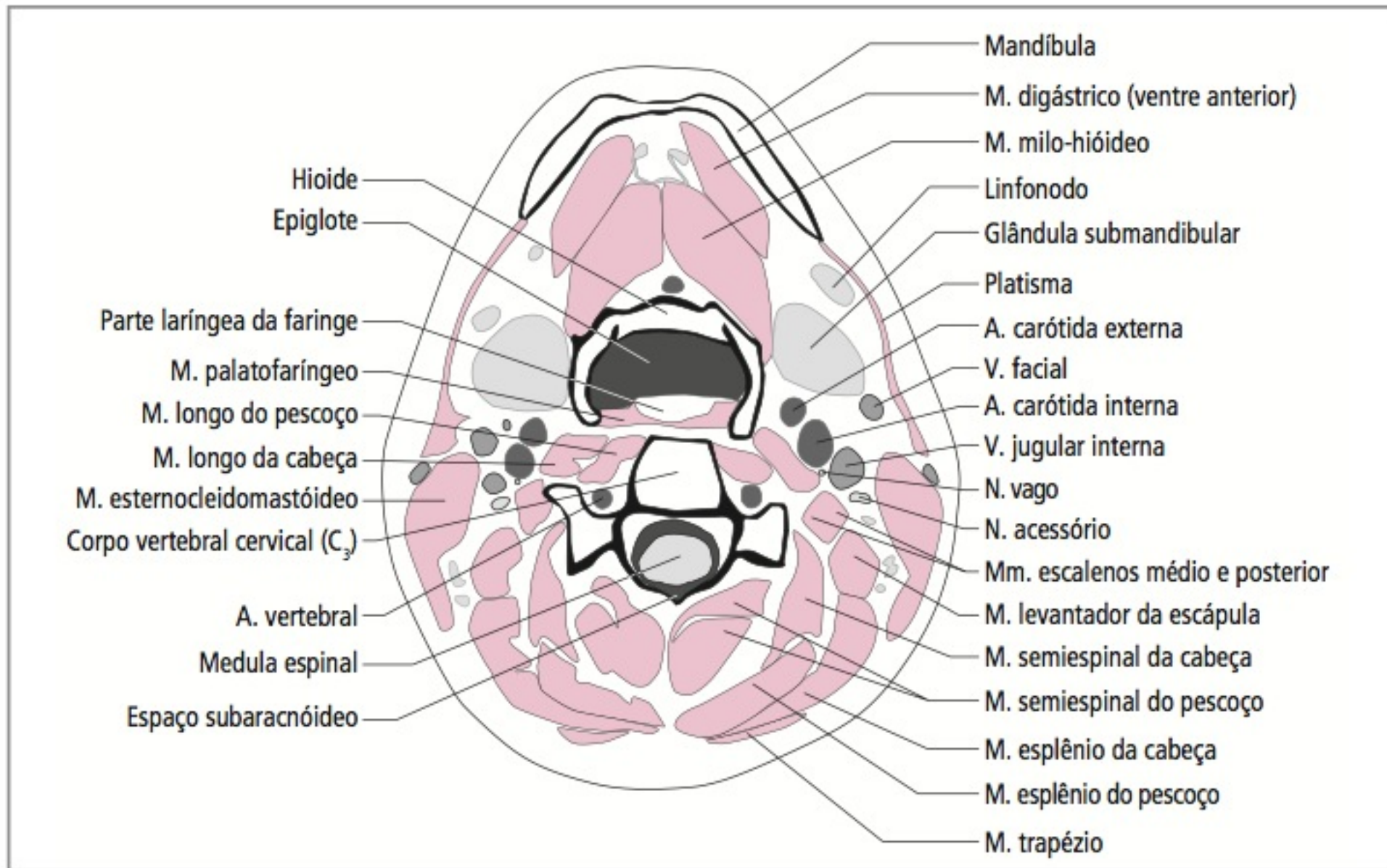
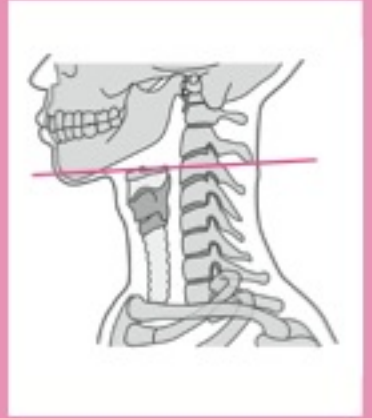


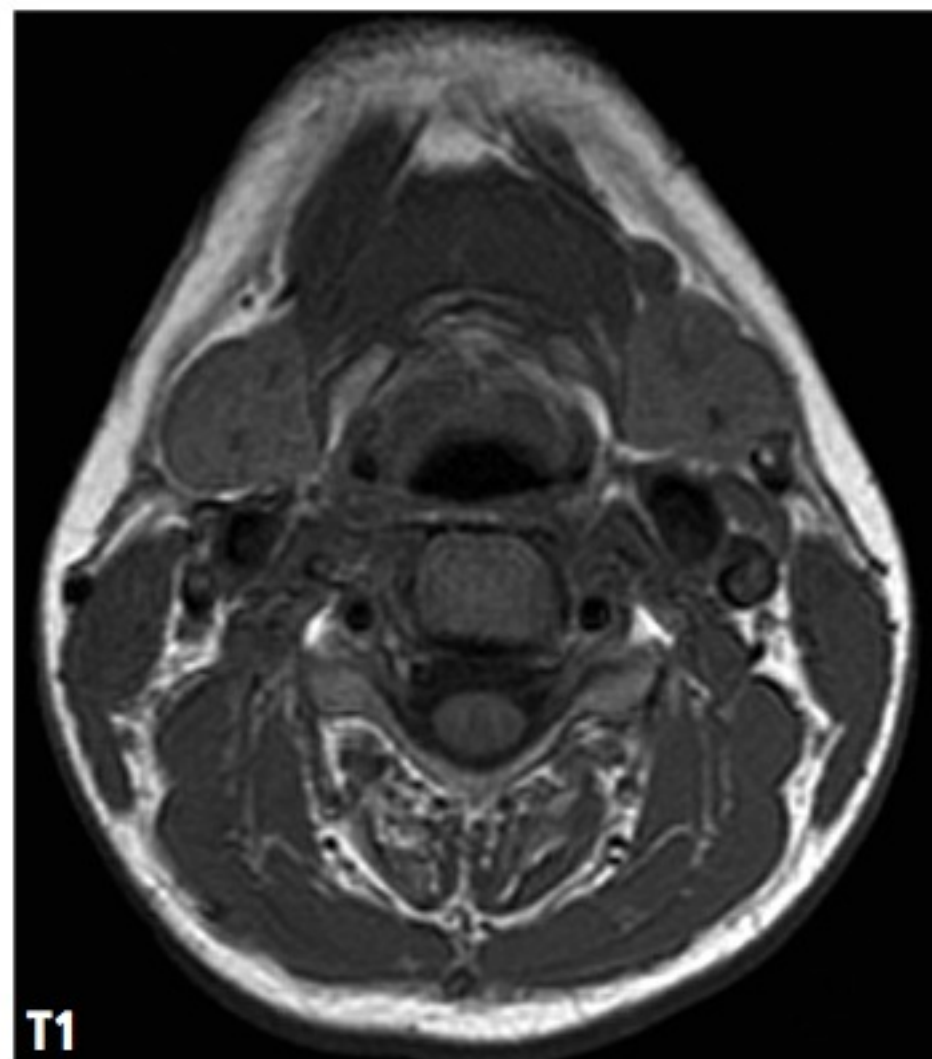
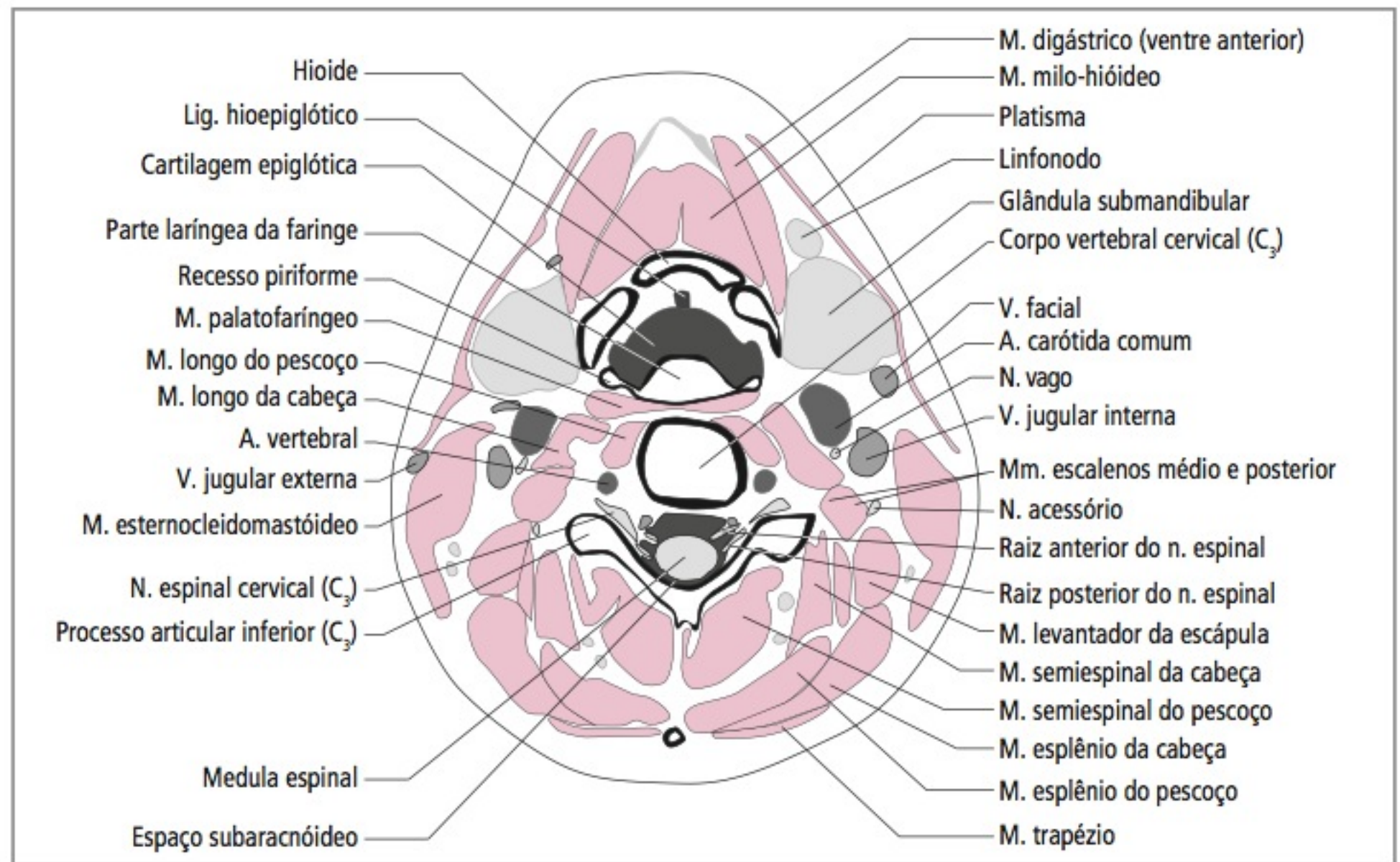
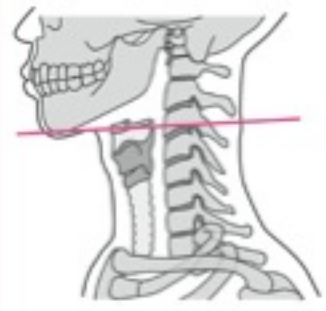


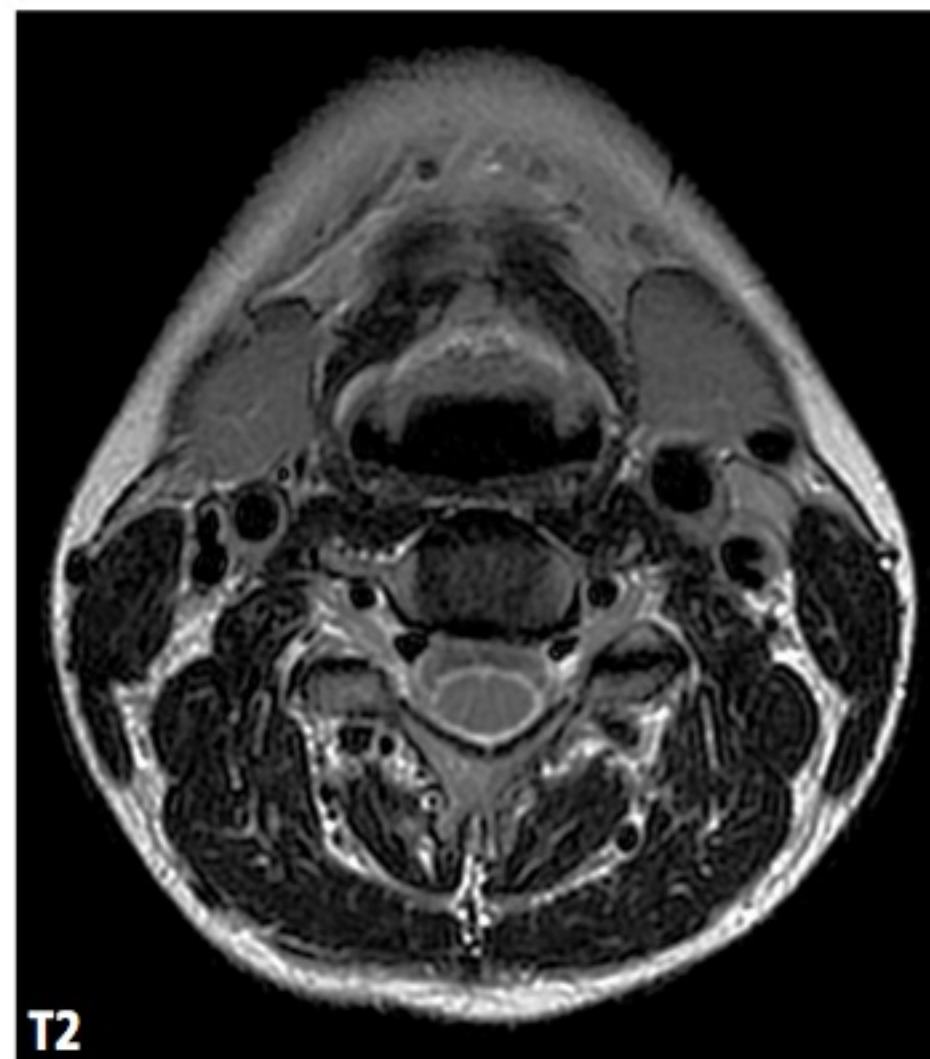
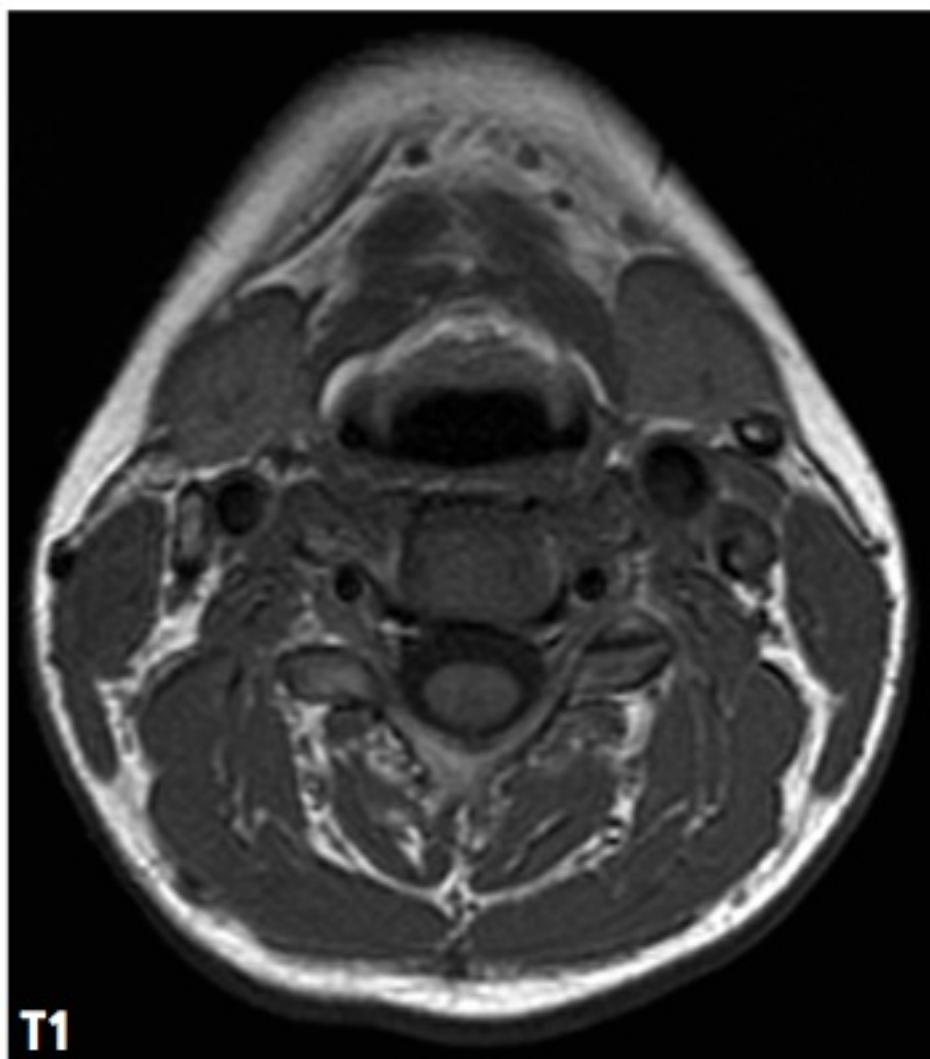
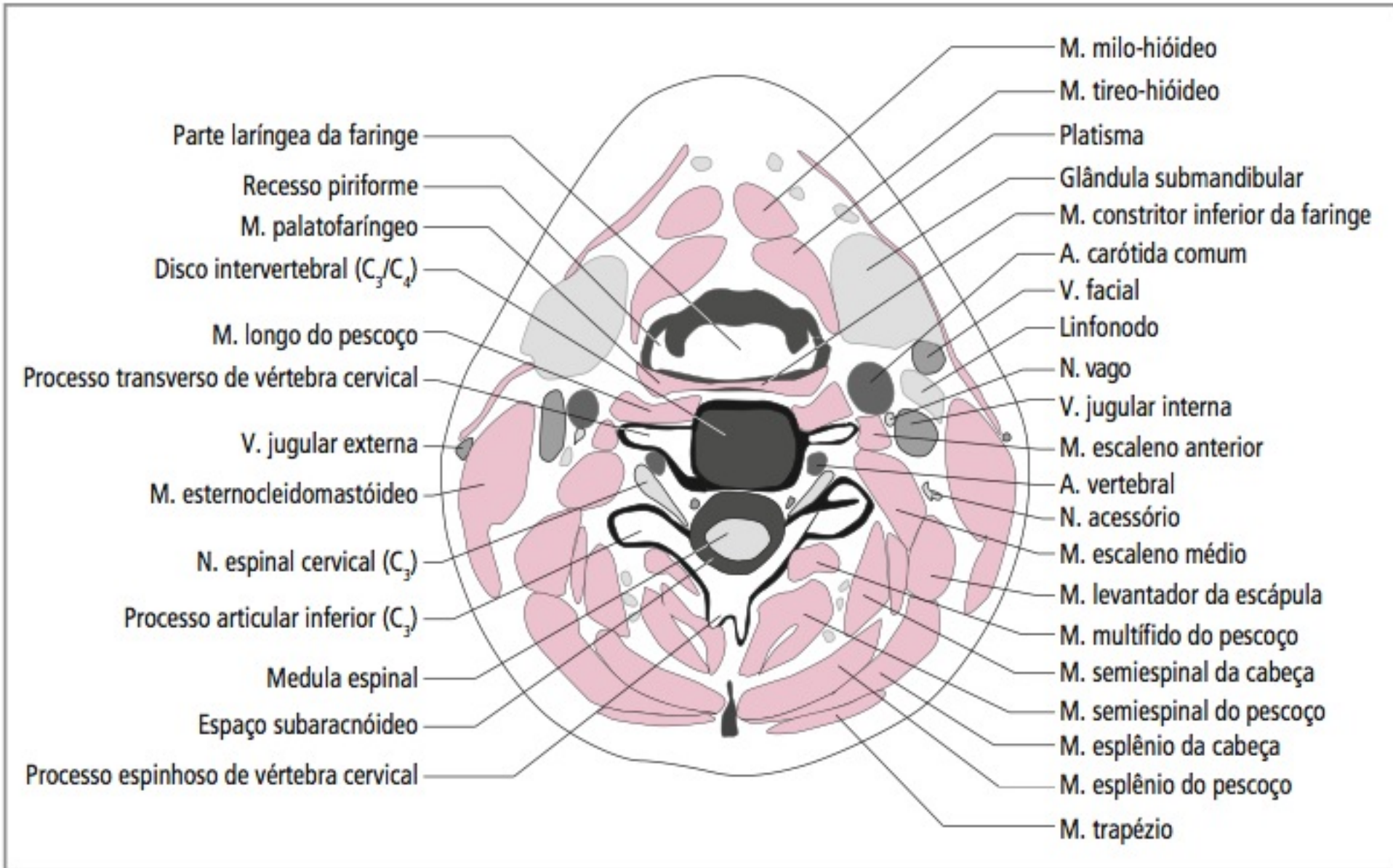
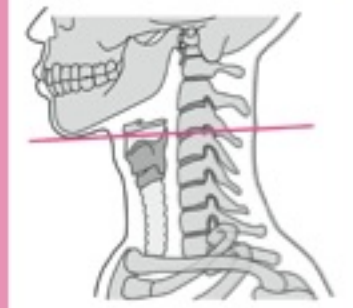


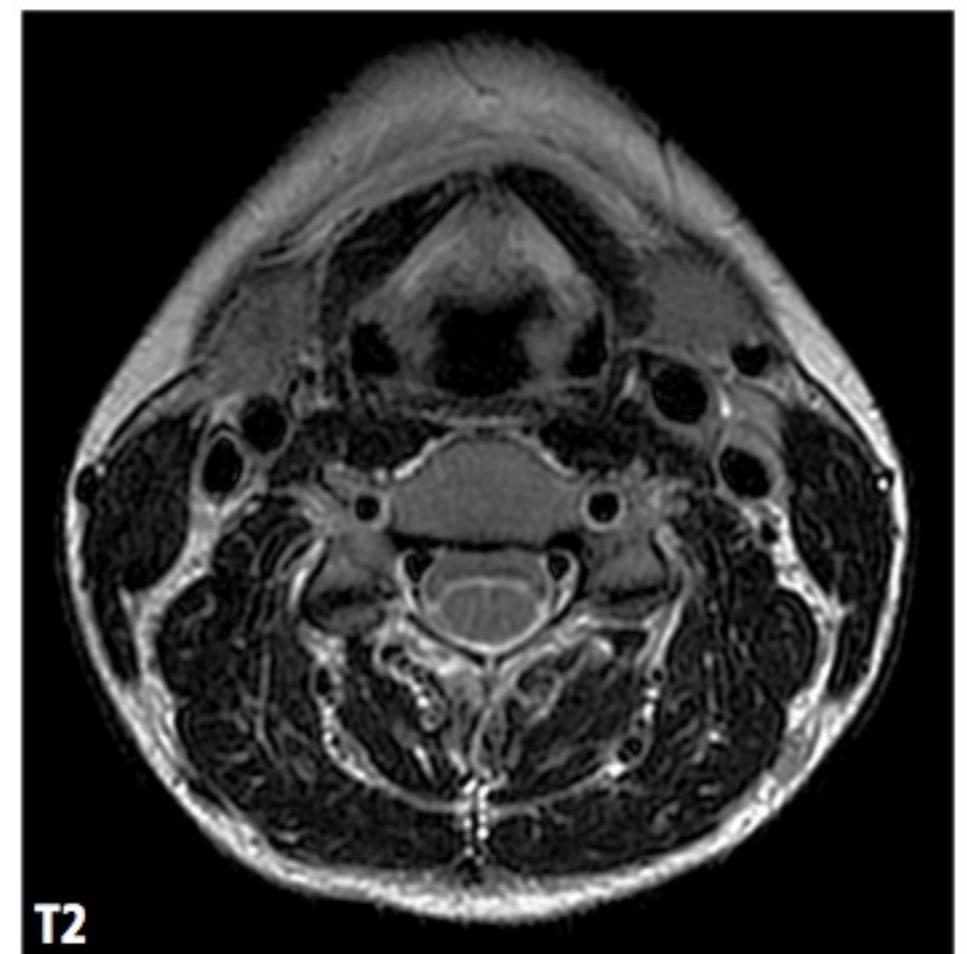
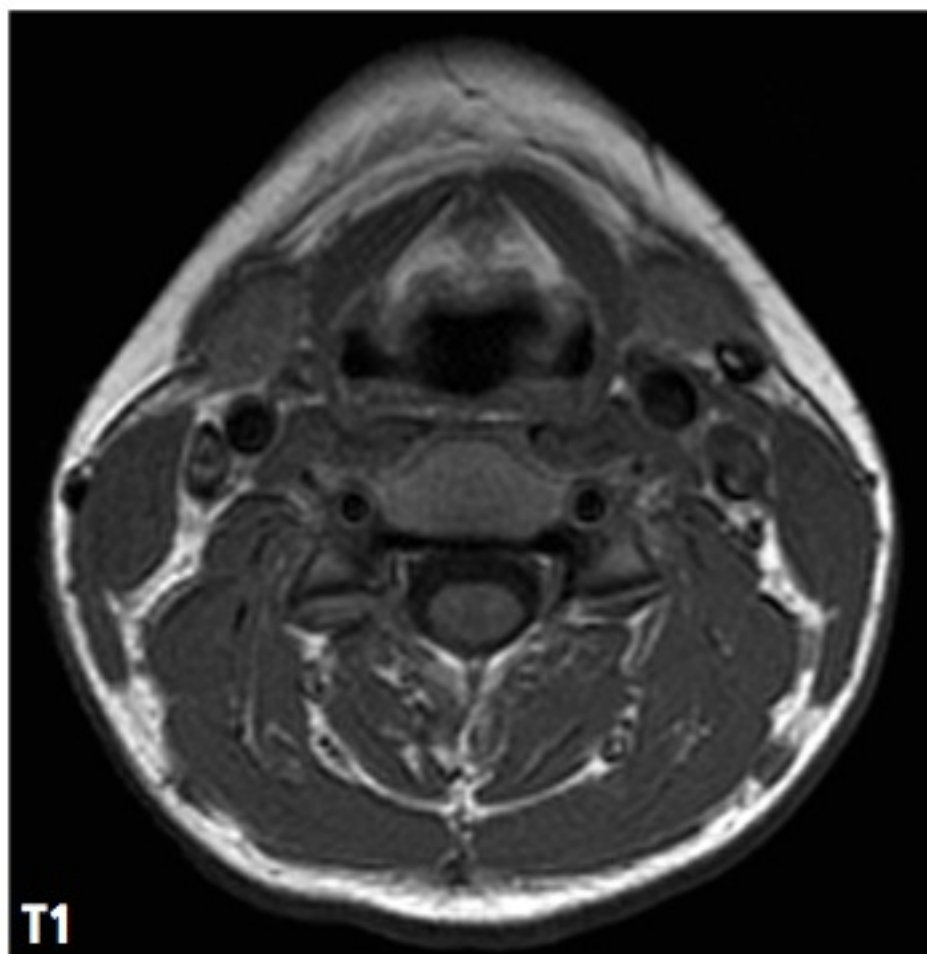
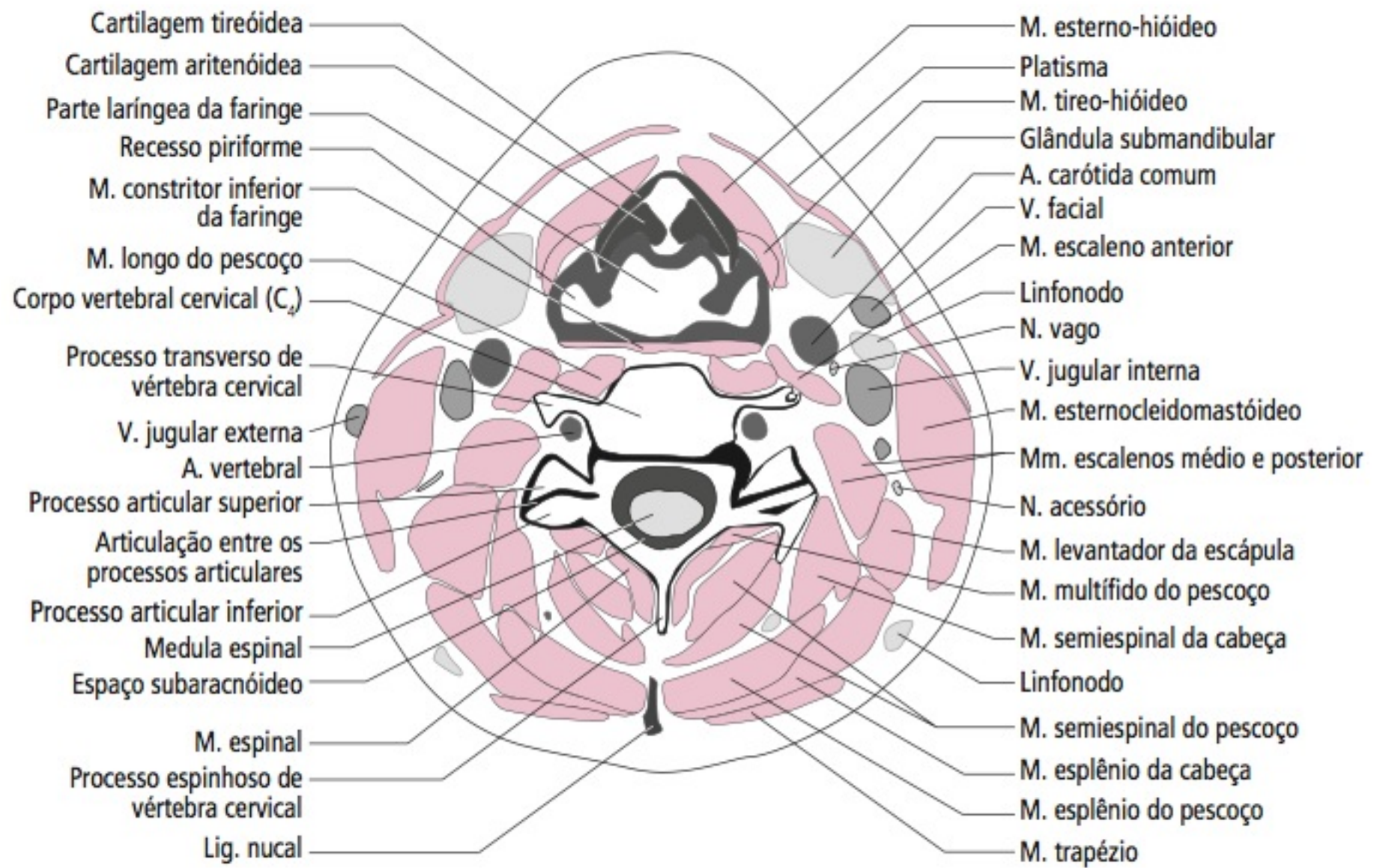
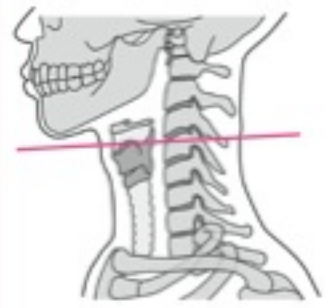


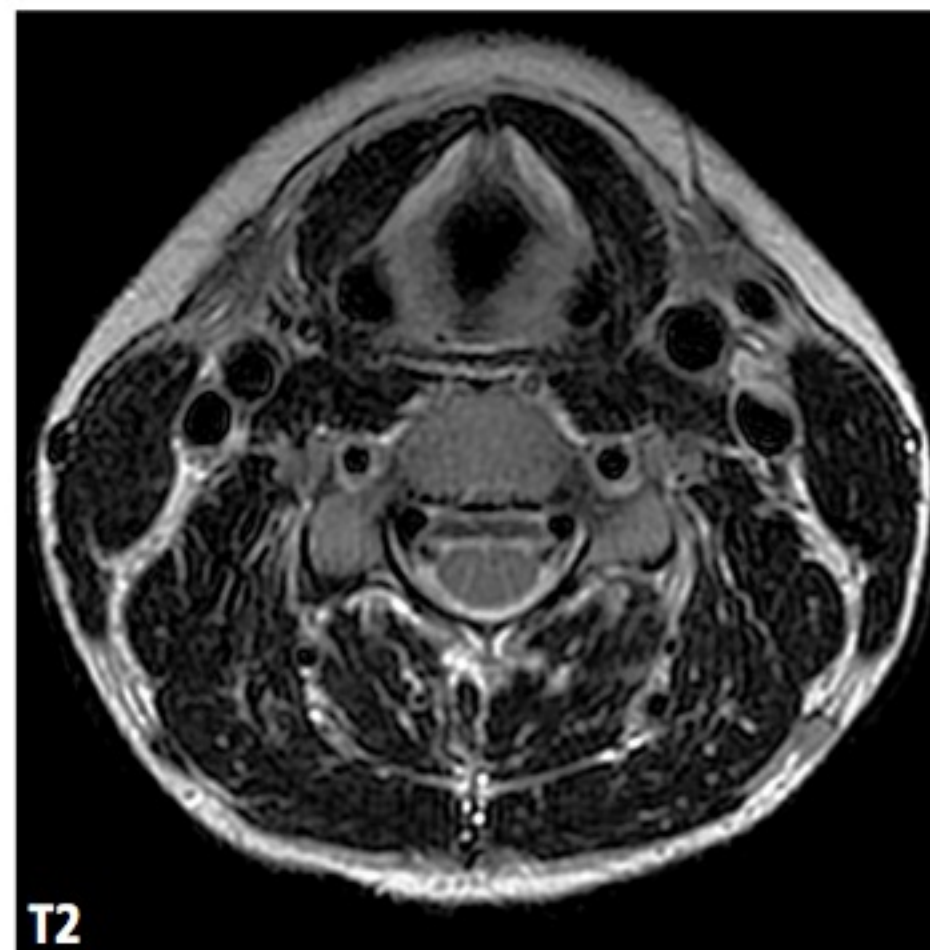
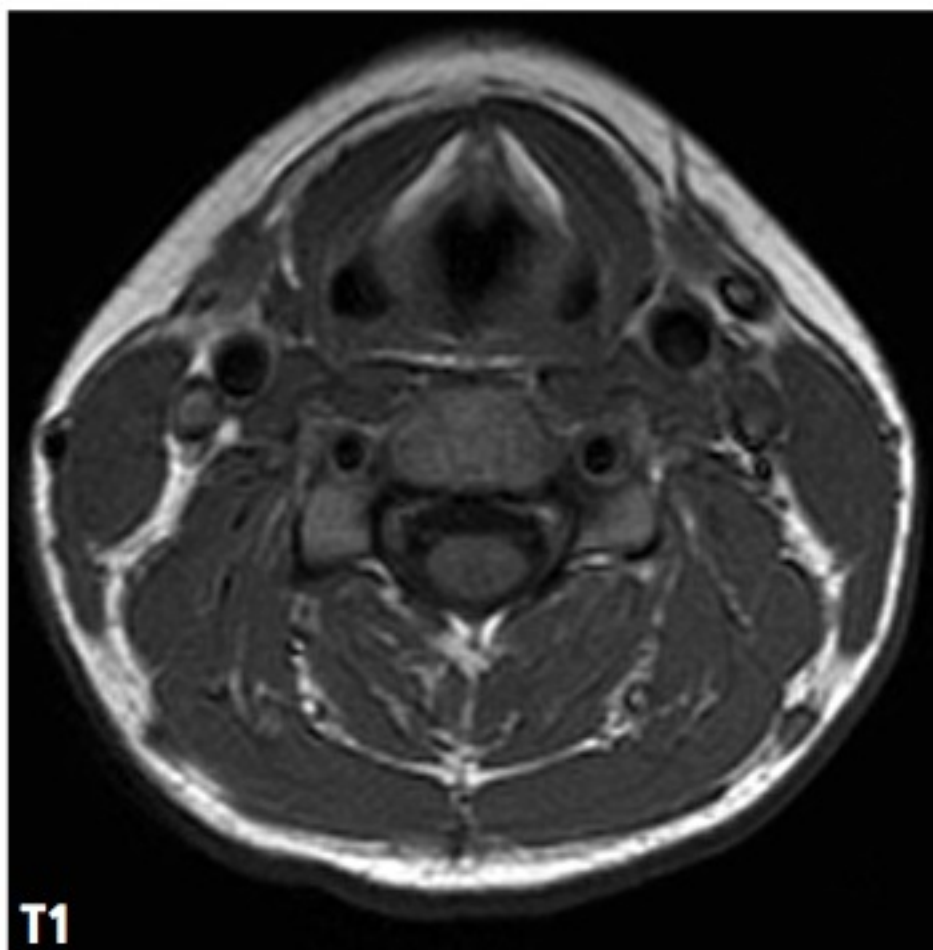
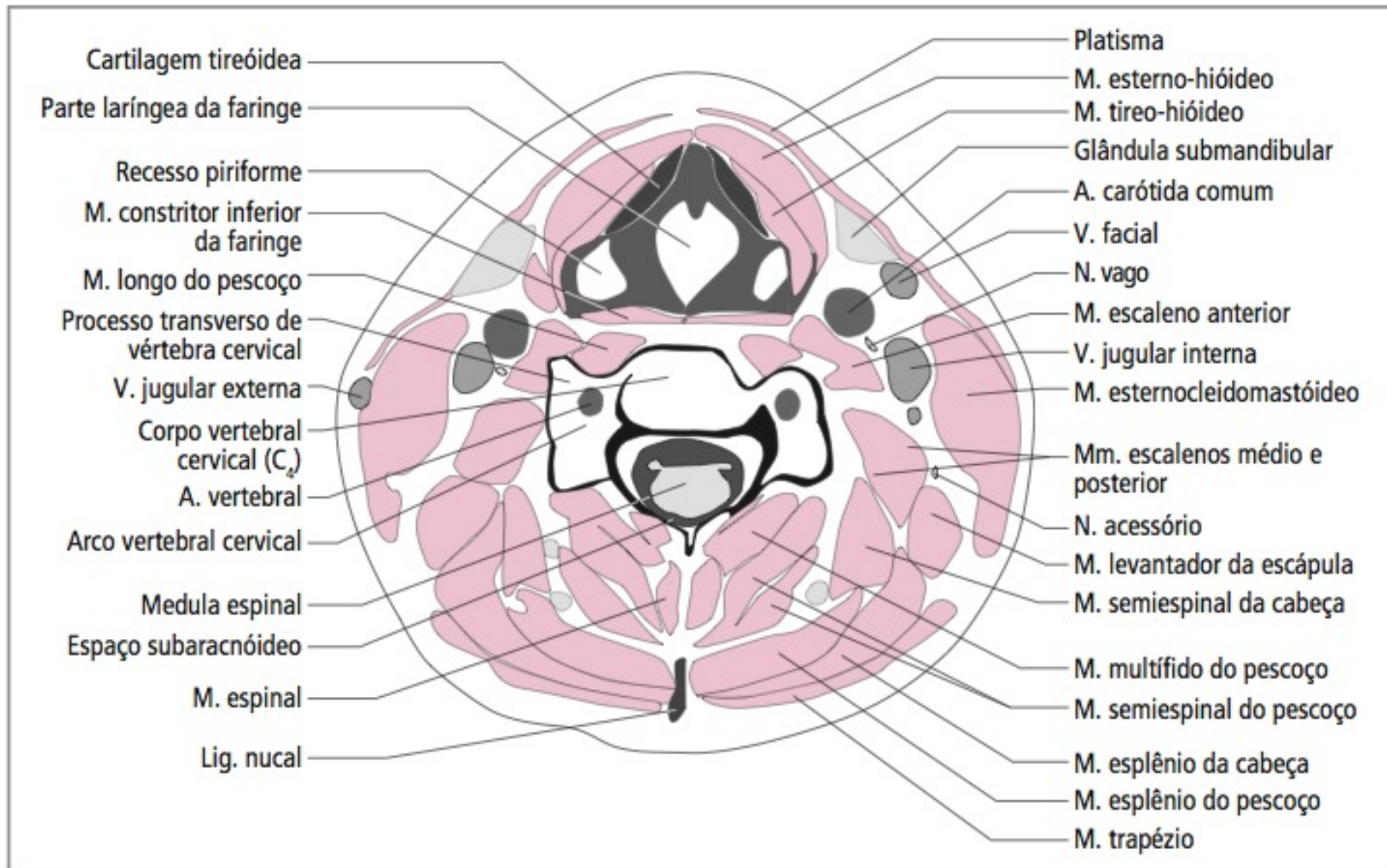
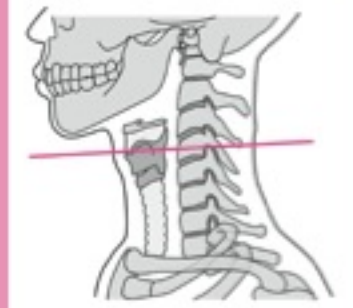


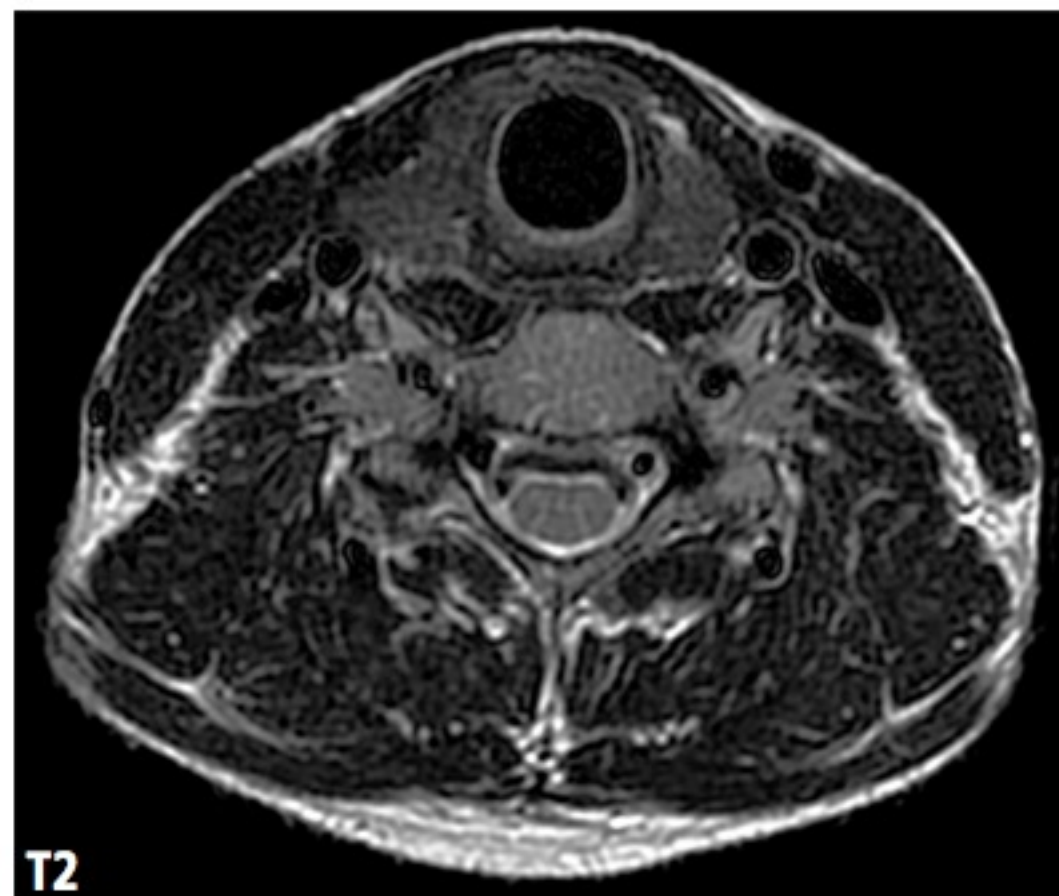
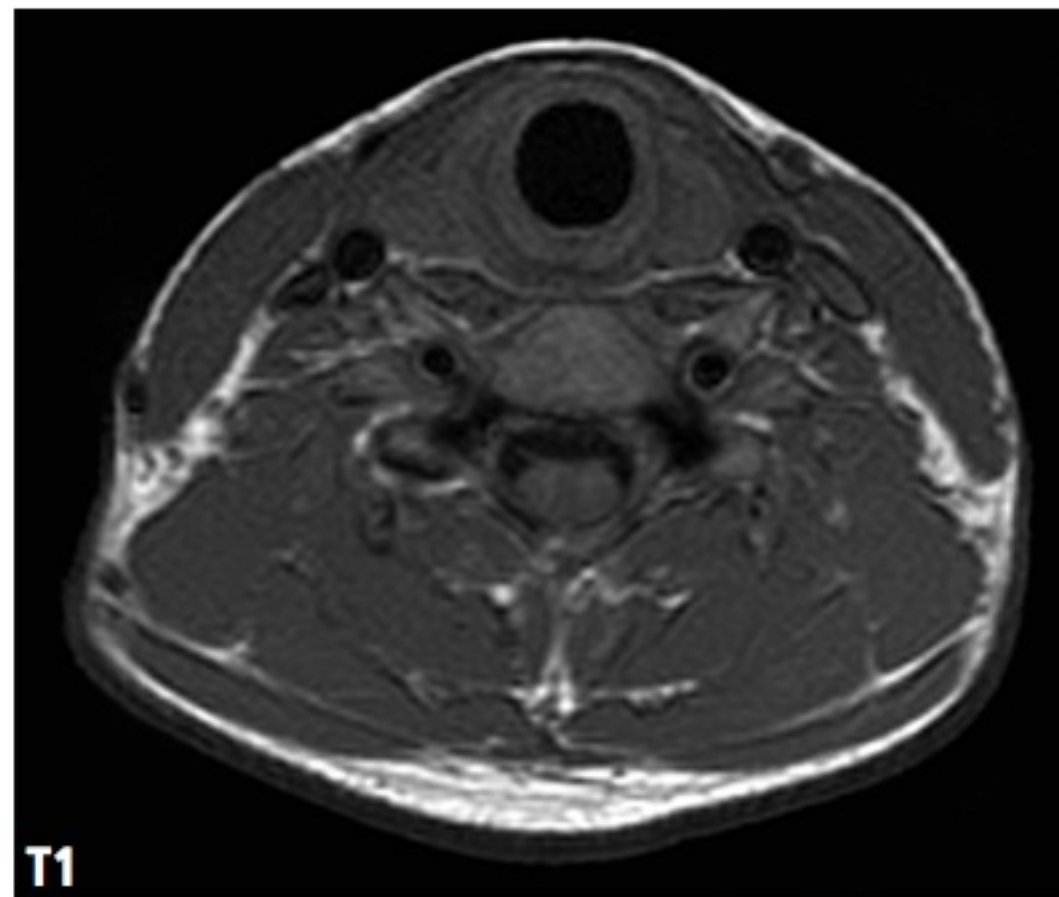
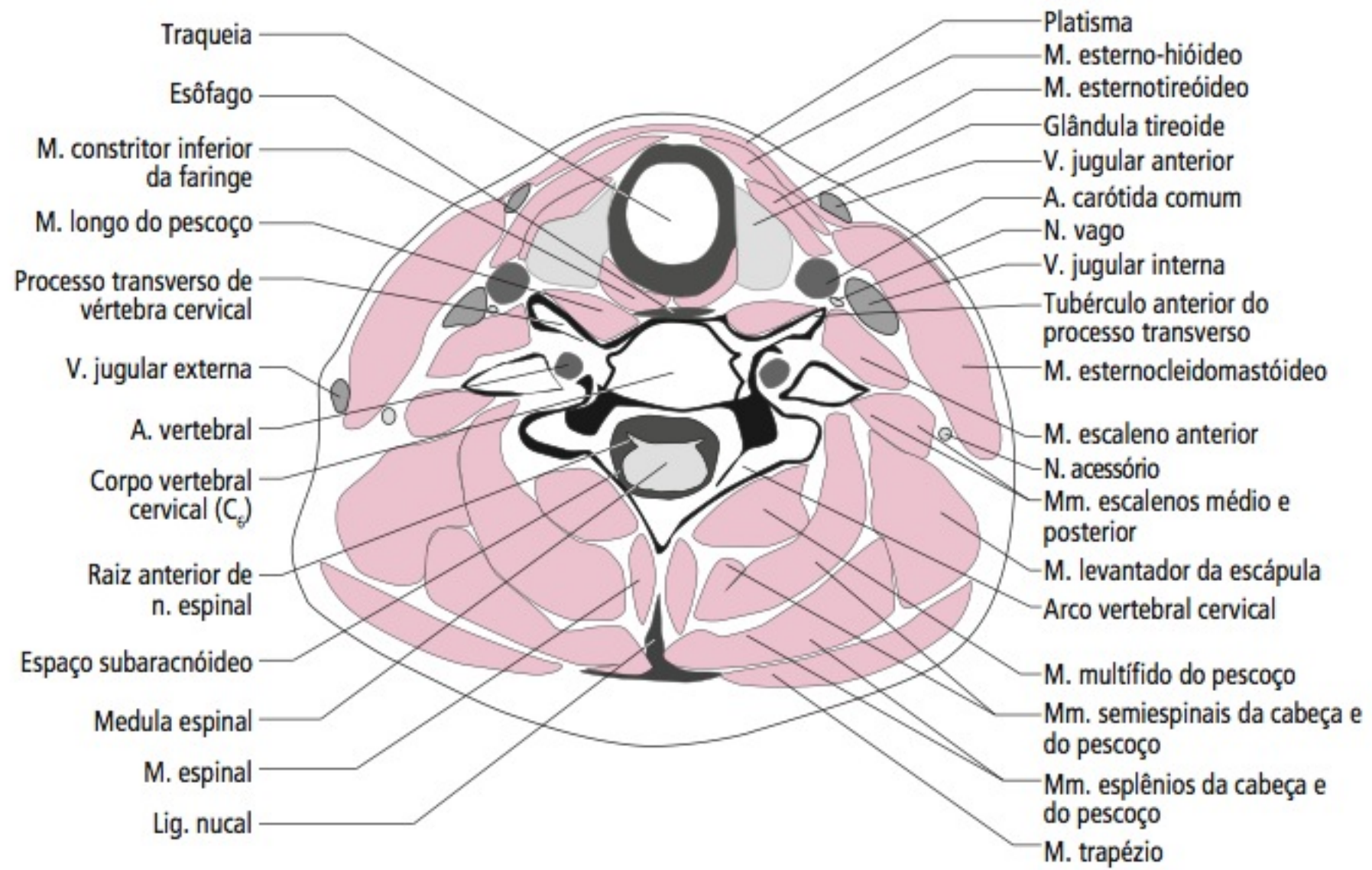
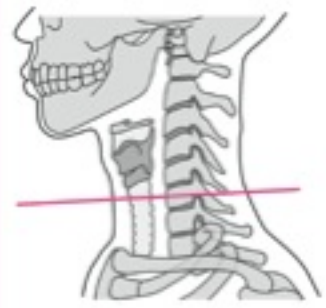


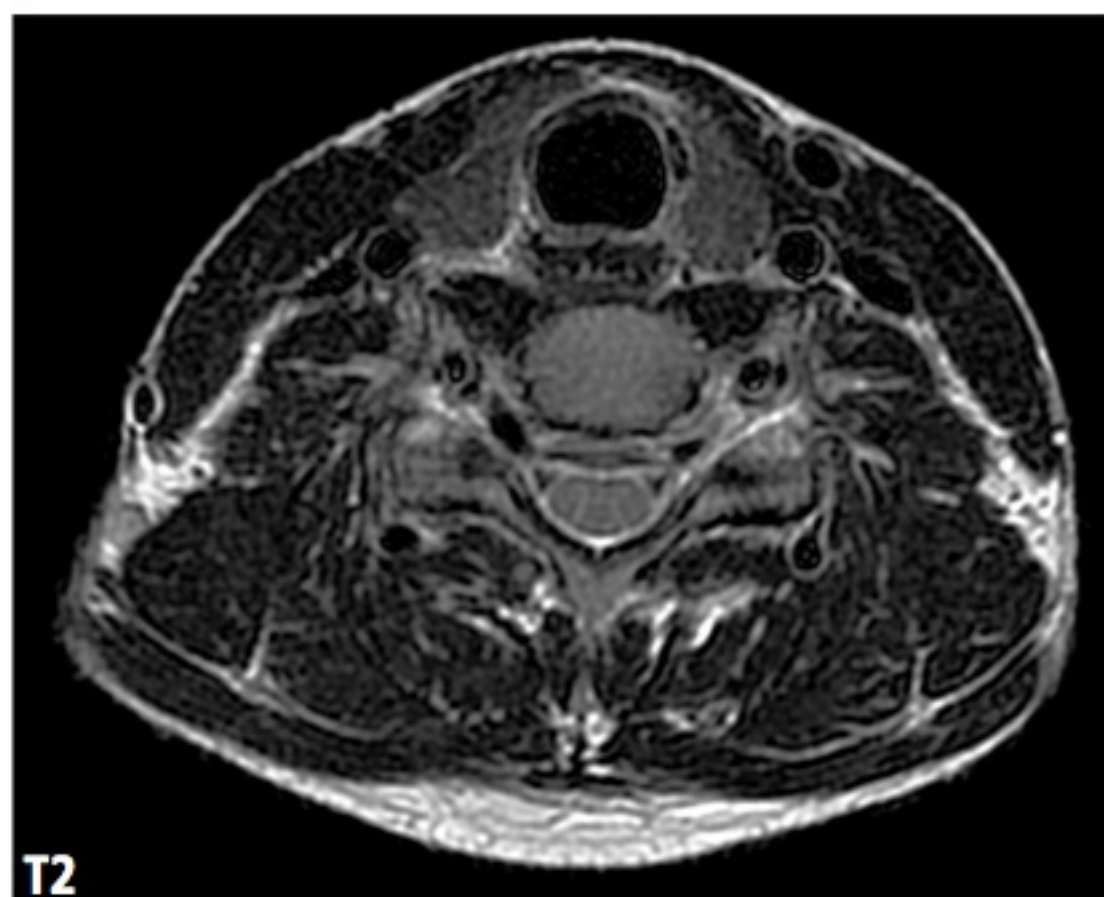
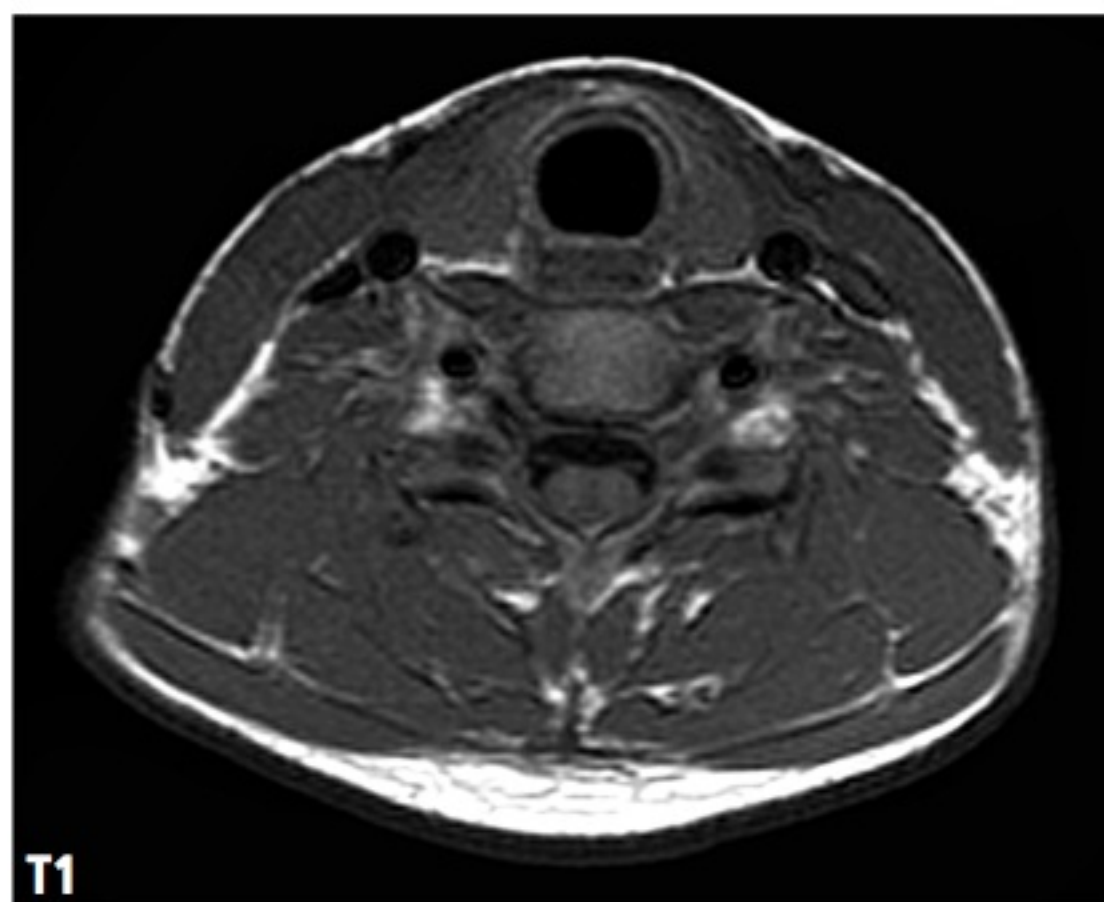
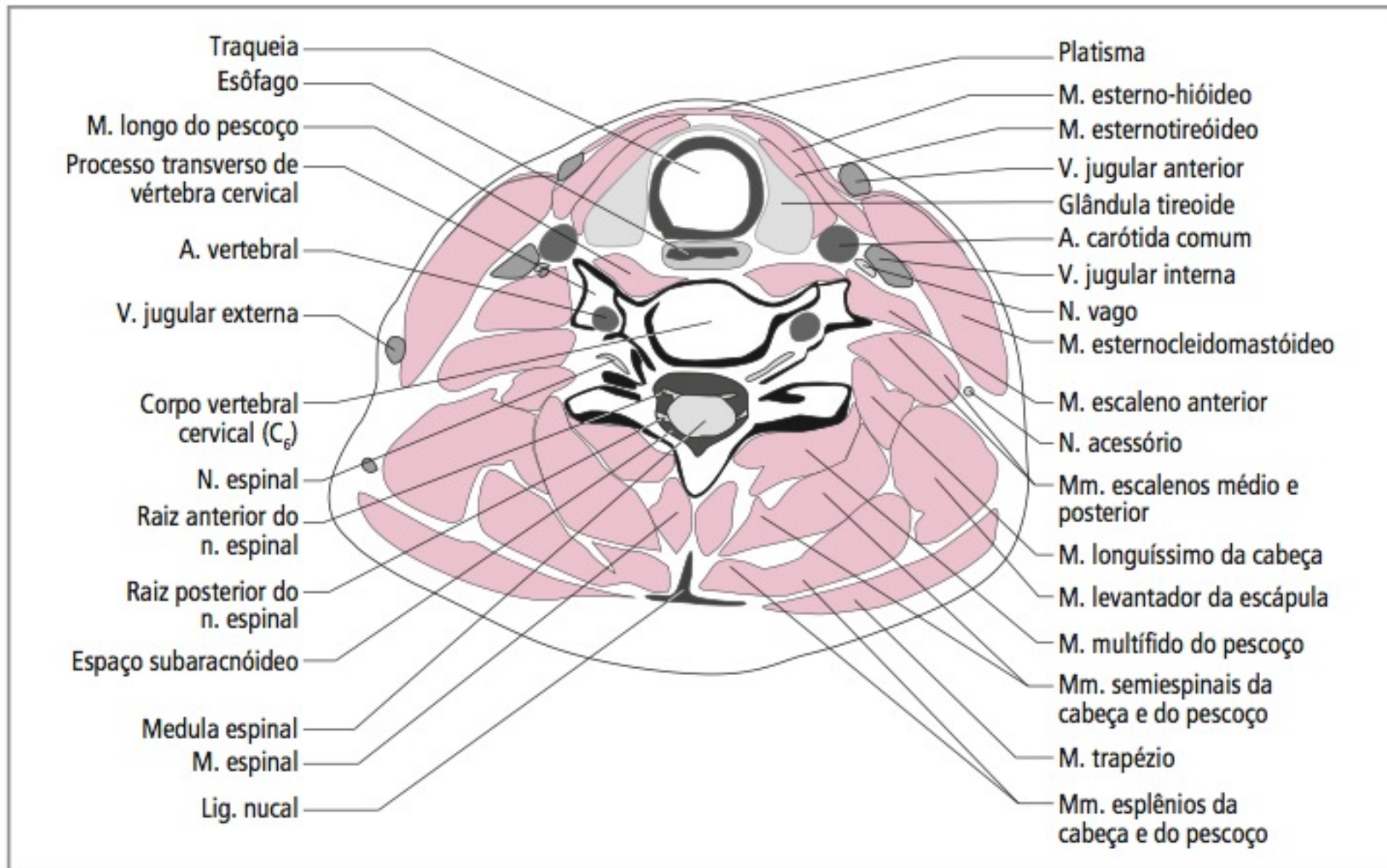
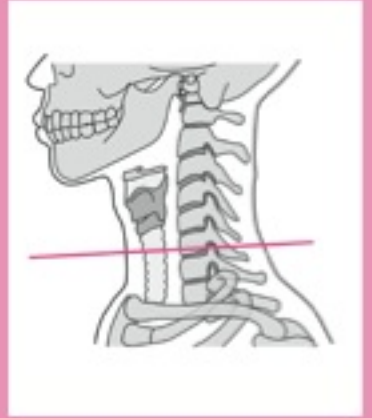


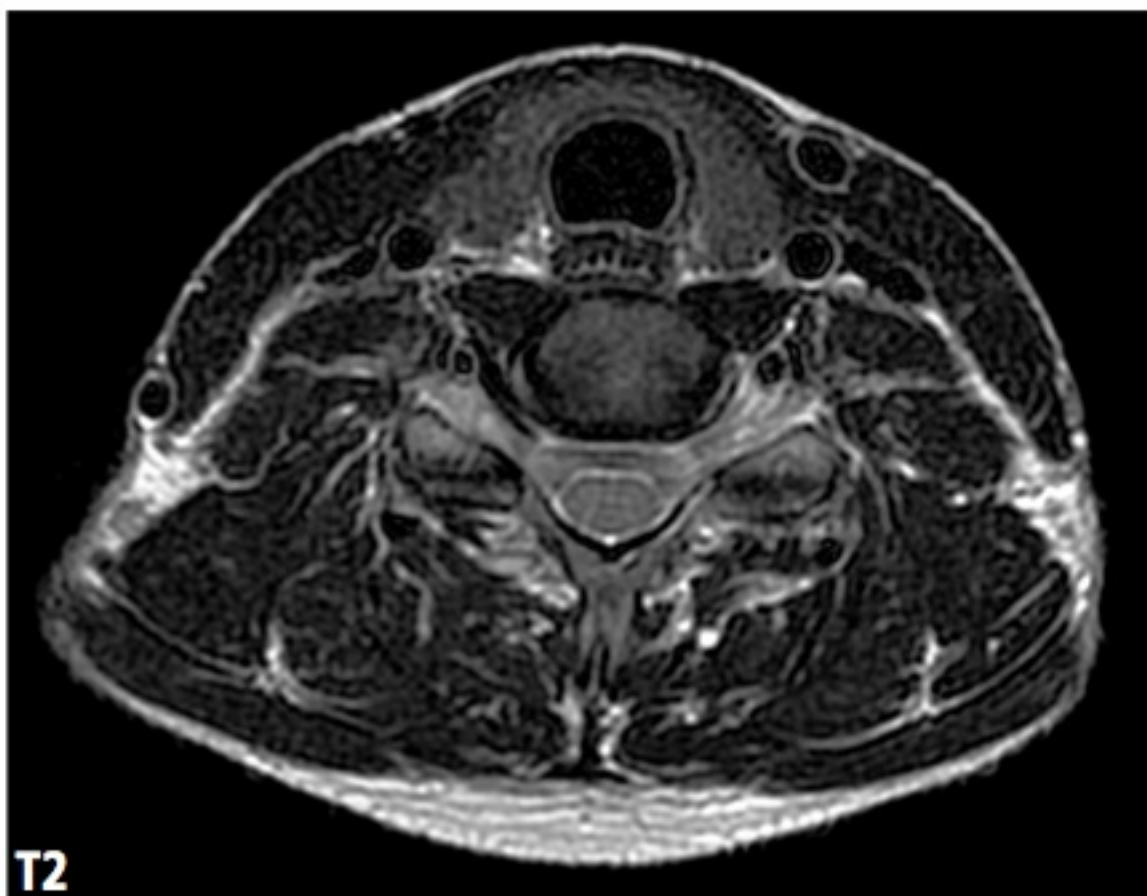
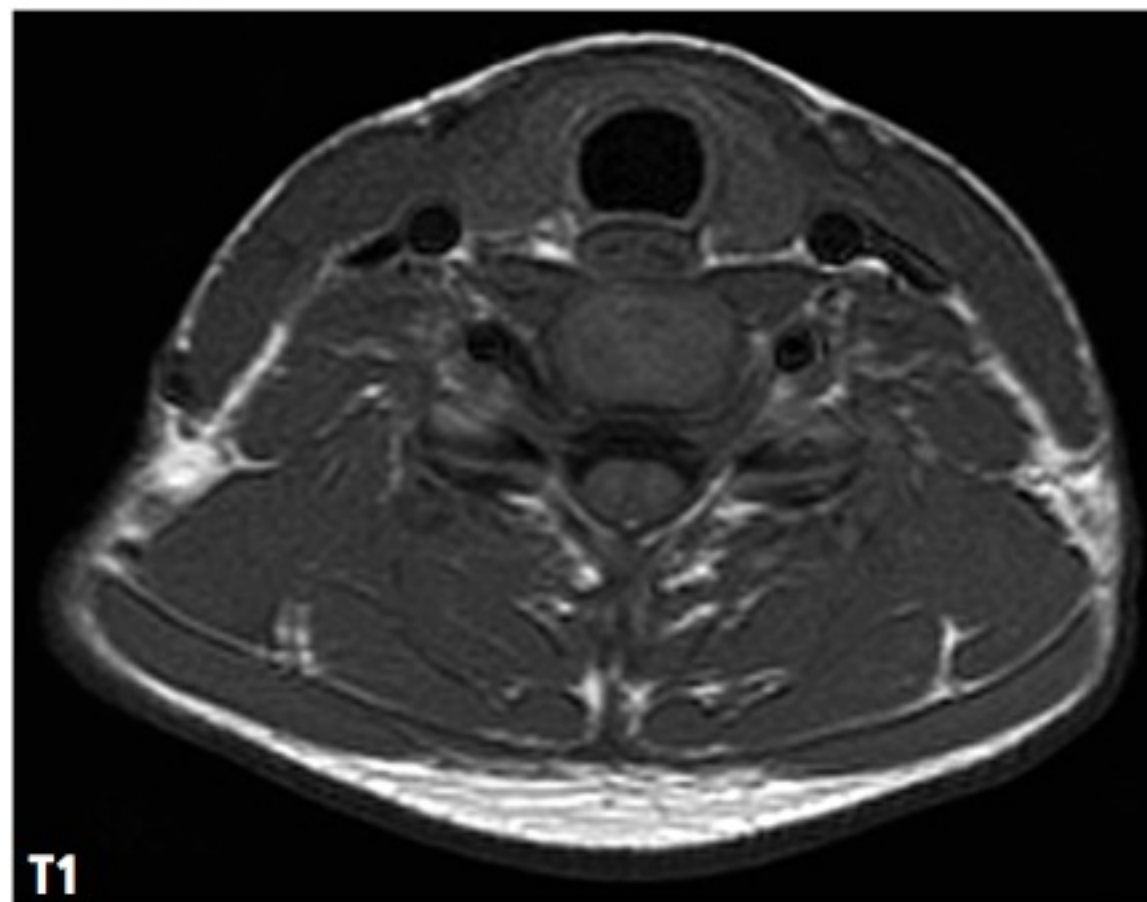
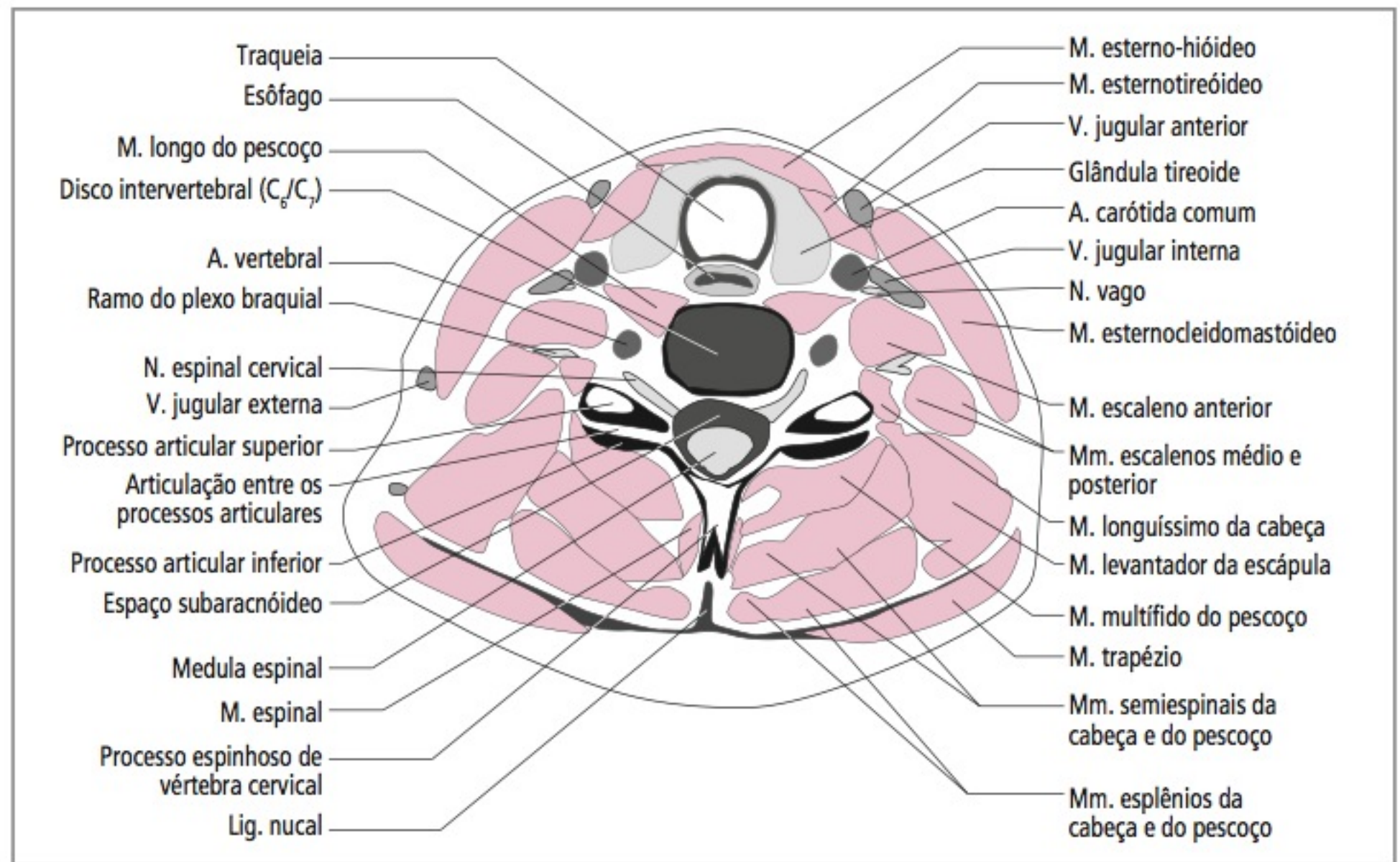
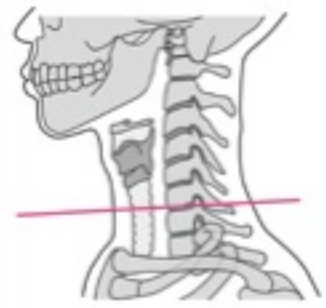


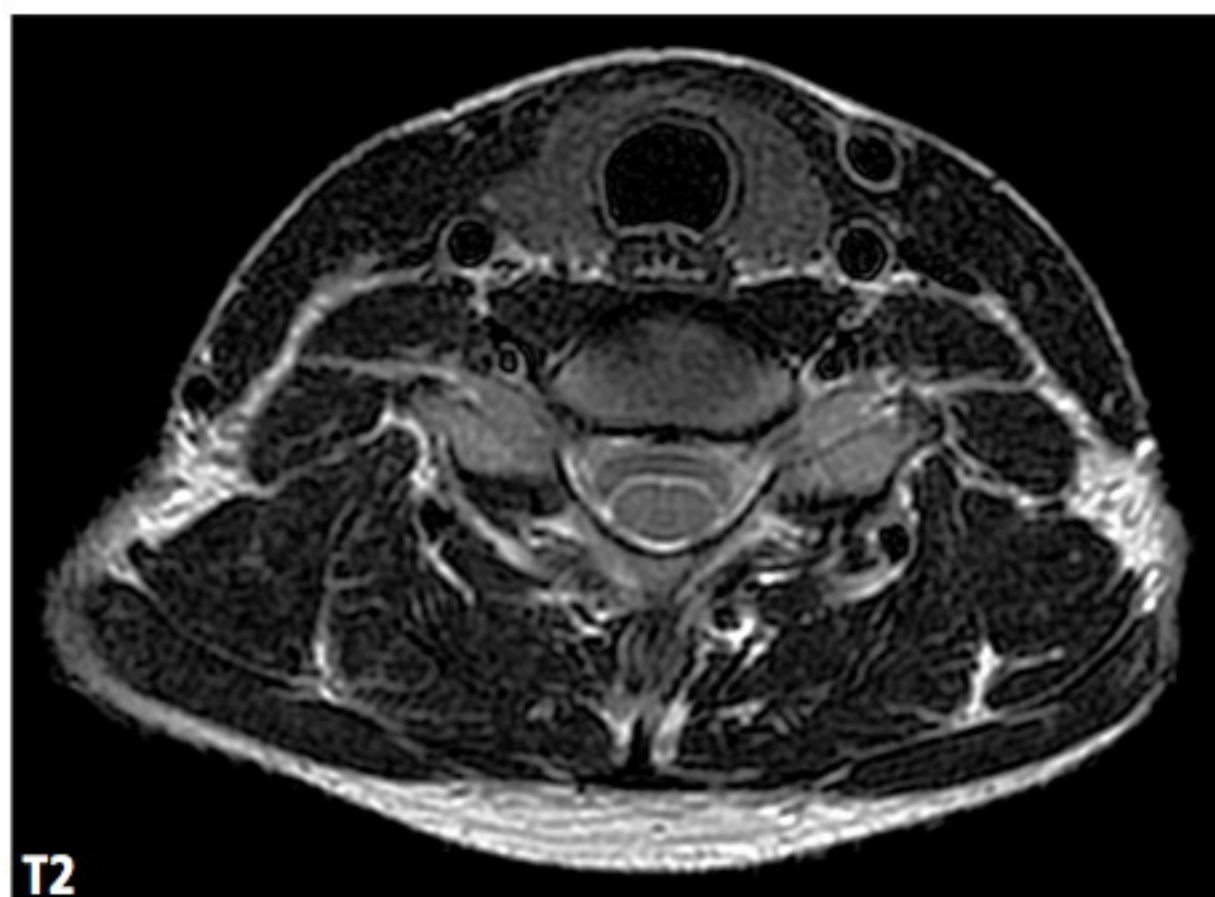
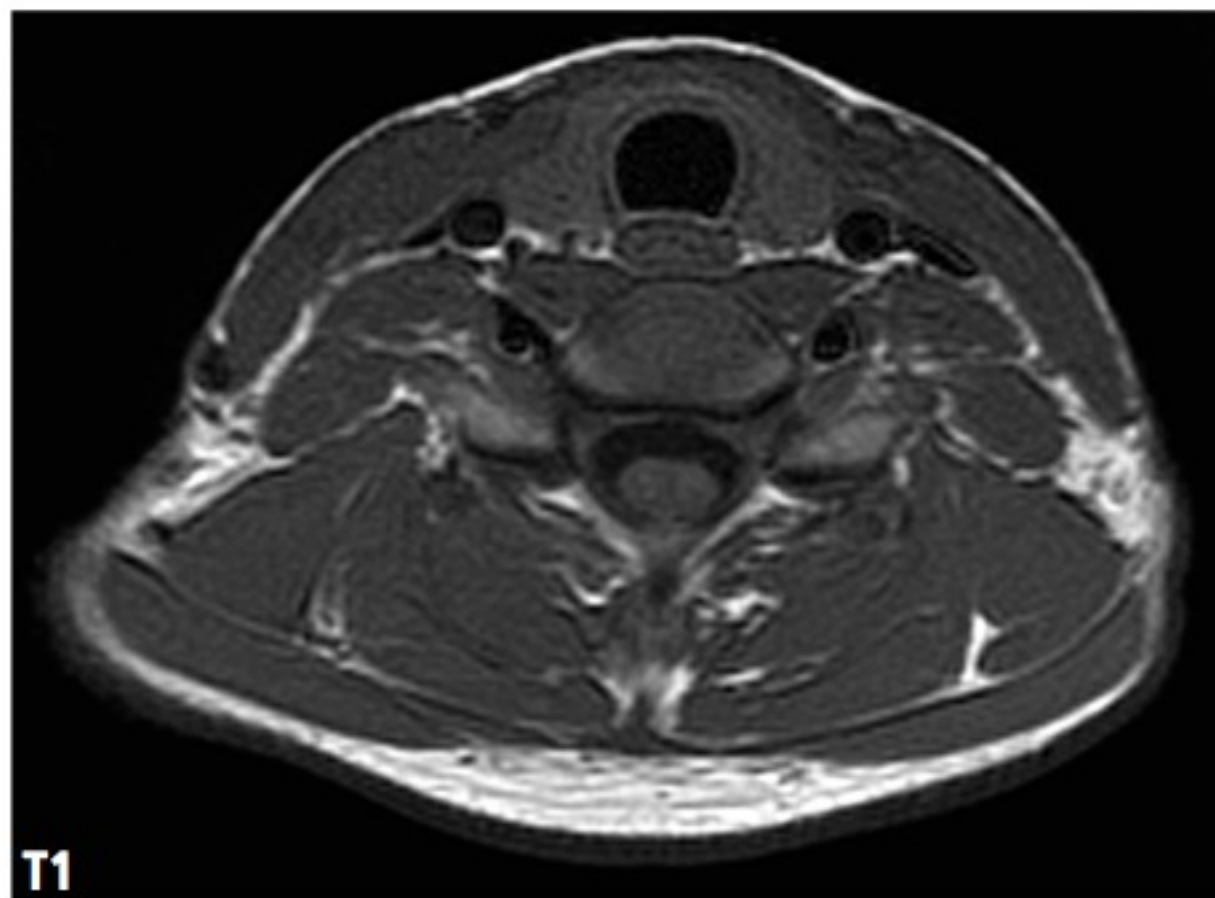
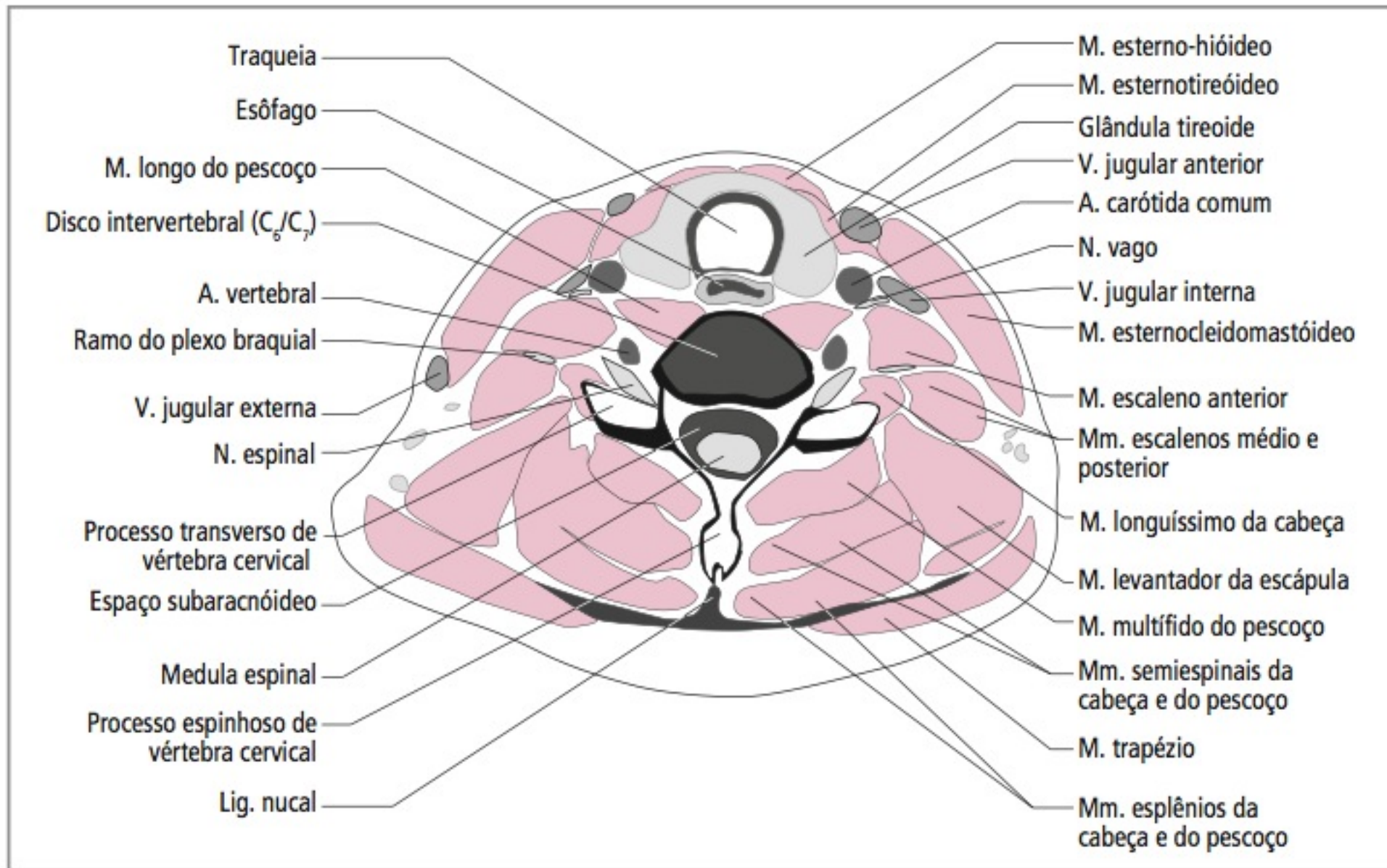
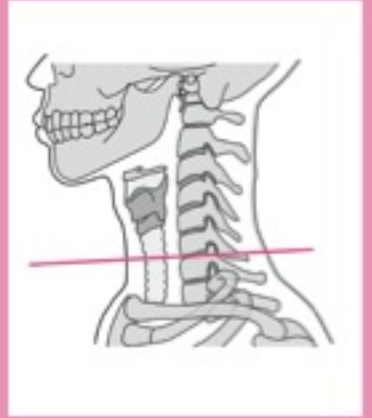


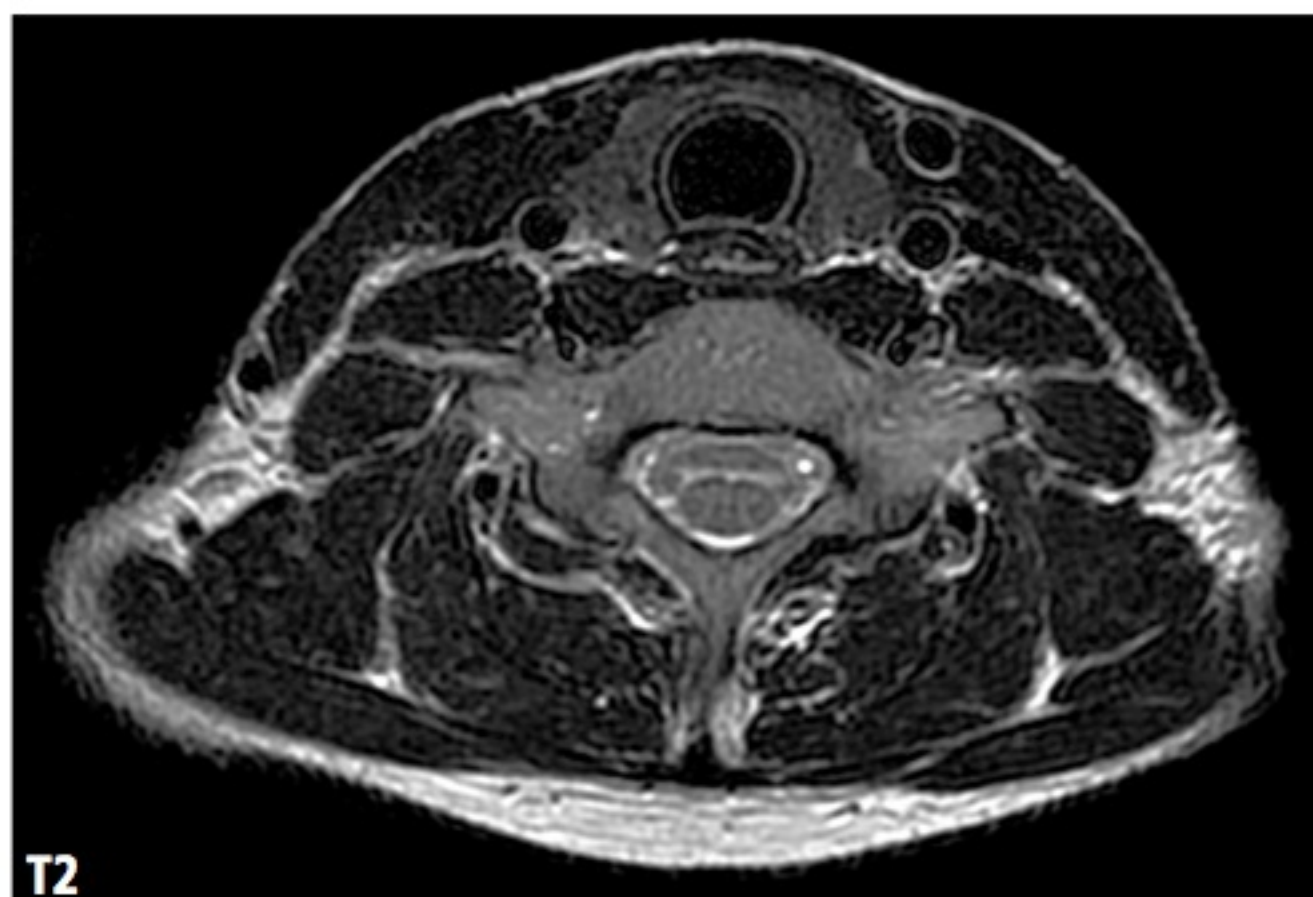
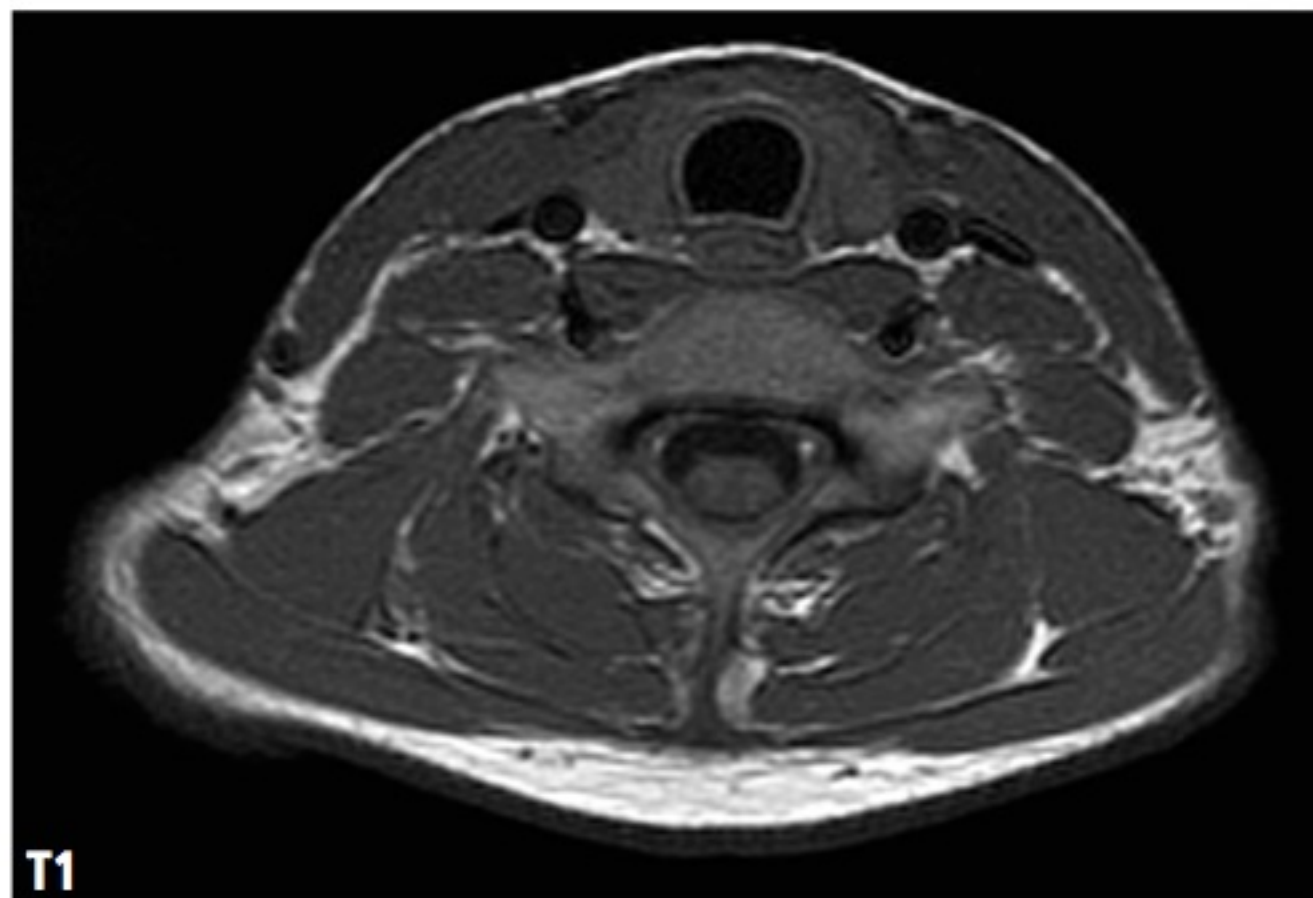
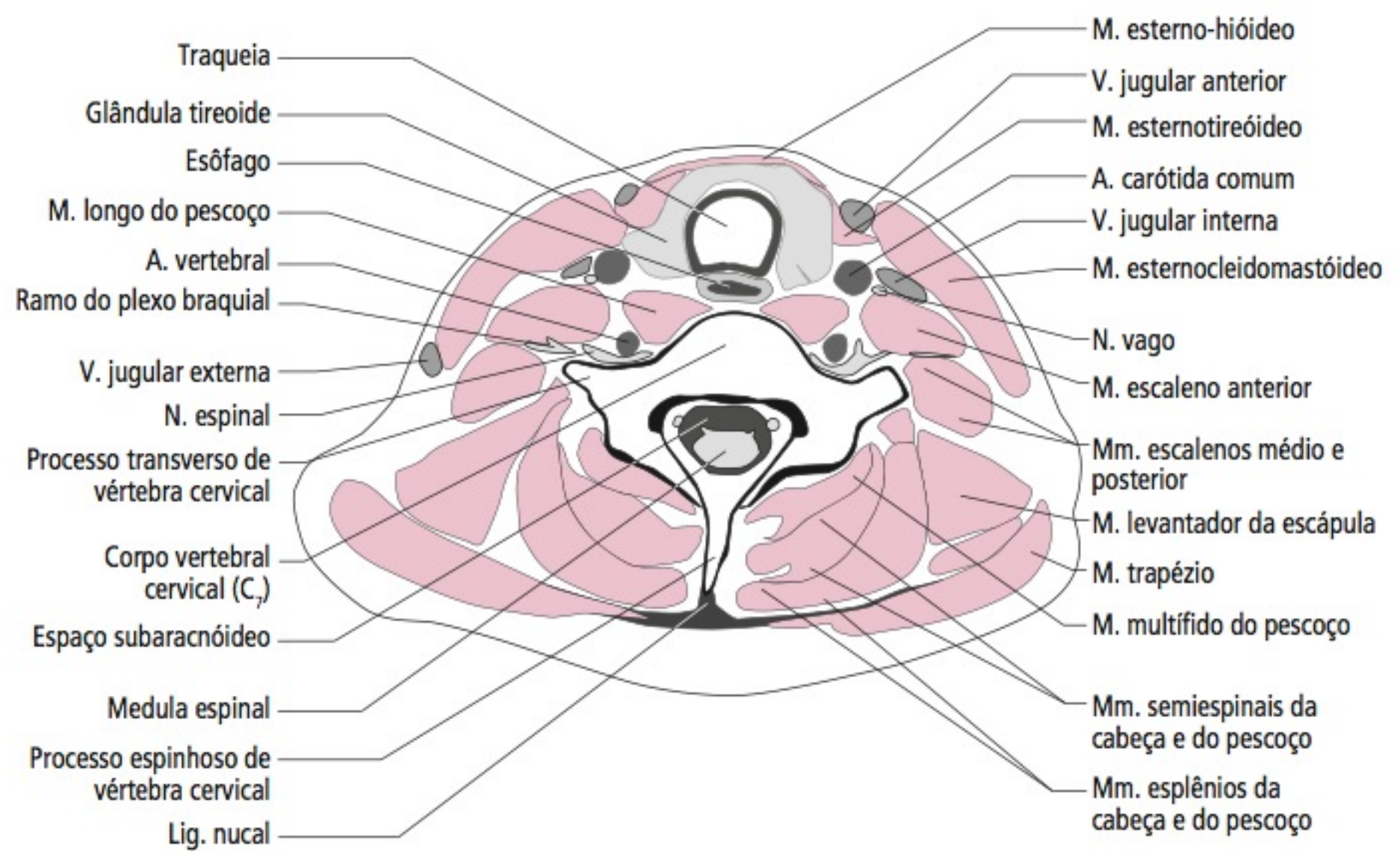
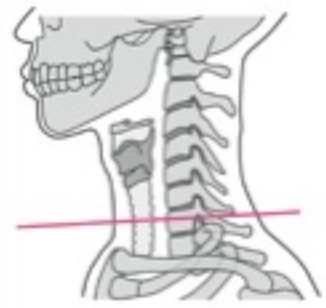


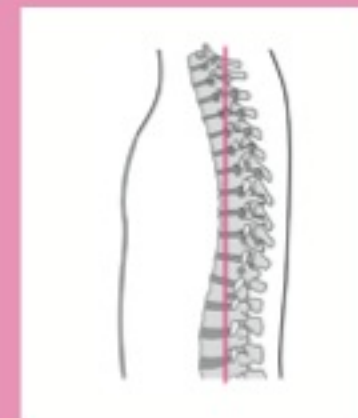
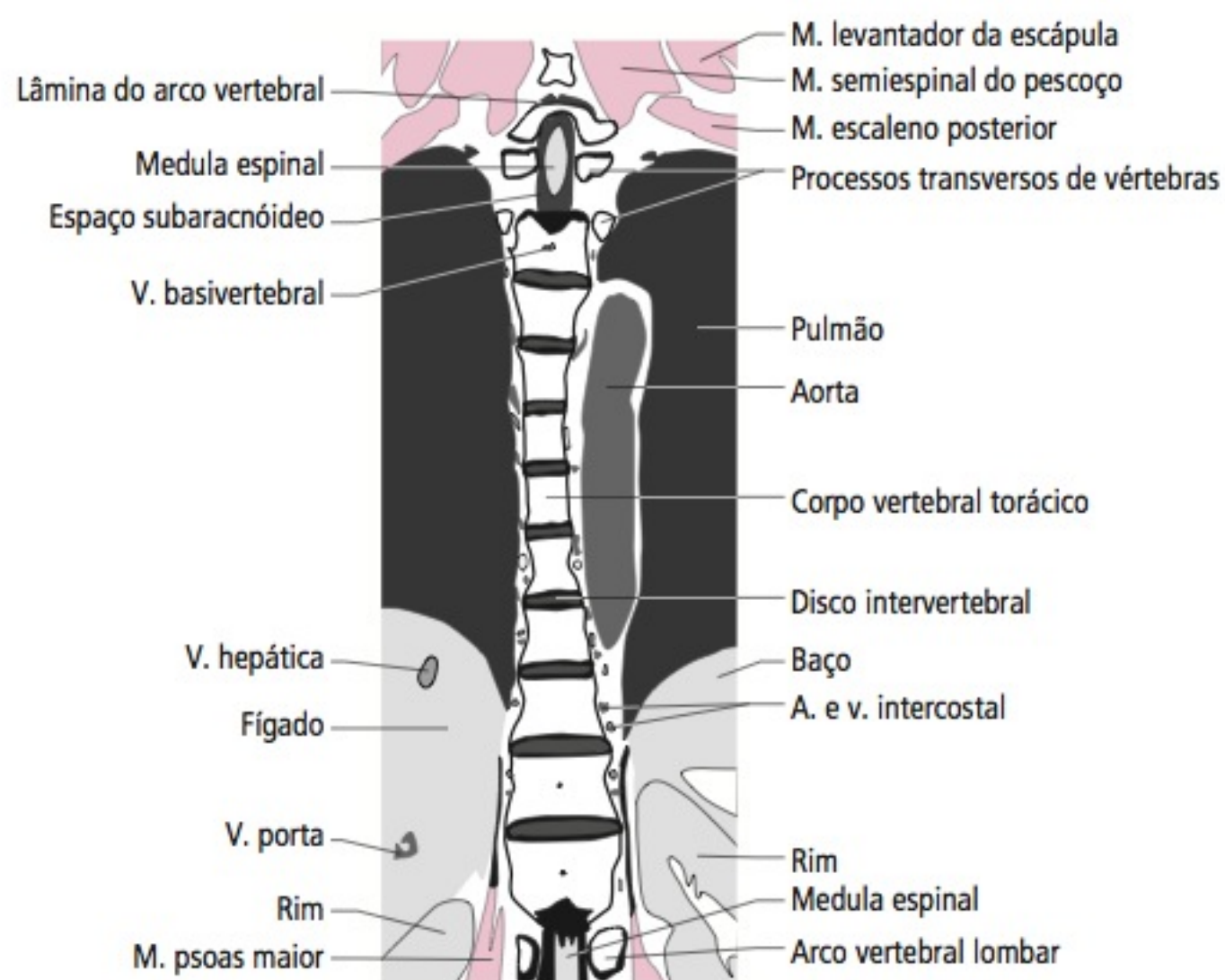


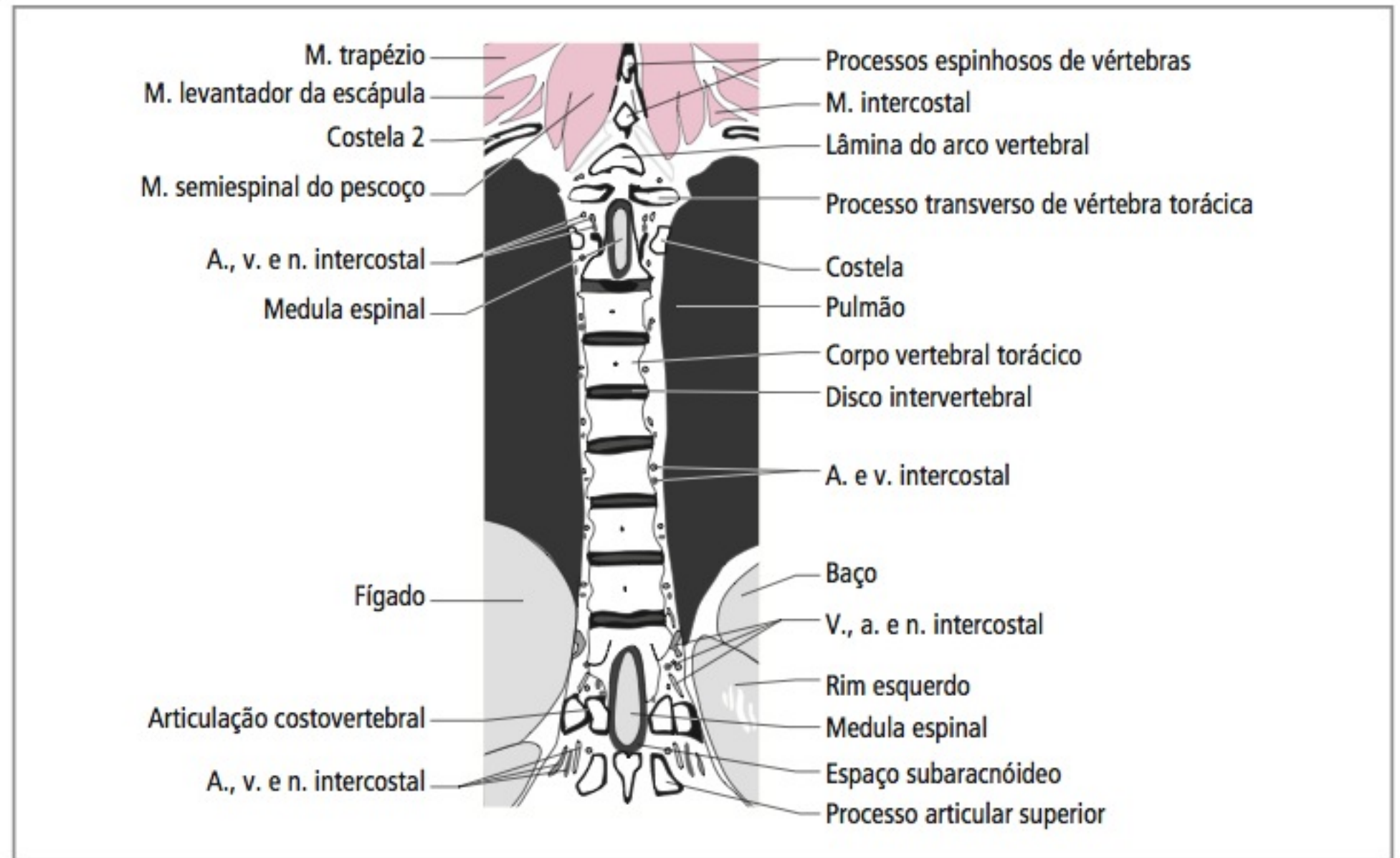


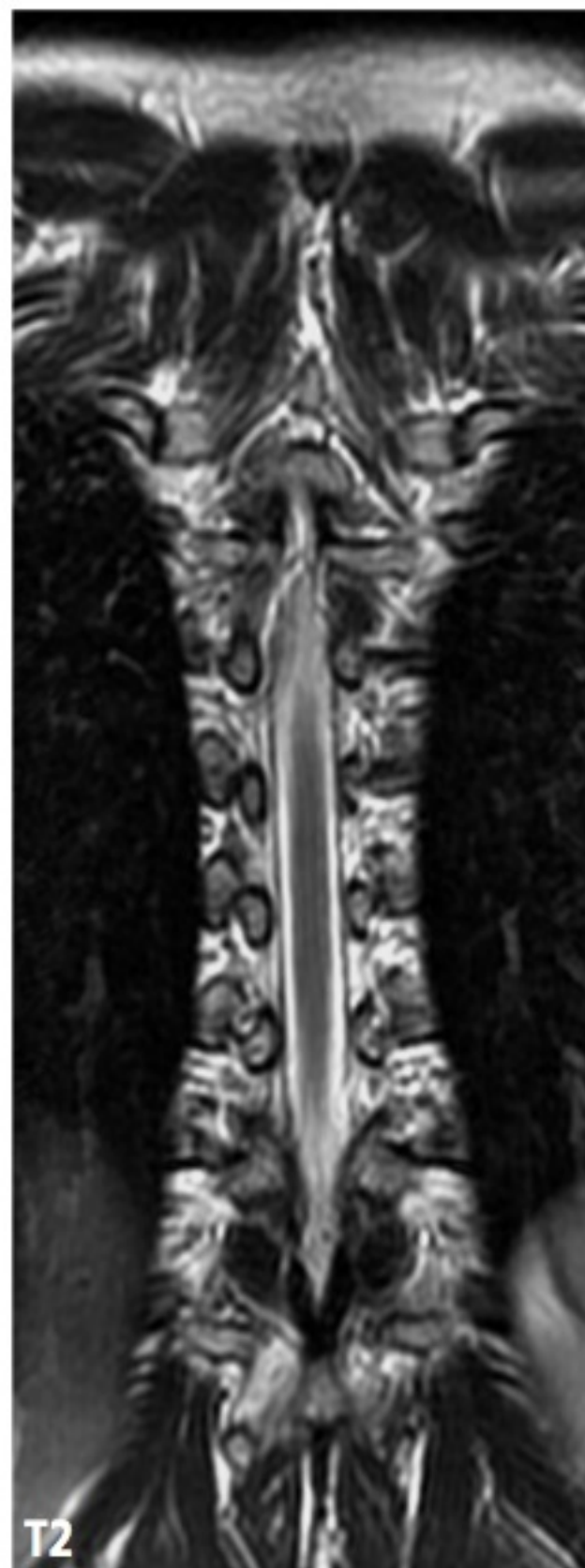
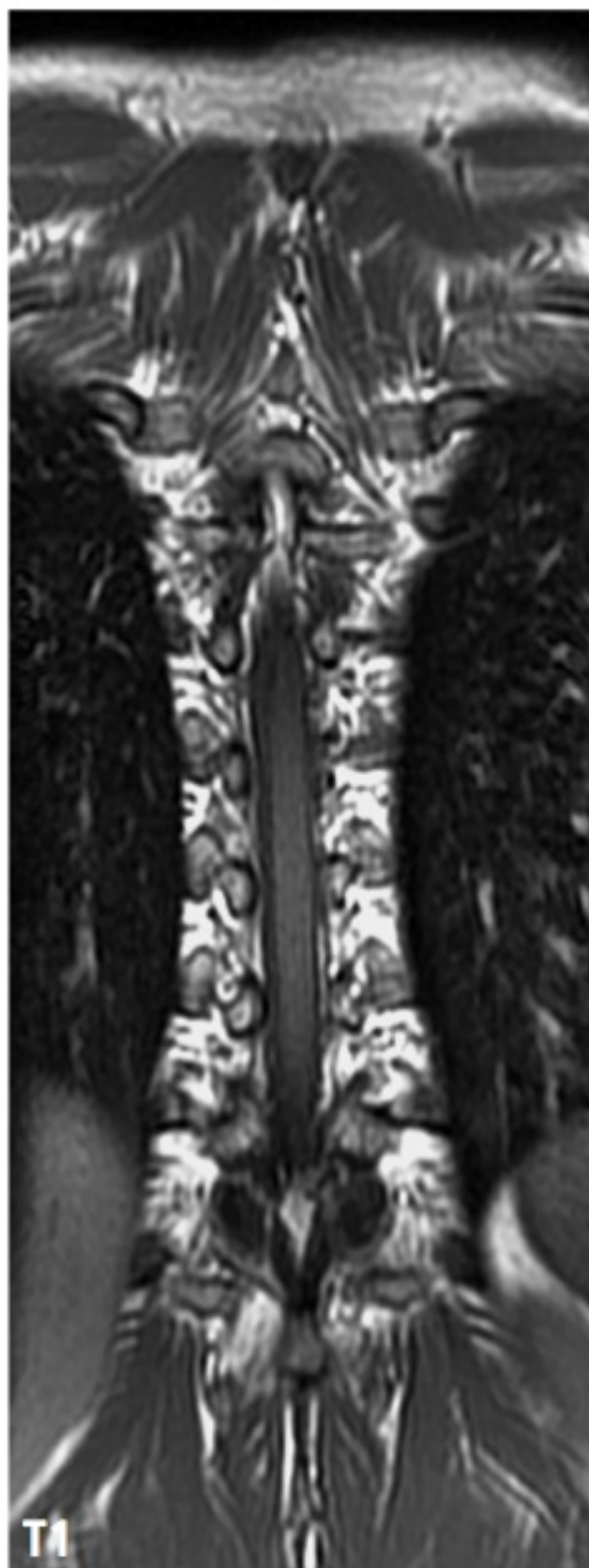
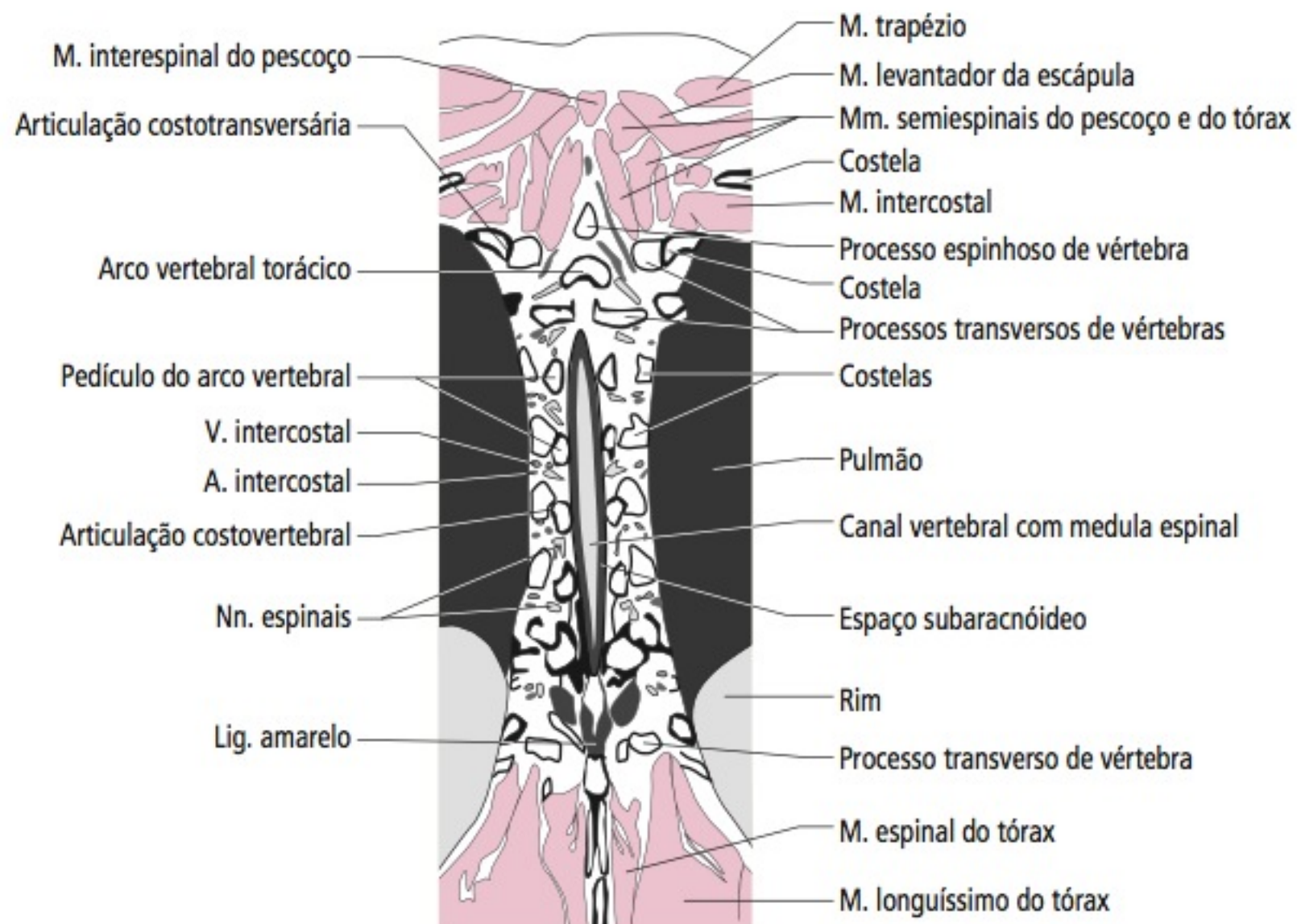


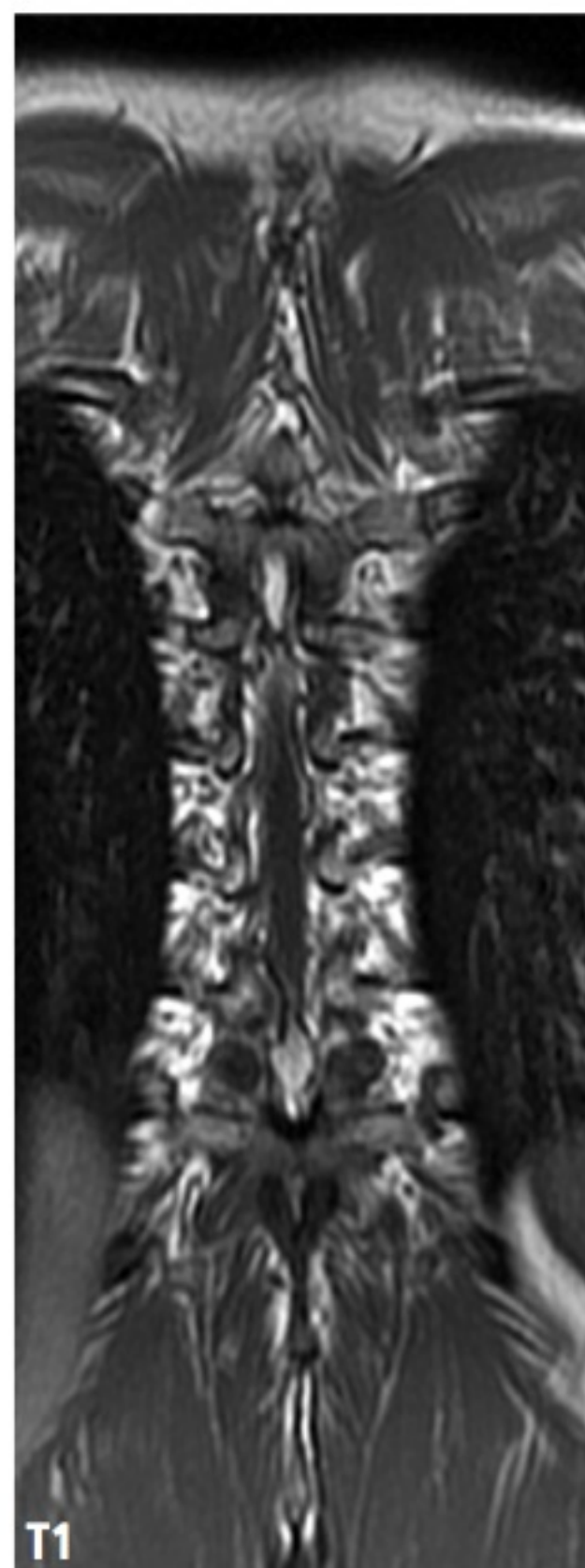
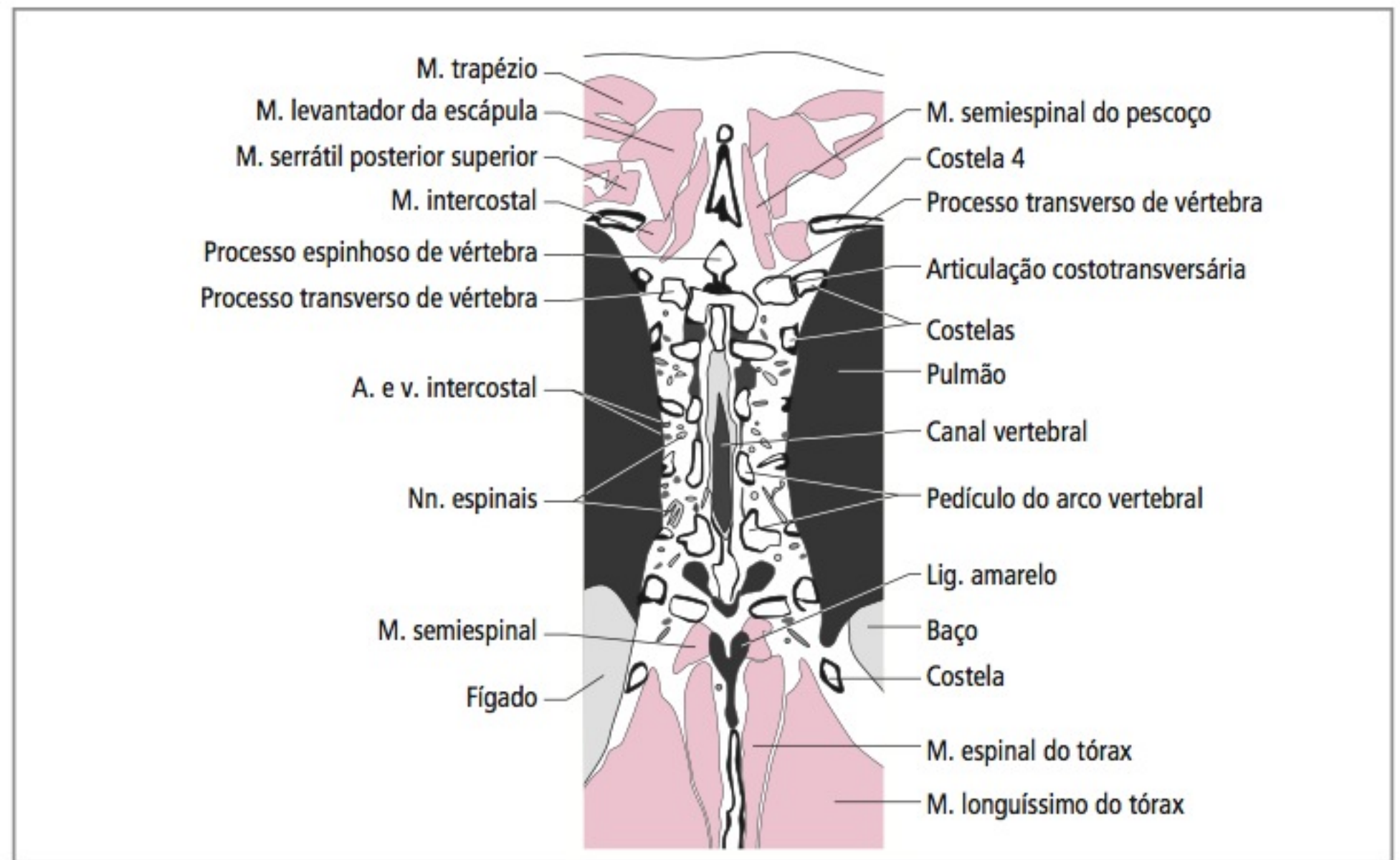


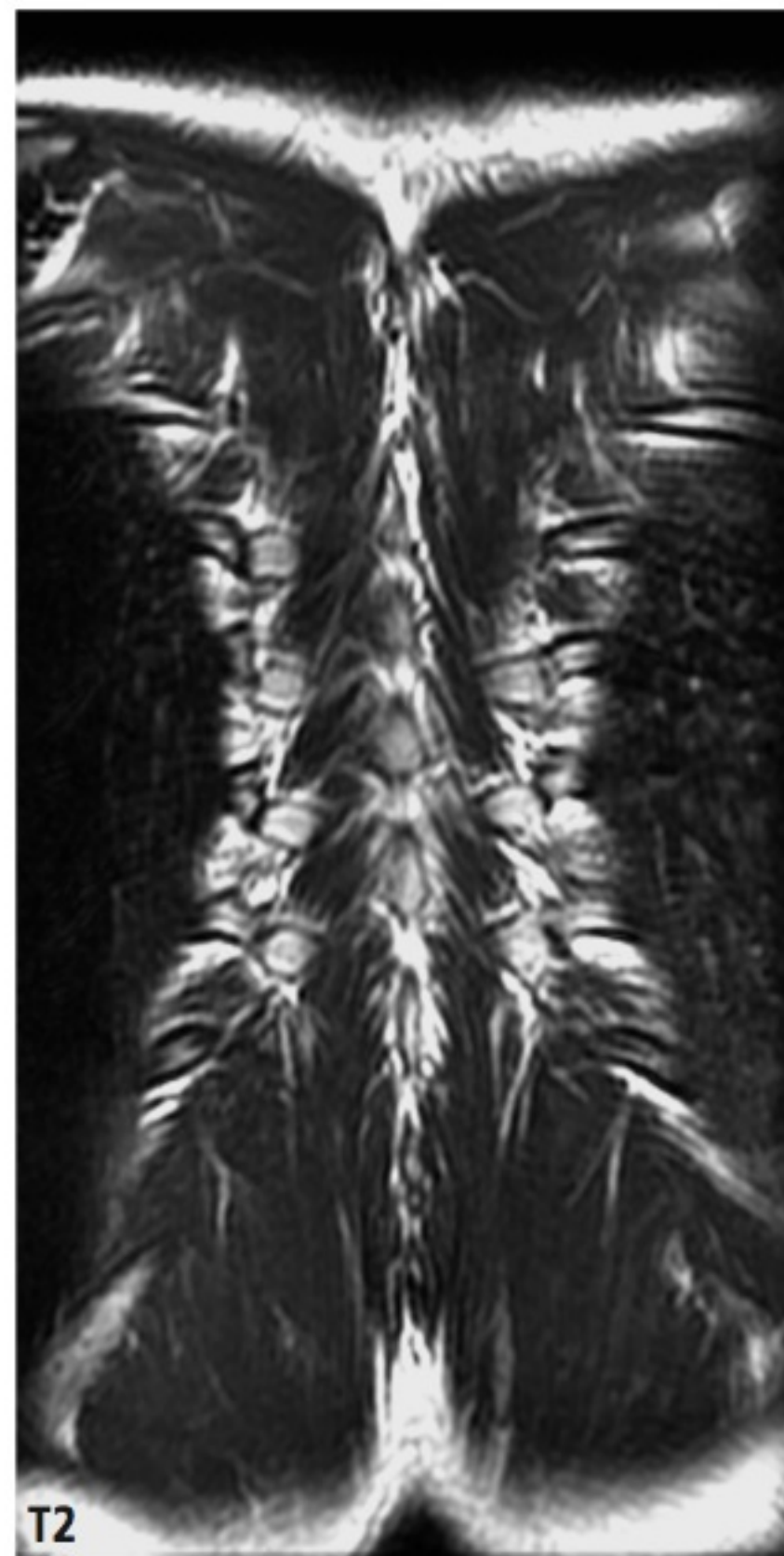
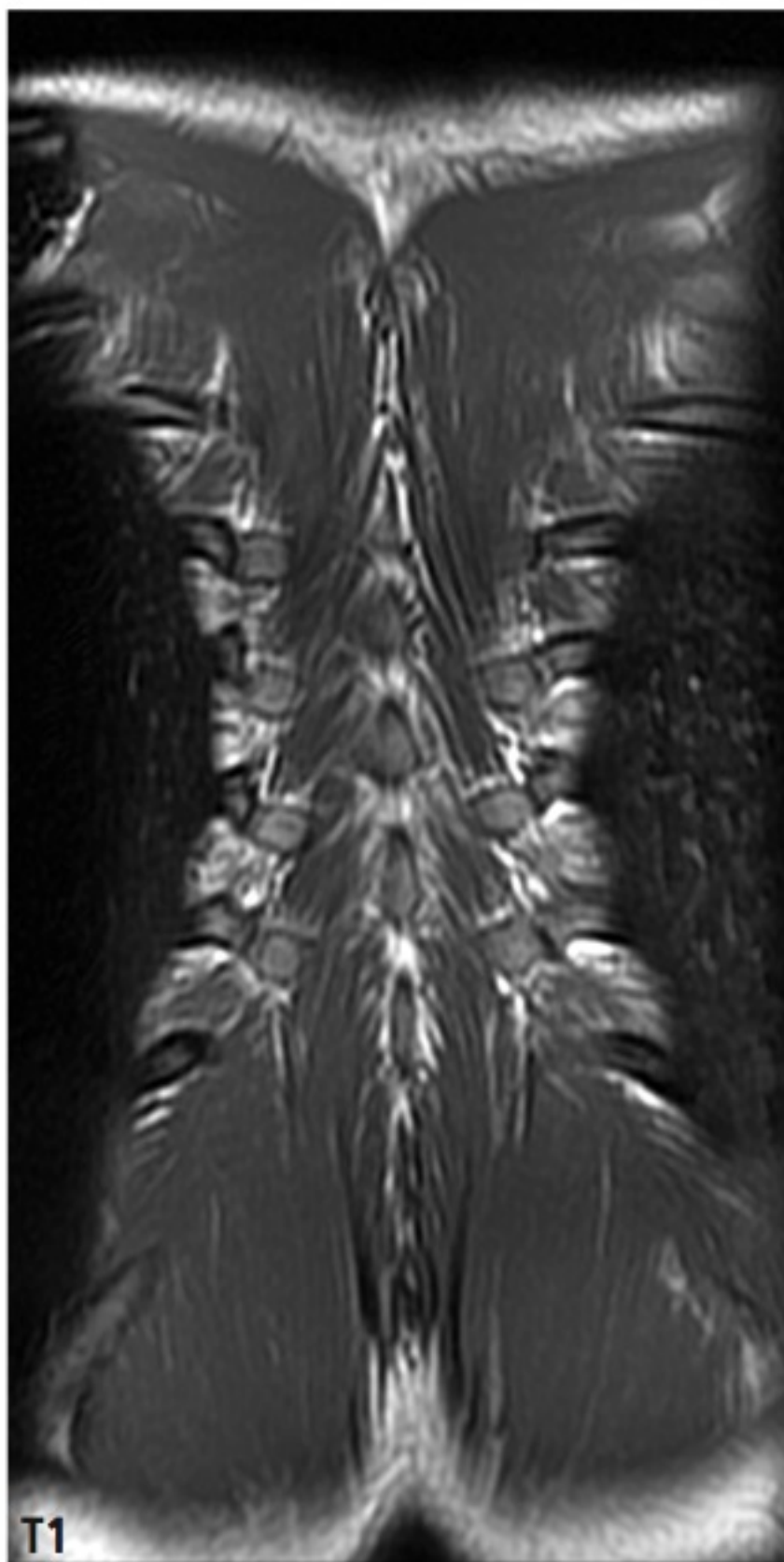
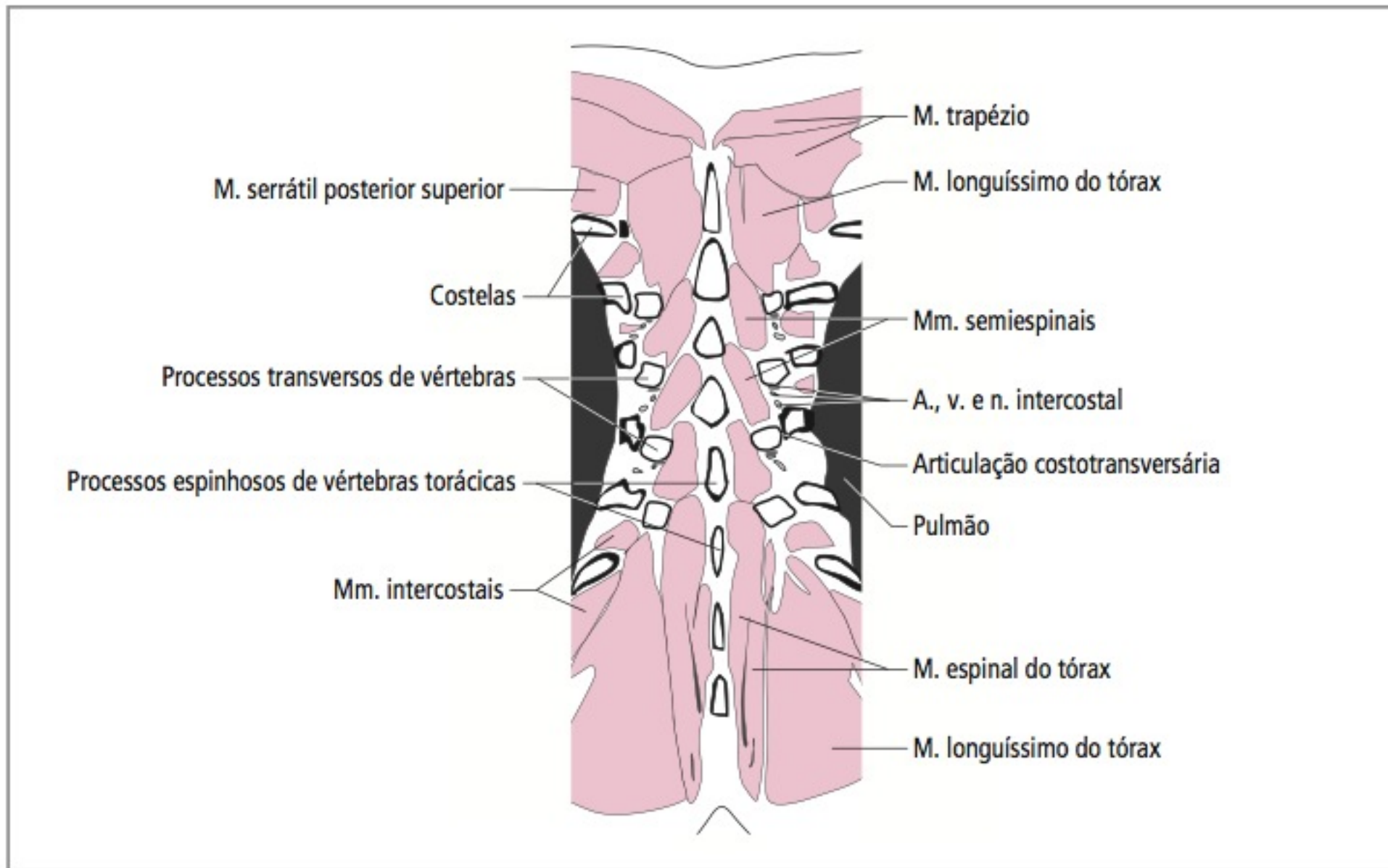


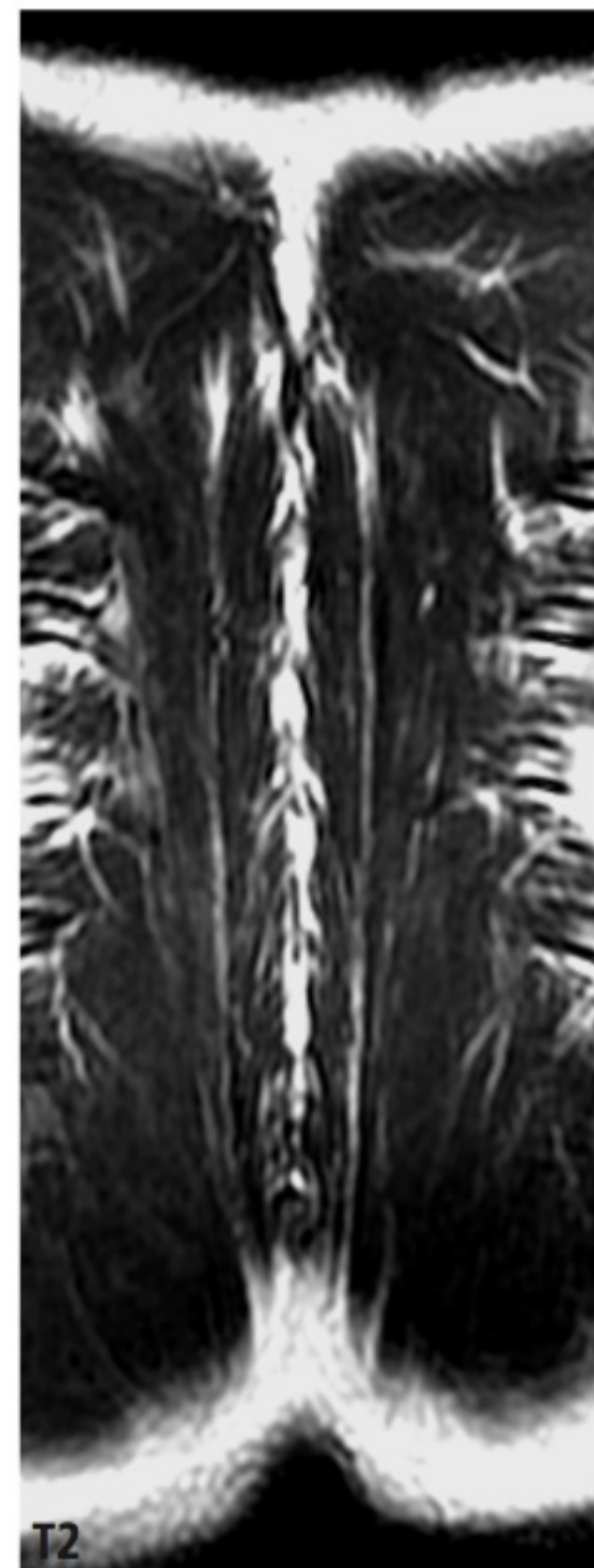
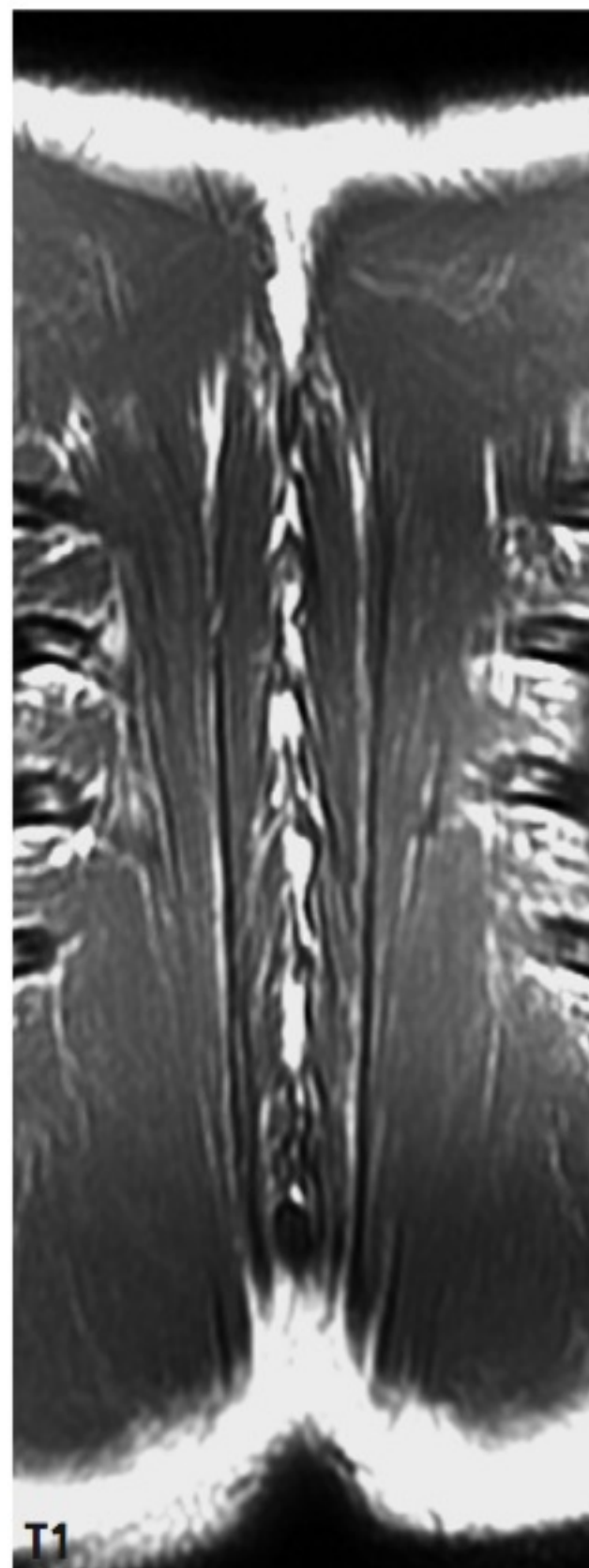
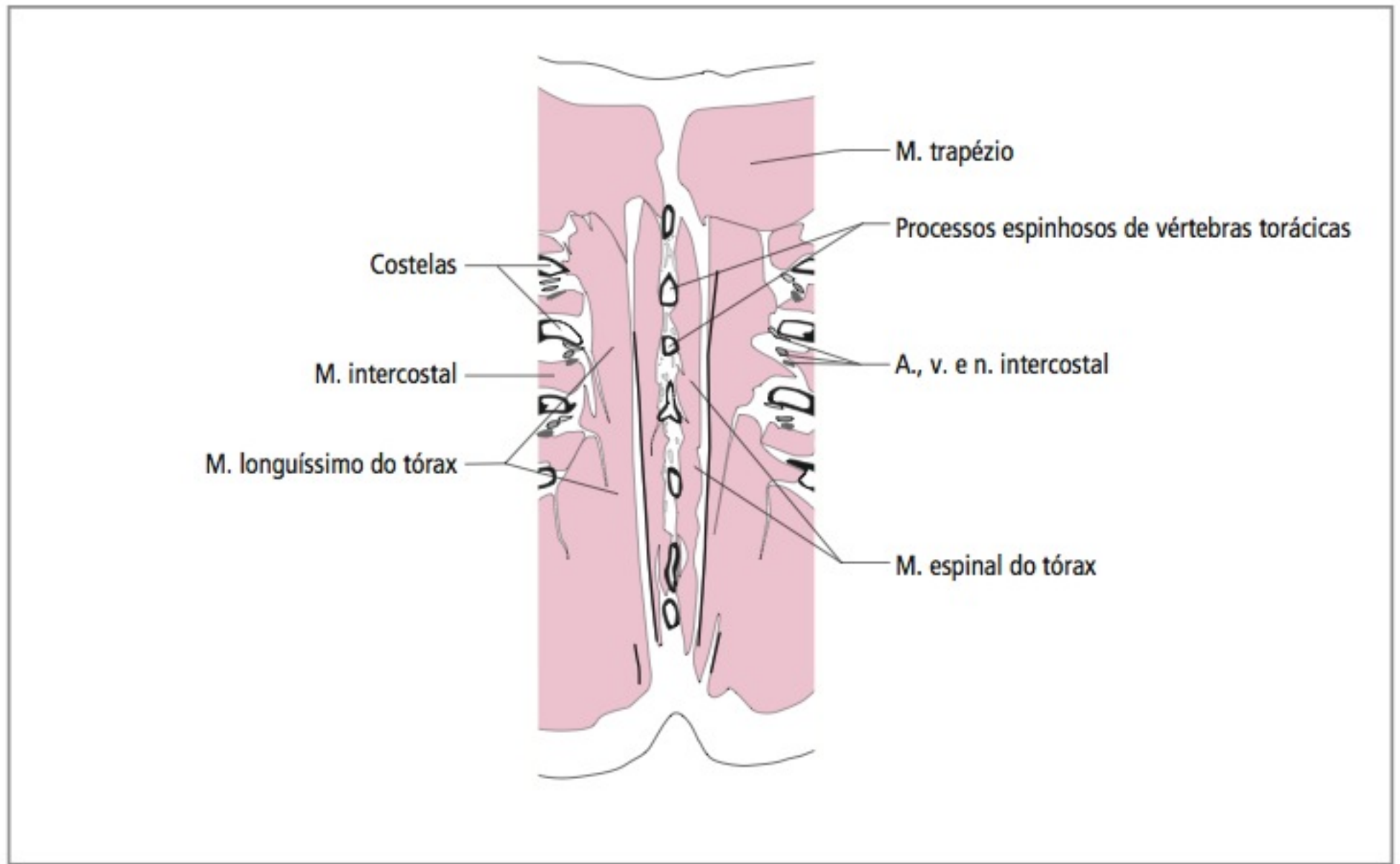


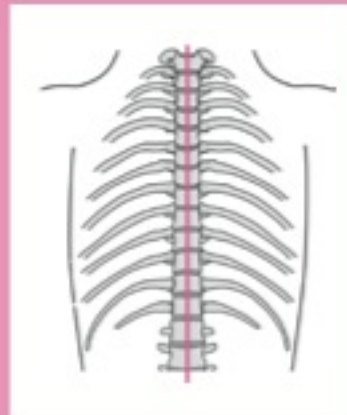
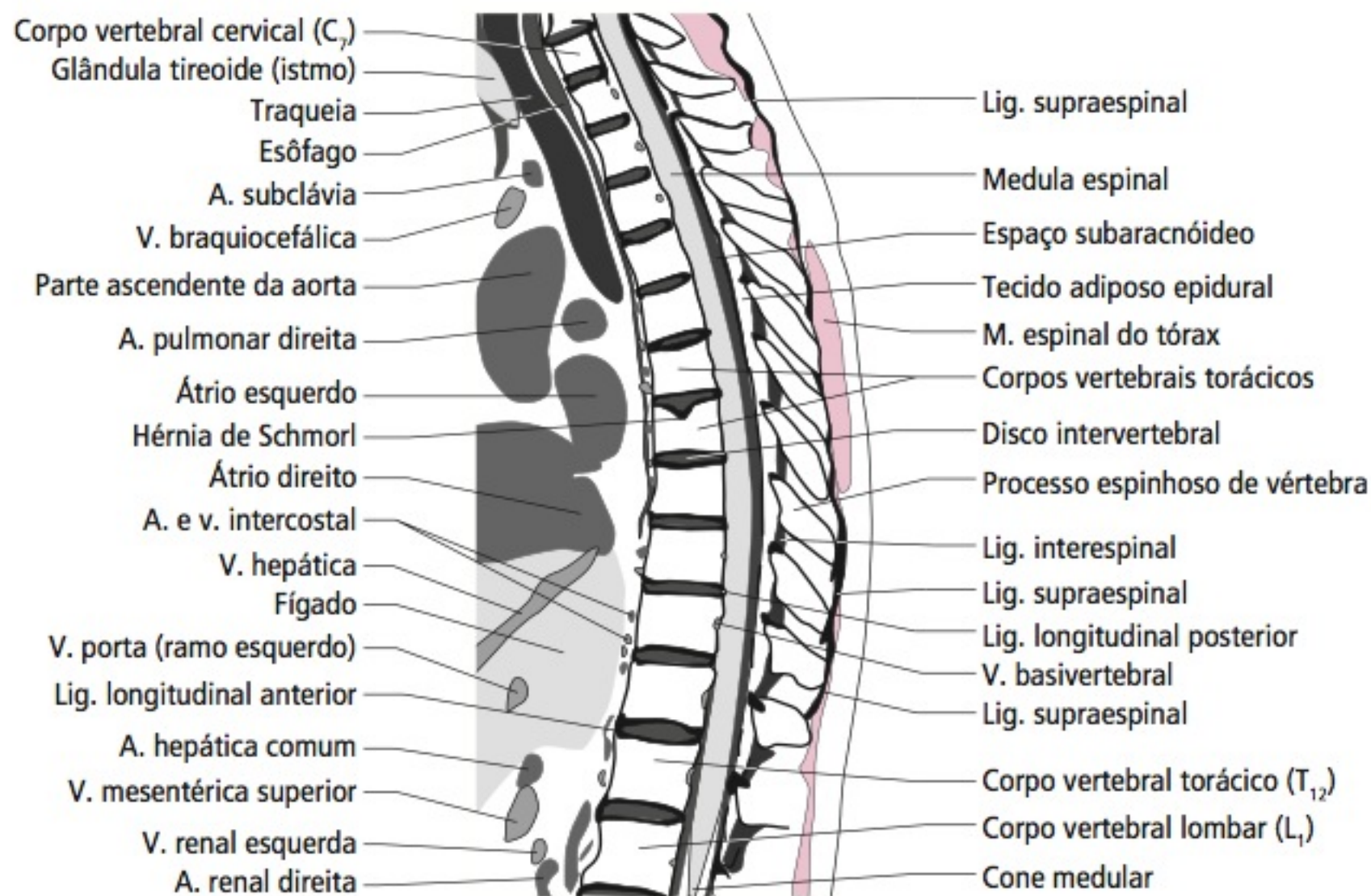


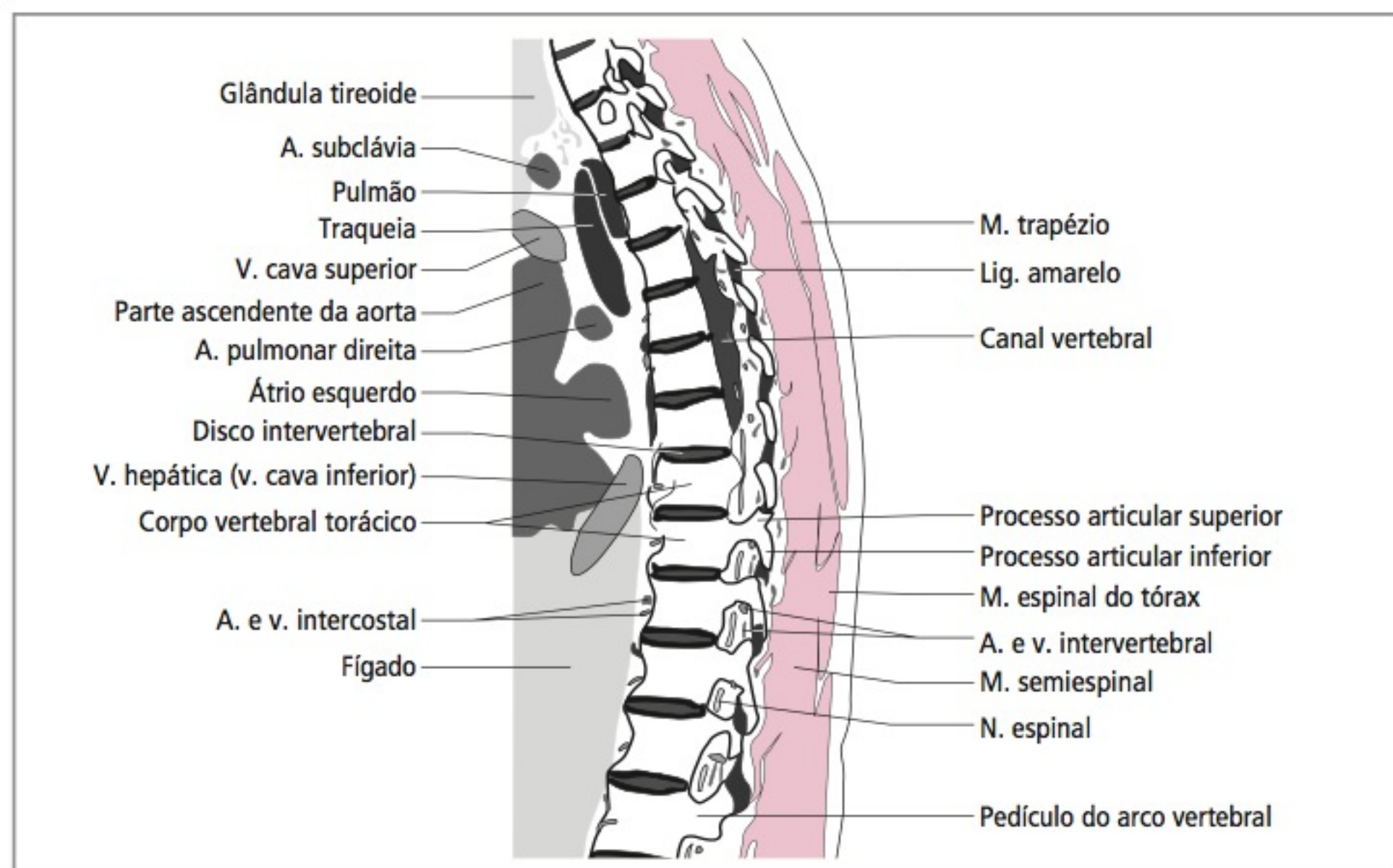
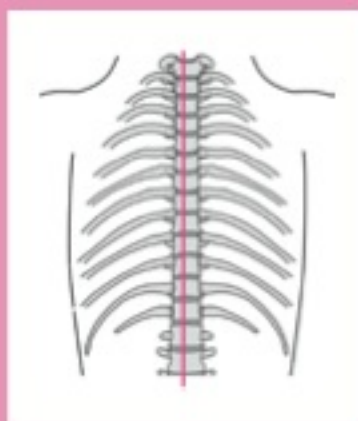


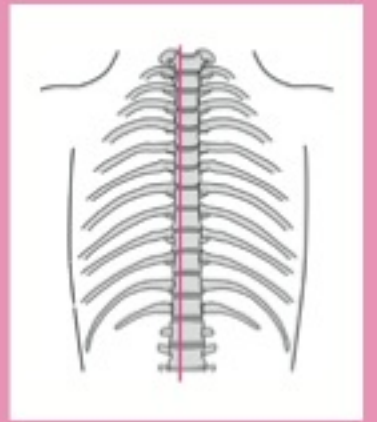
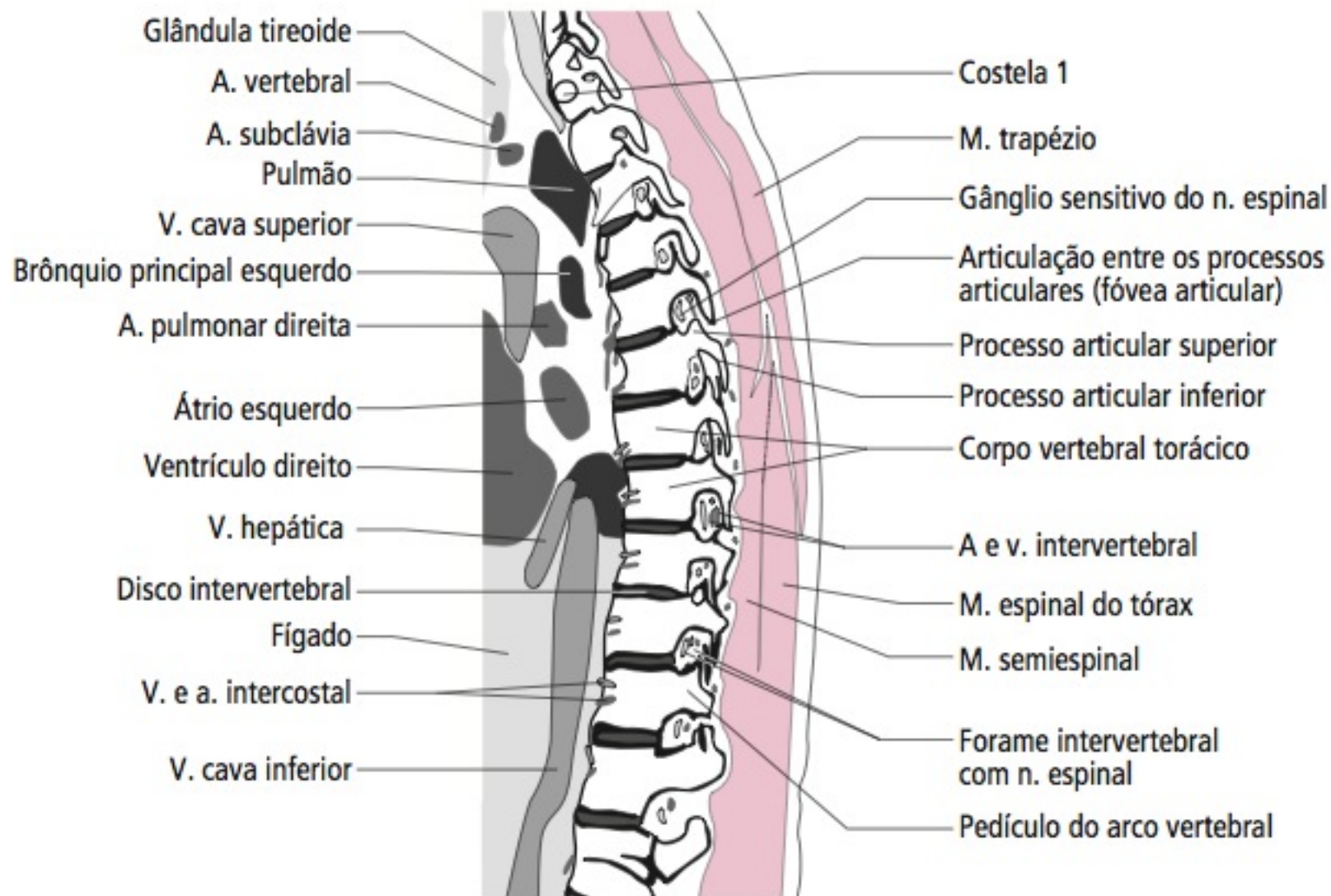


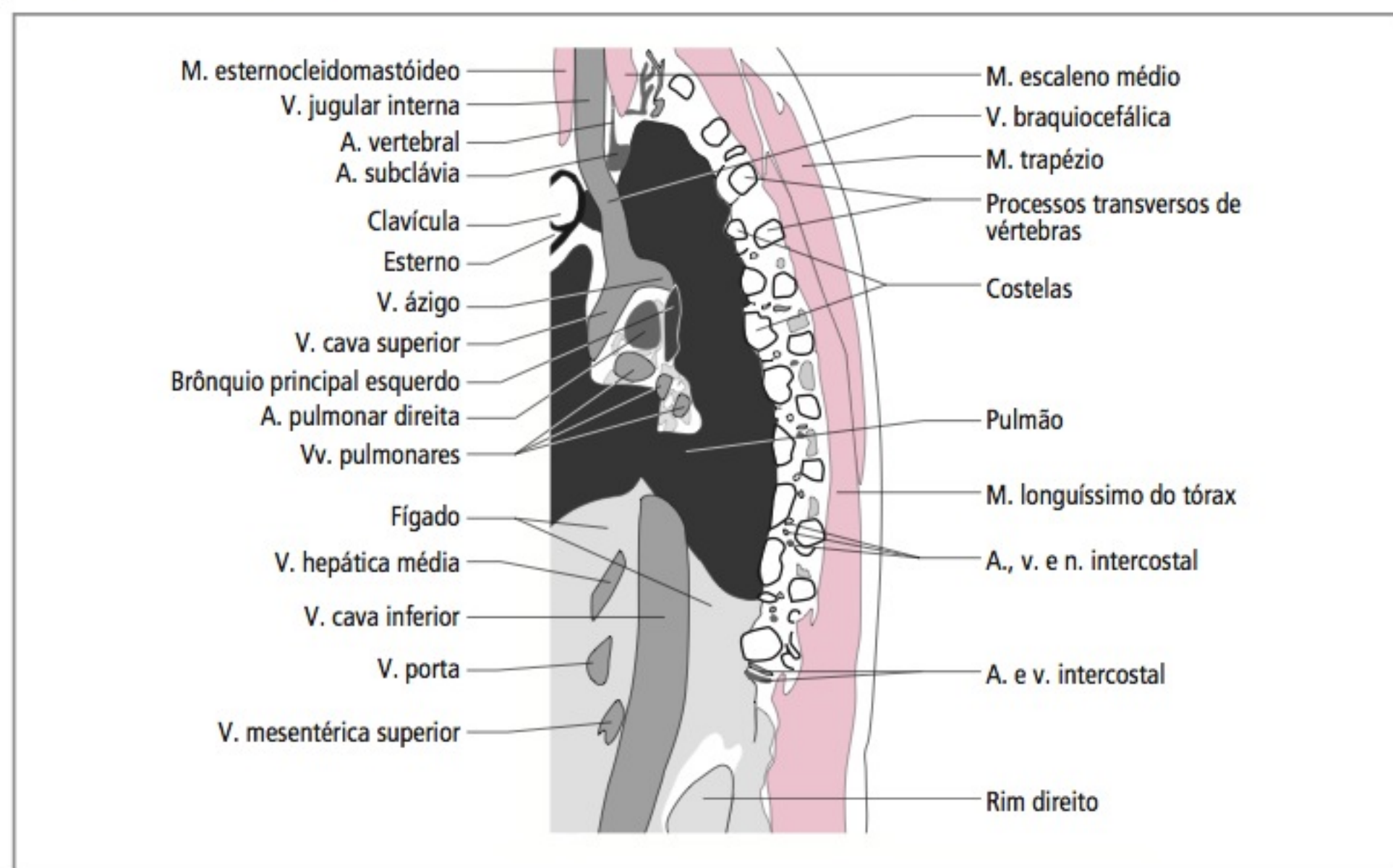
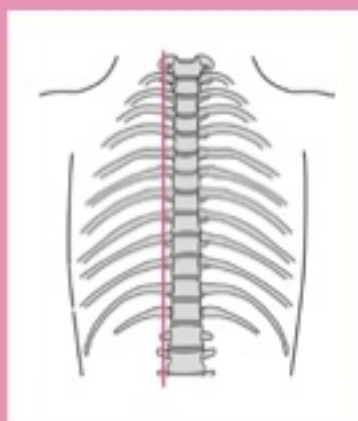


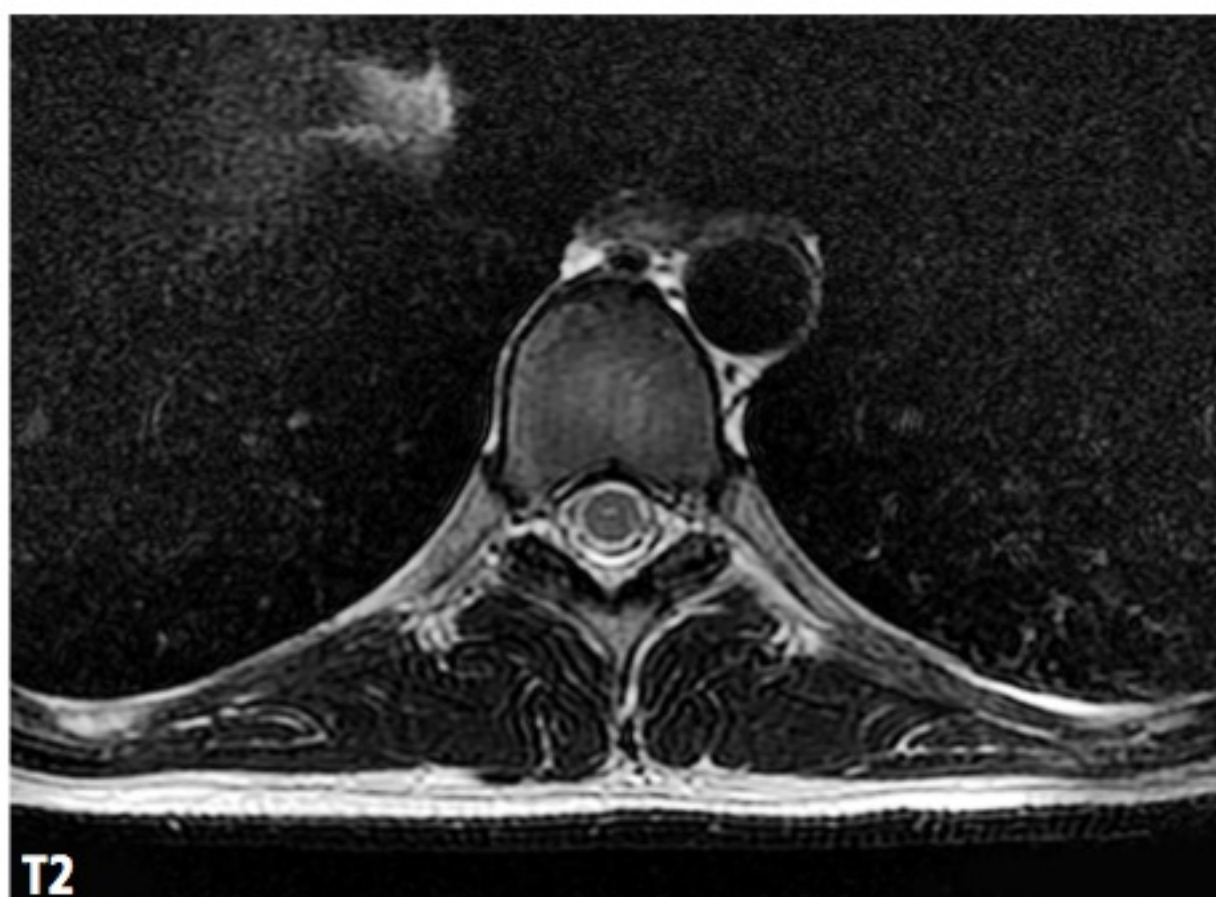
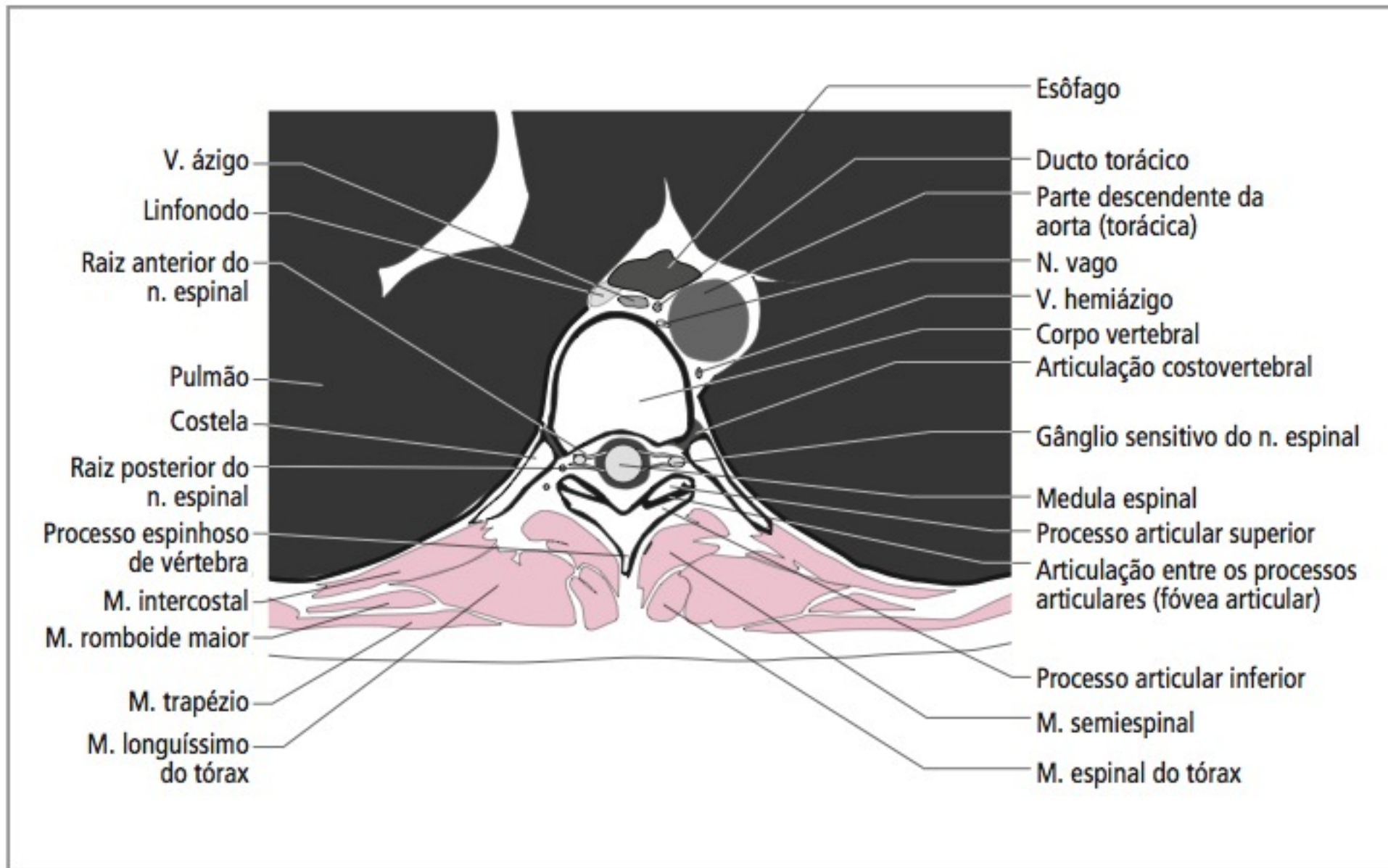


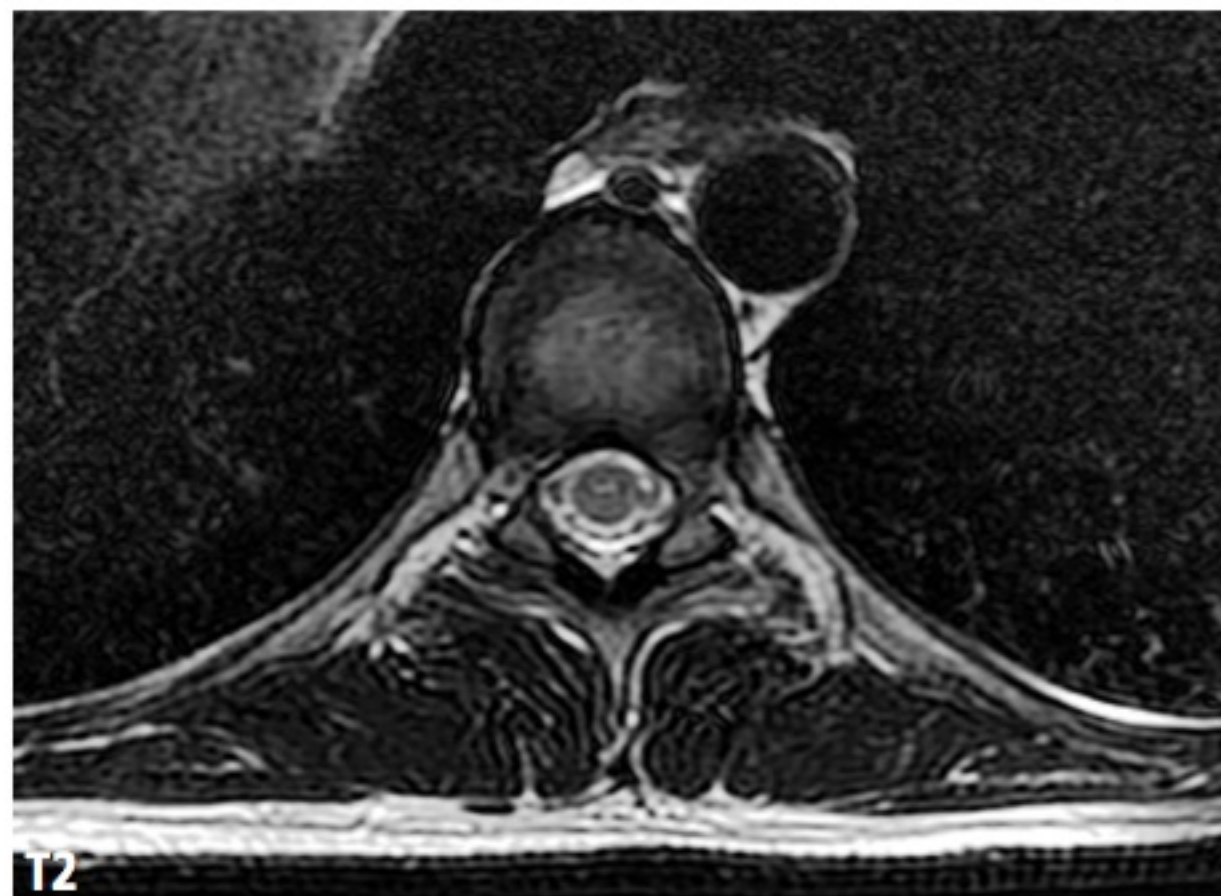
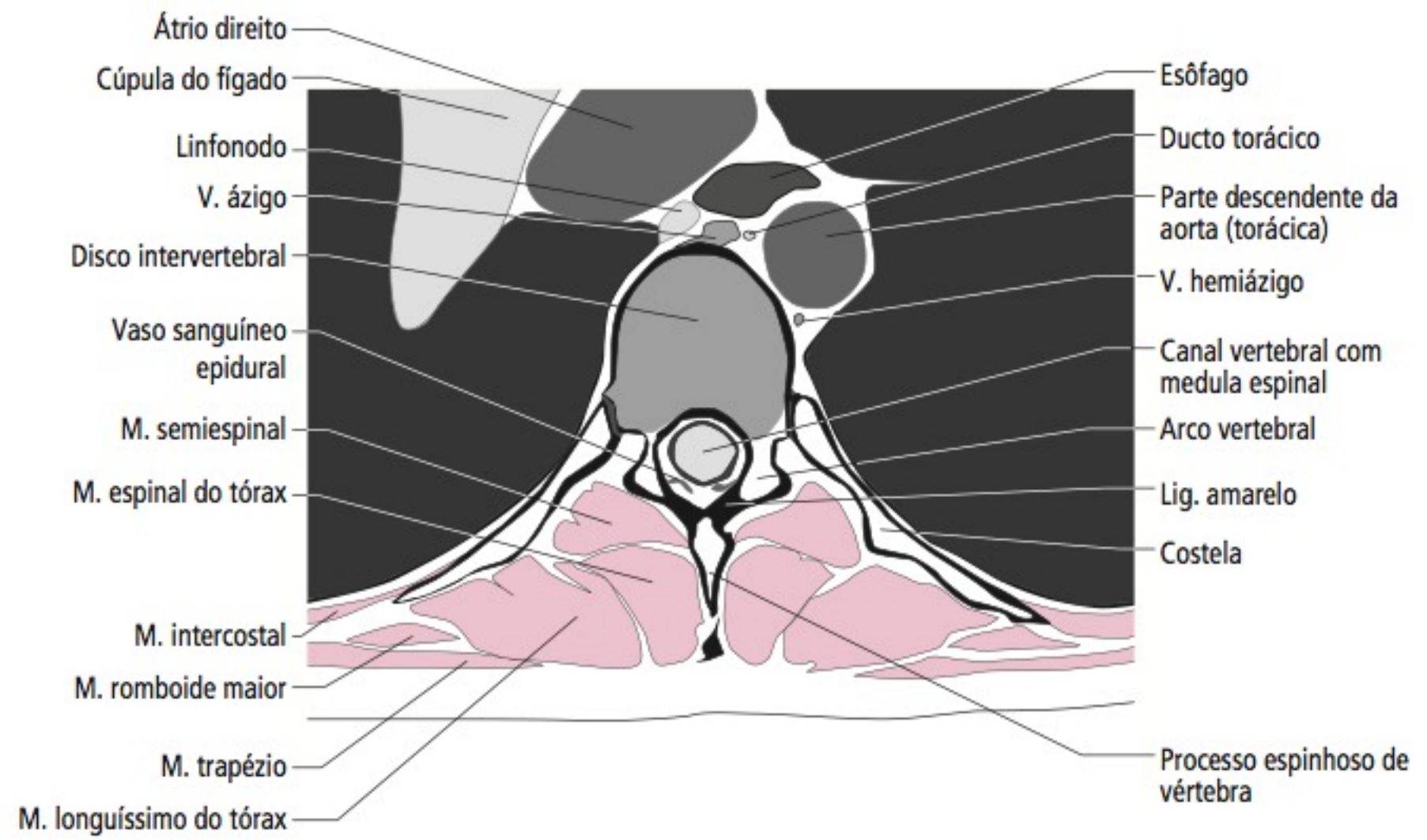


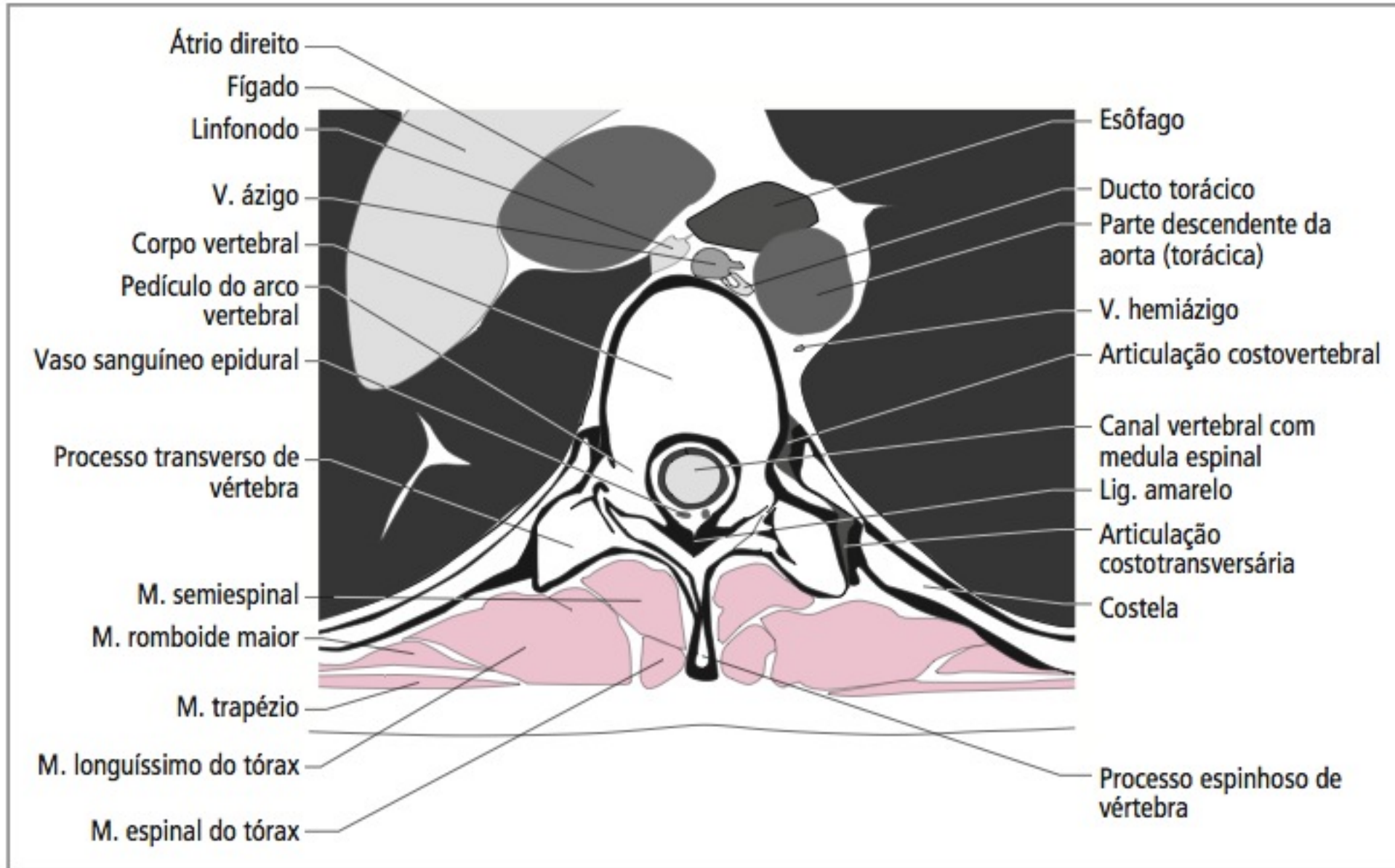


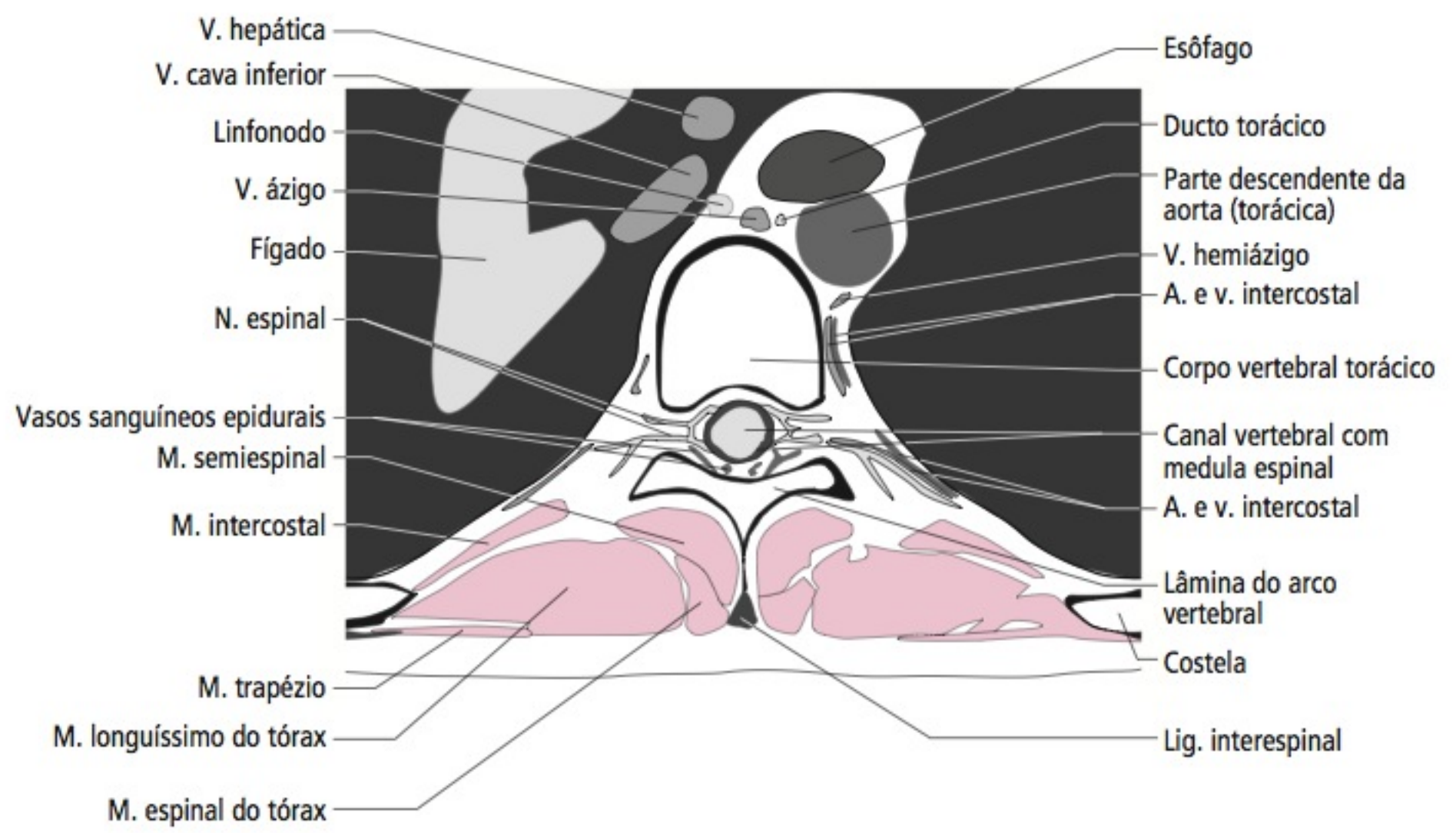


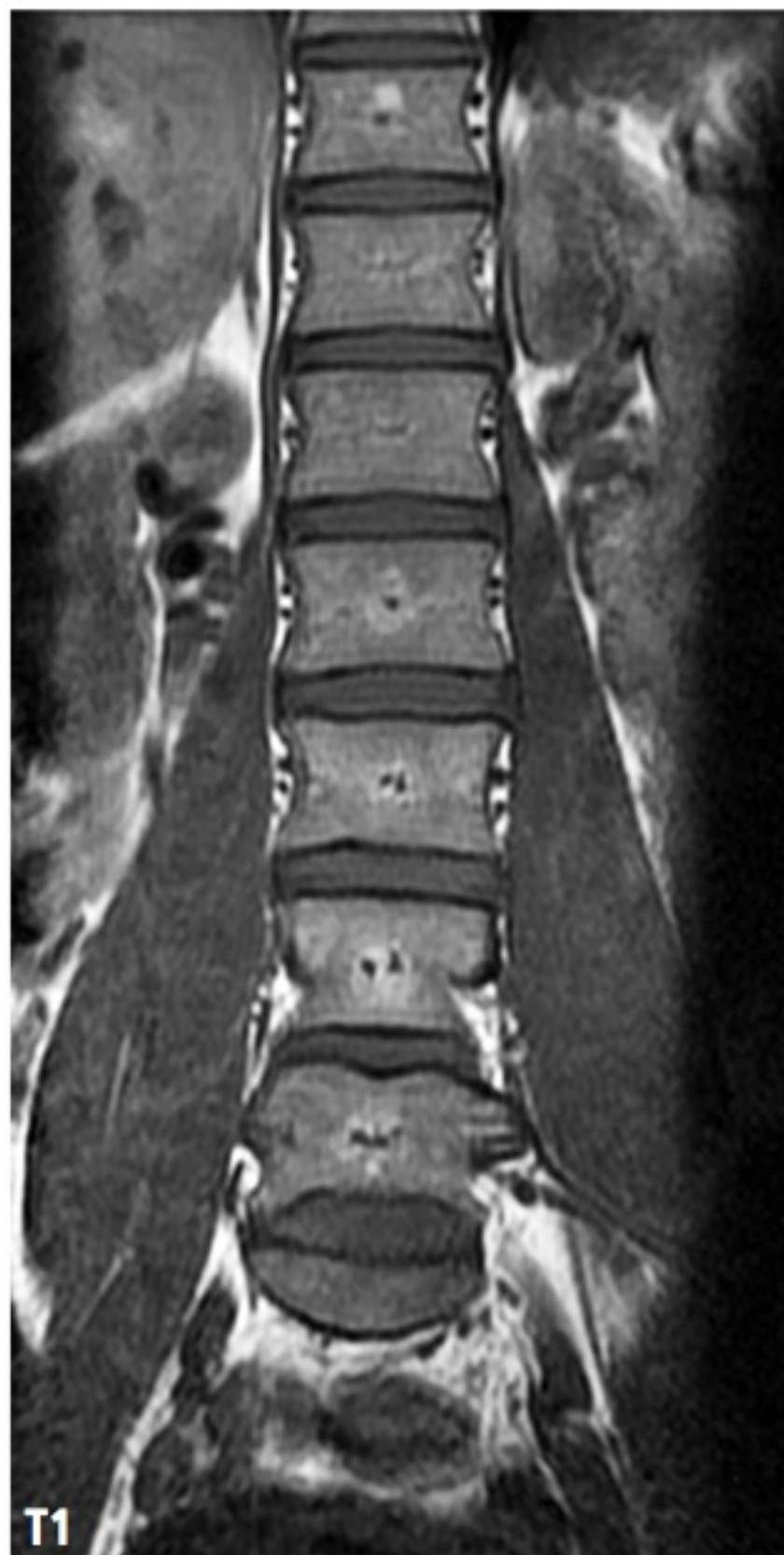
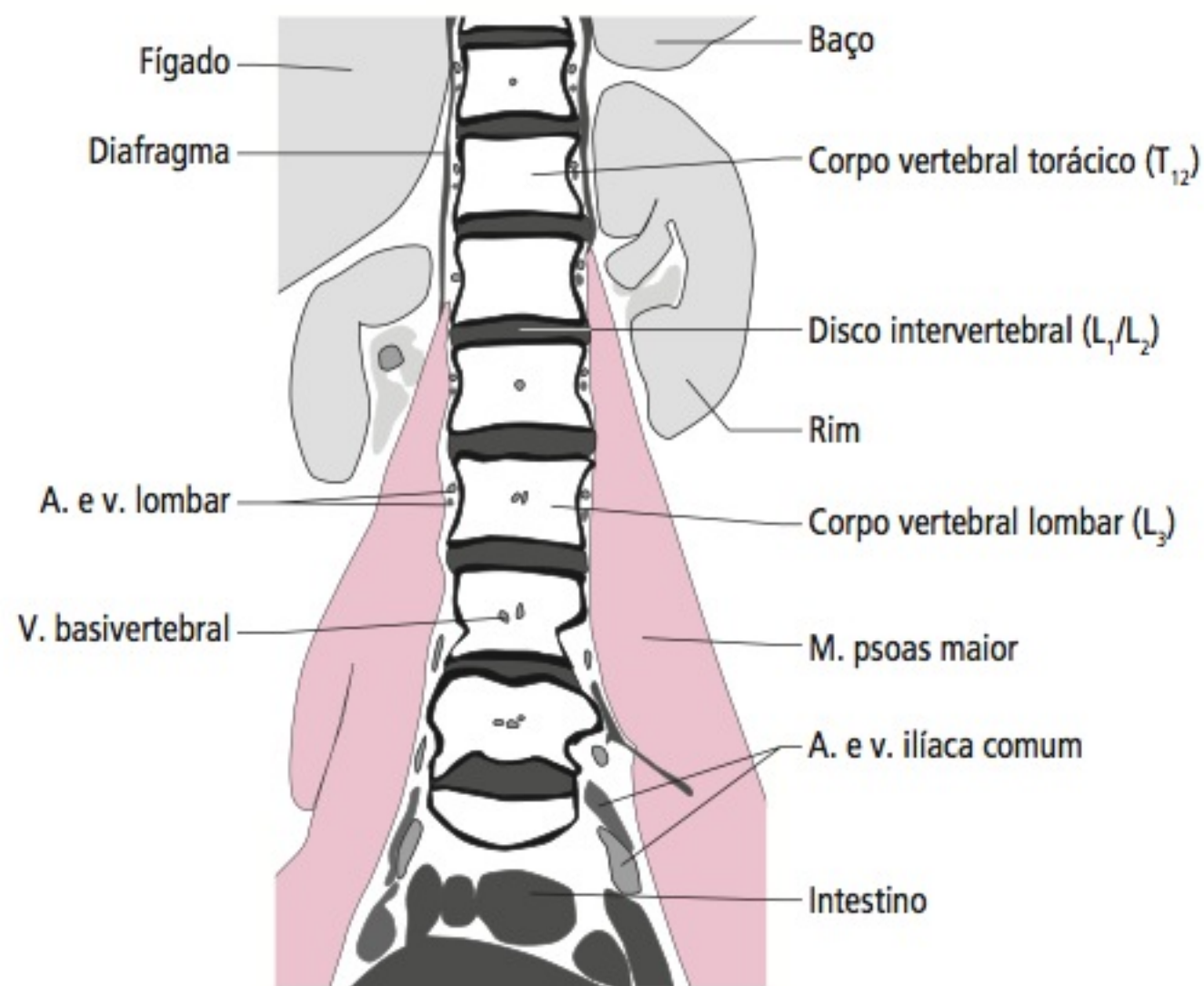








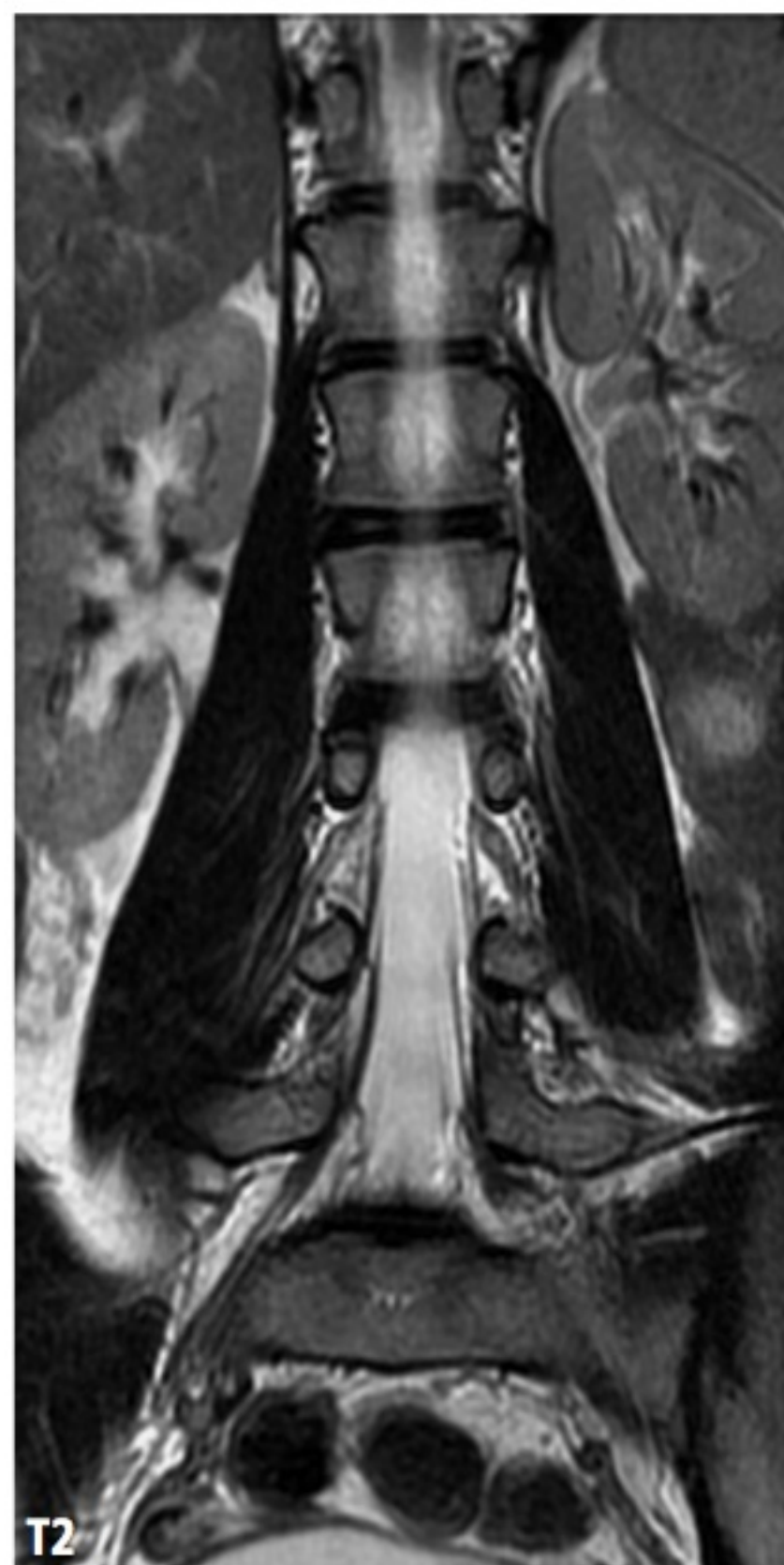
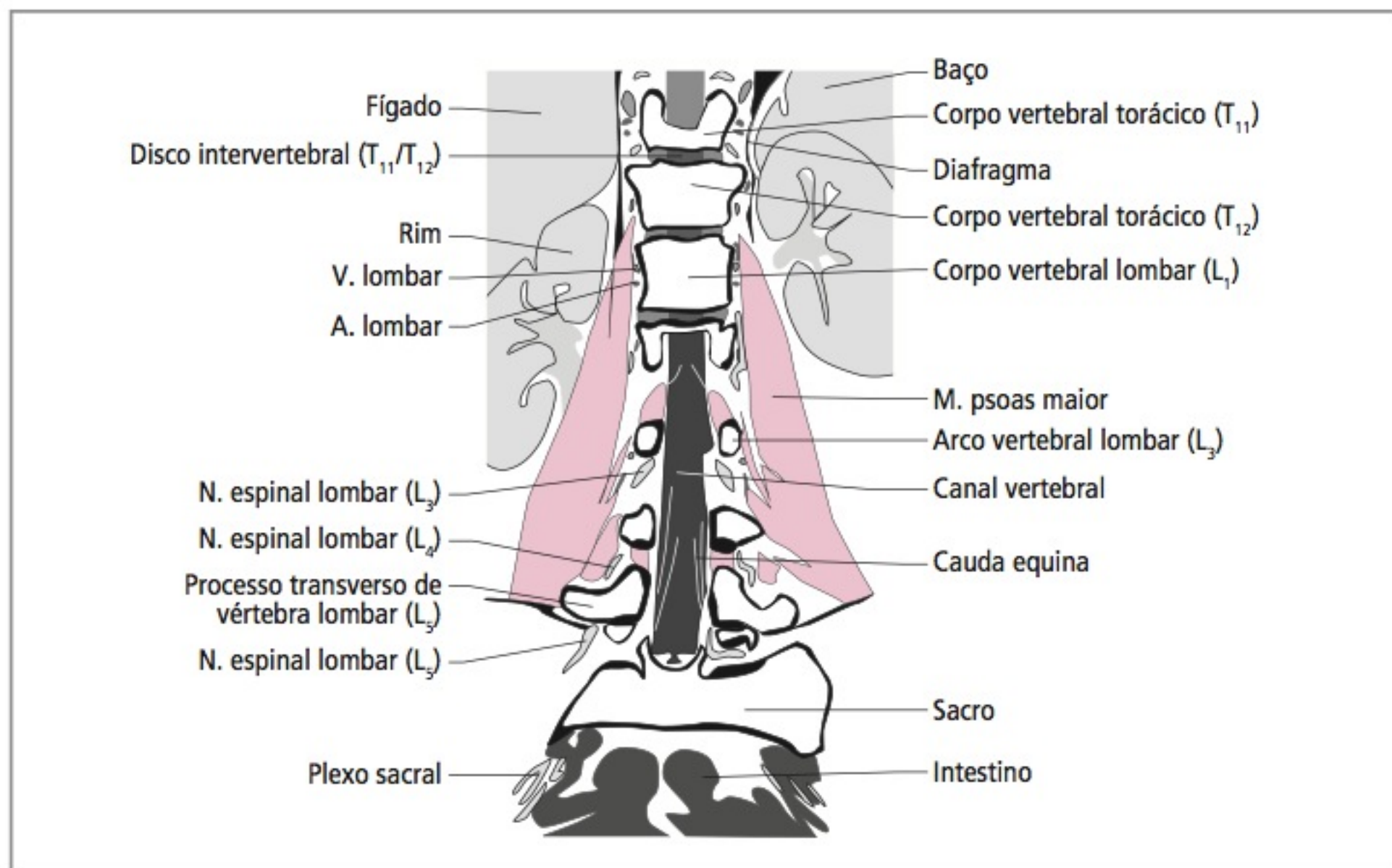
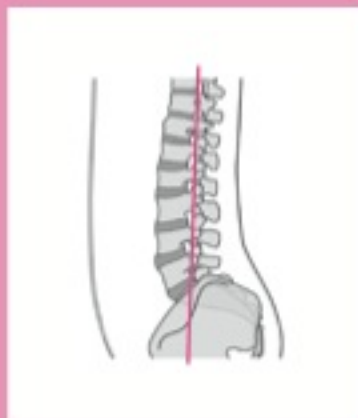


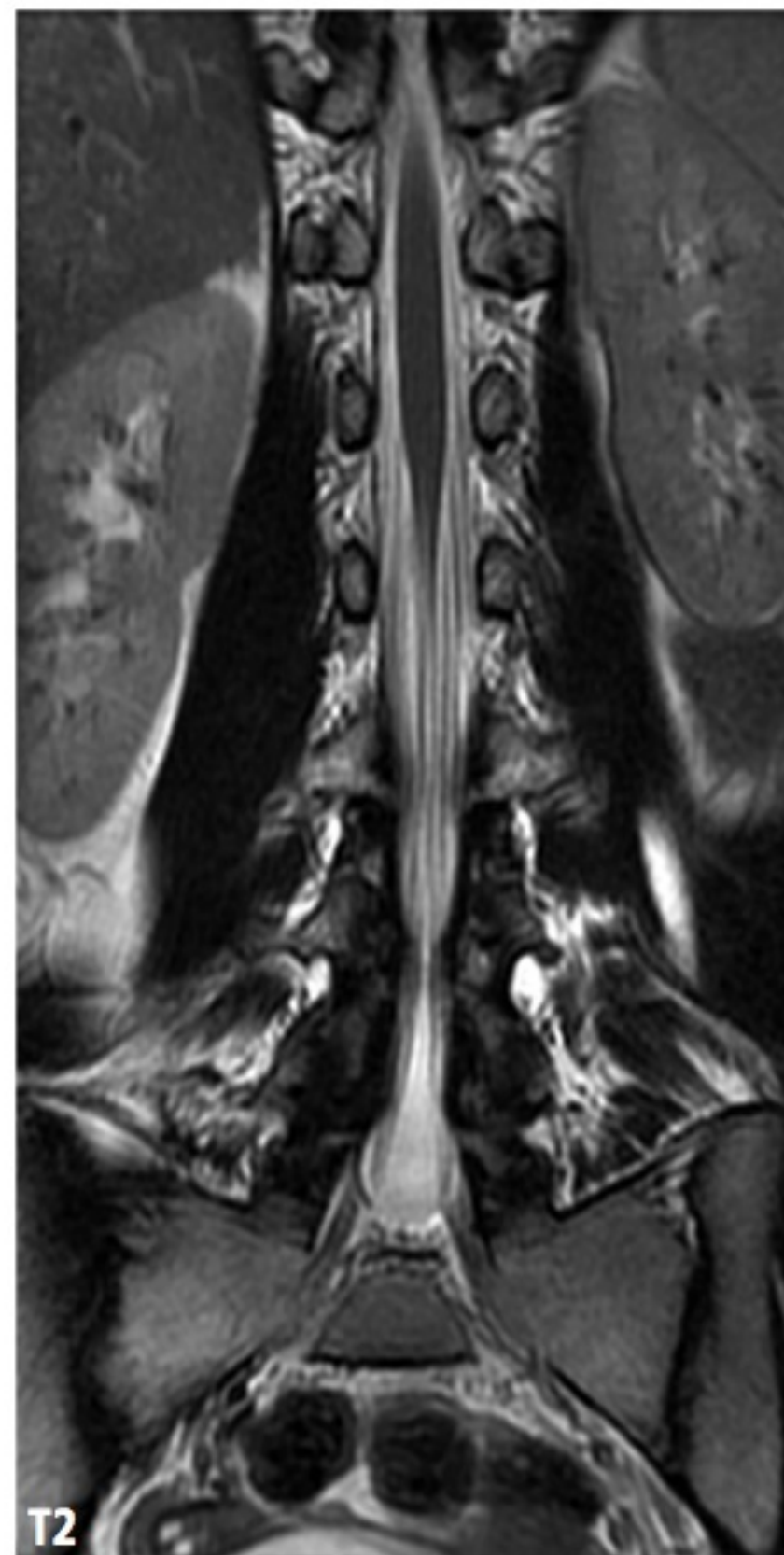
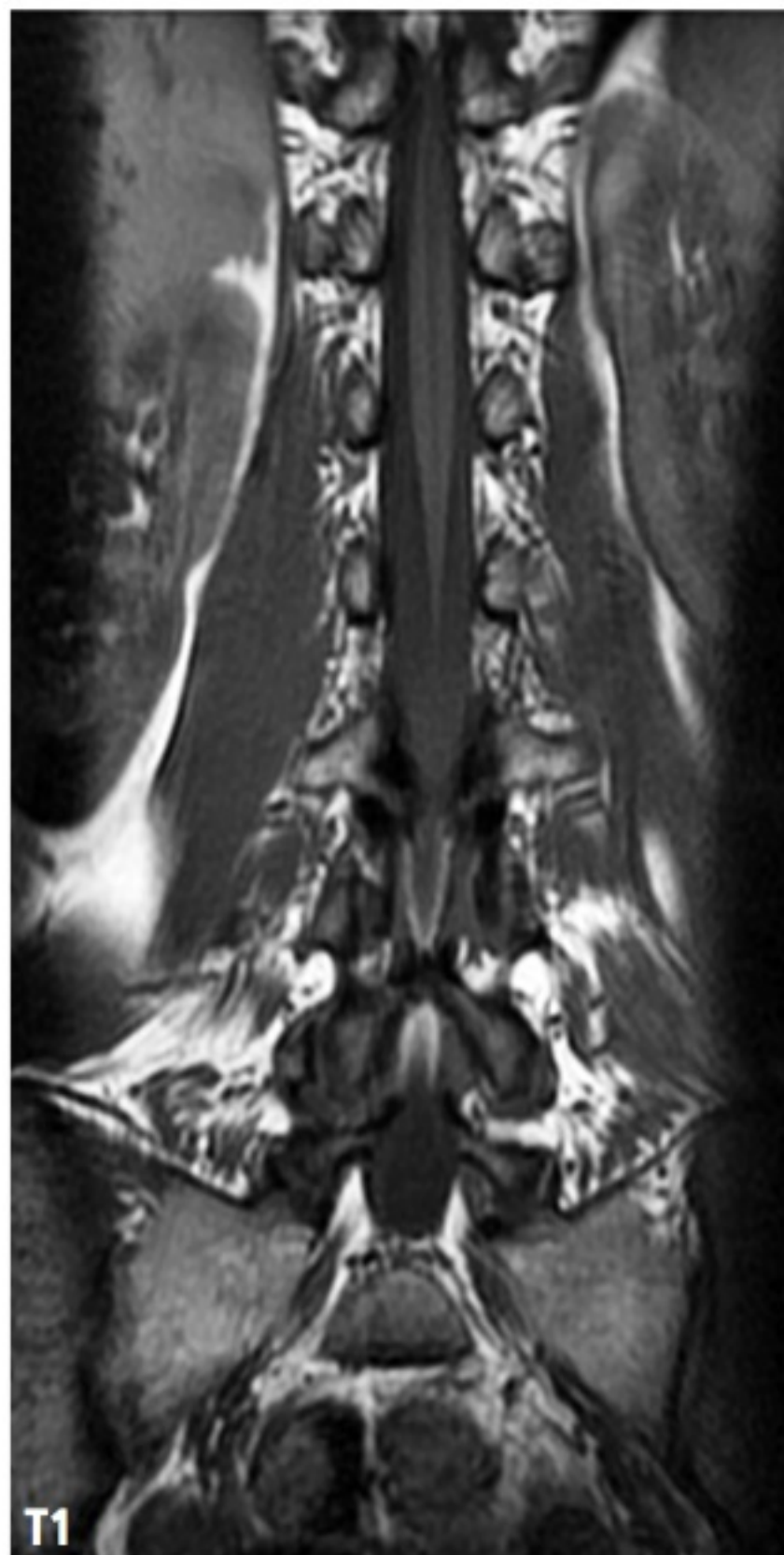
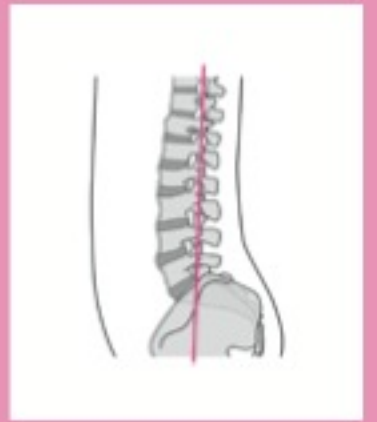
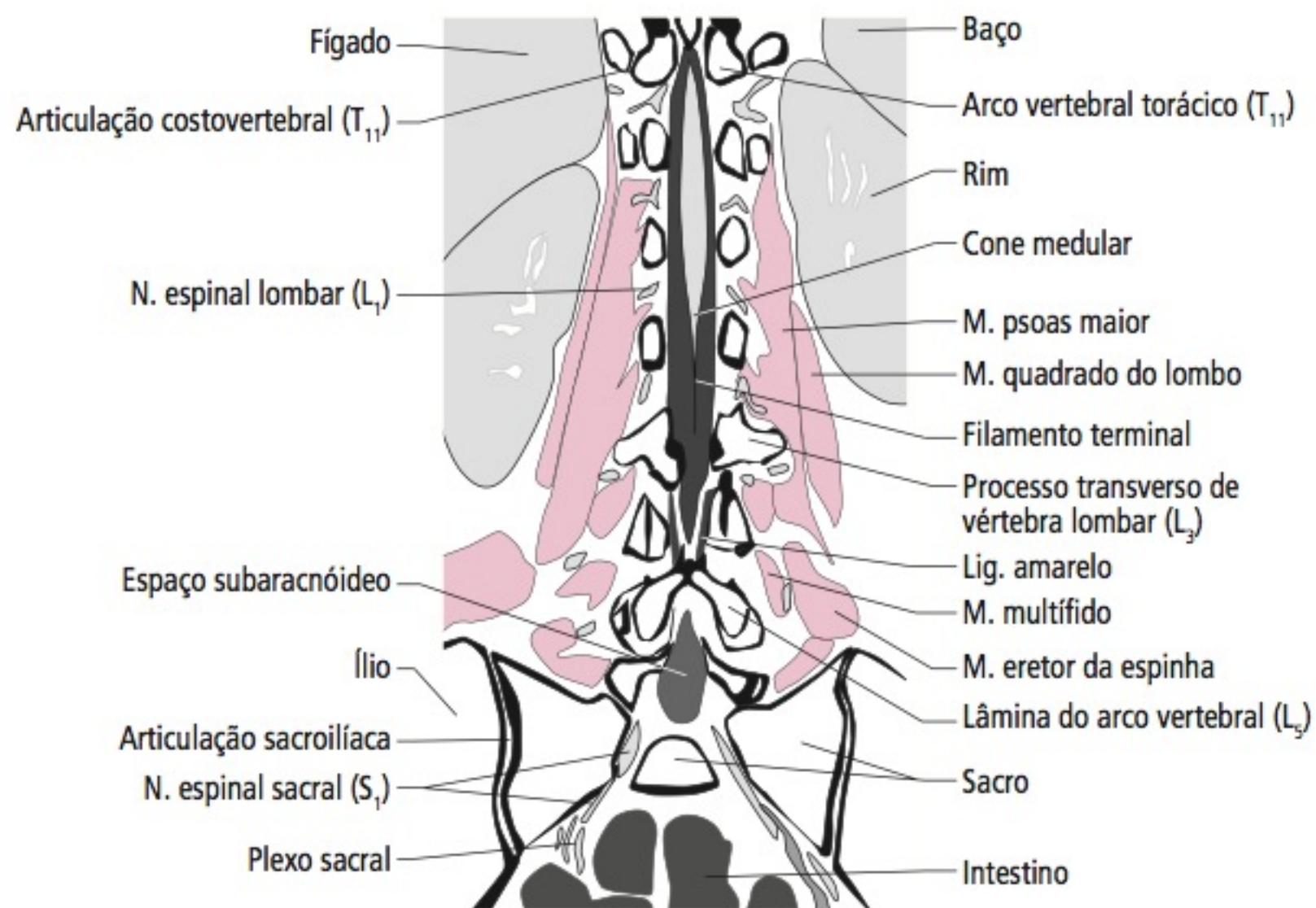


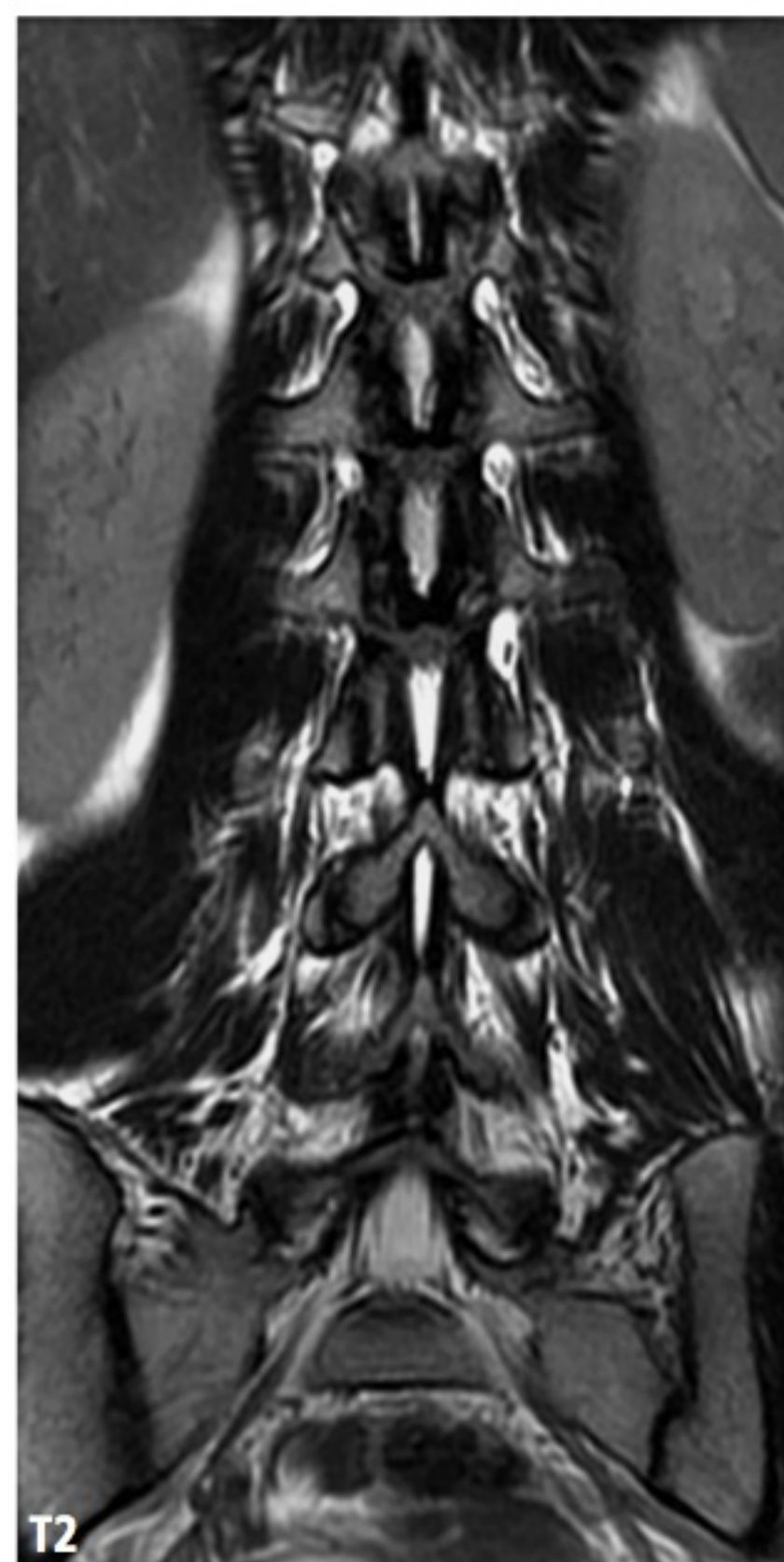
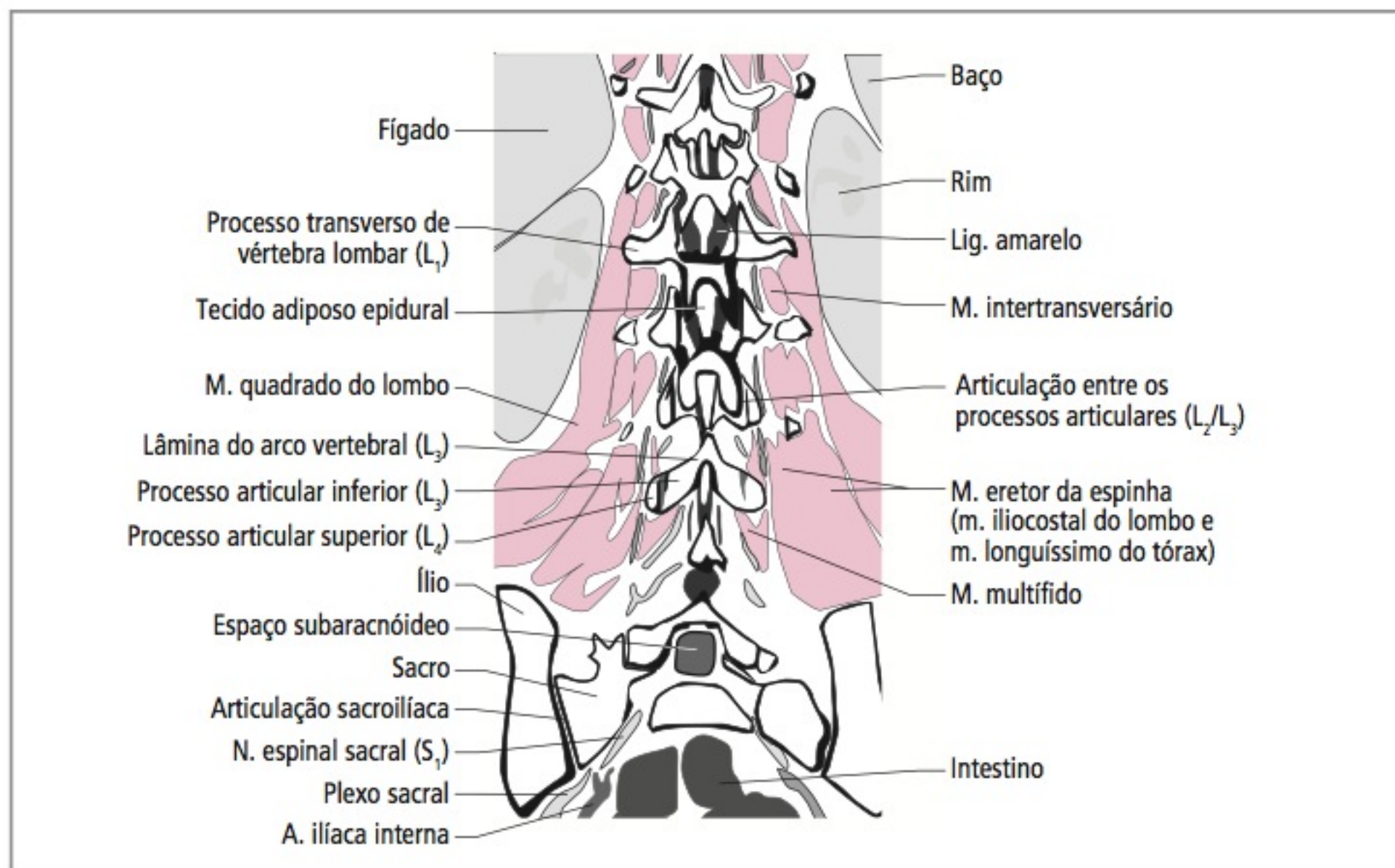
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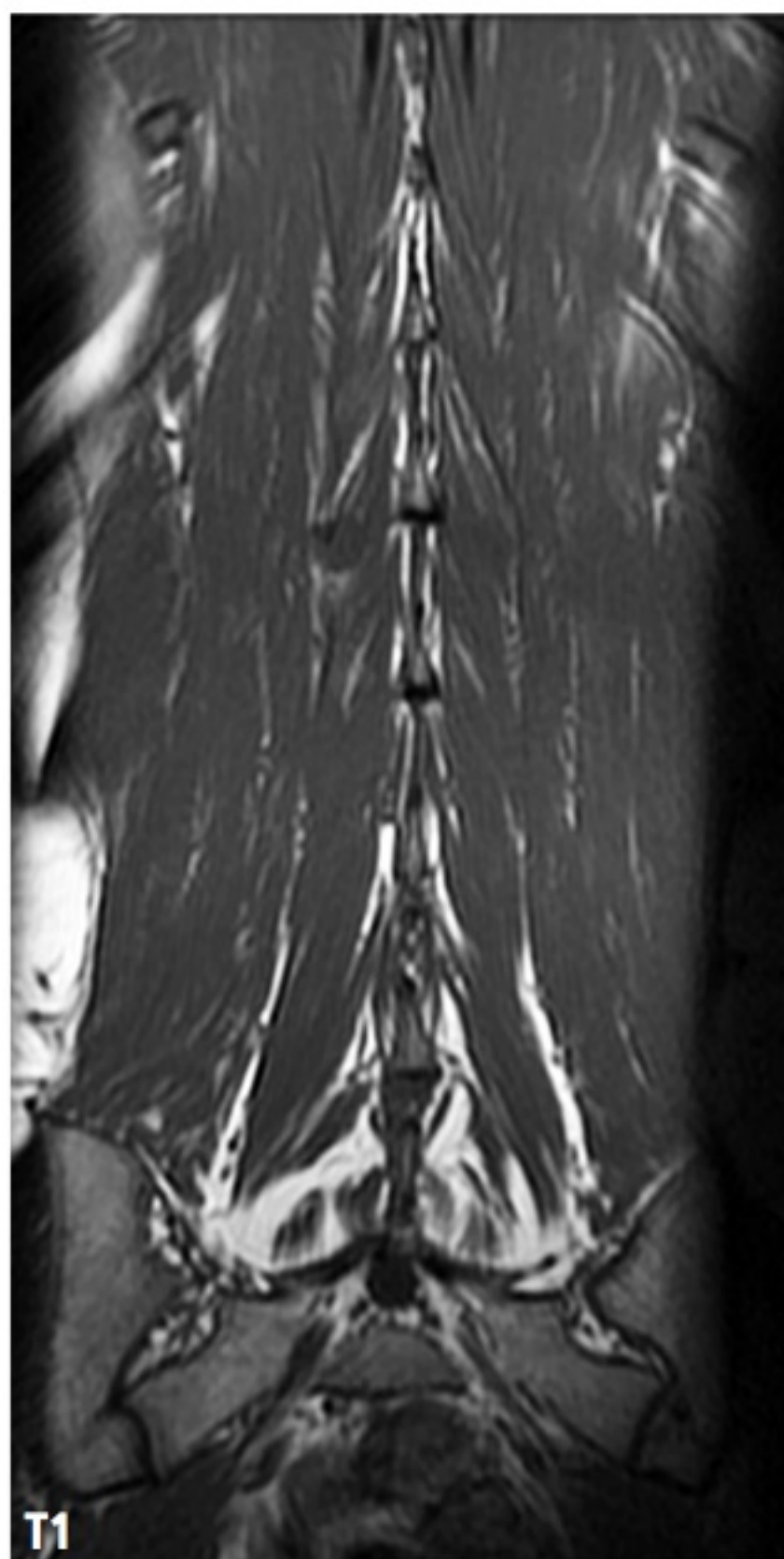
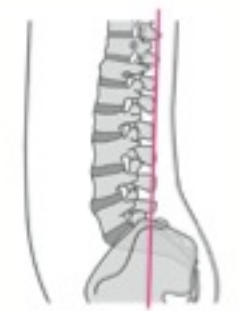
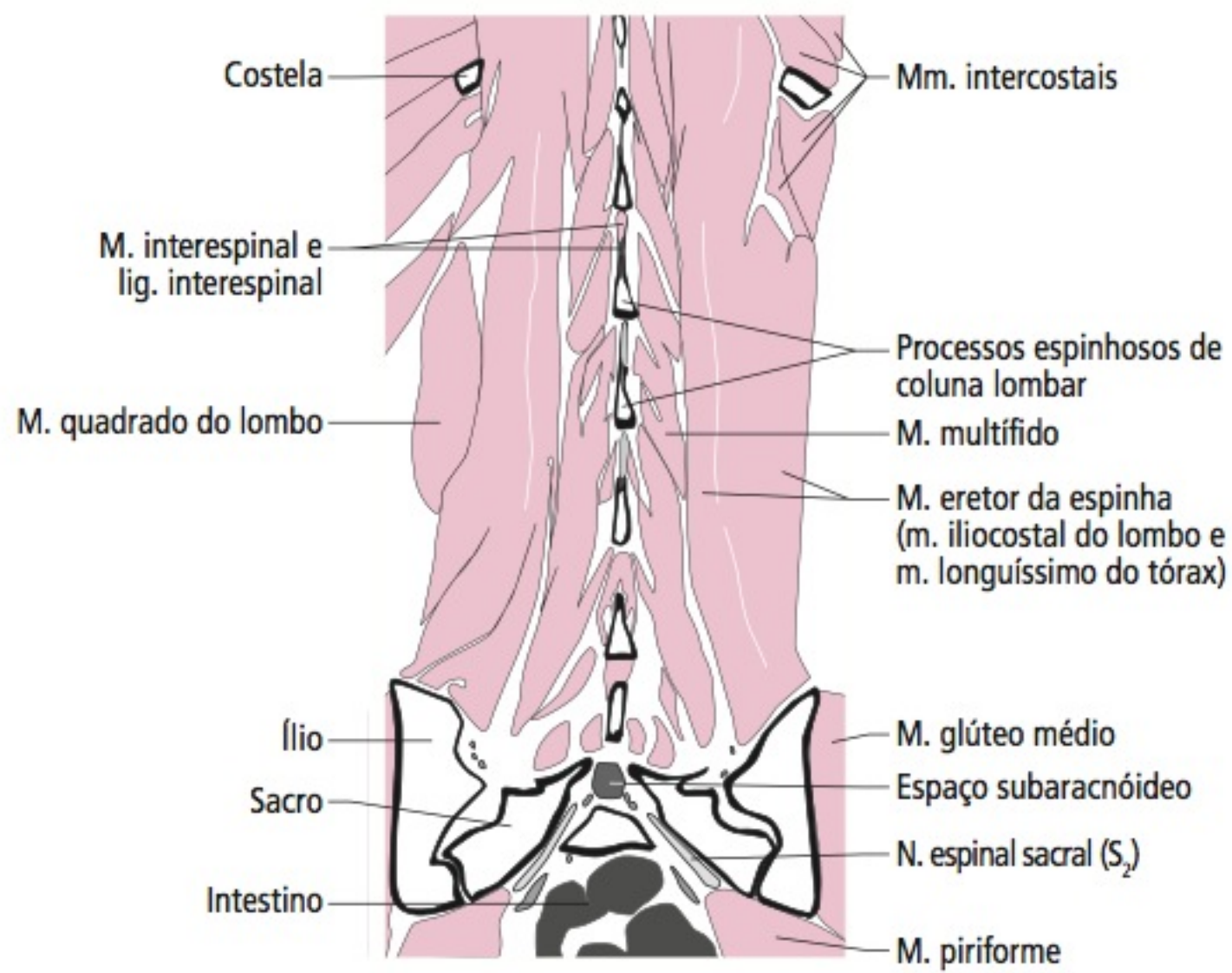


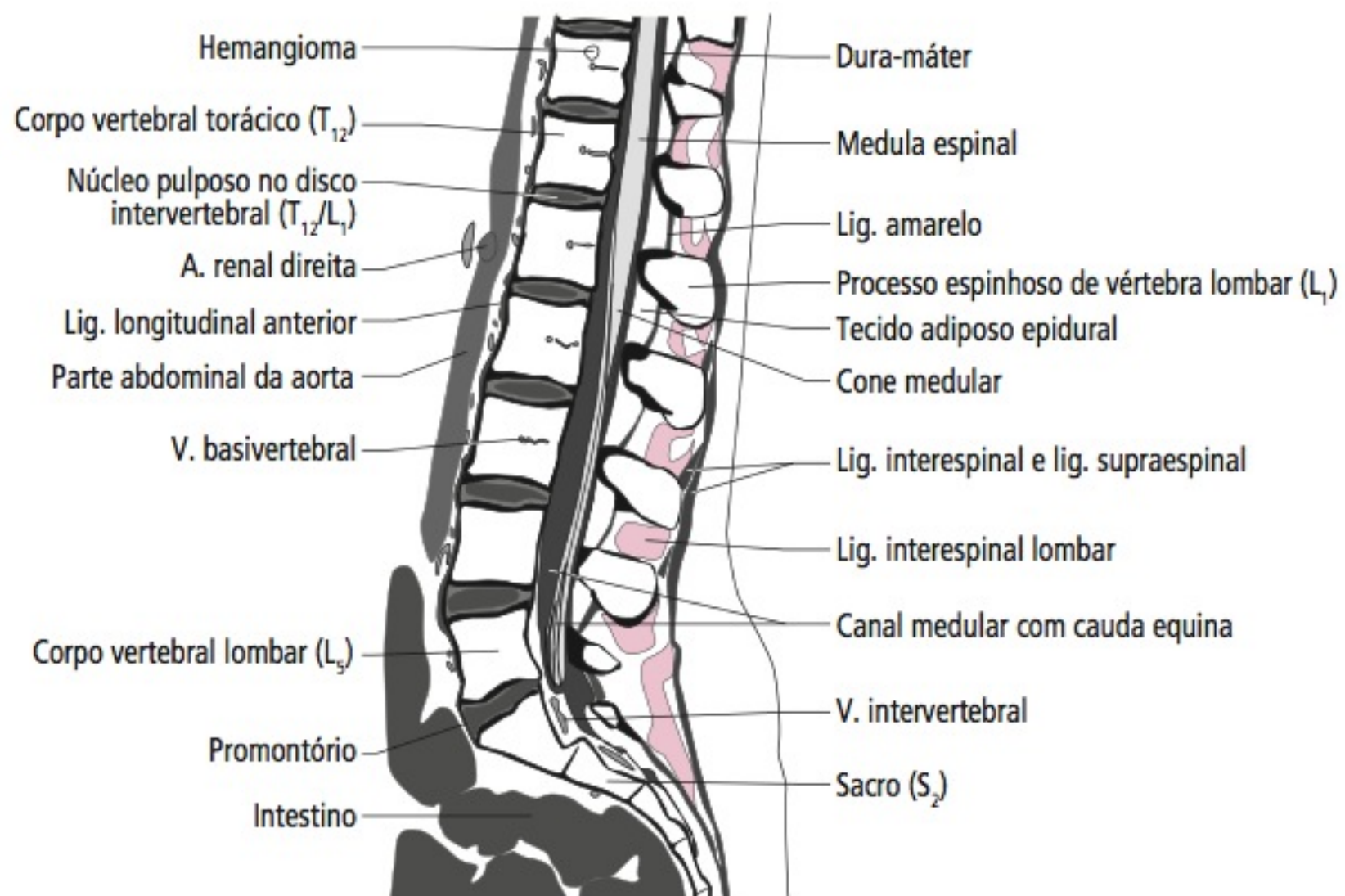
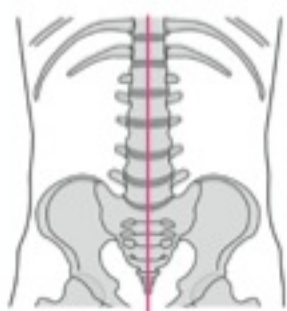
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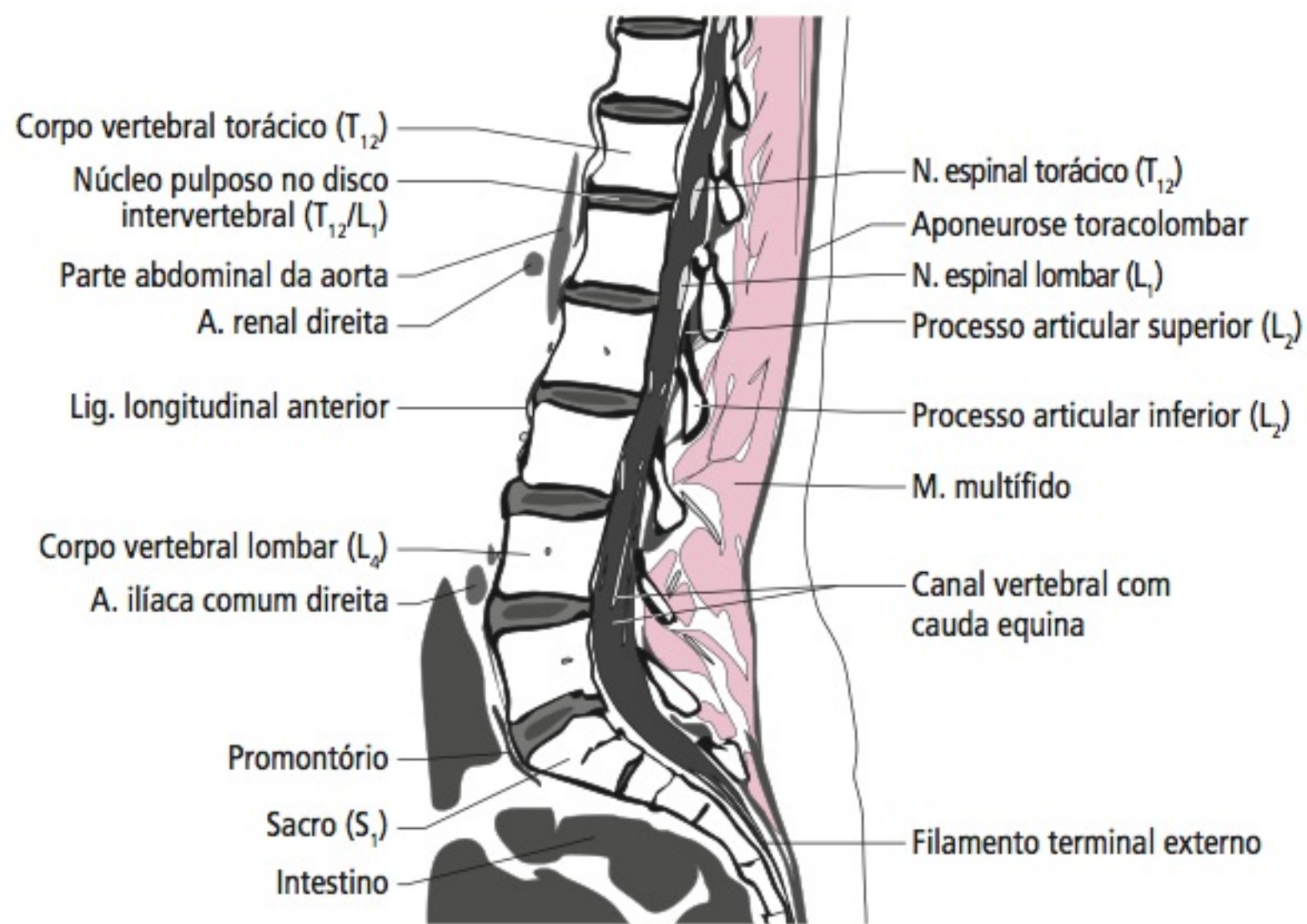
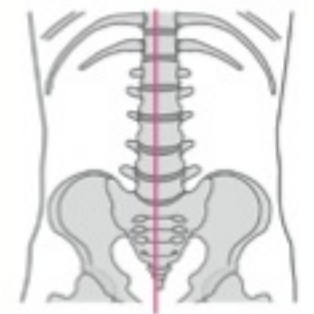


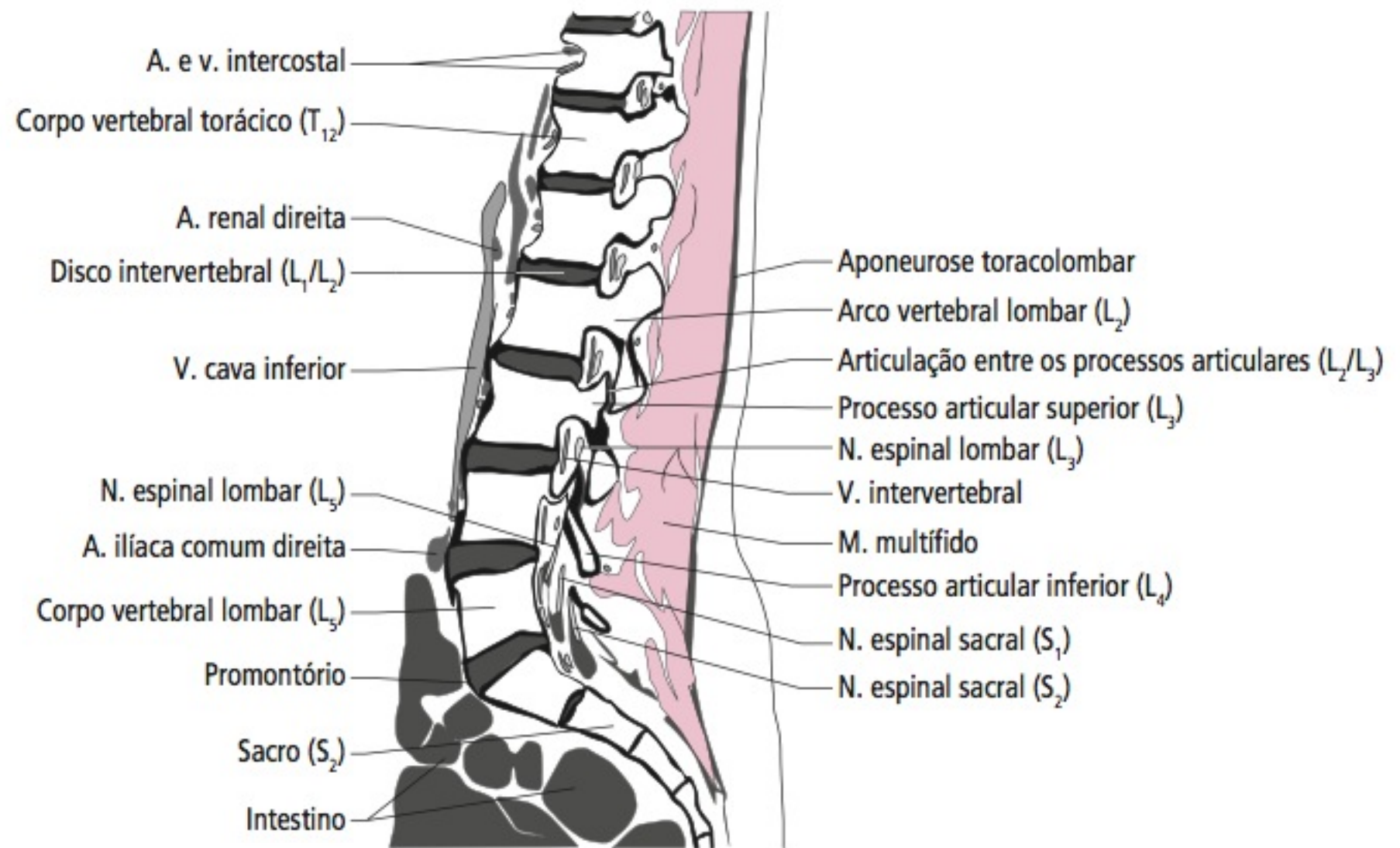
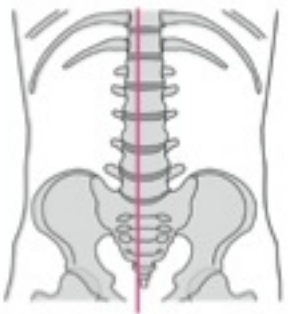


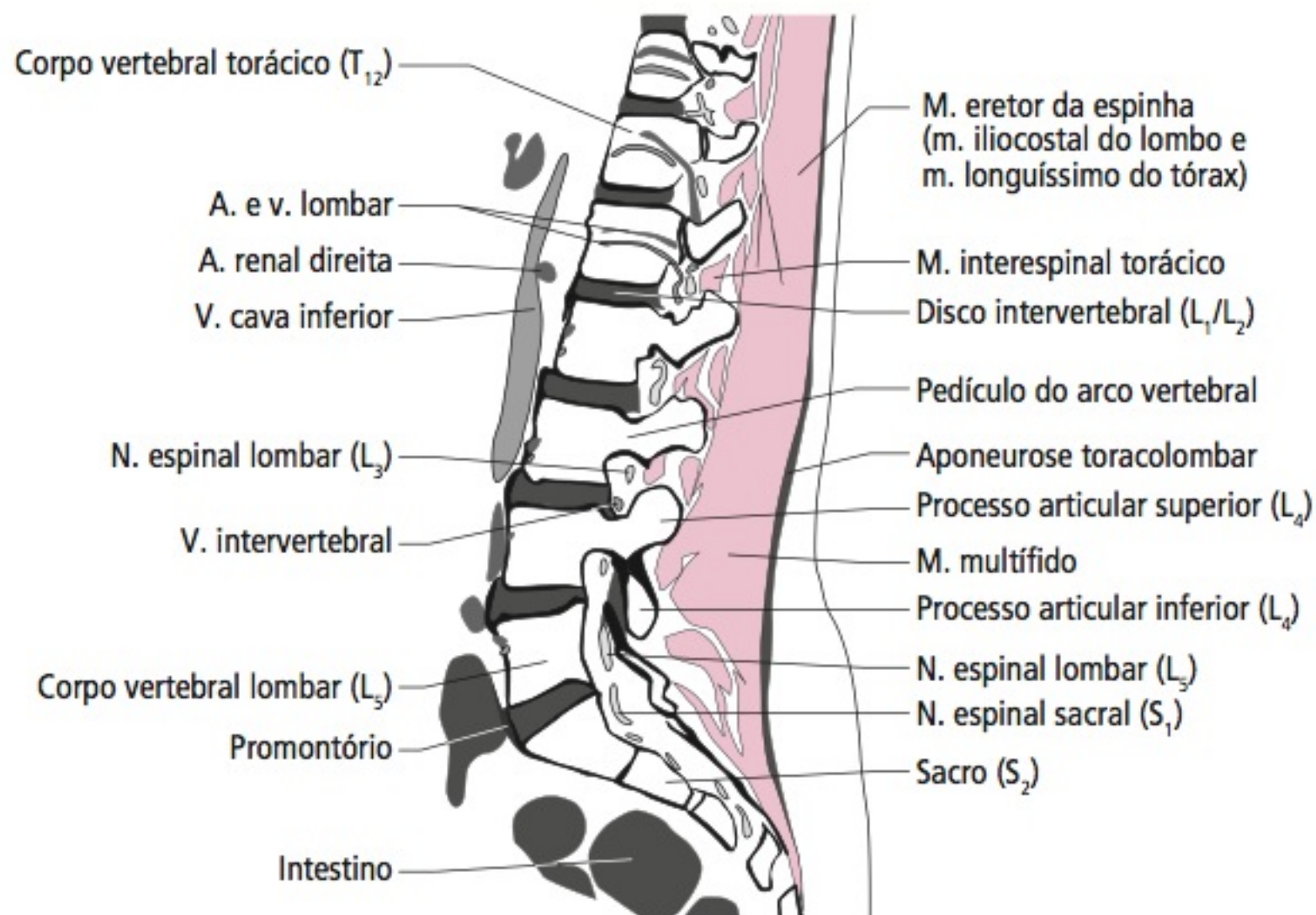
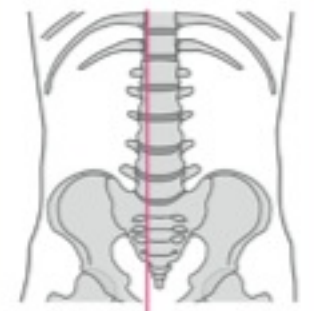


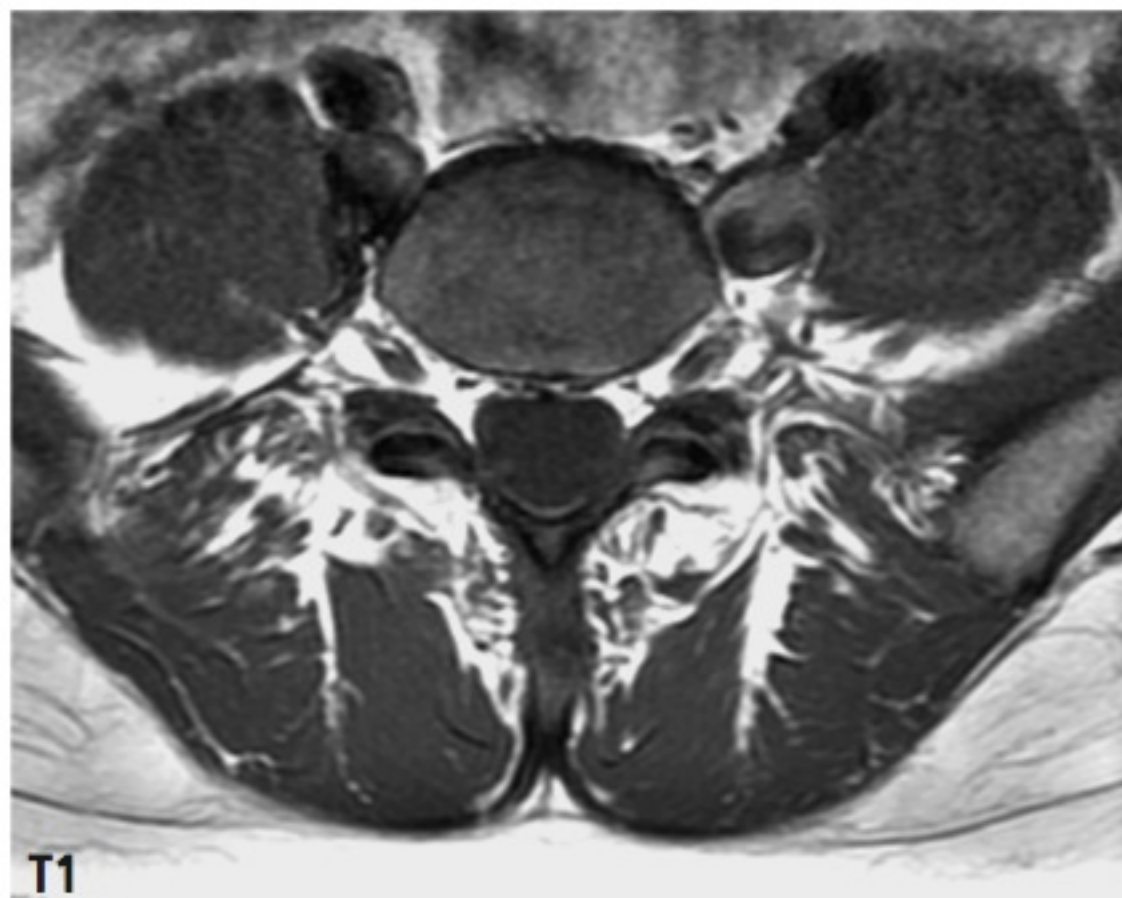
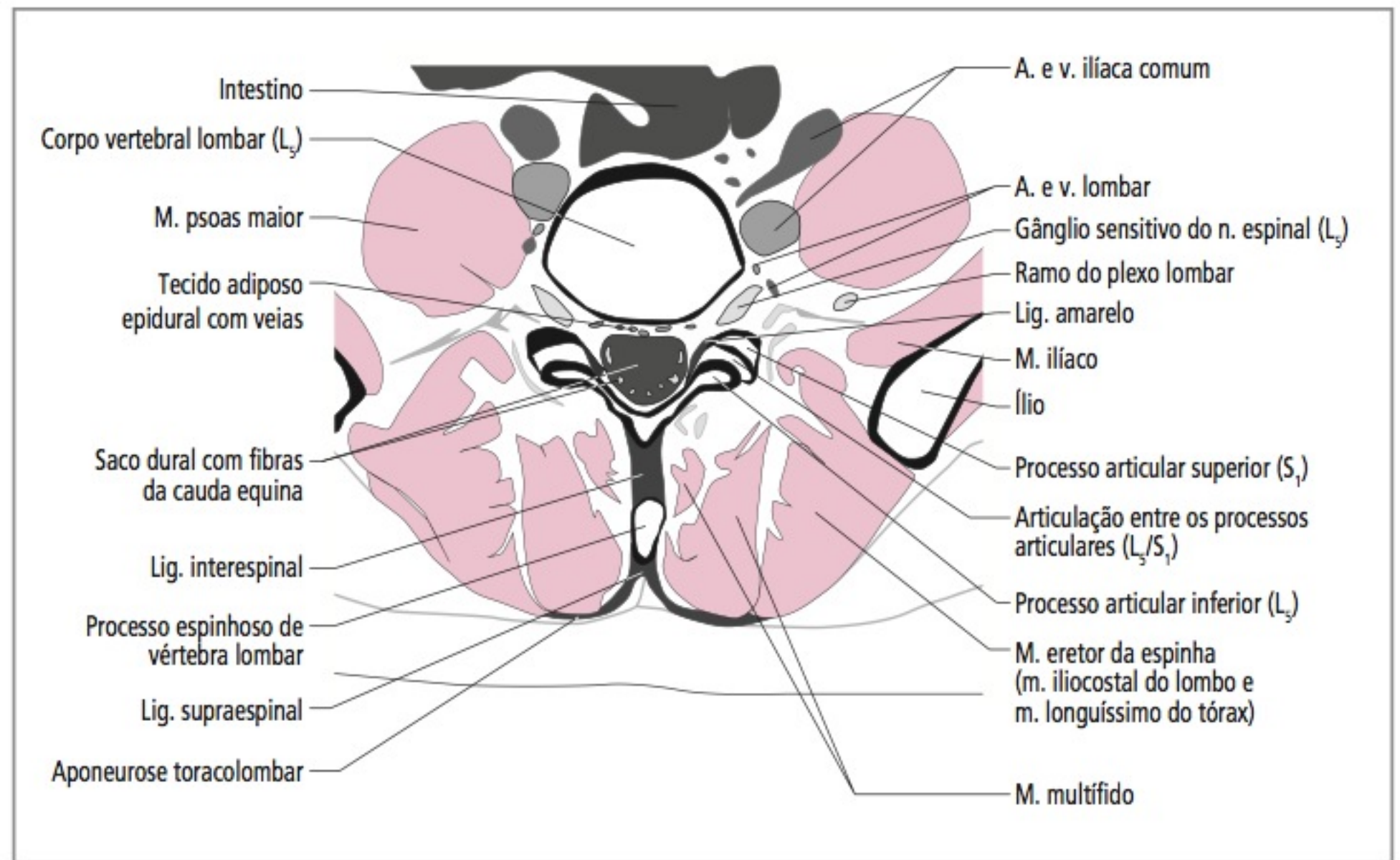
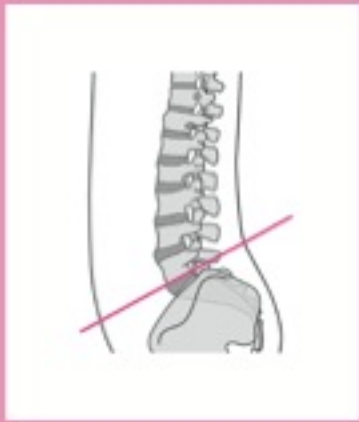


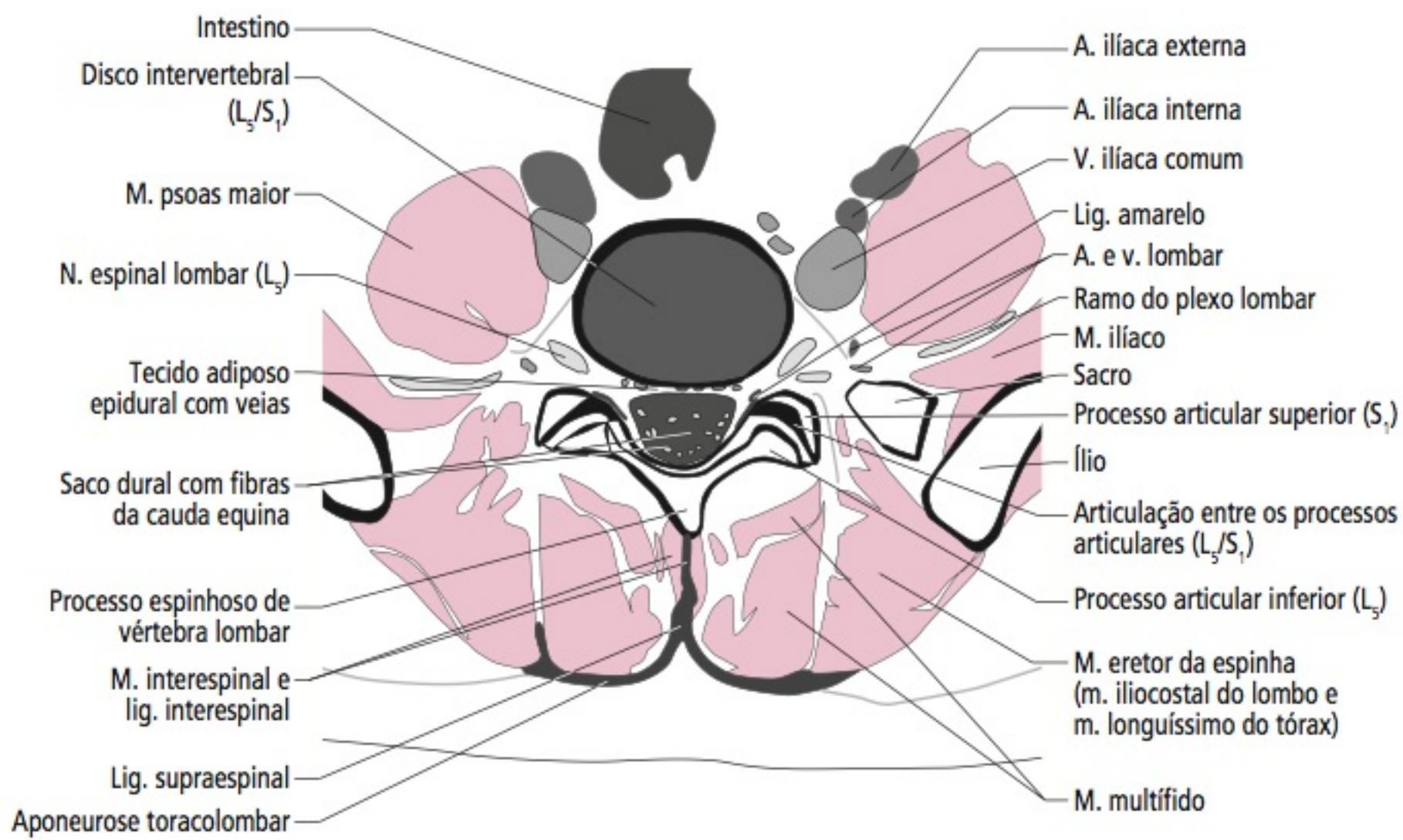
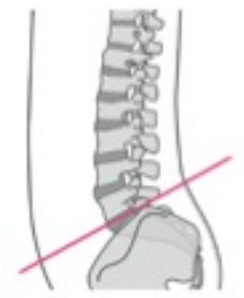


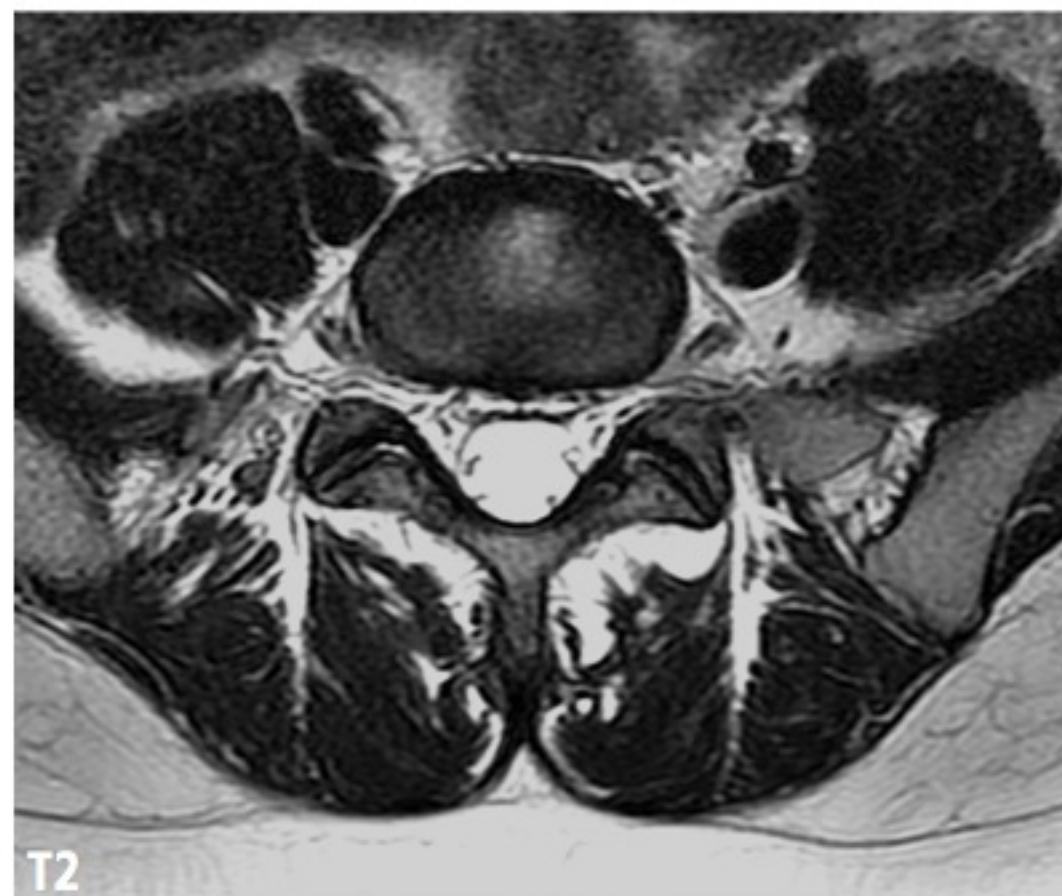
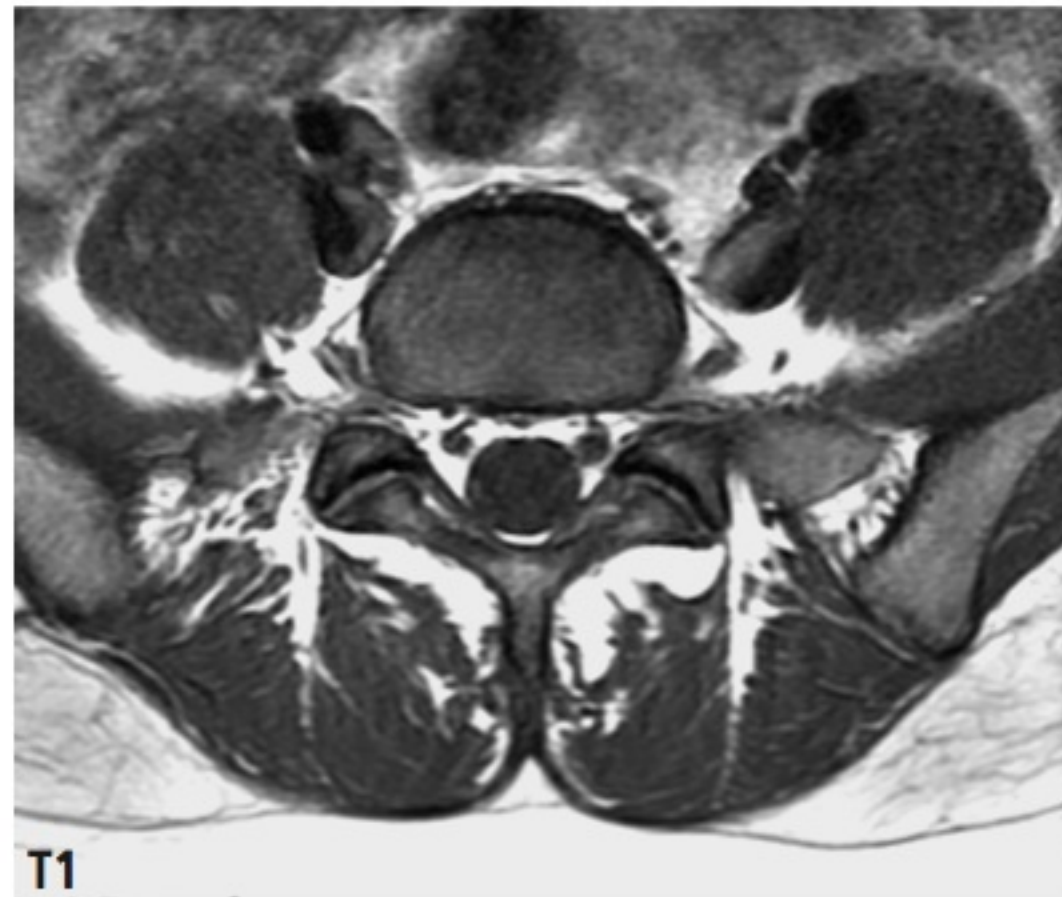
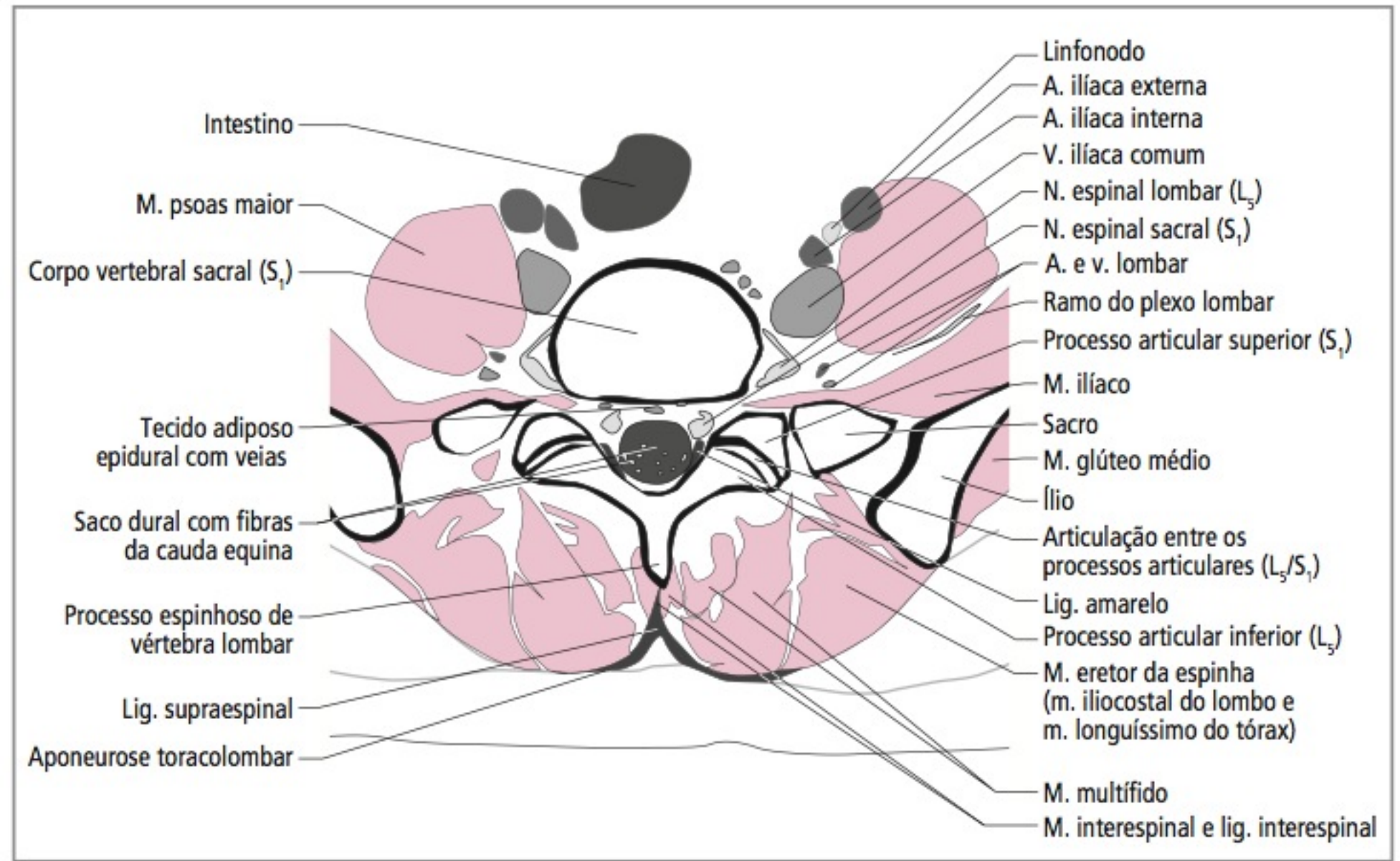
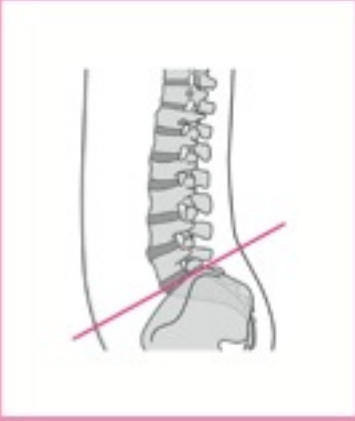


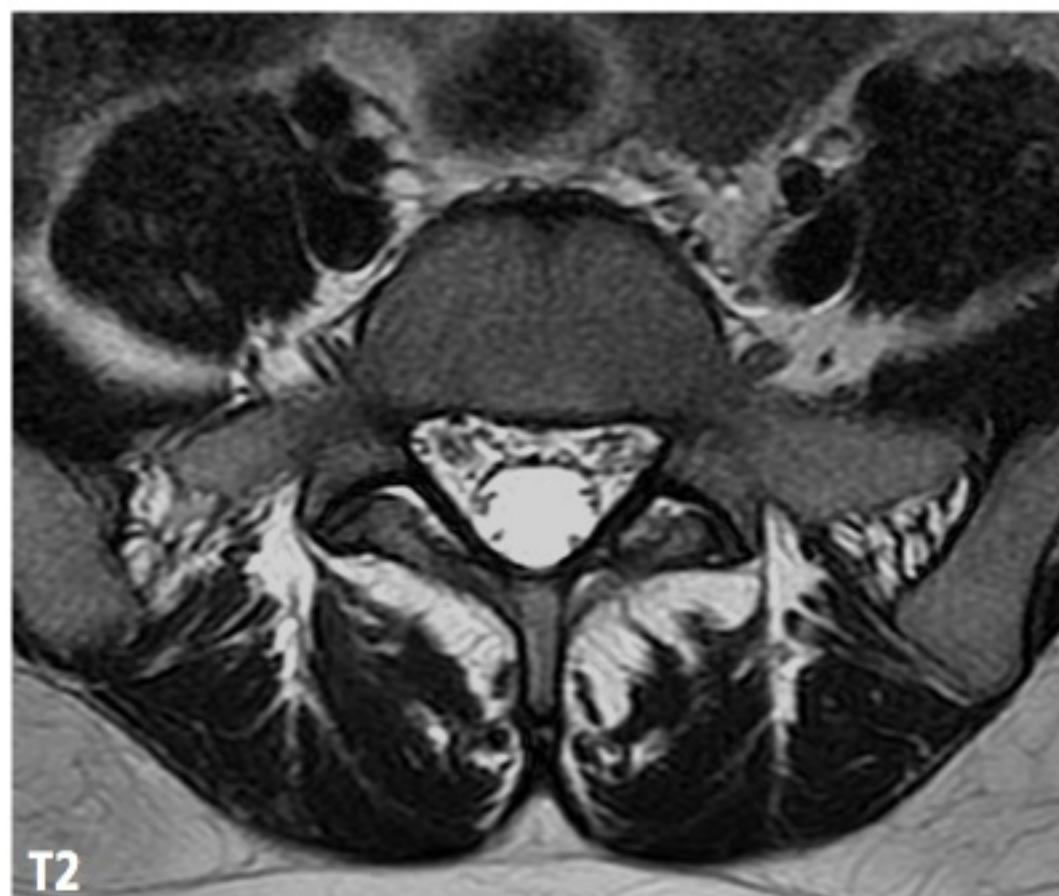
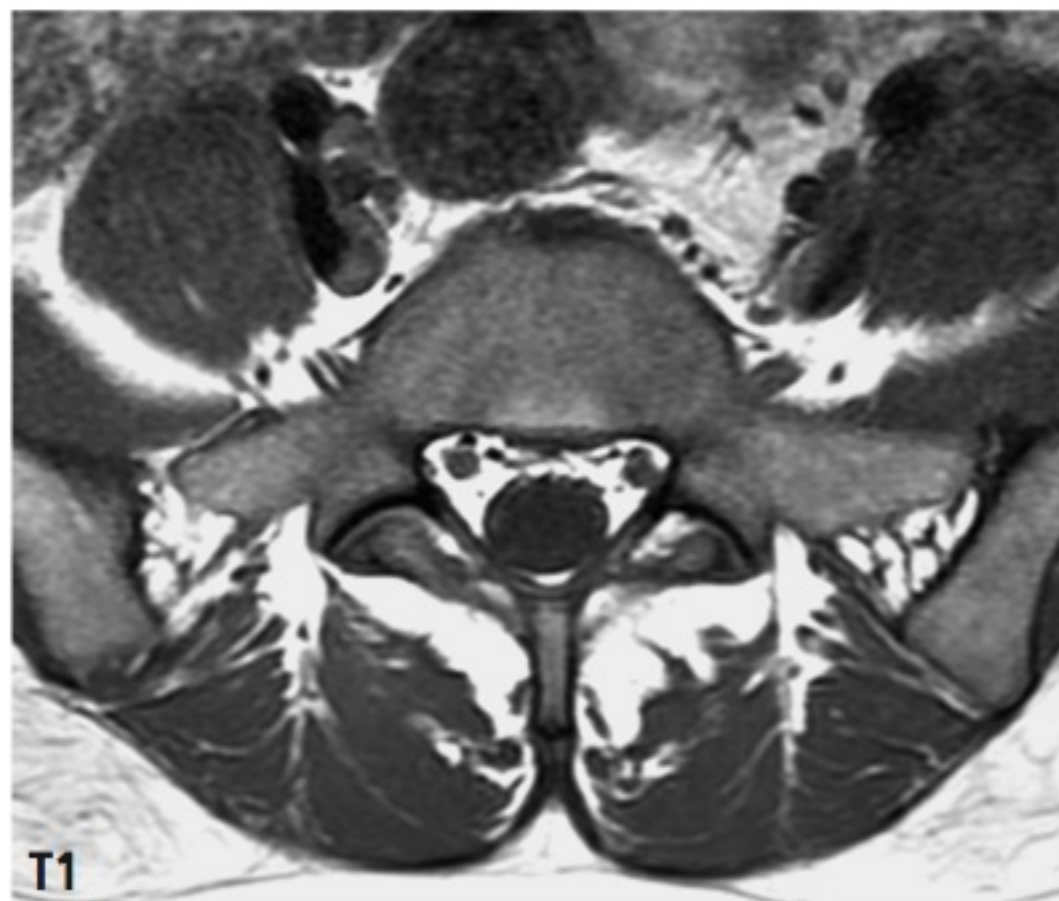
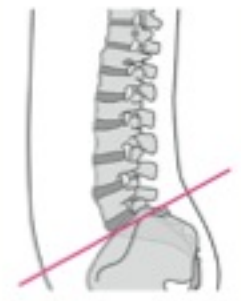


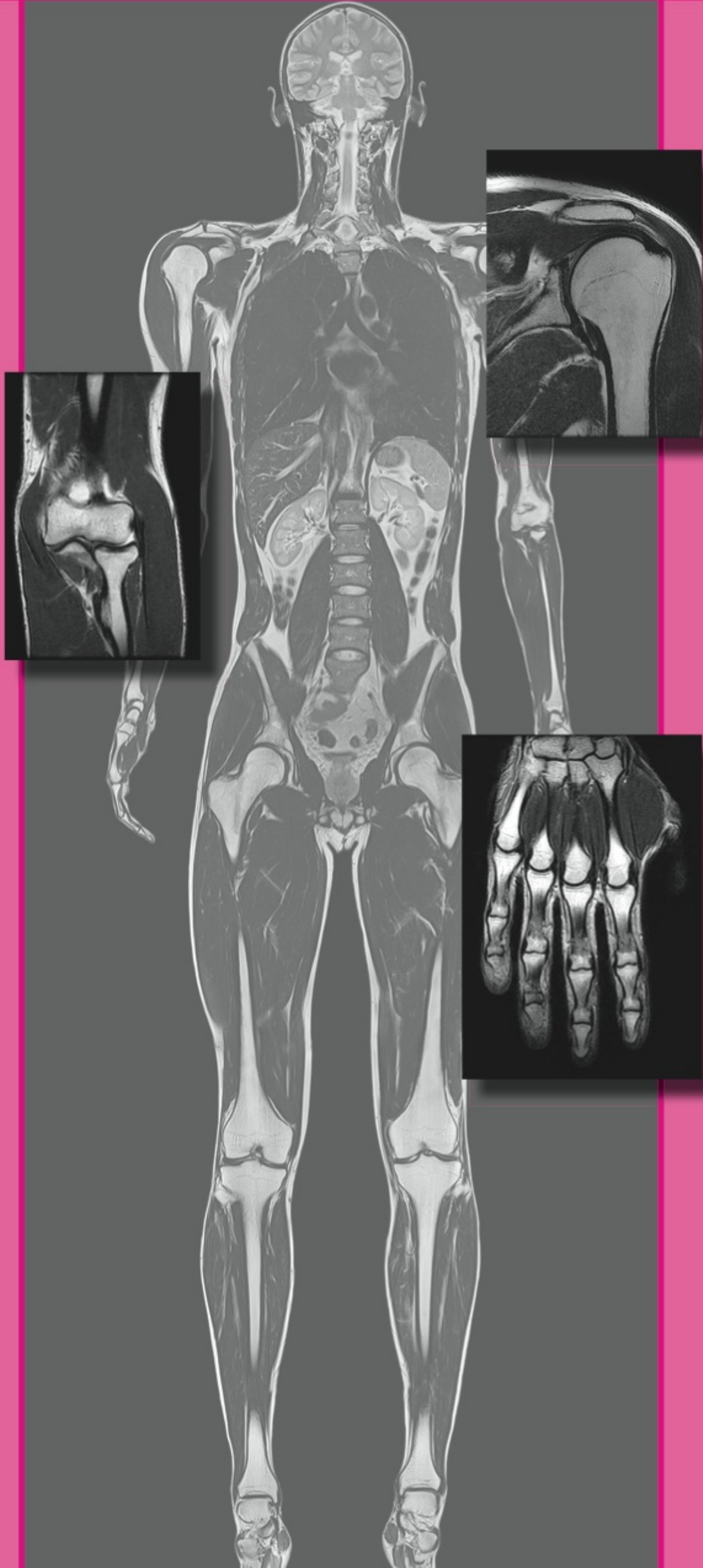




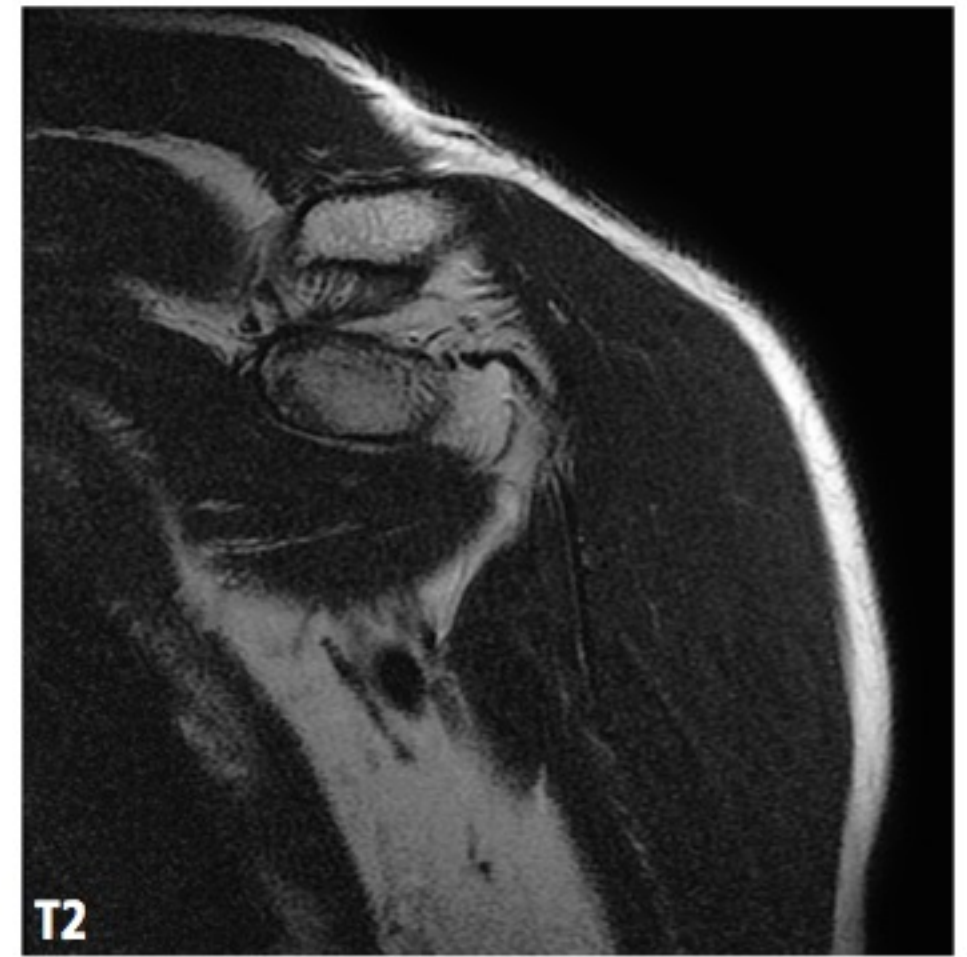
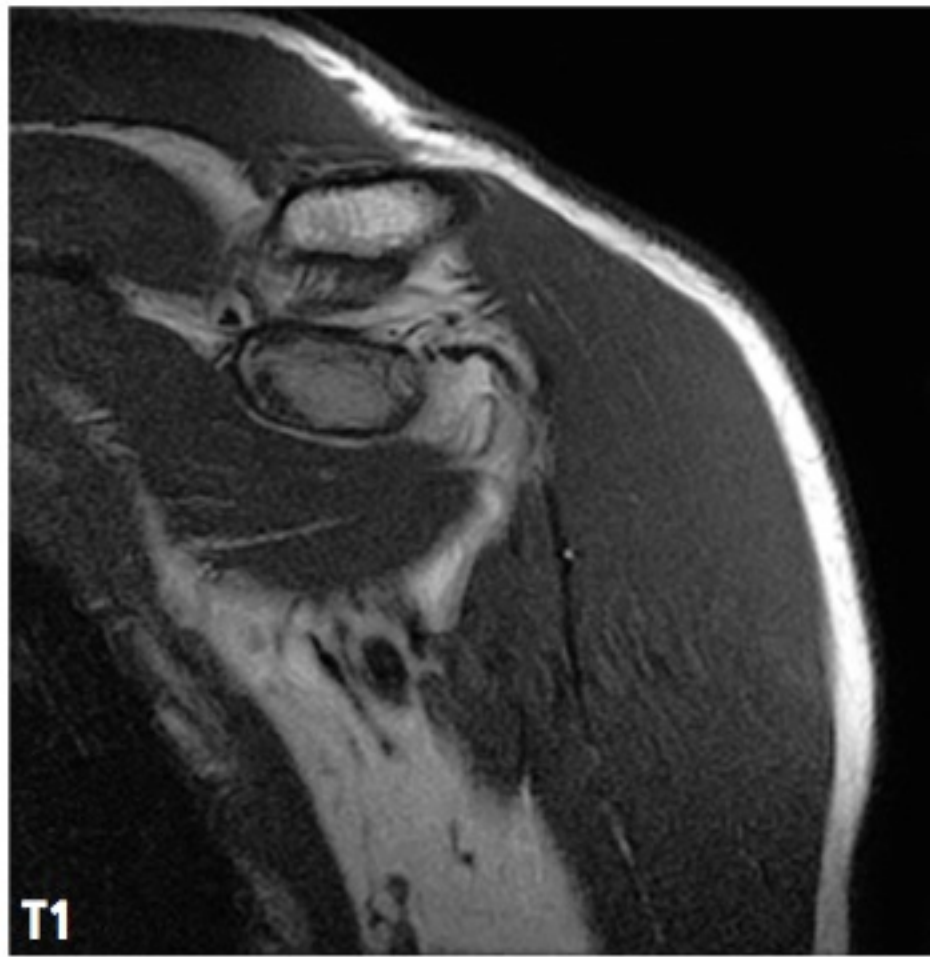
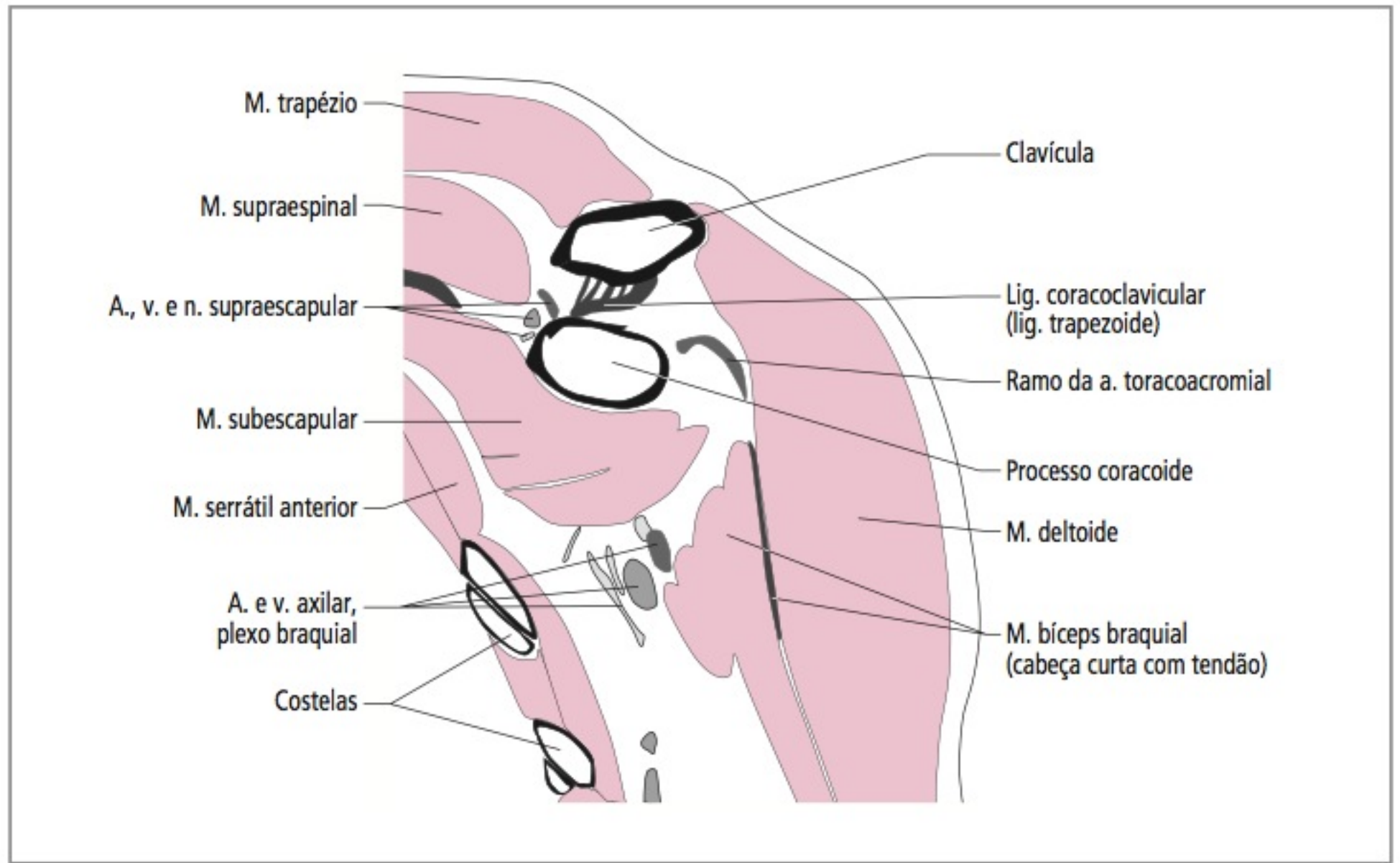
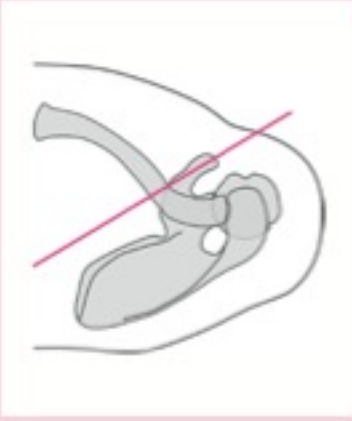


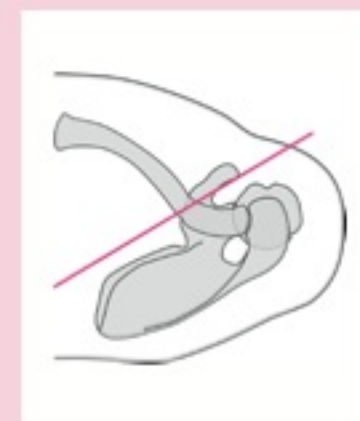
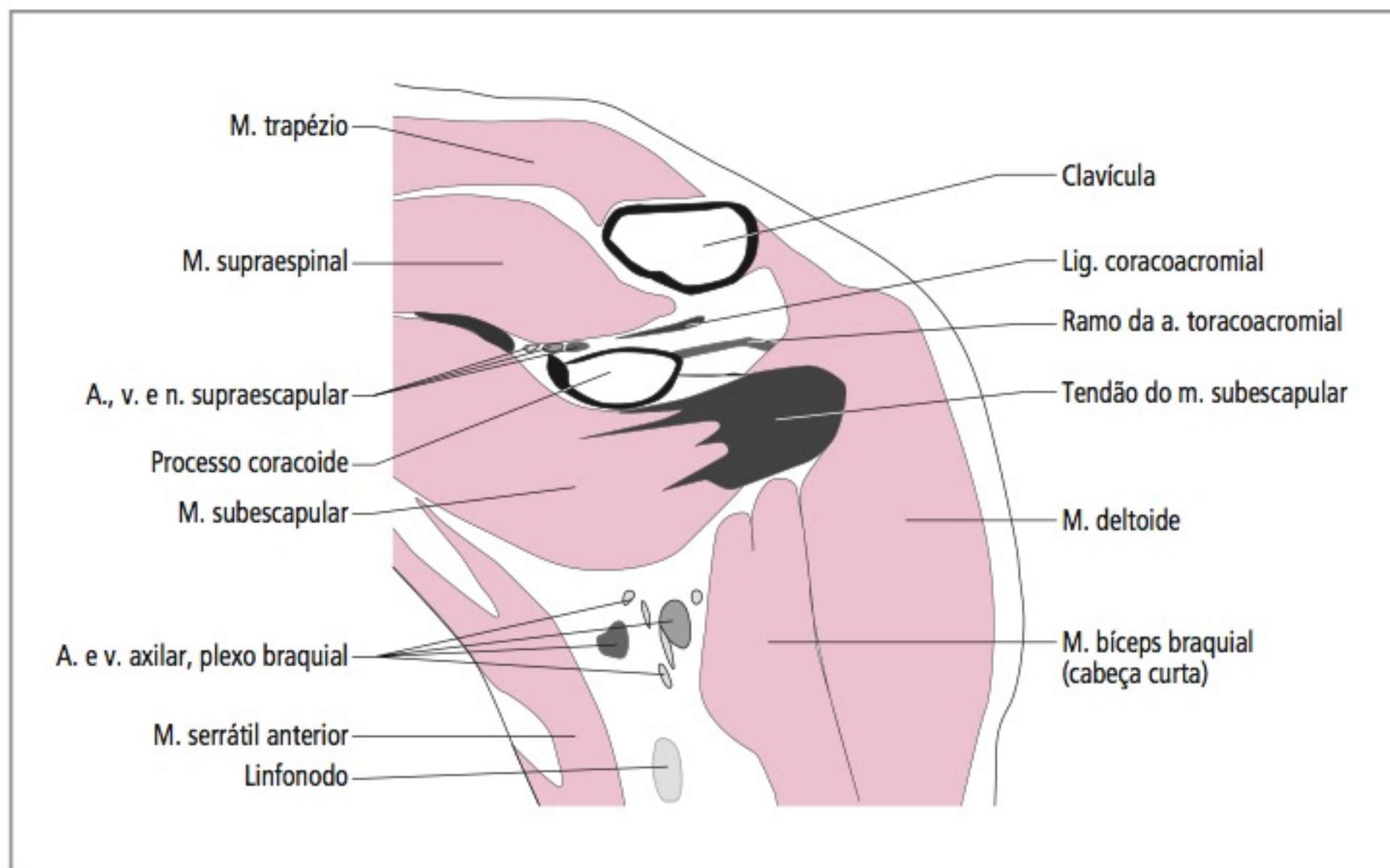


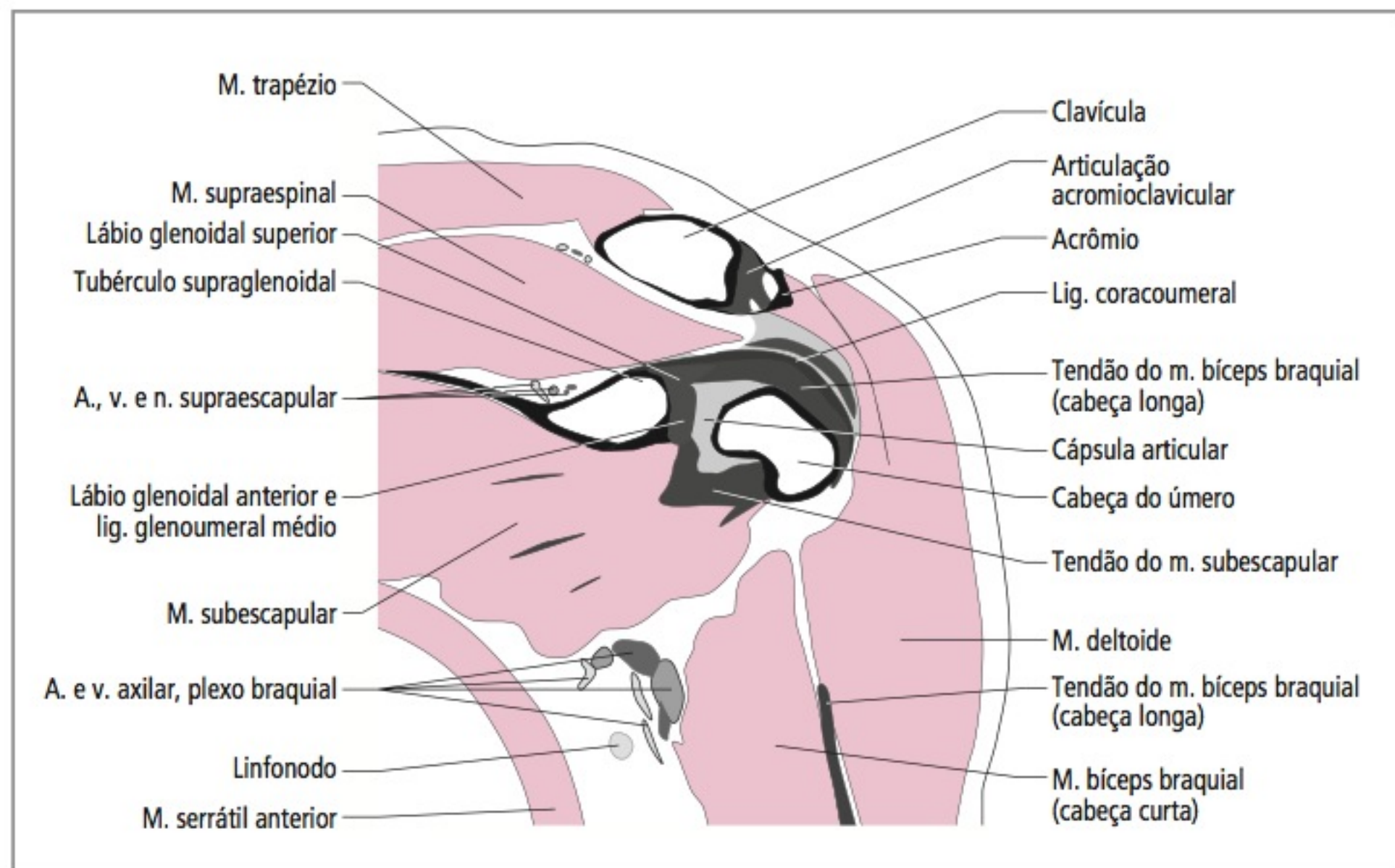
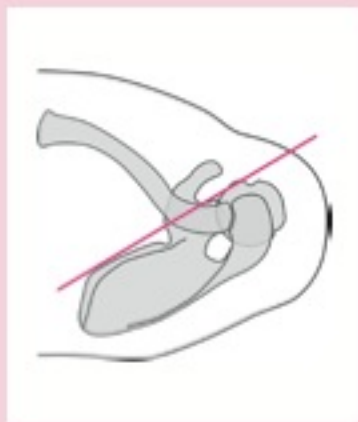


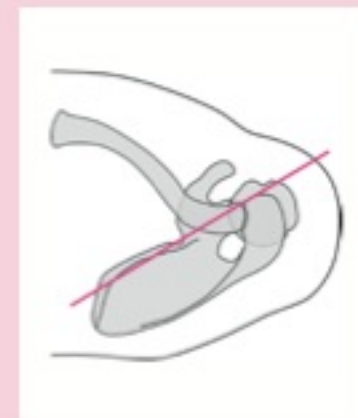
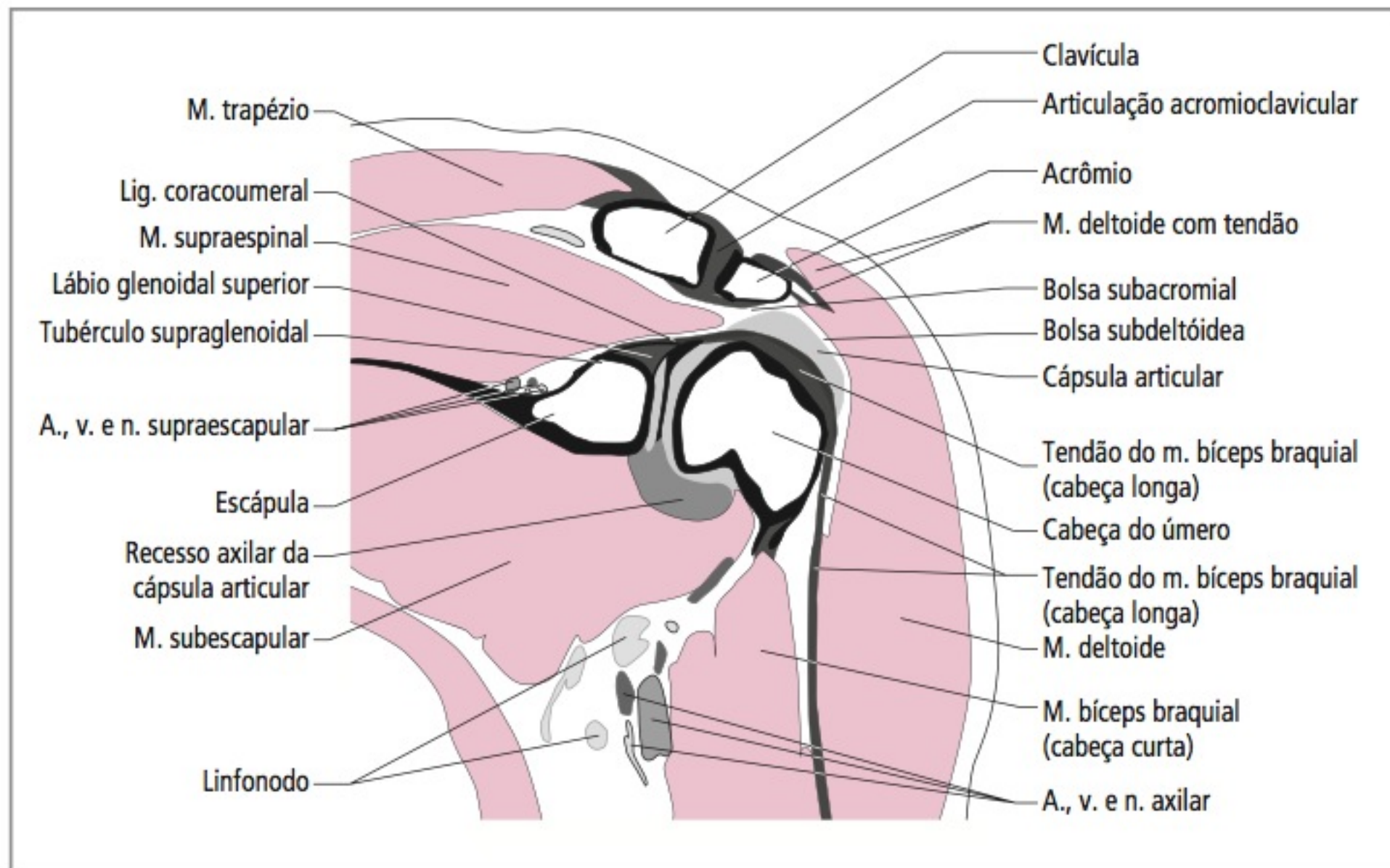


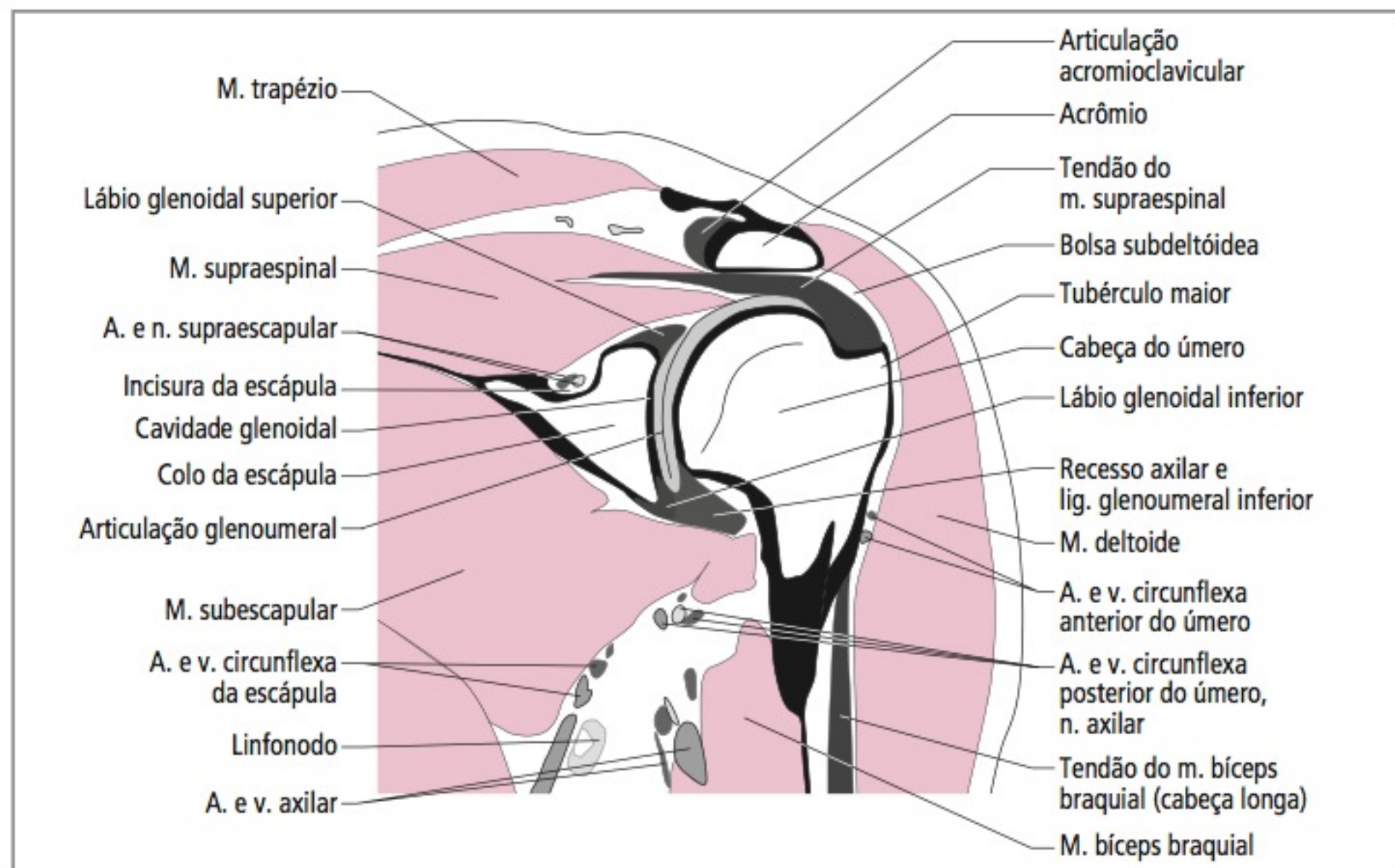
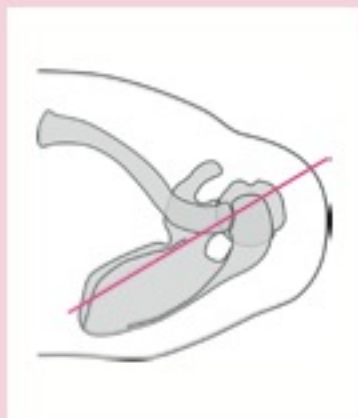
Membro superior e cingulo do membro superior

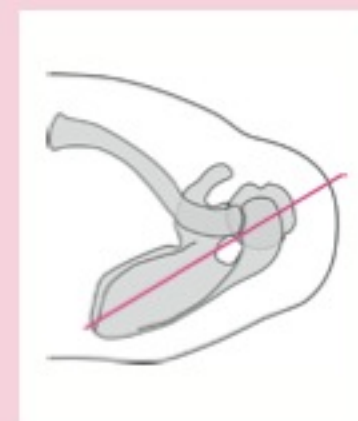
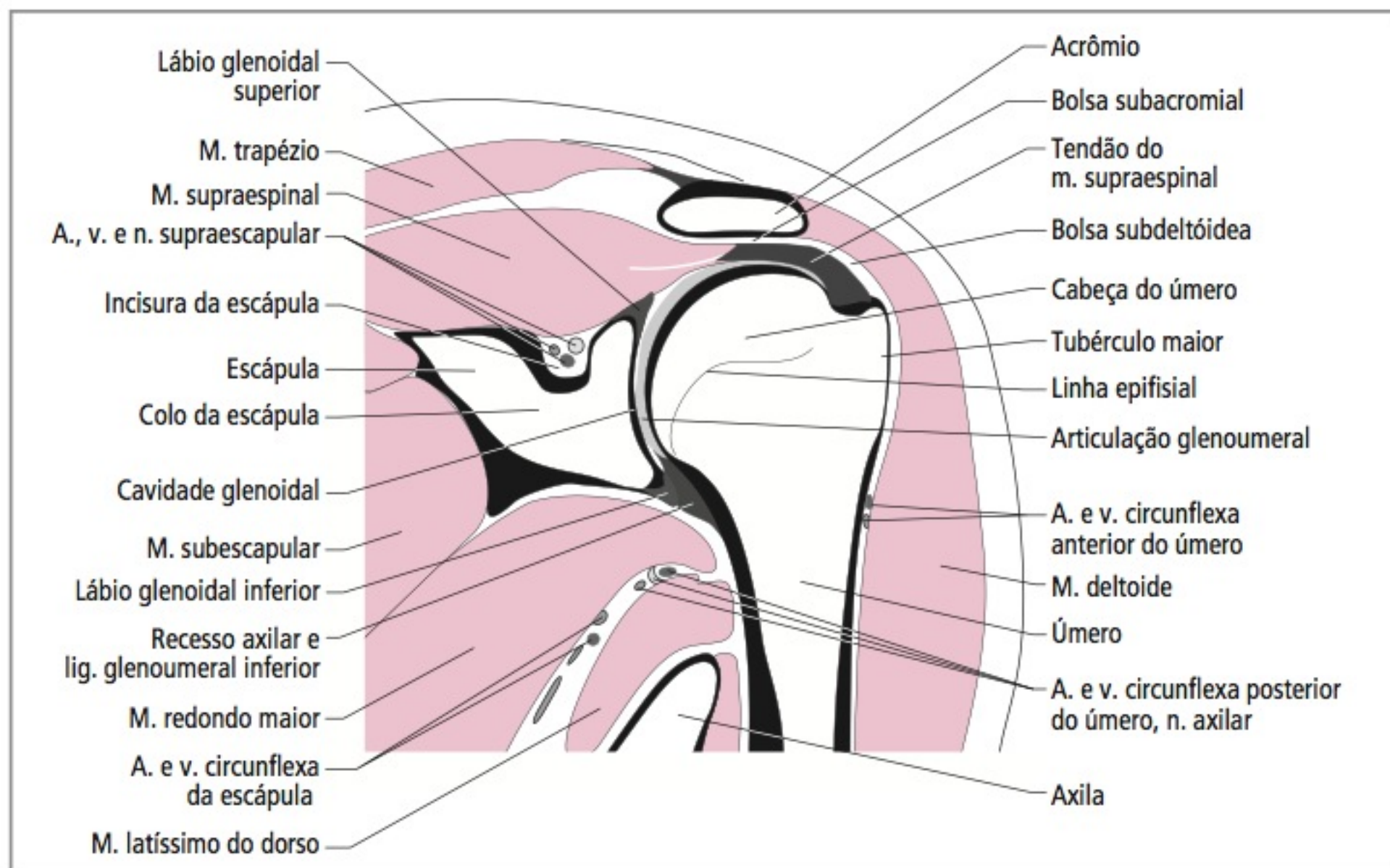


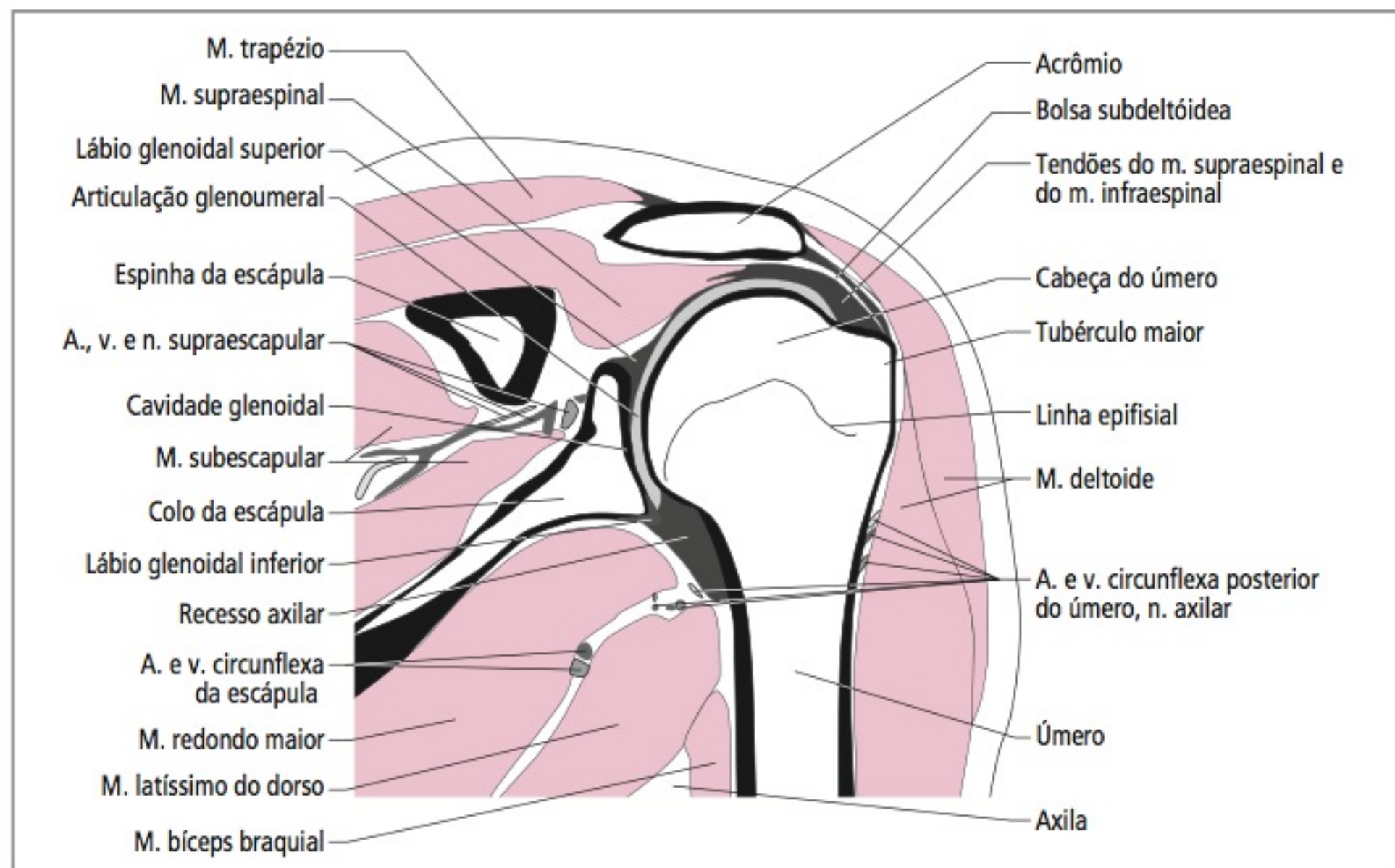
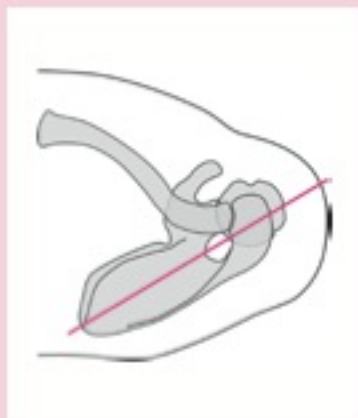


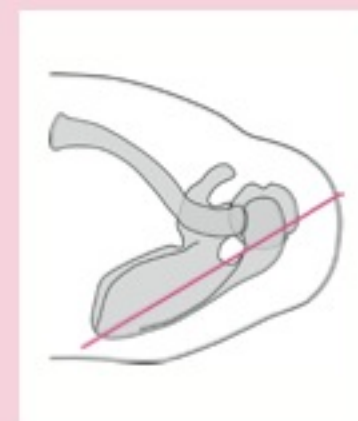
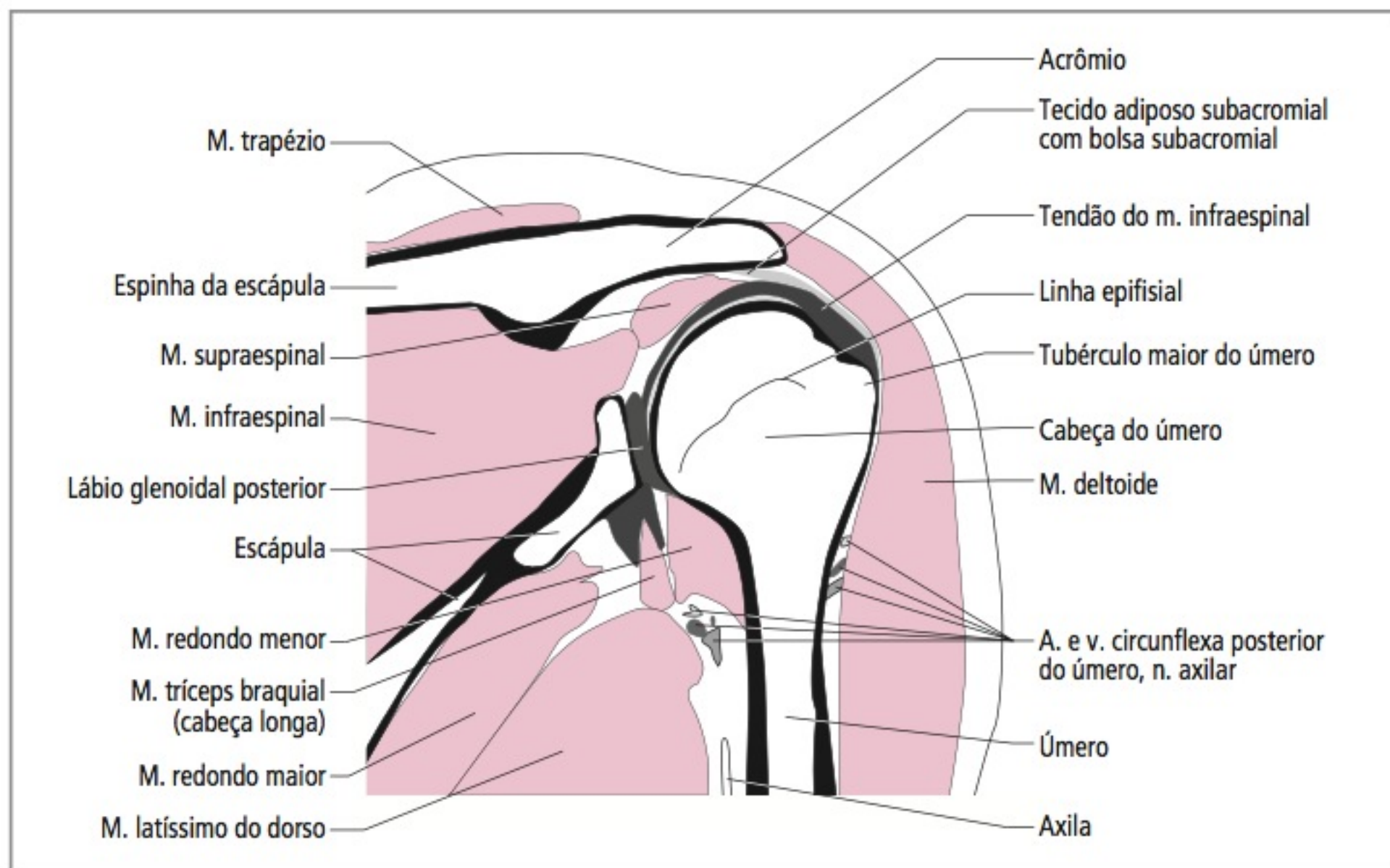


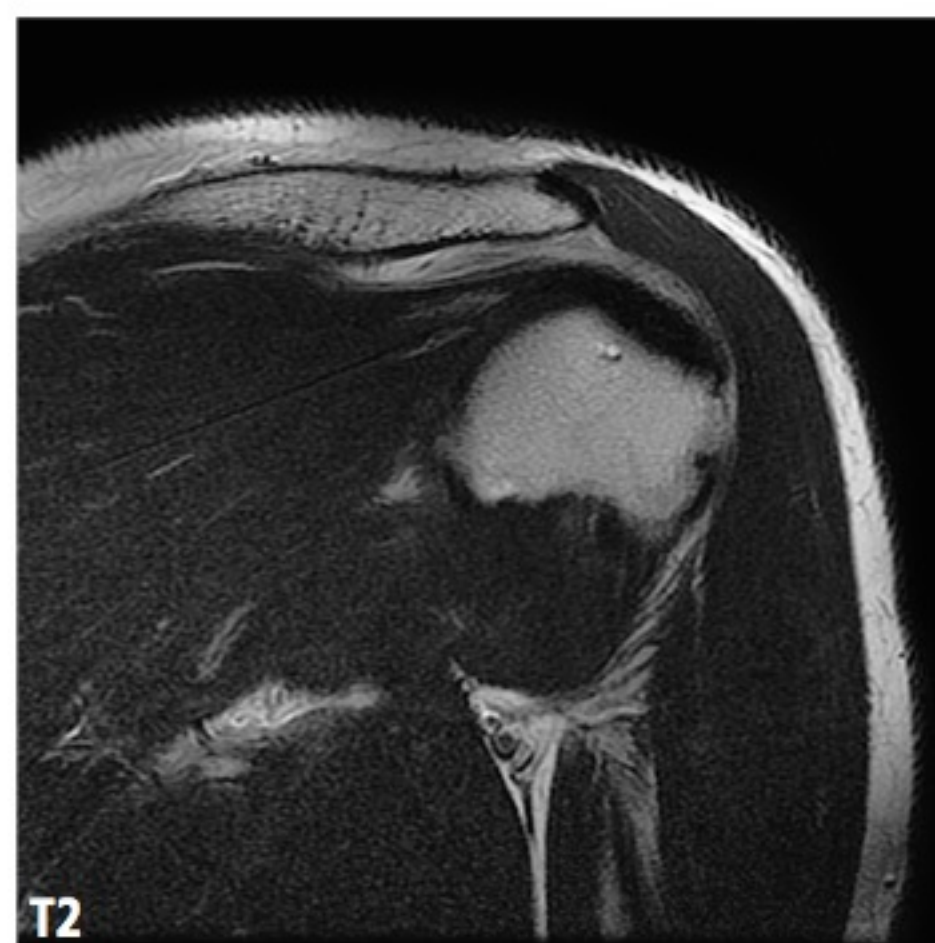
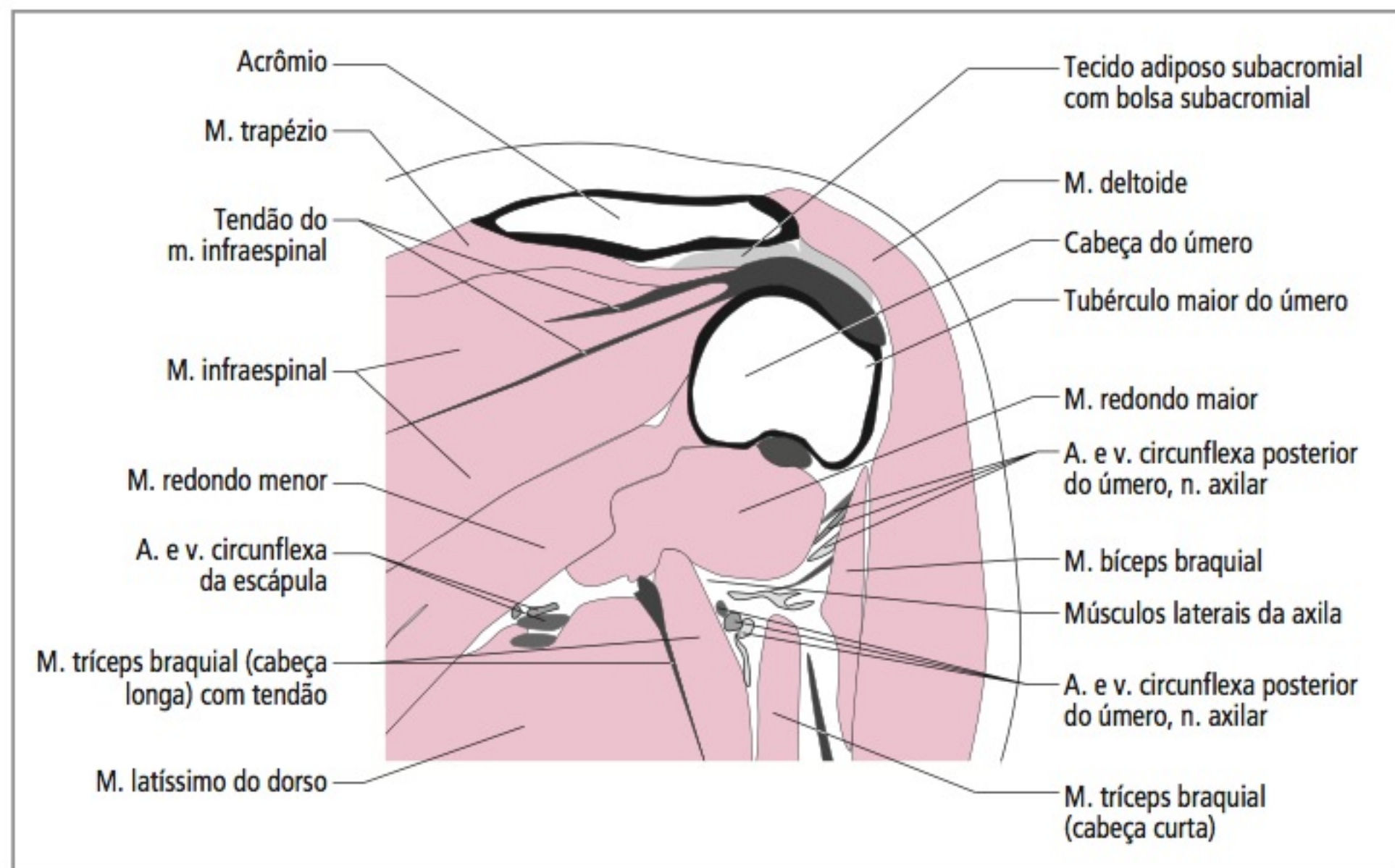
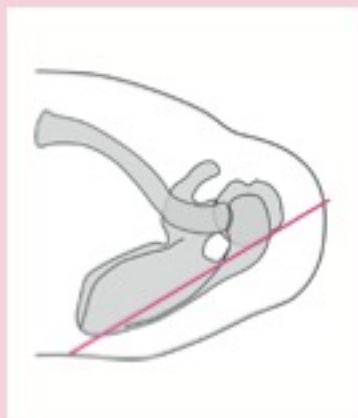


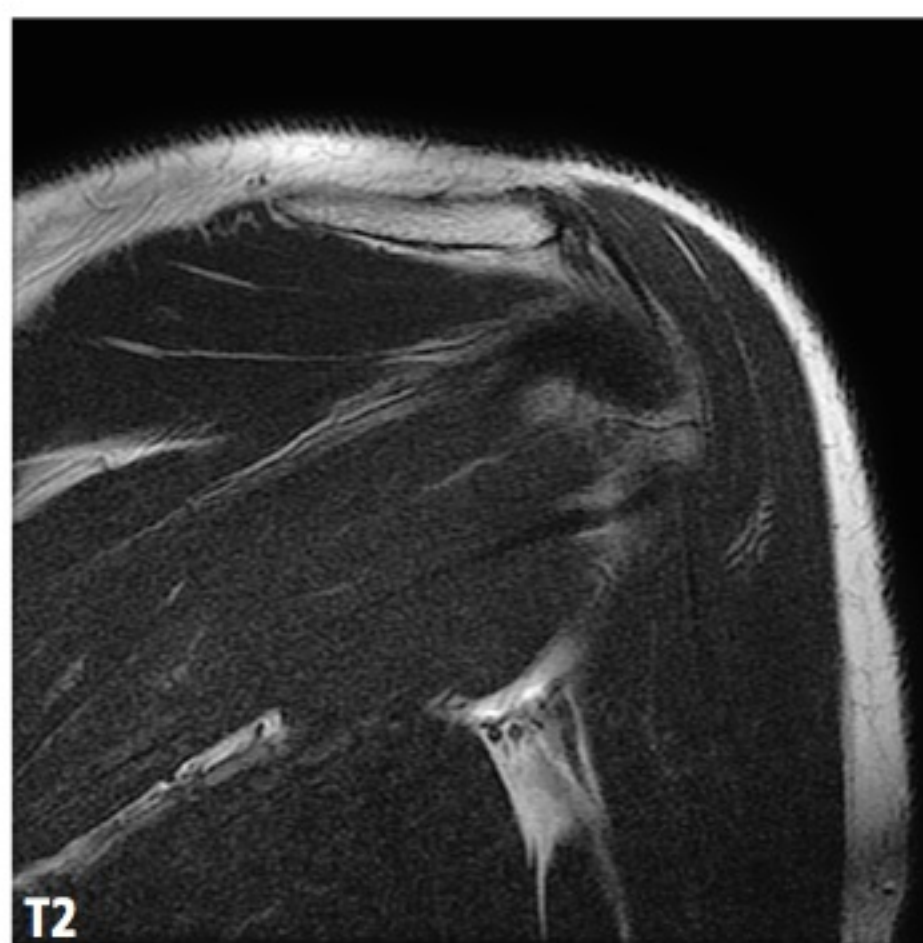
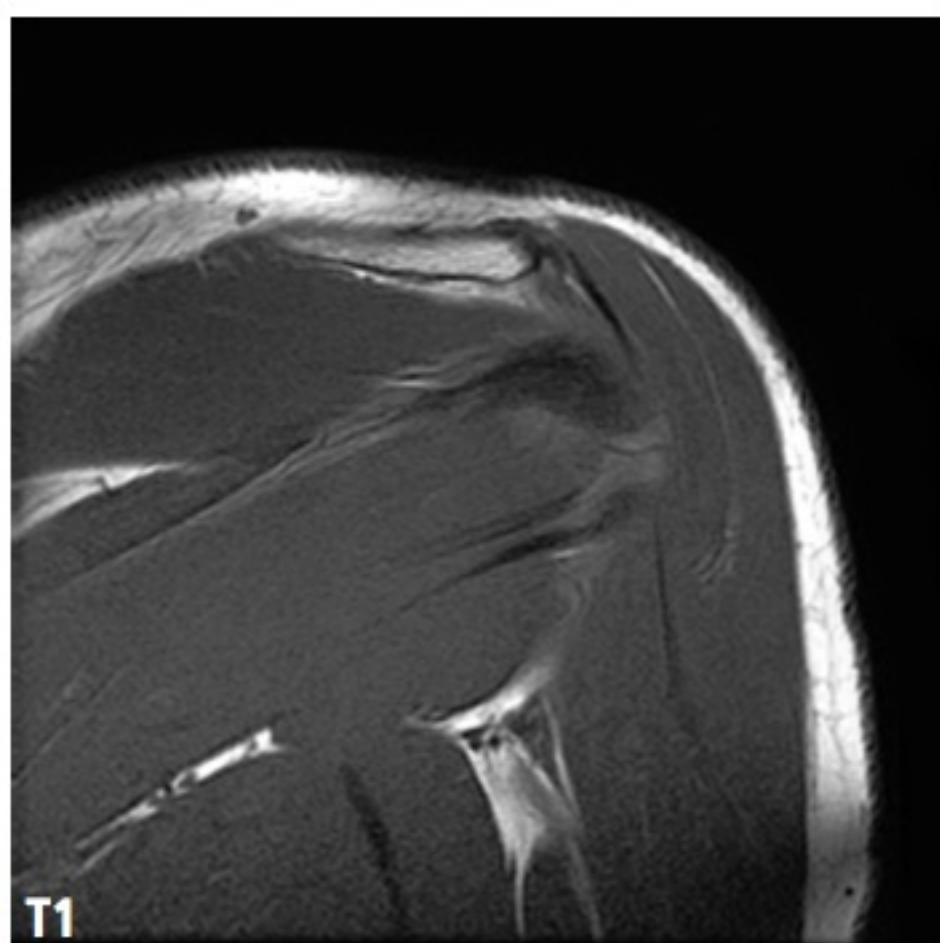
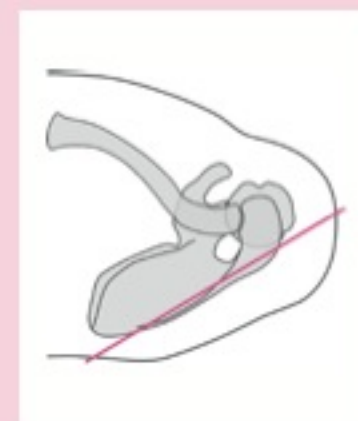
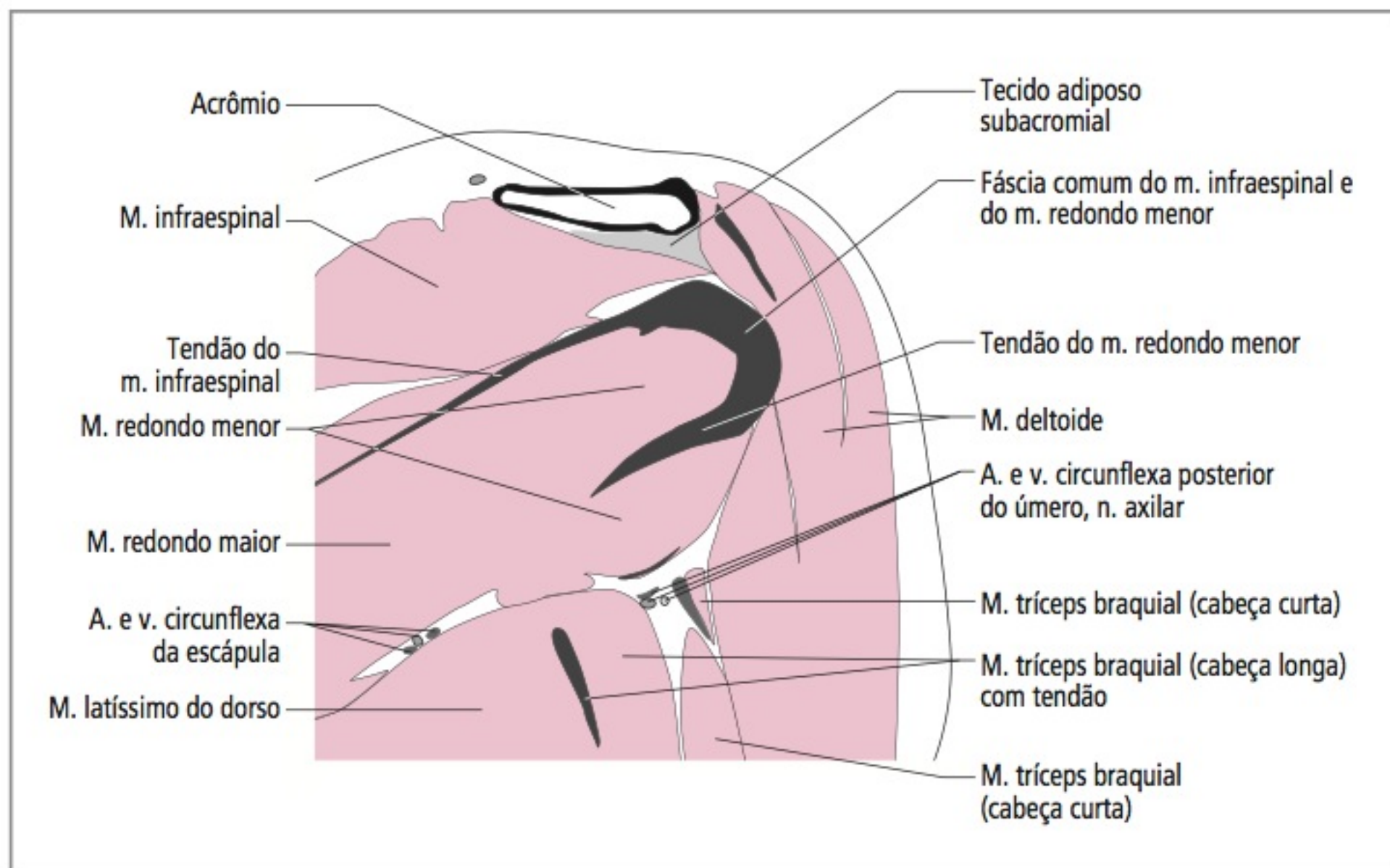


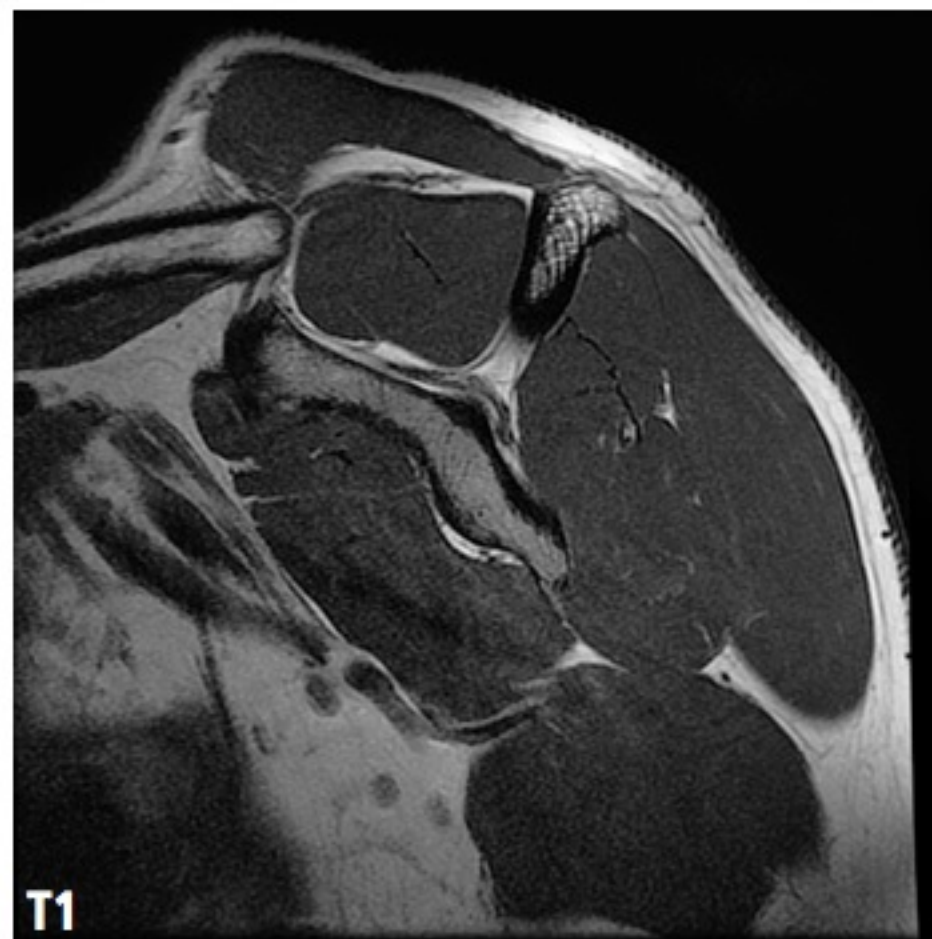
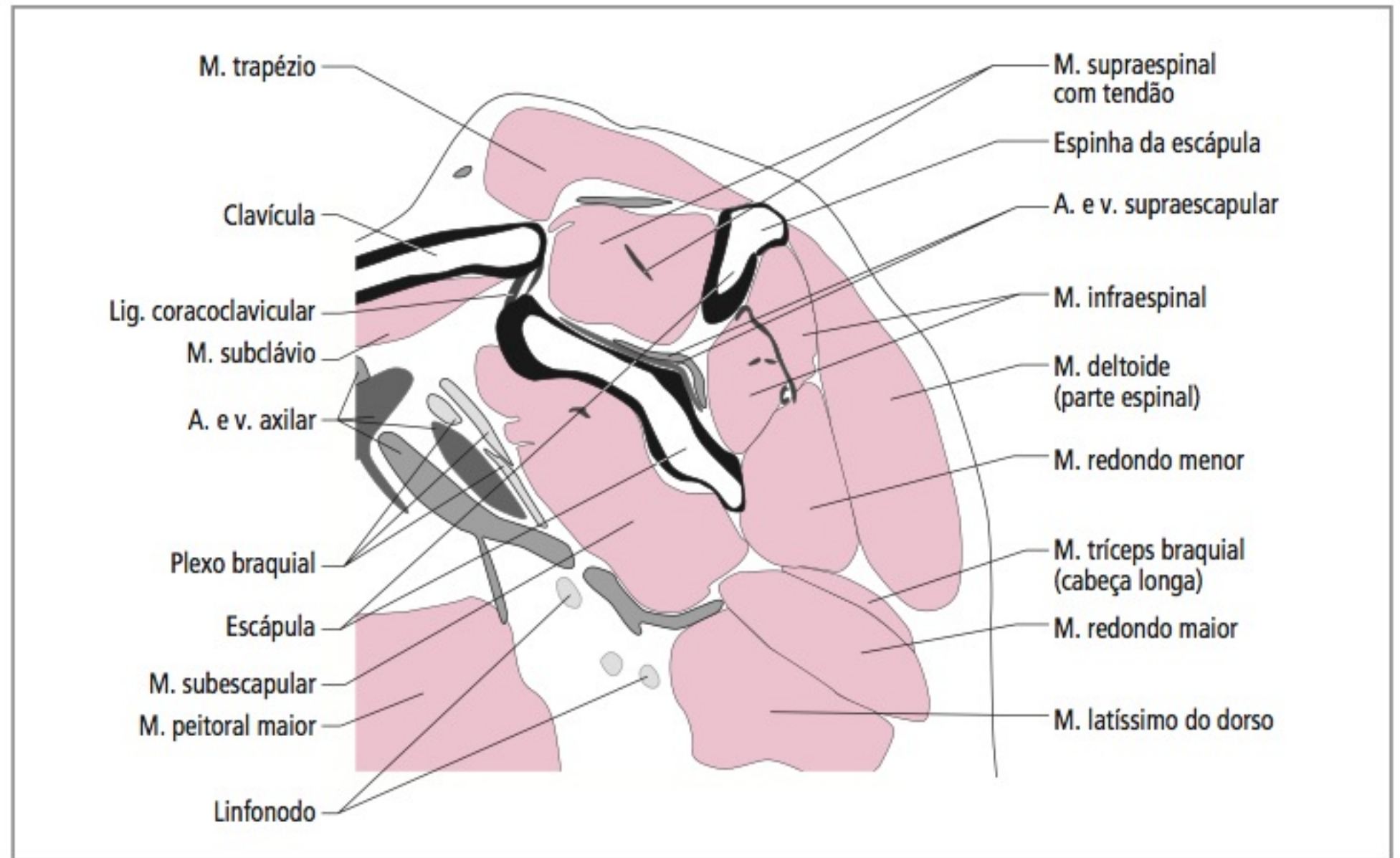
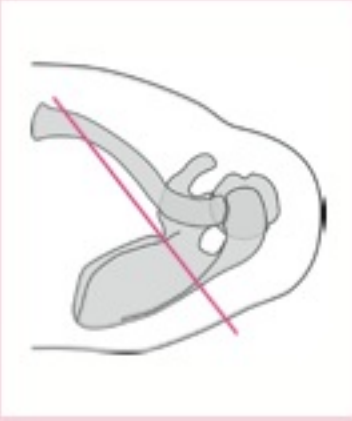


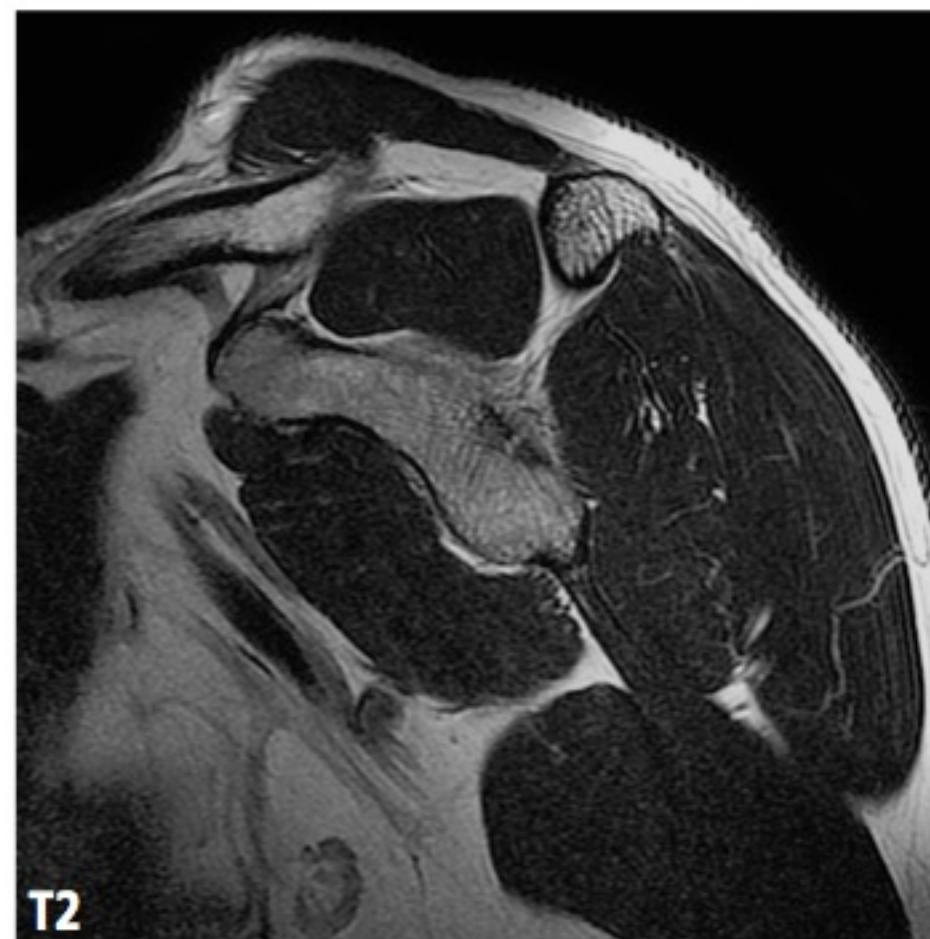
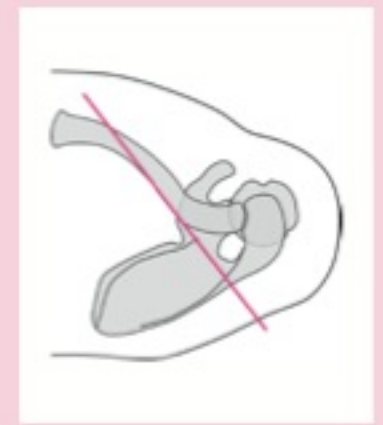
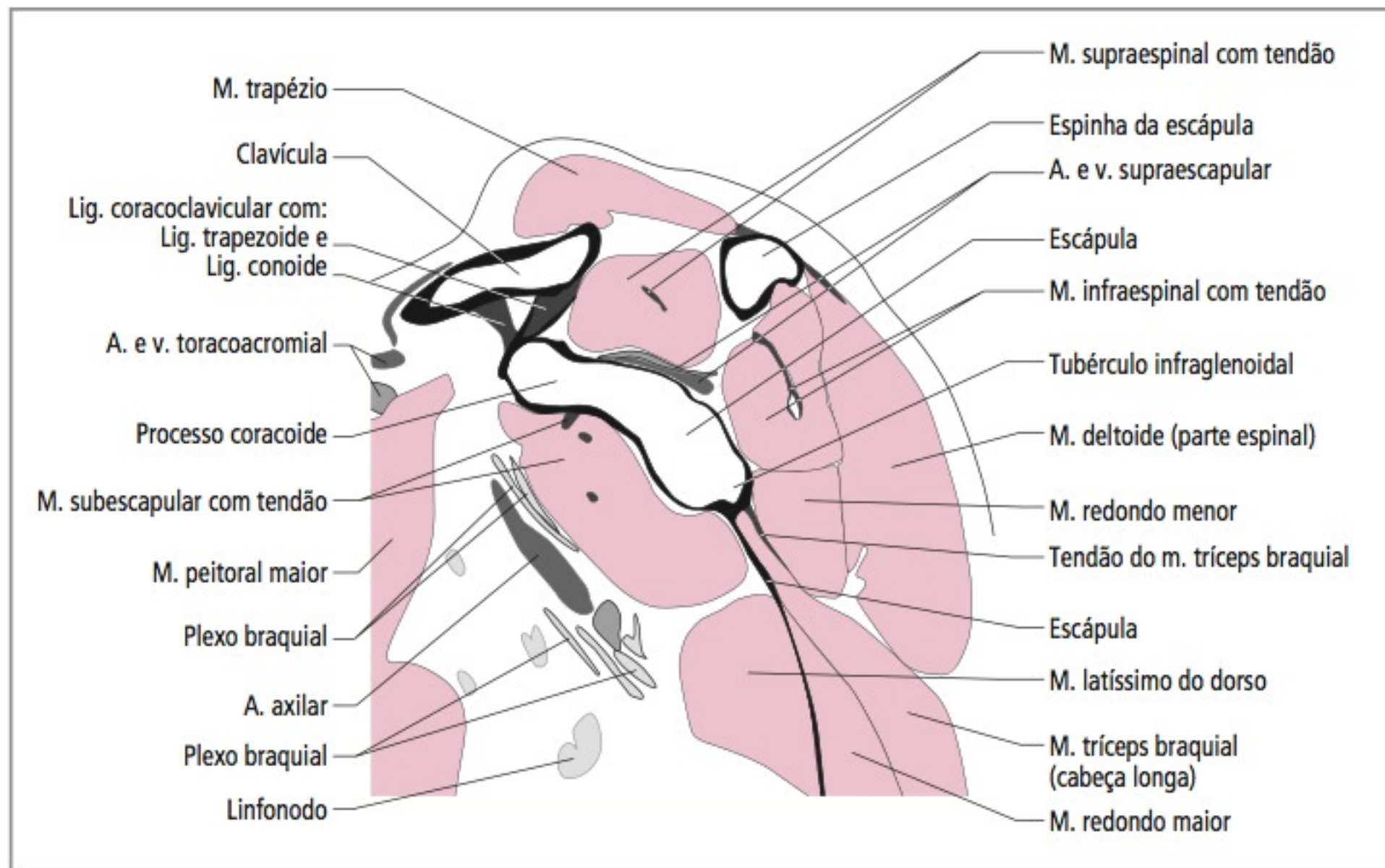


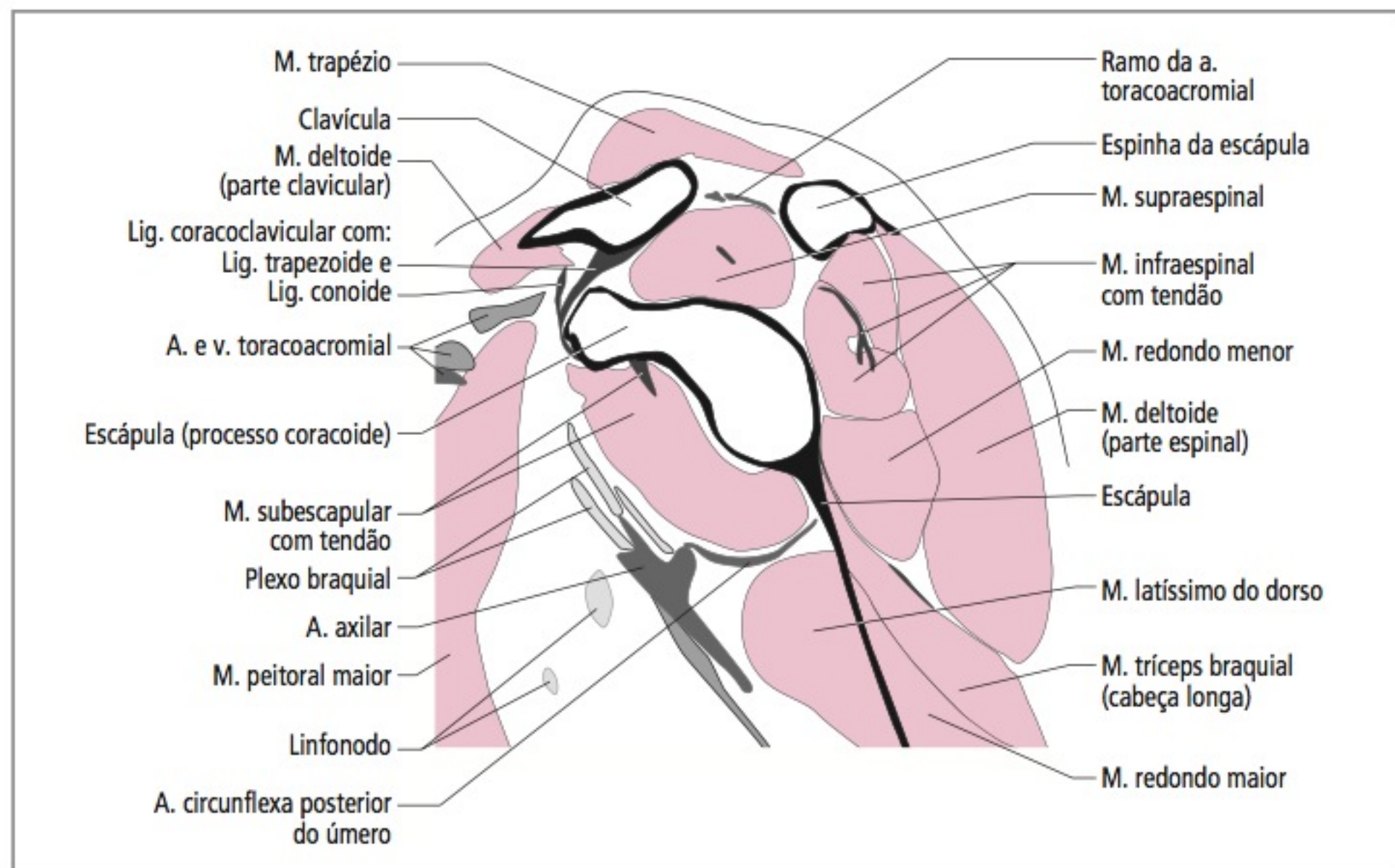
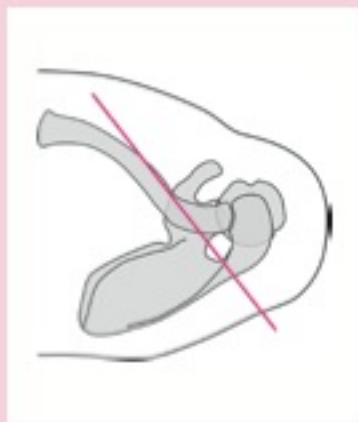


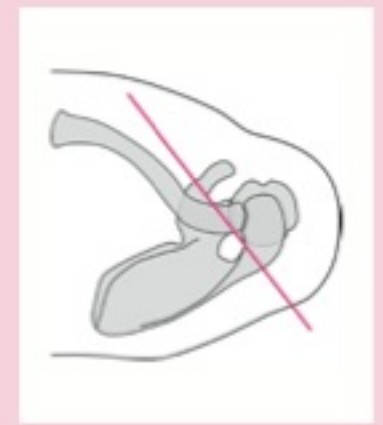
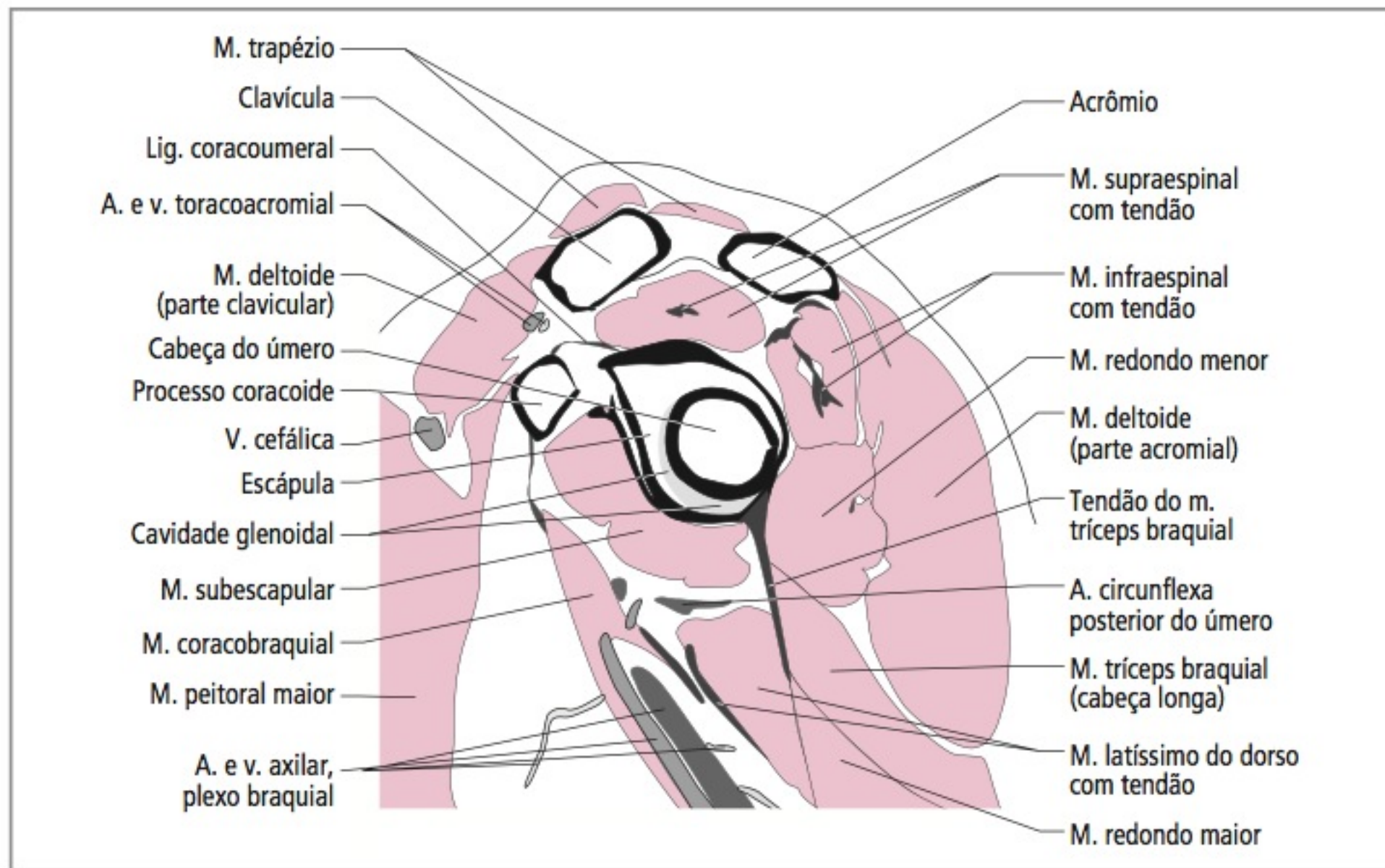


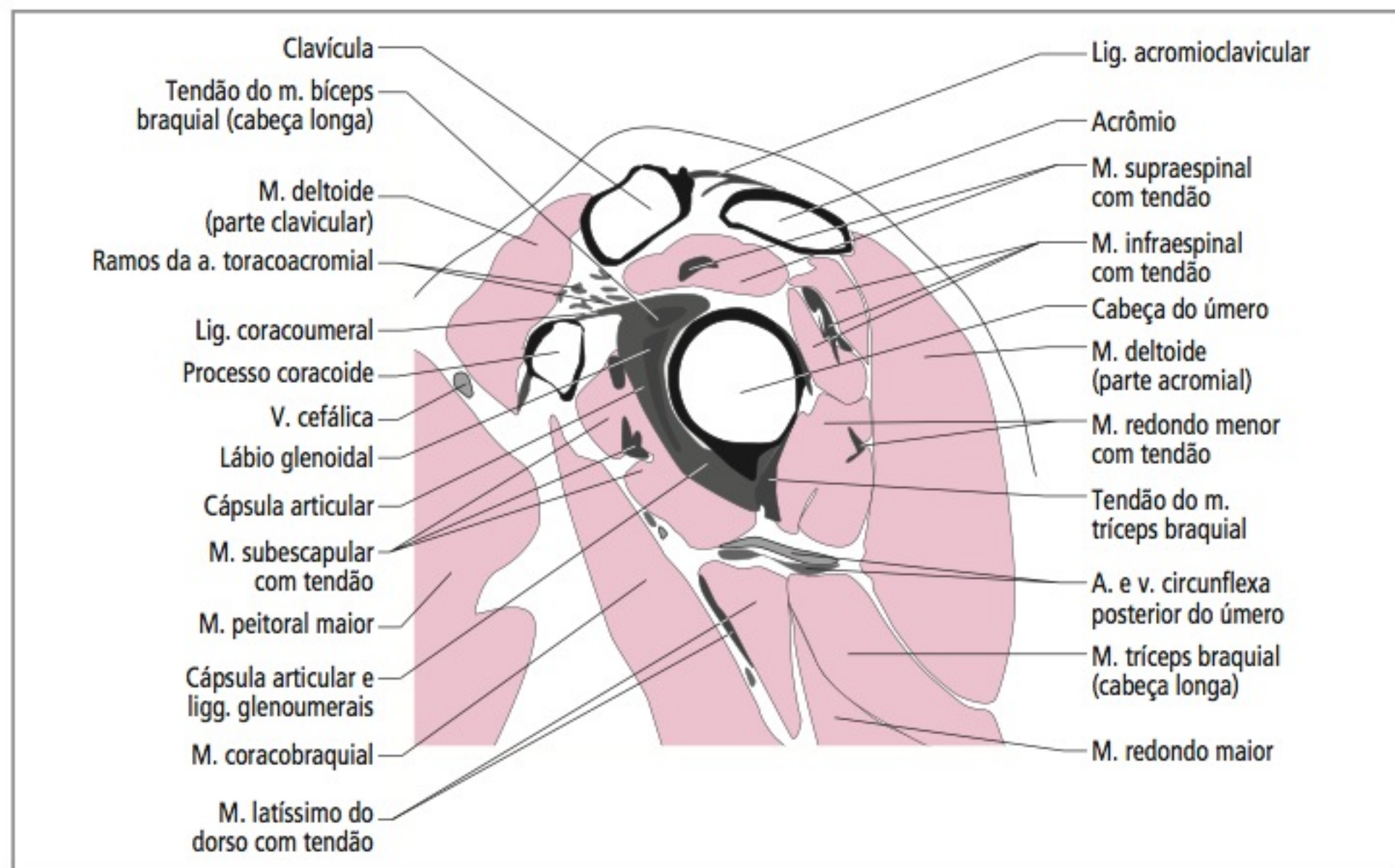
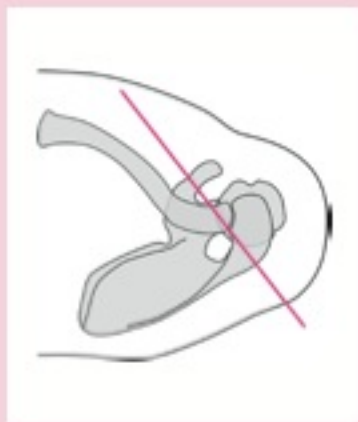


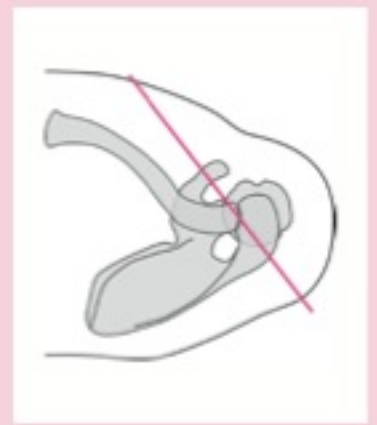
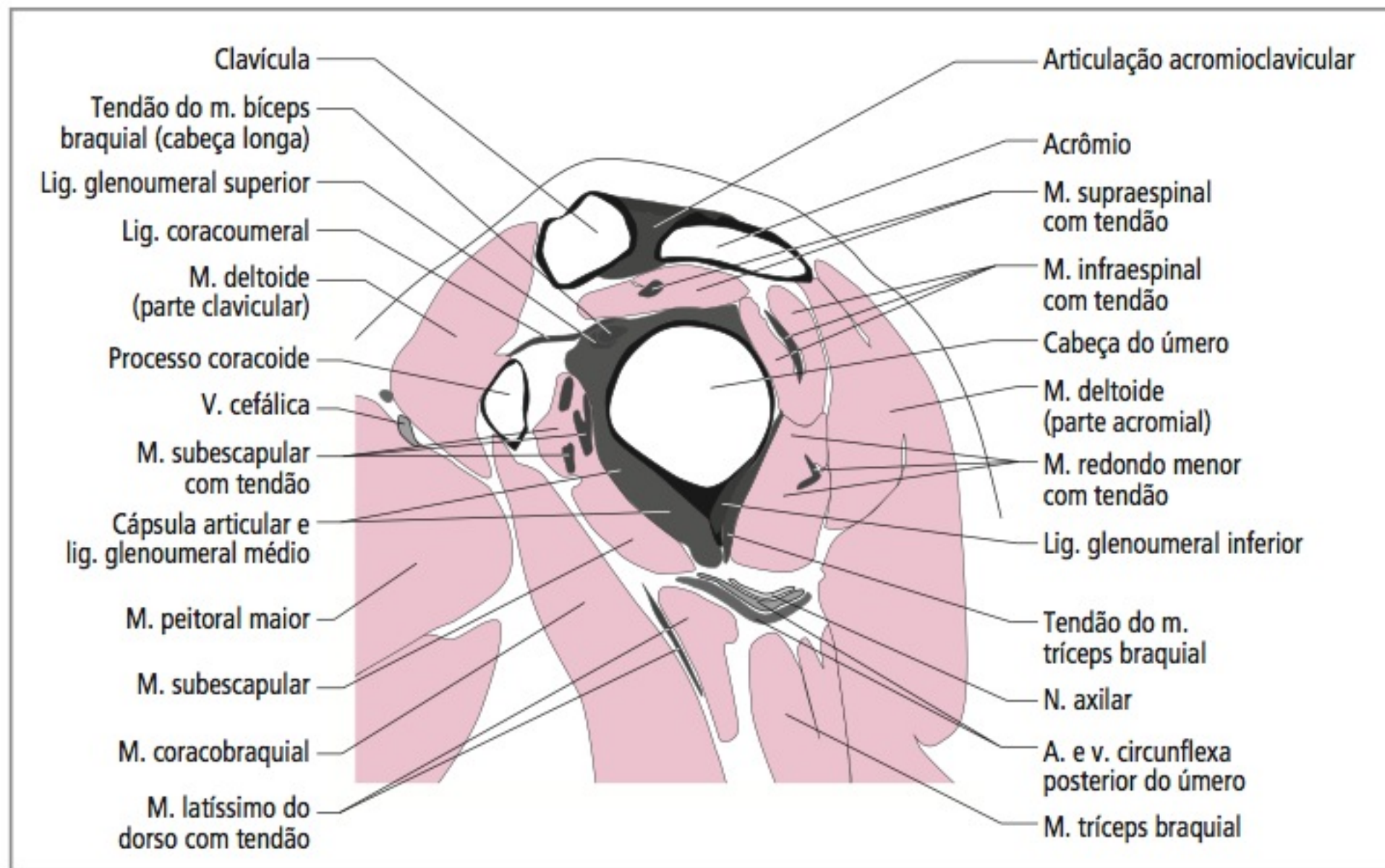


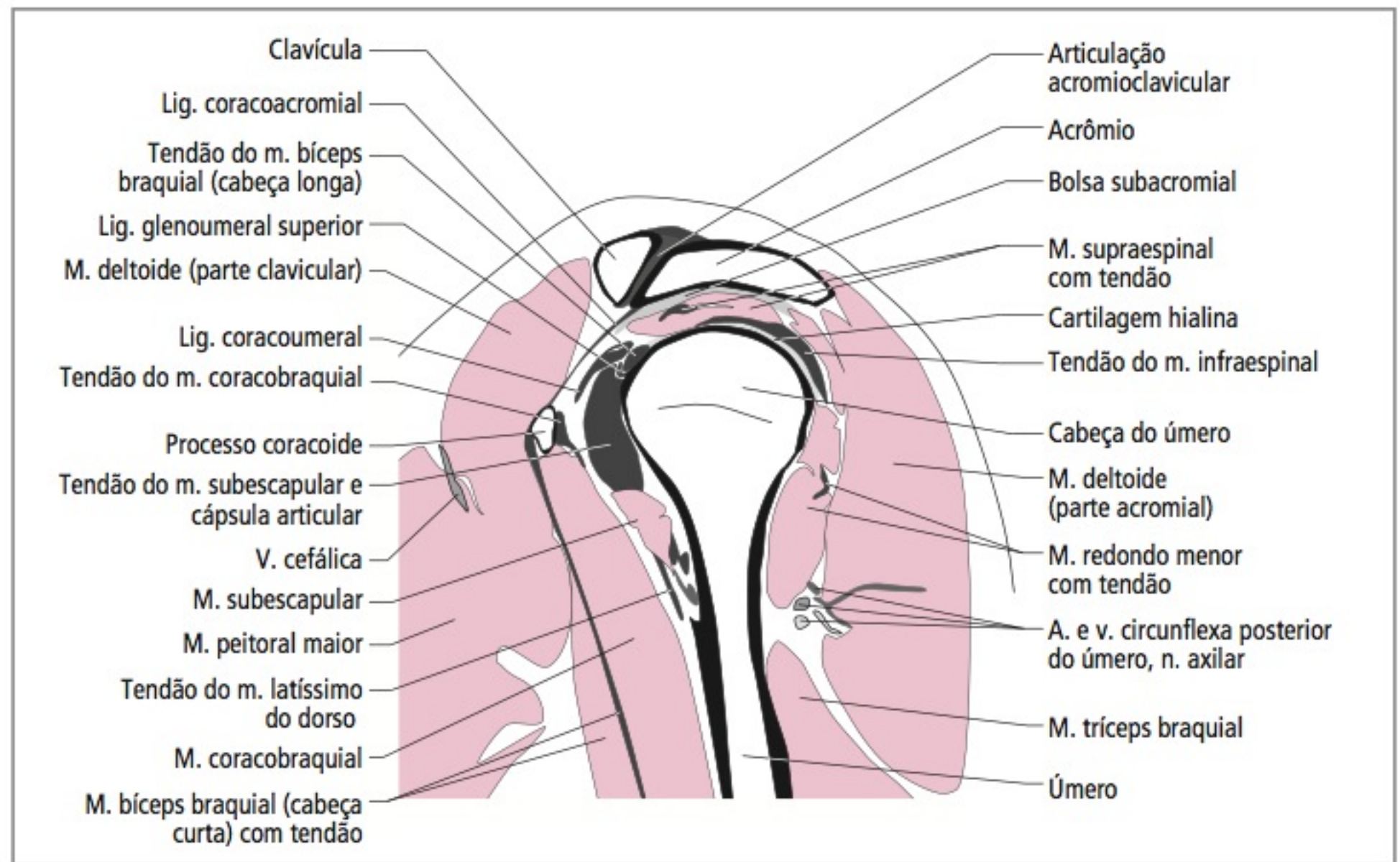
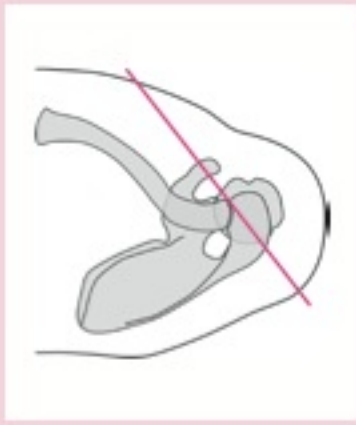


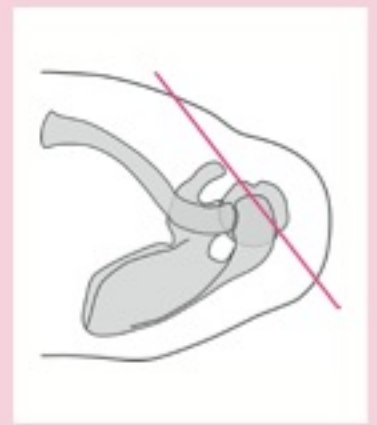
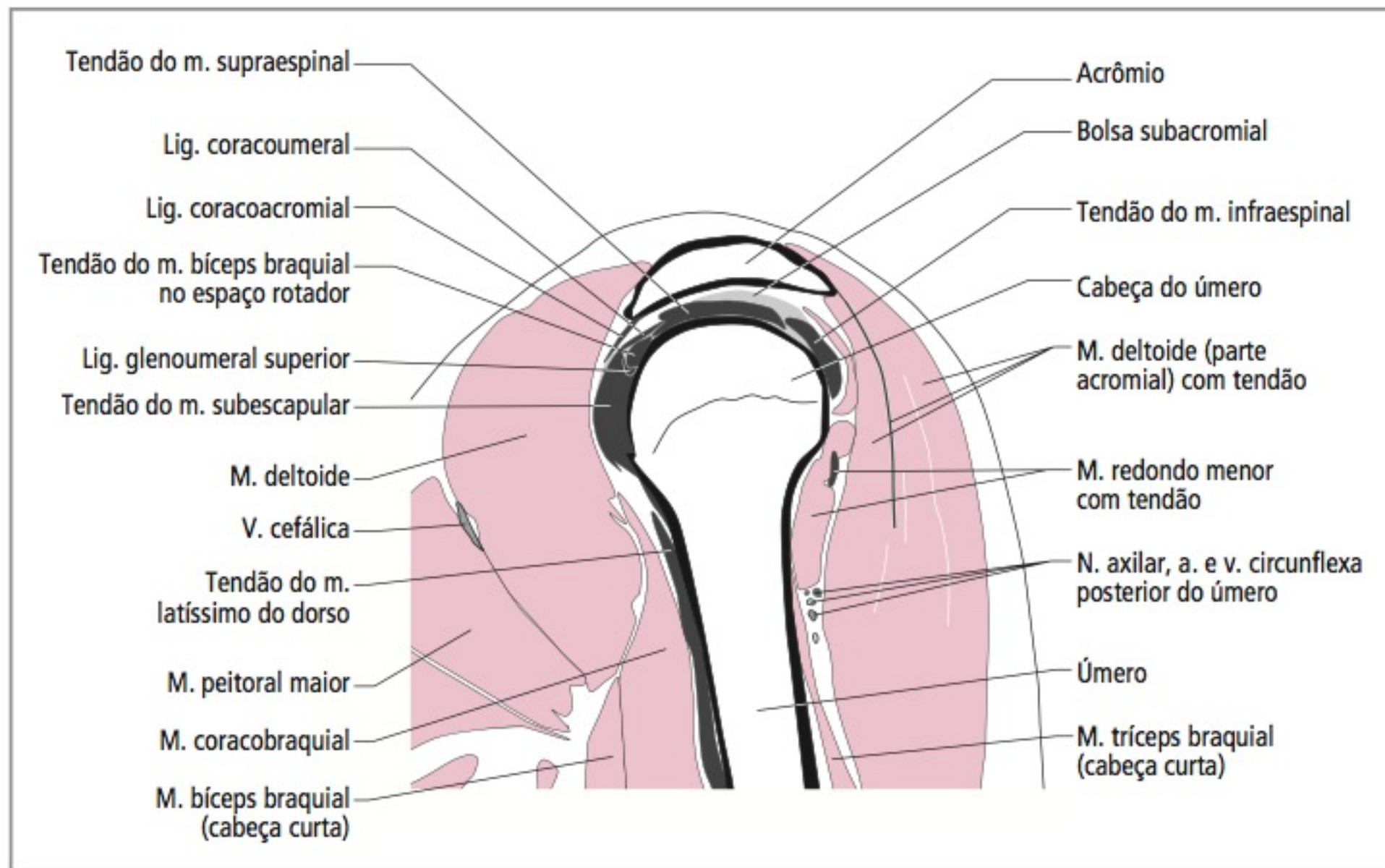


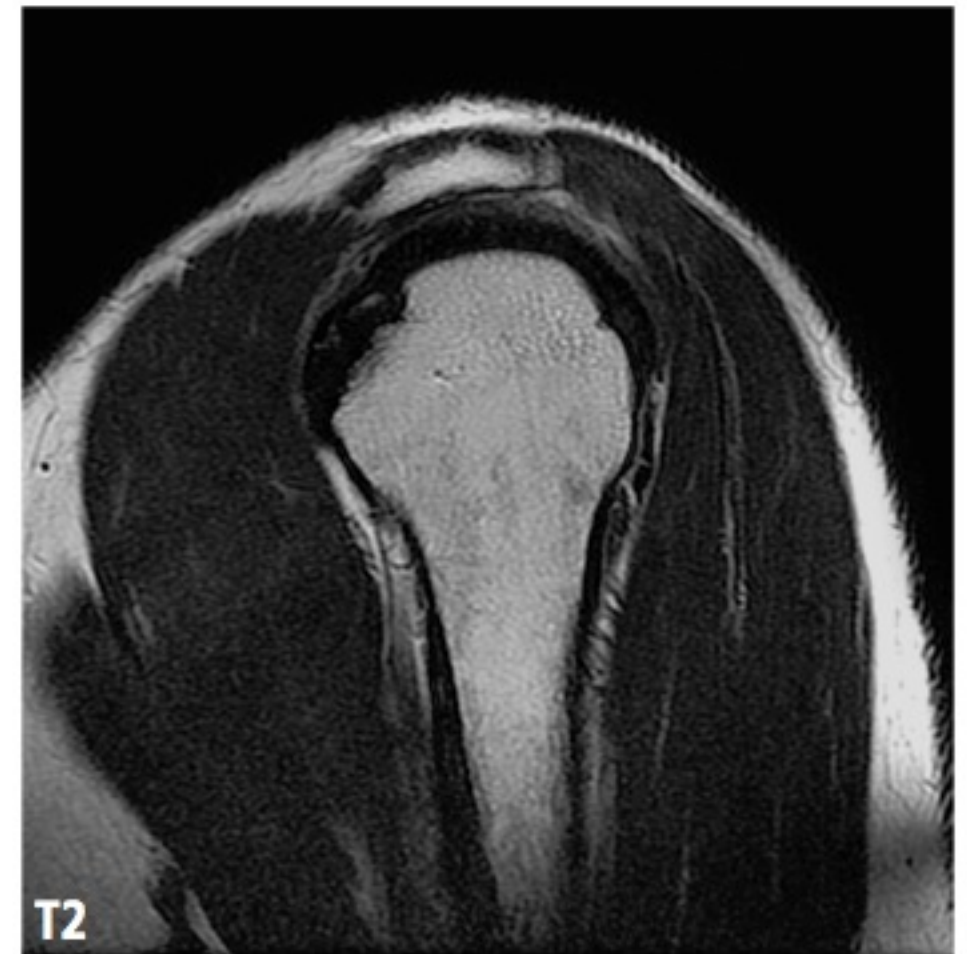
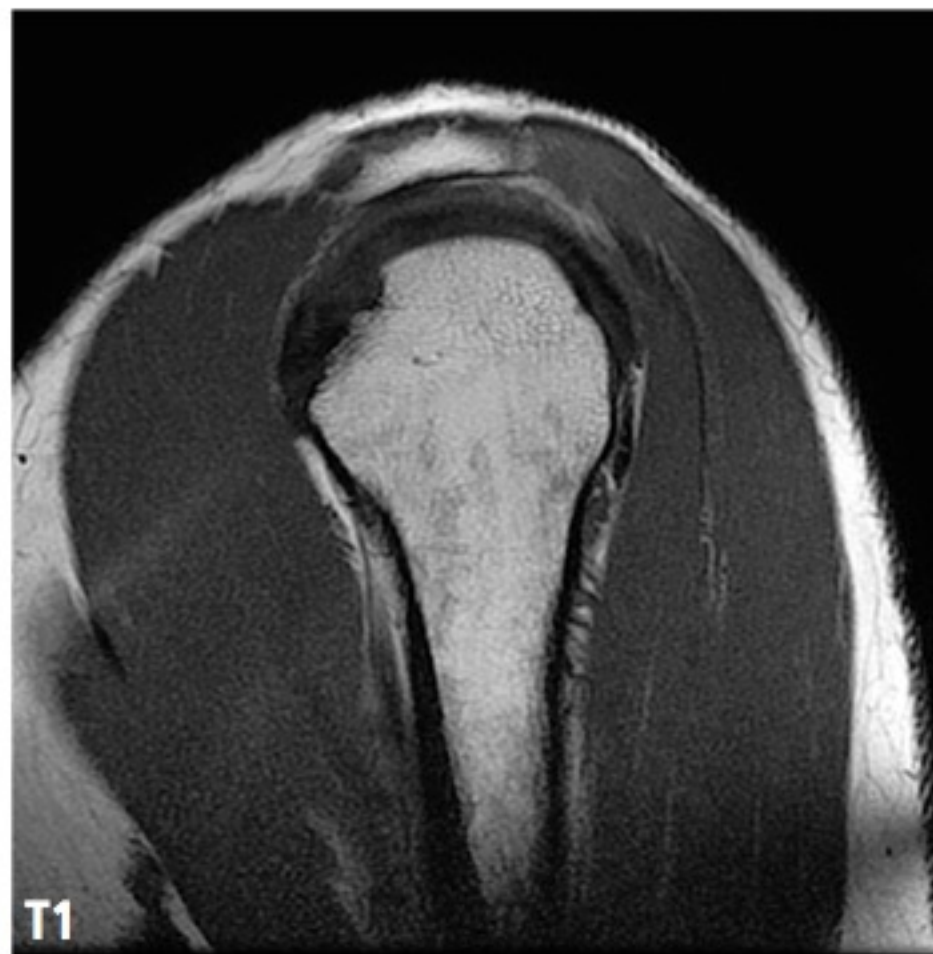
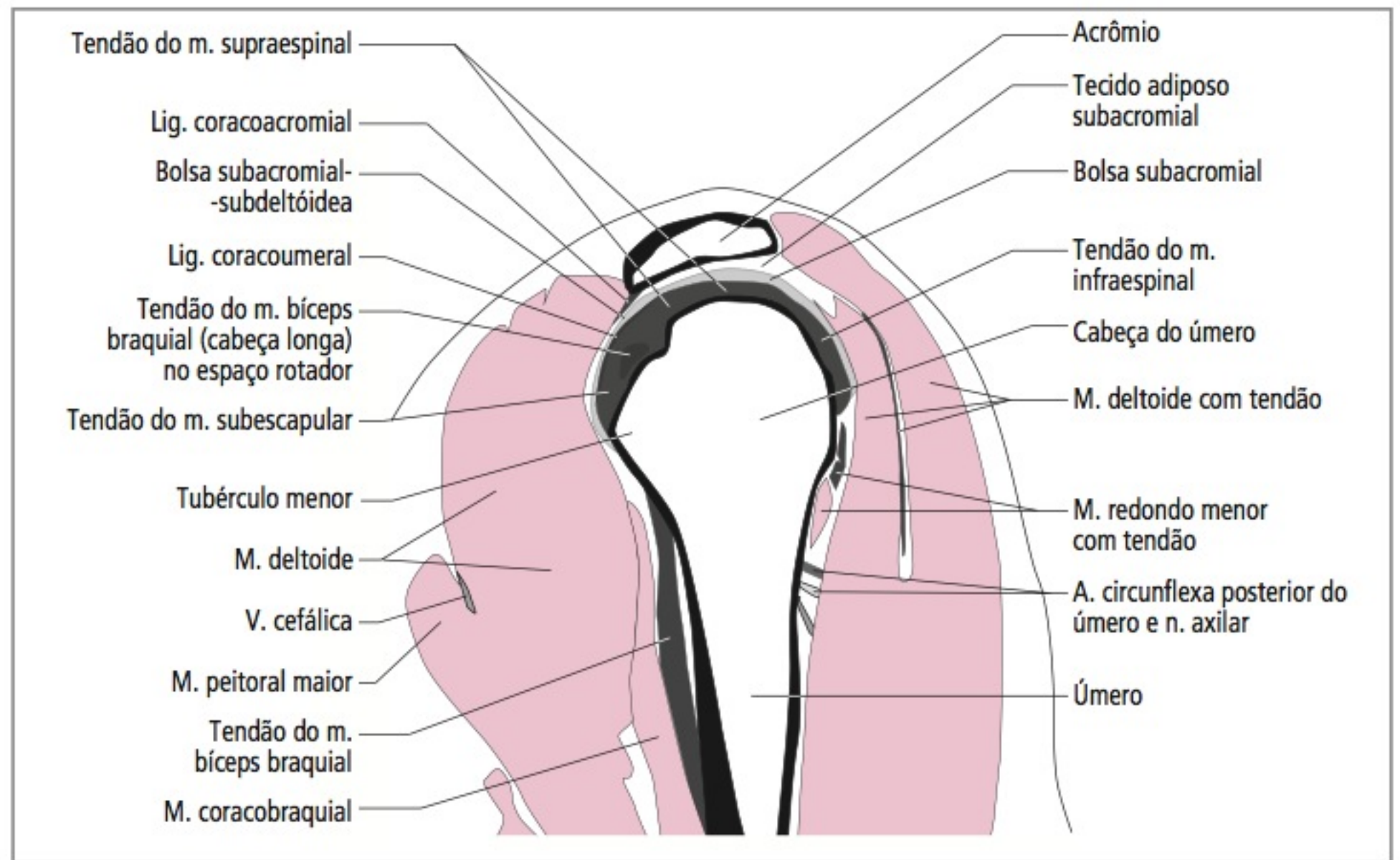
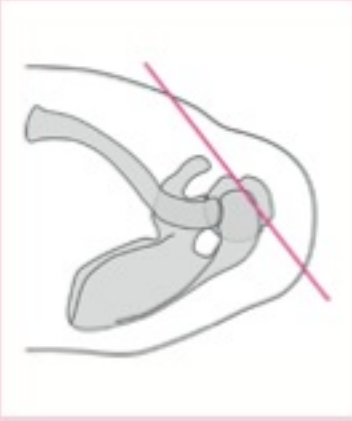


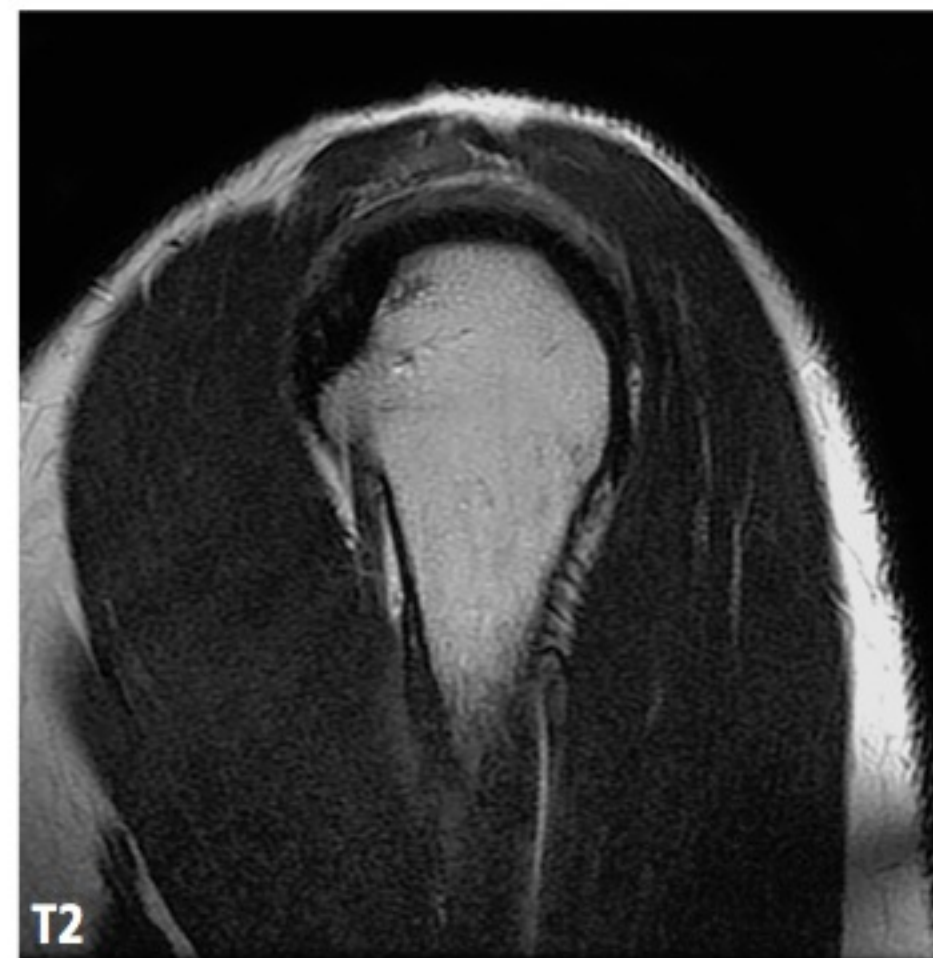
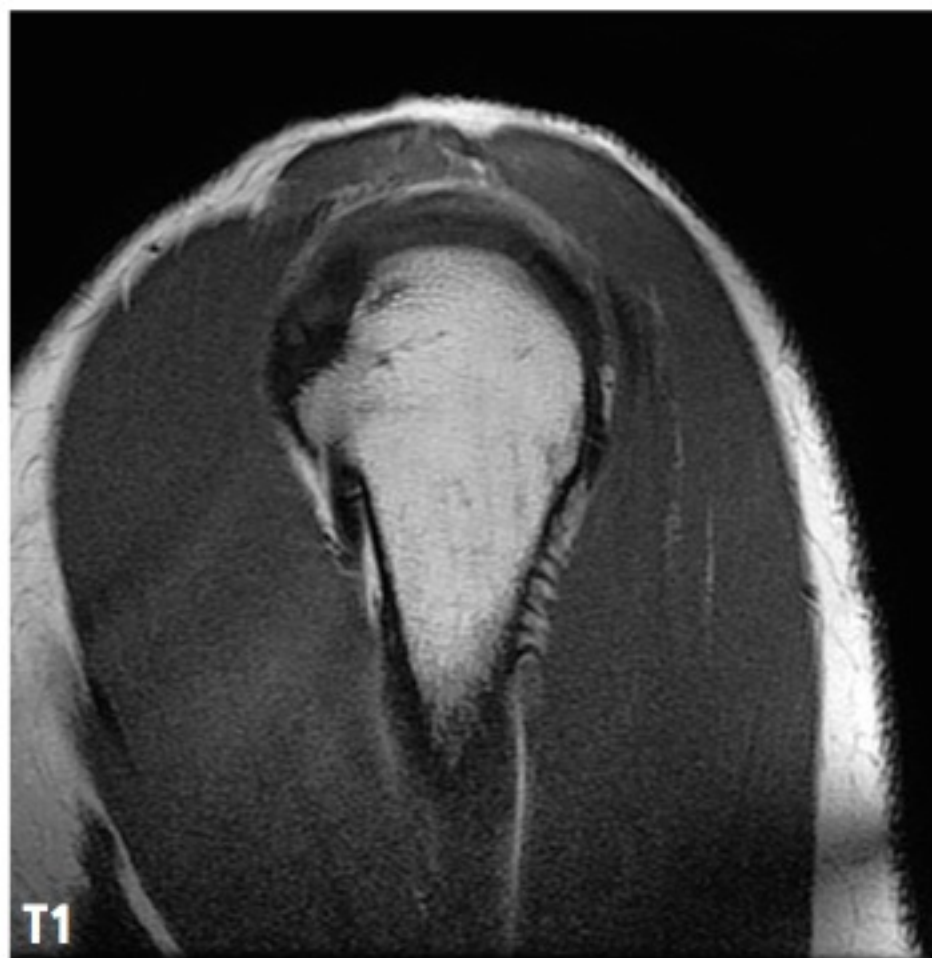
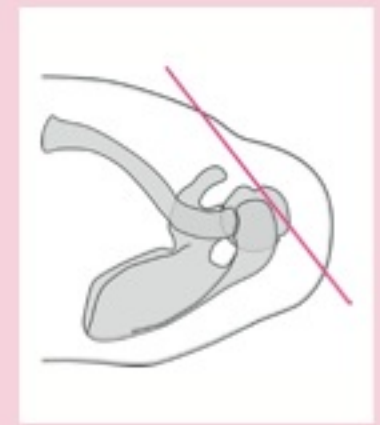
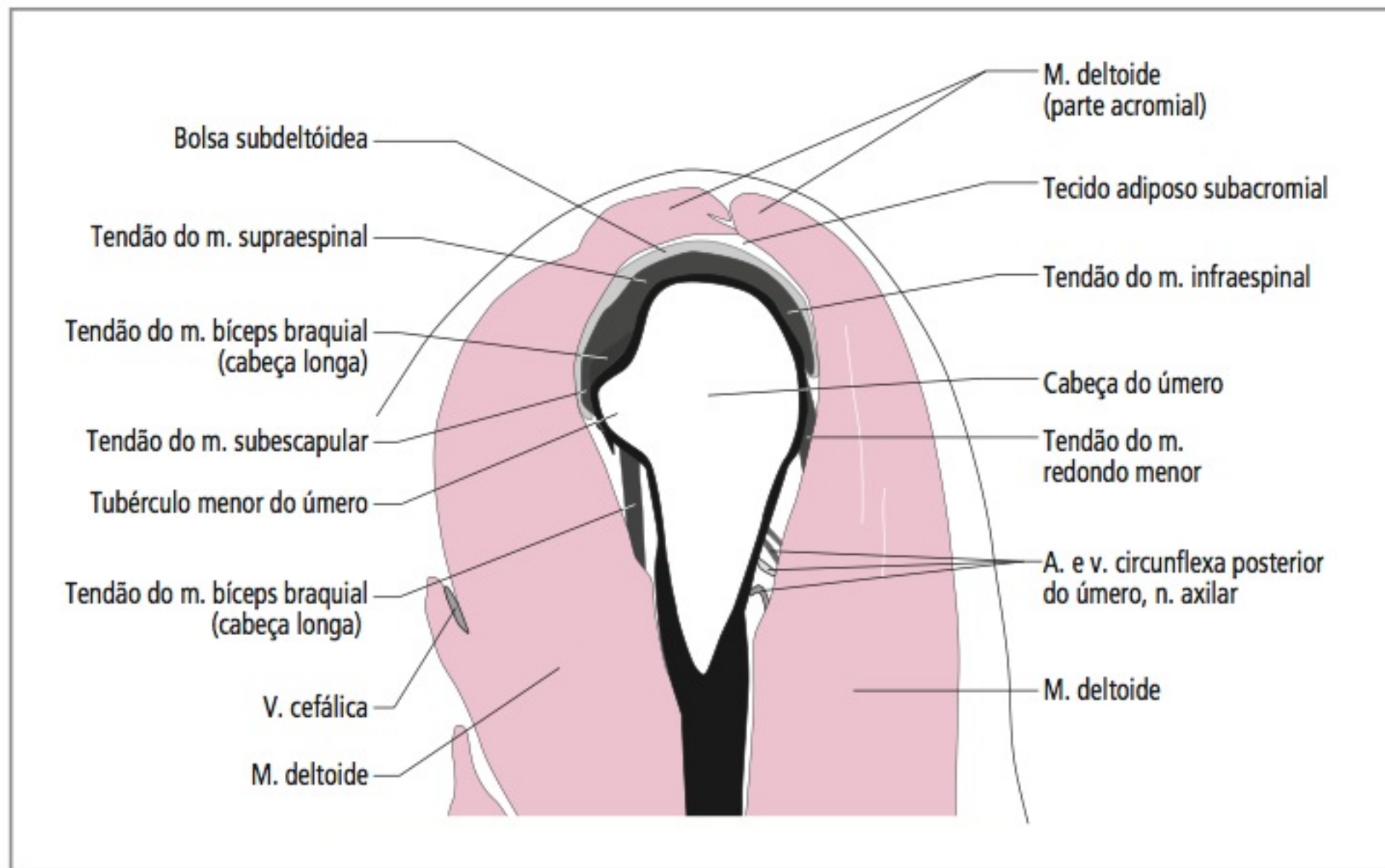


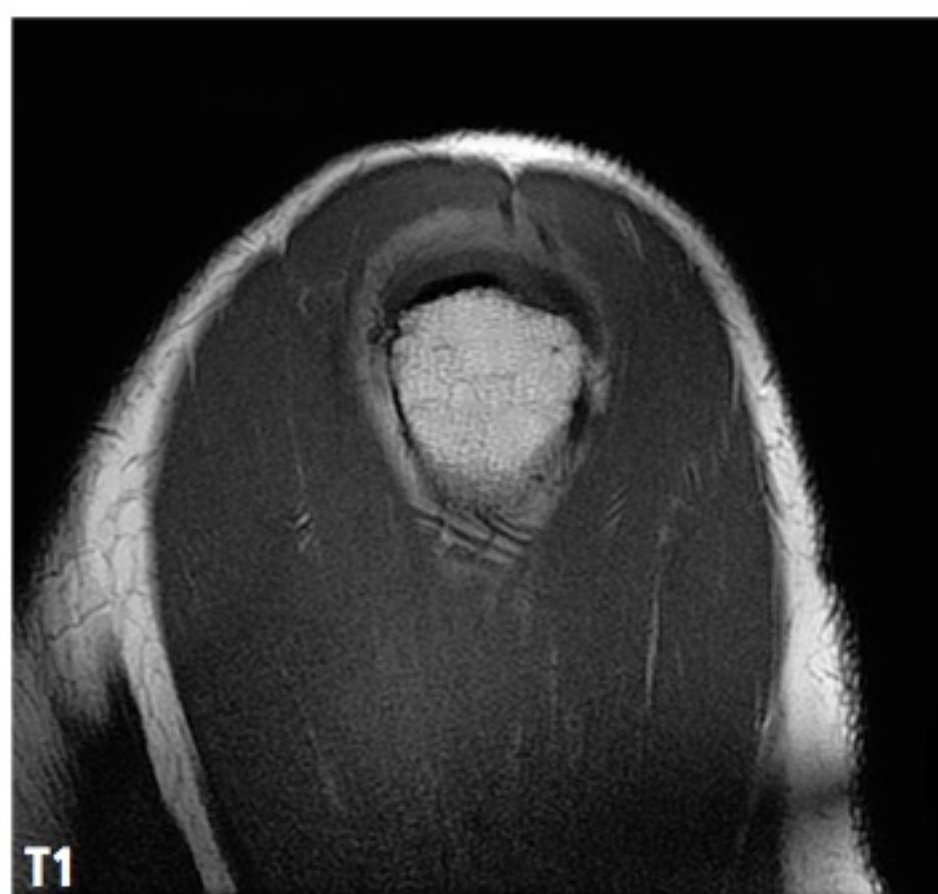
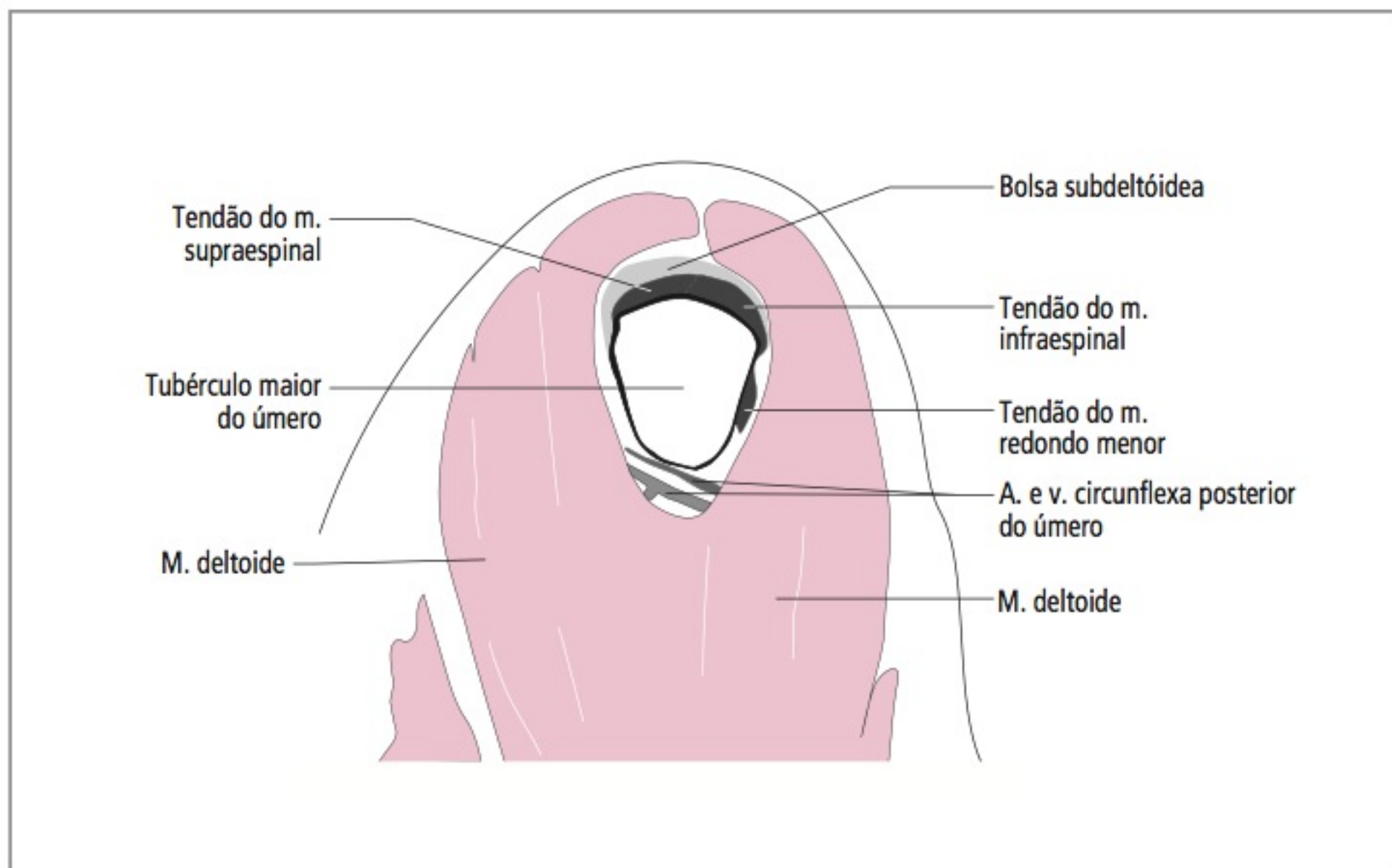
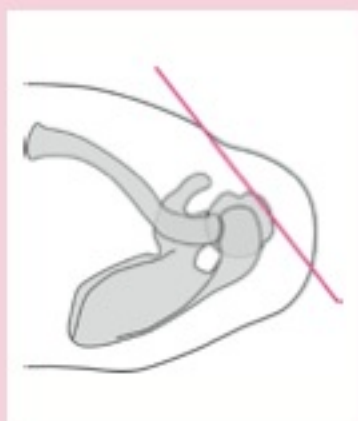


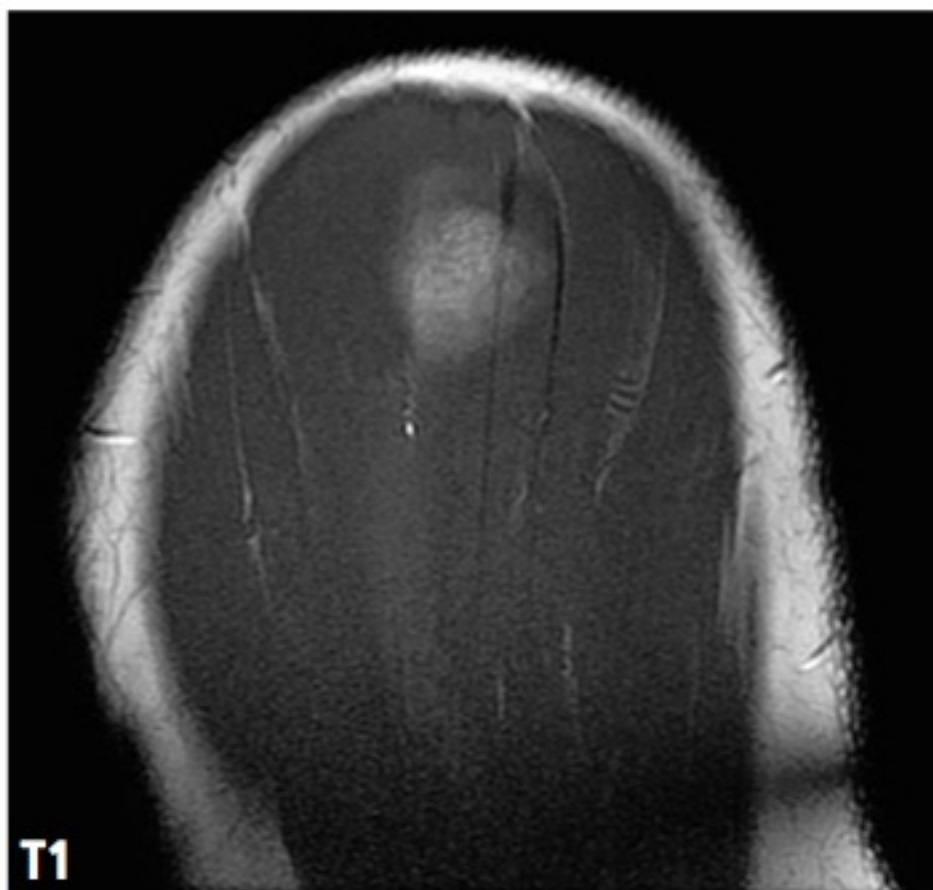
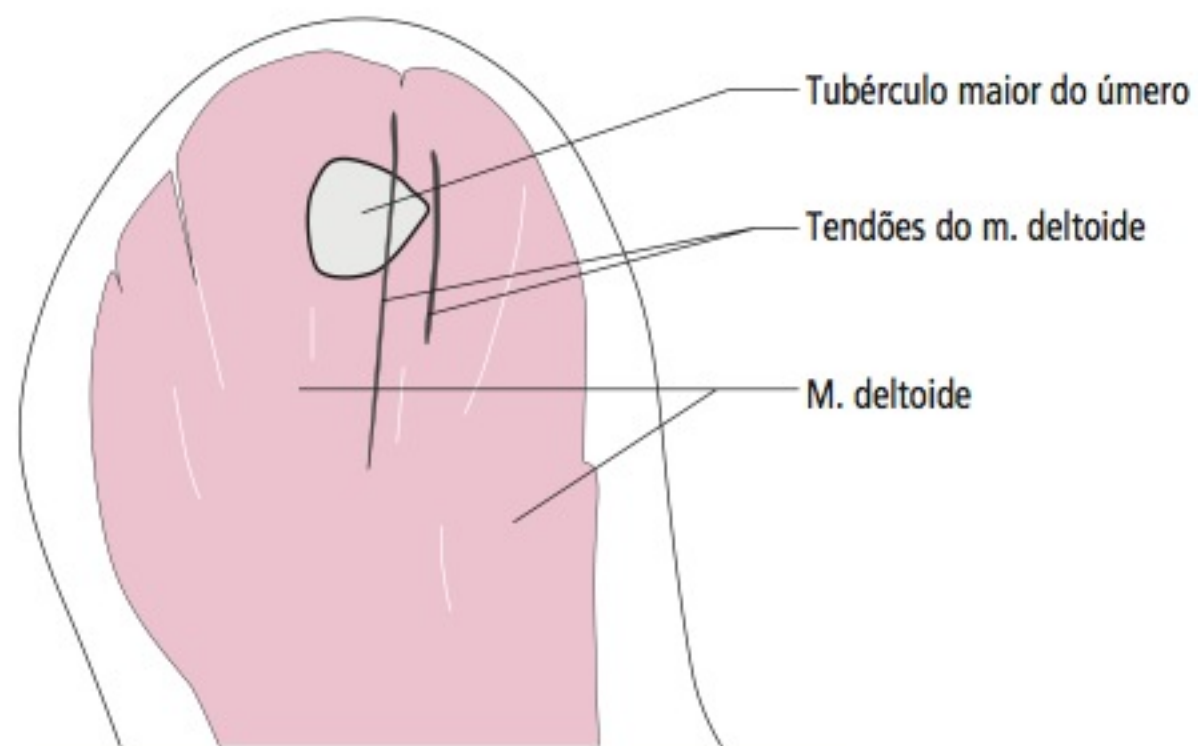
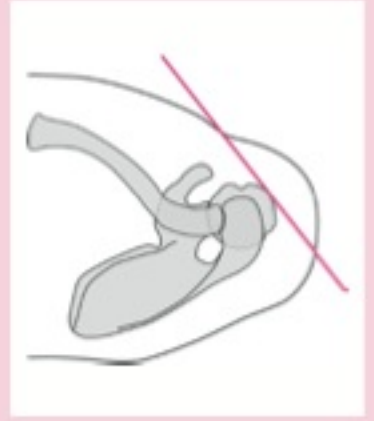


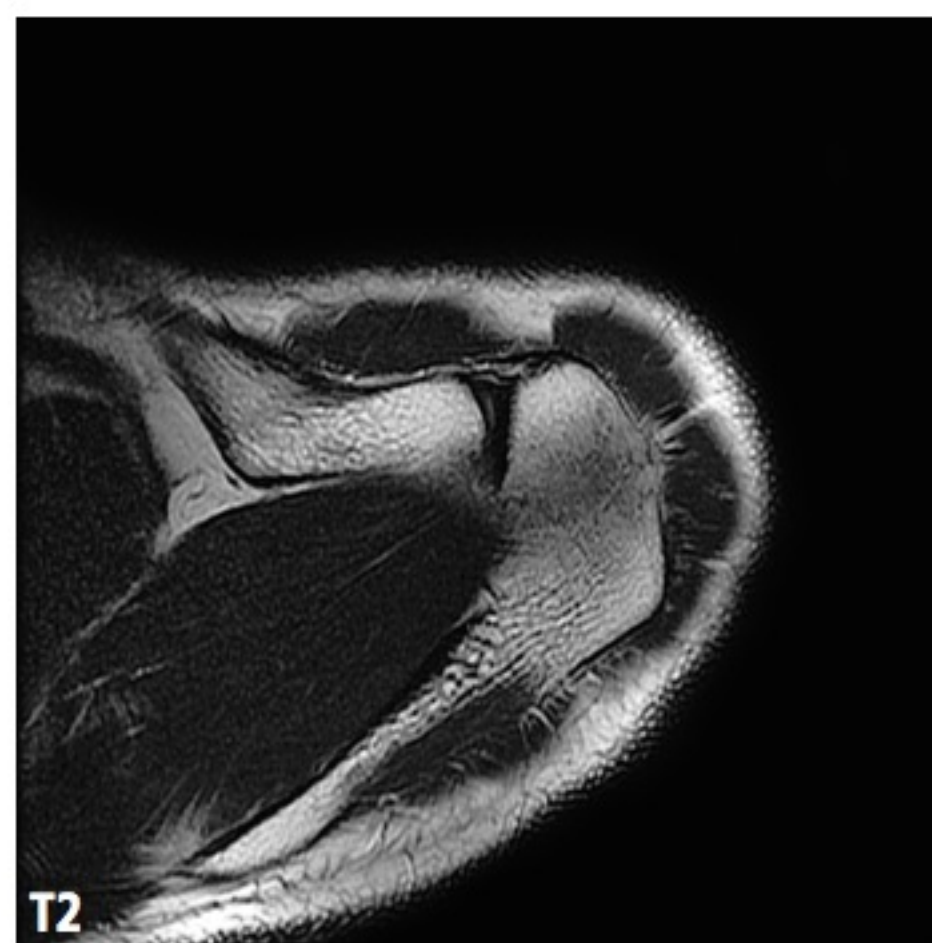
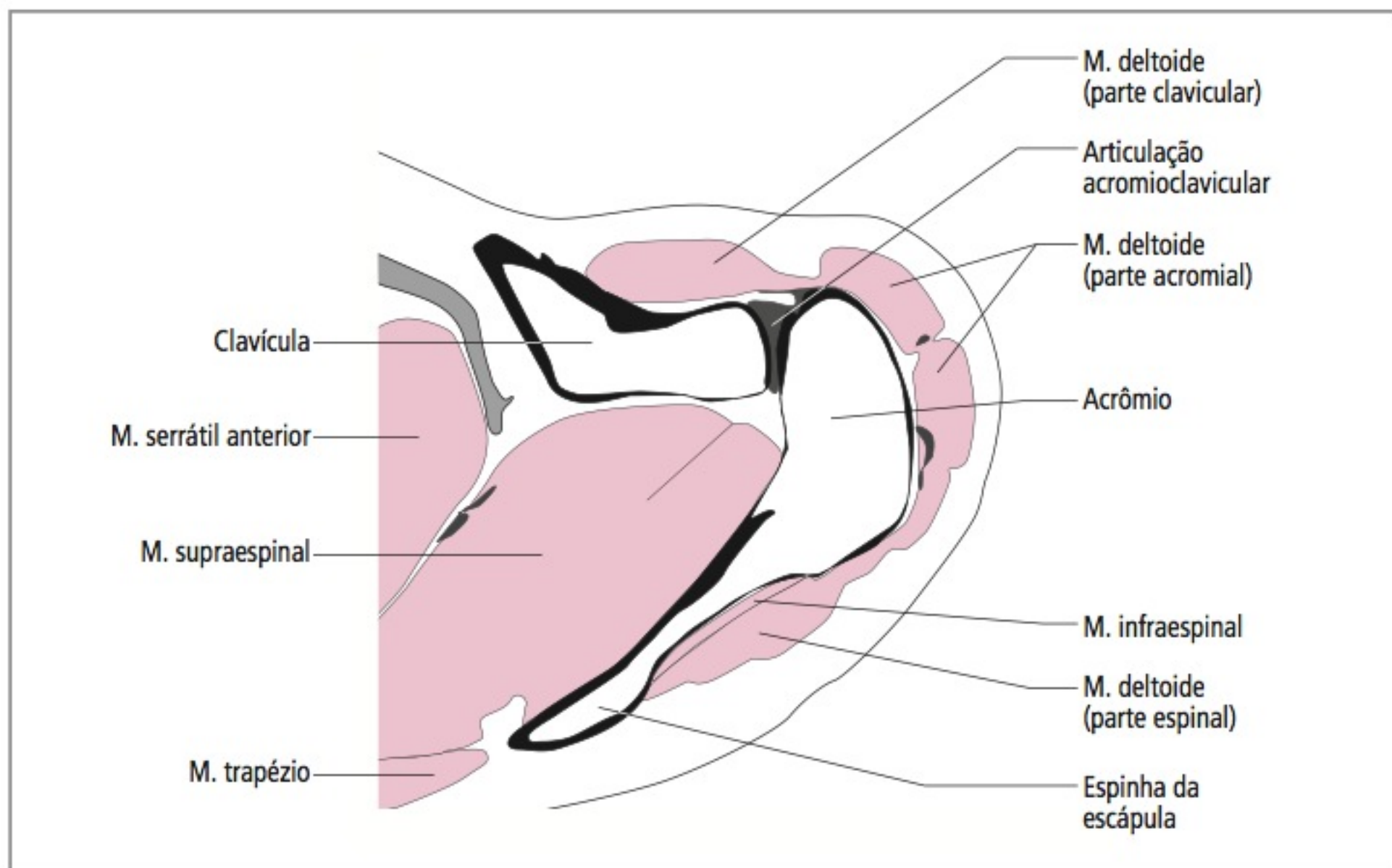
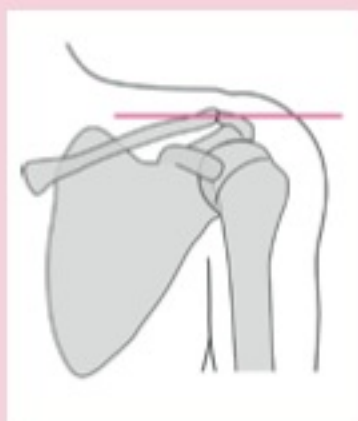


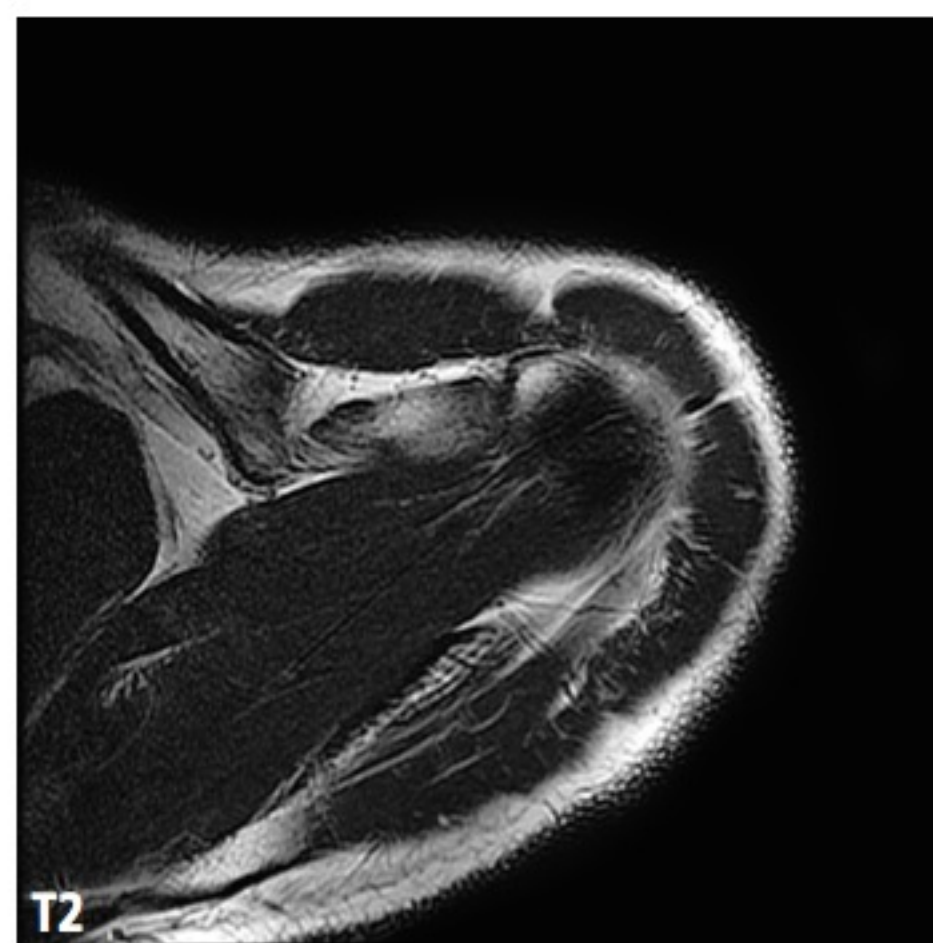
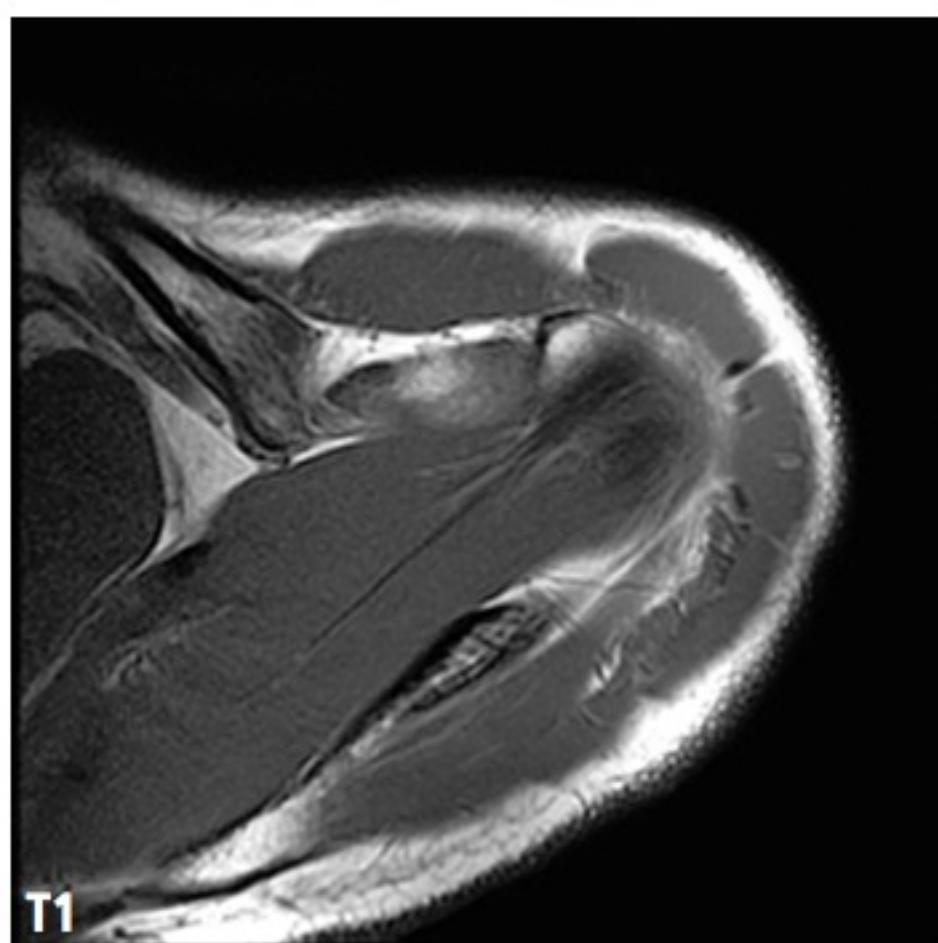
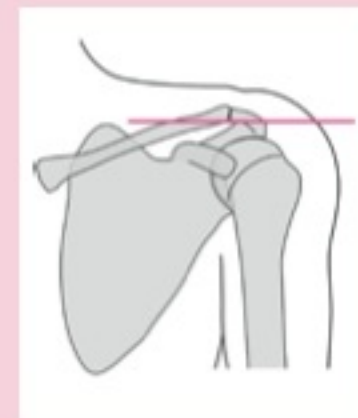
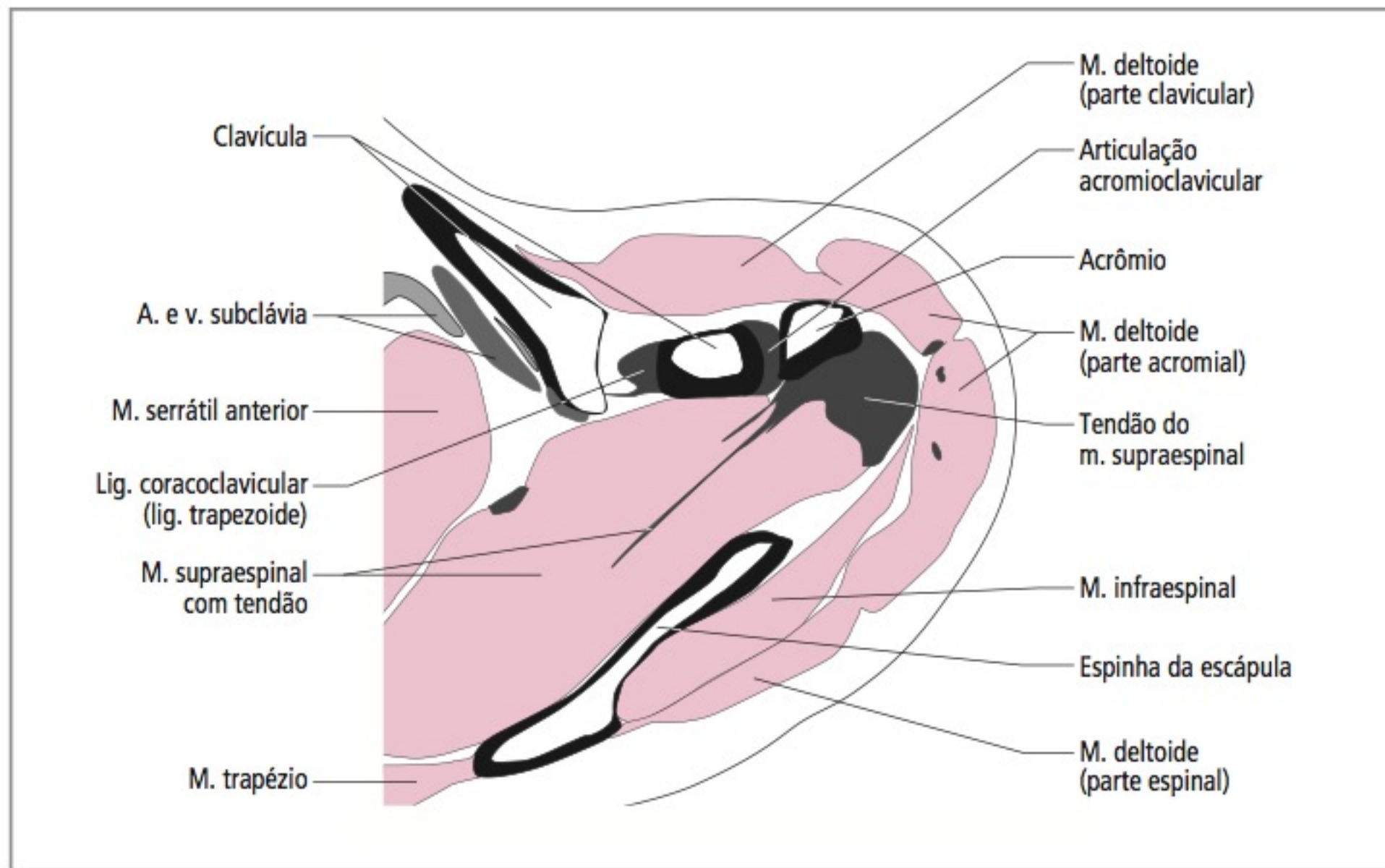


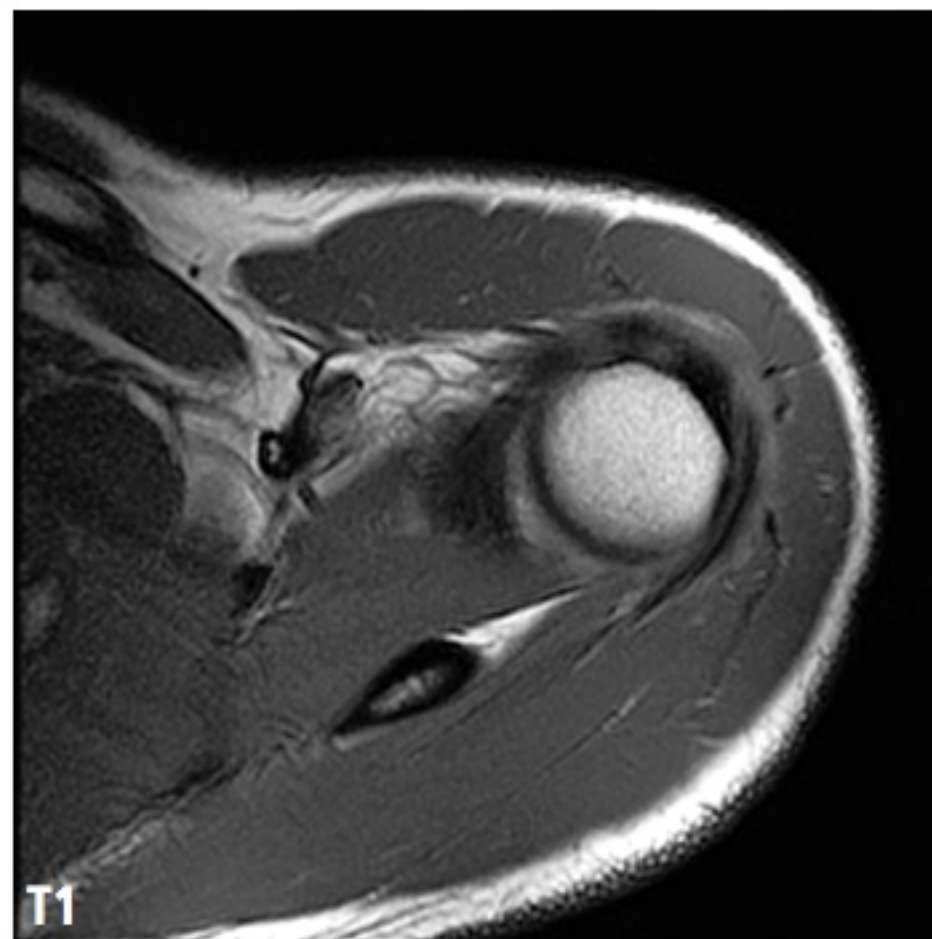
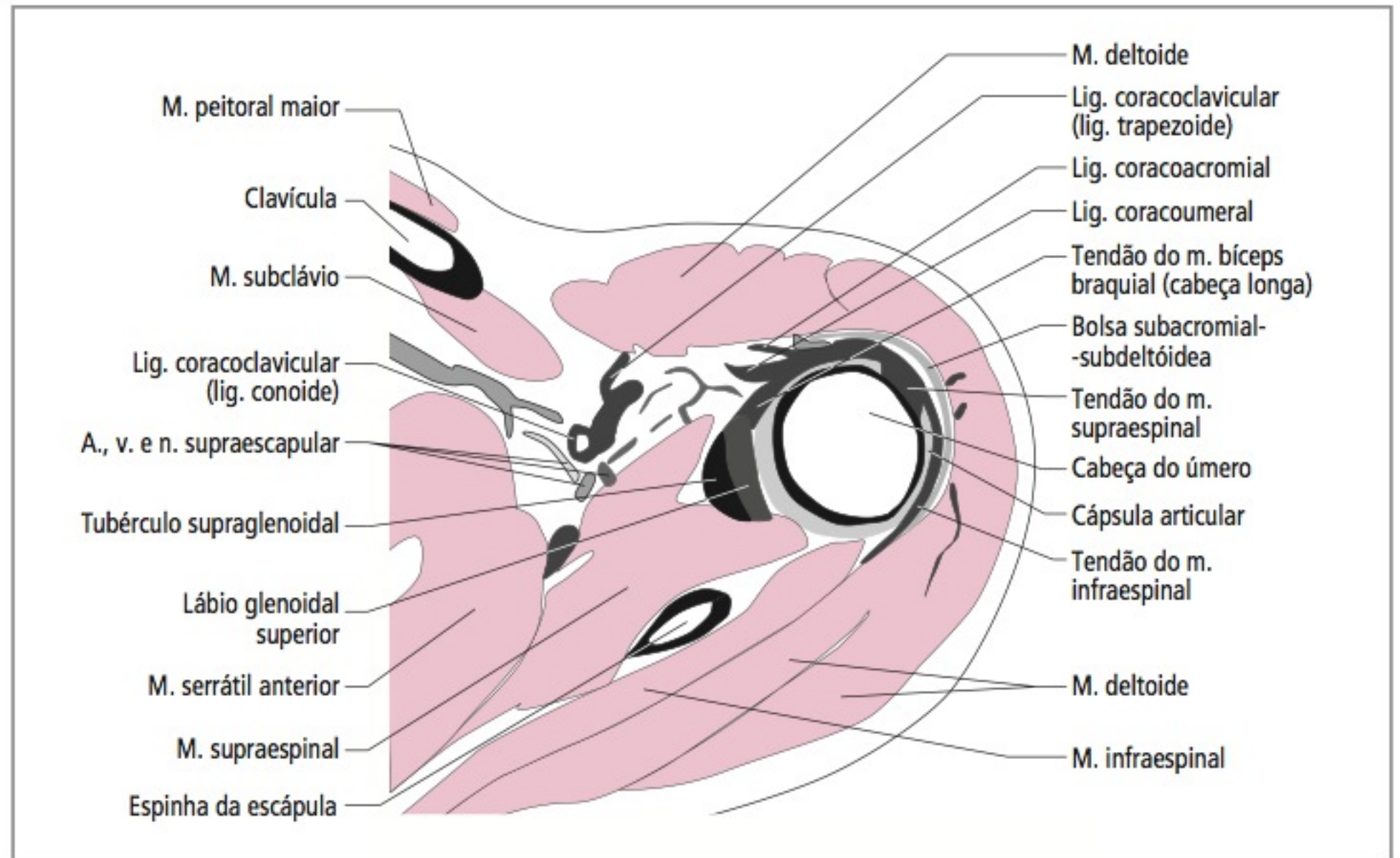
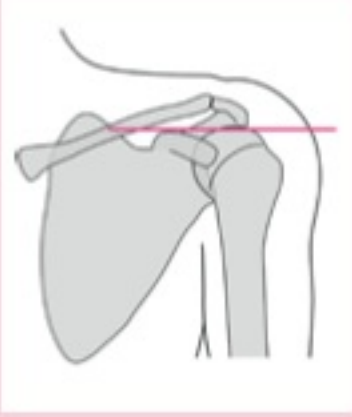


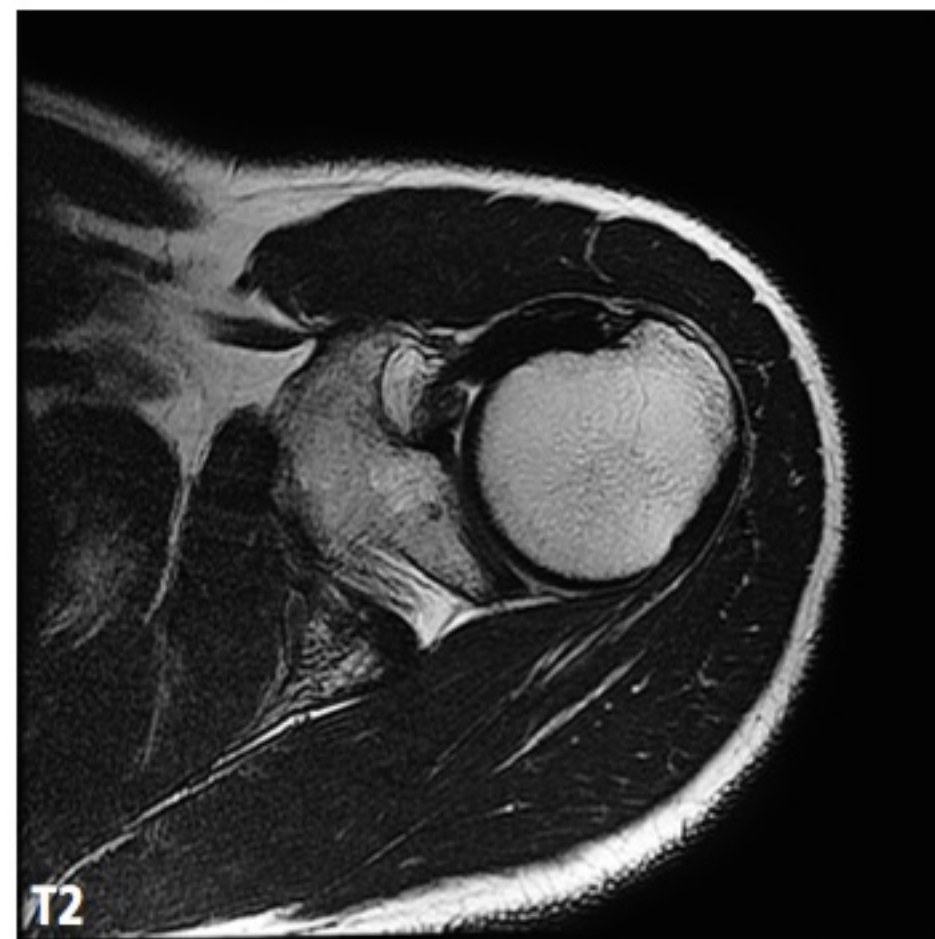
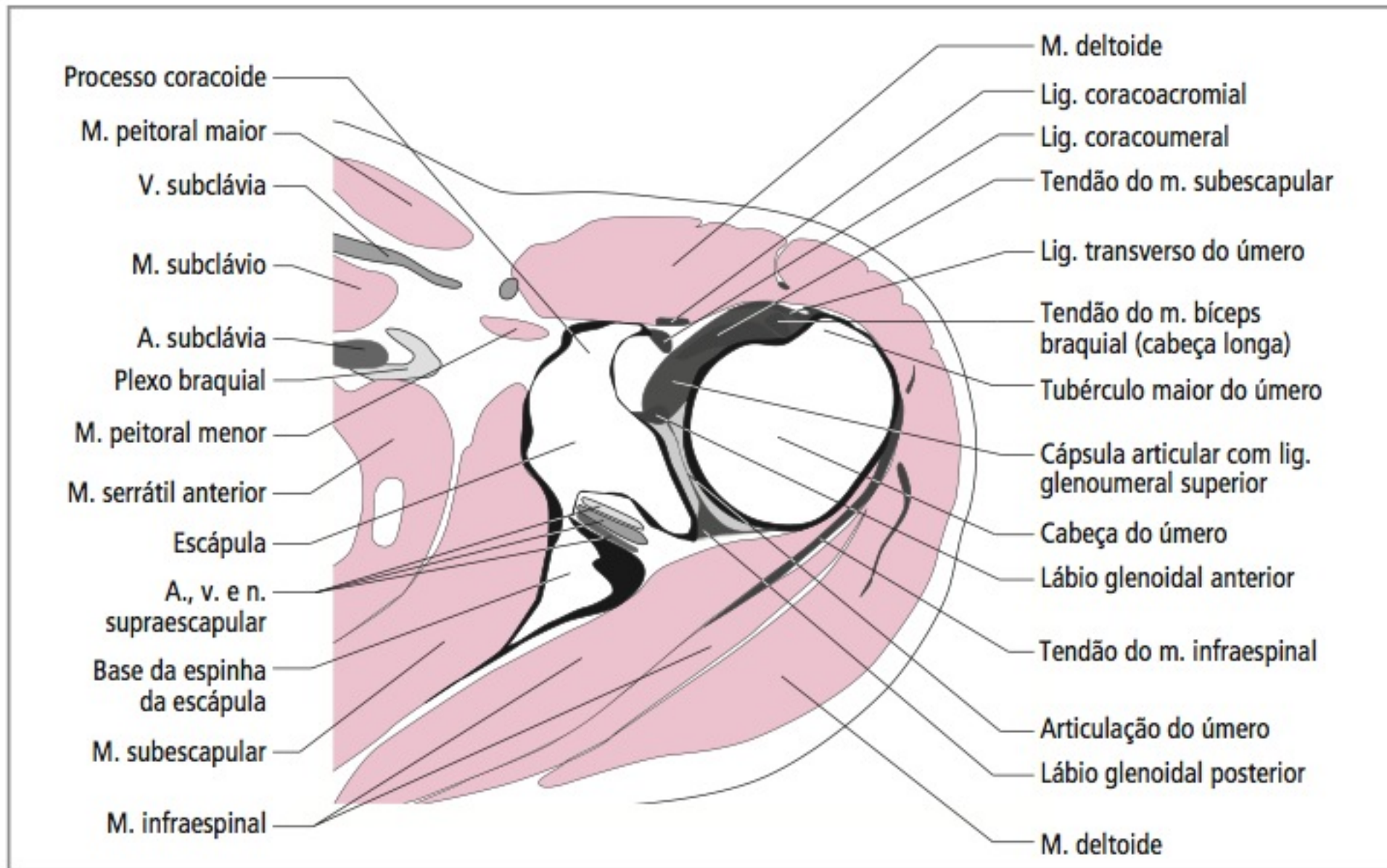
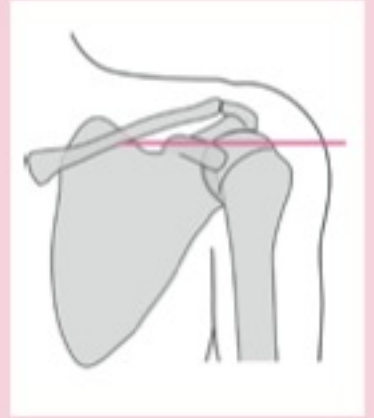


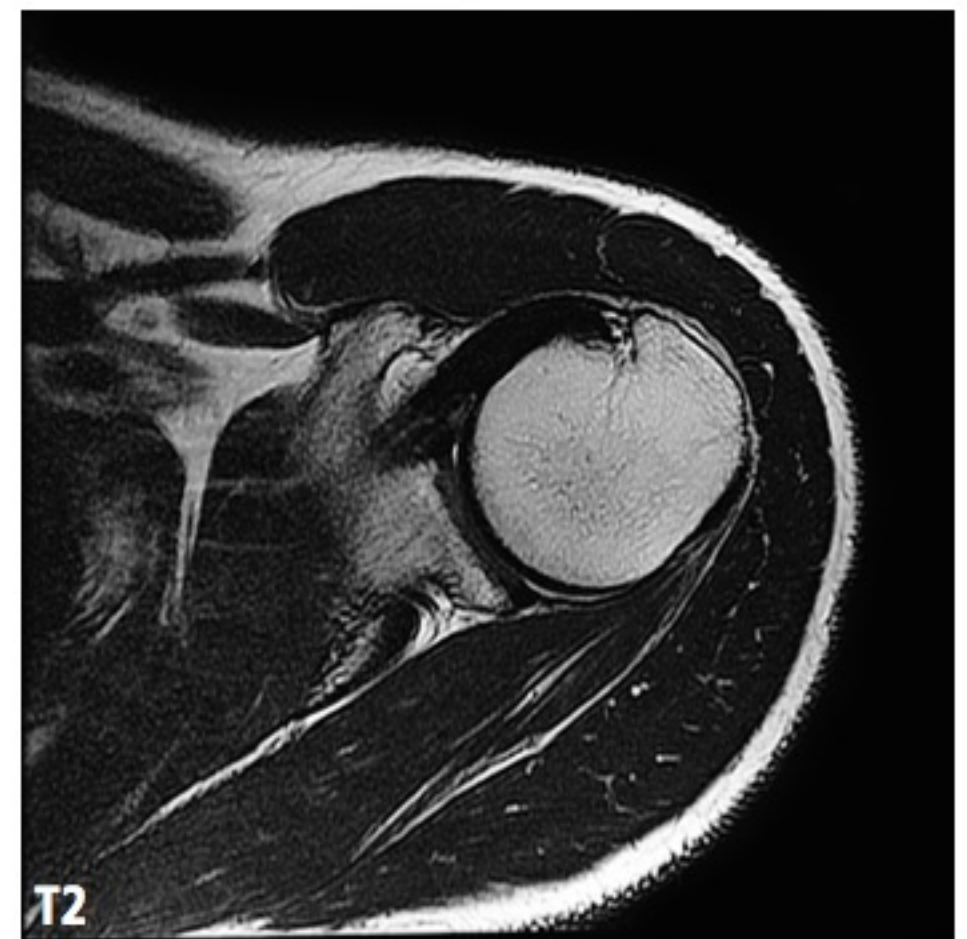
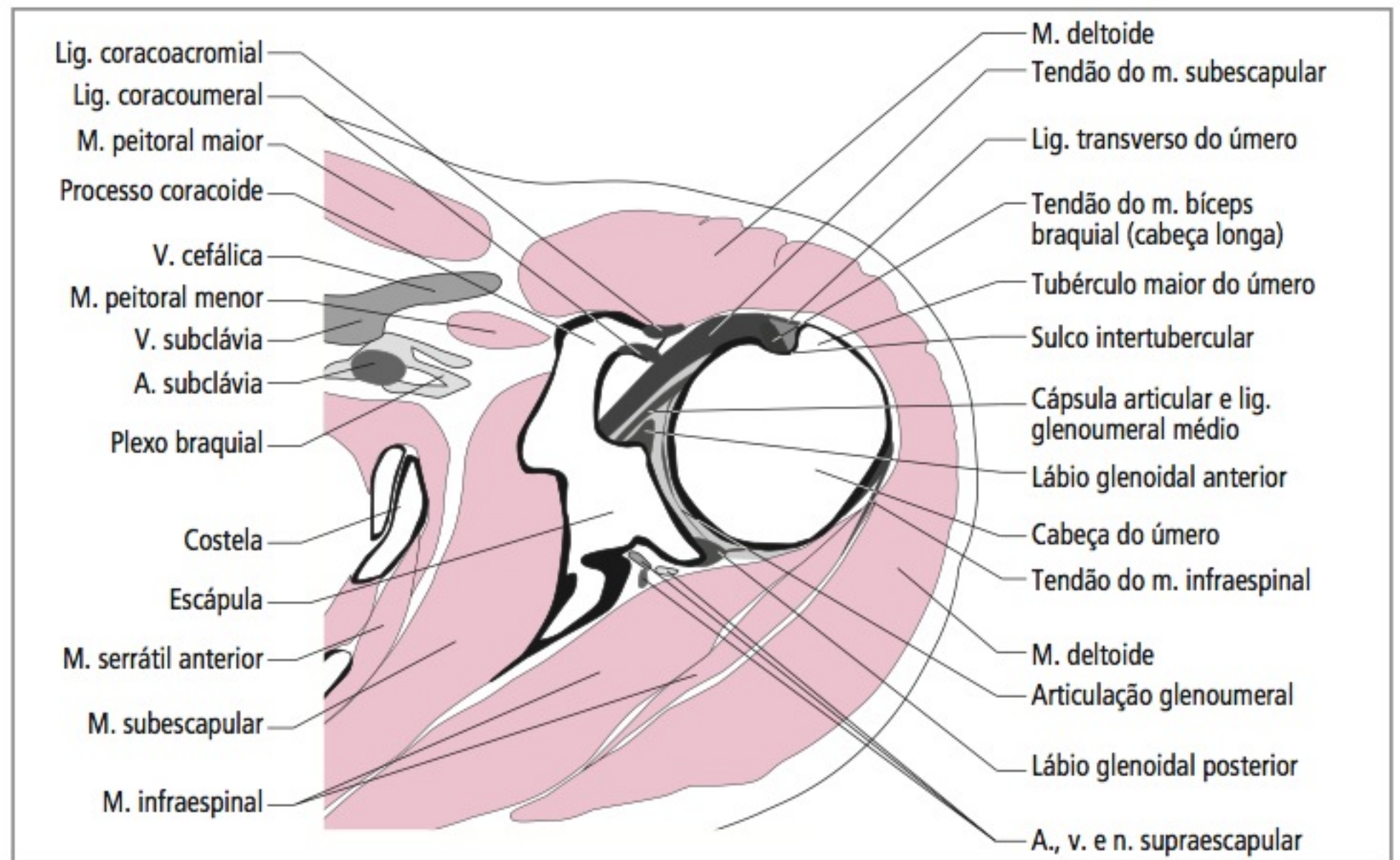
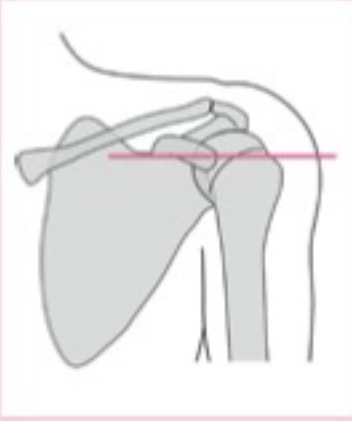


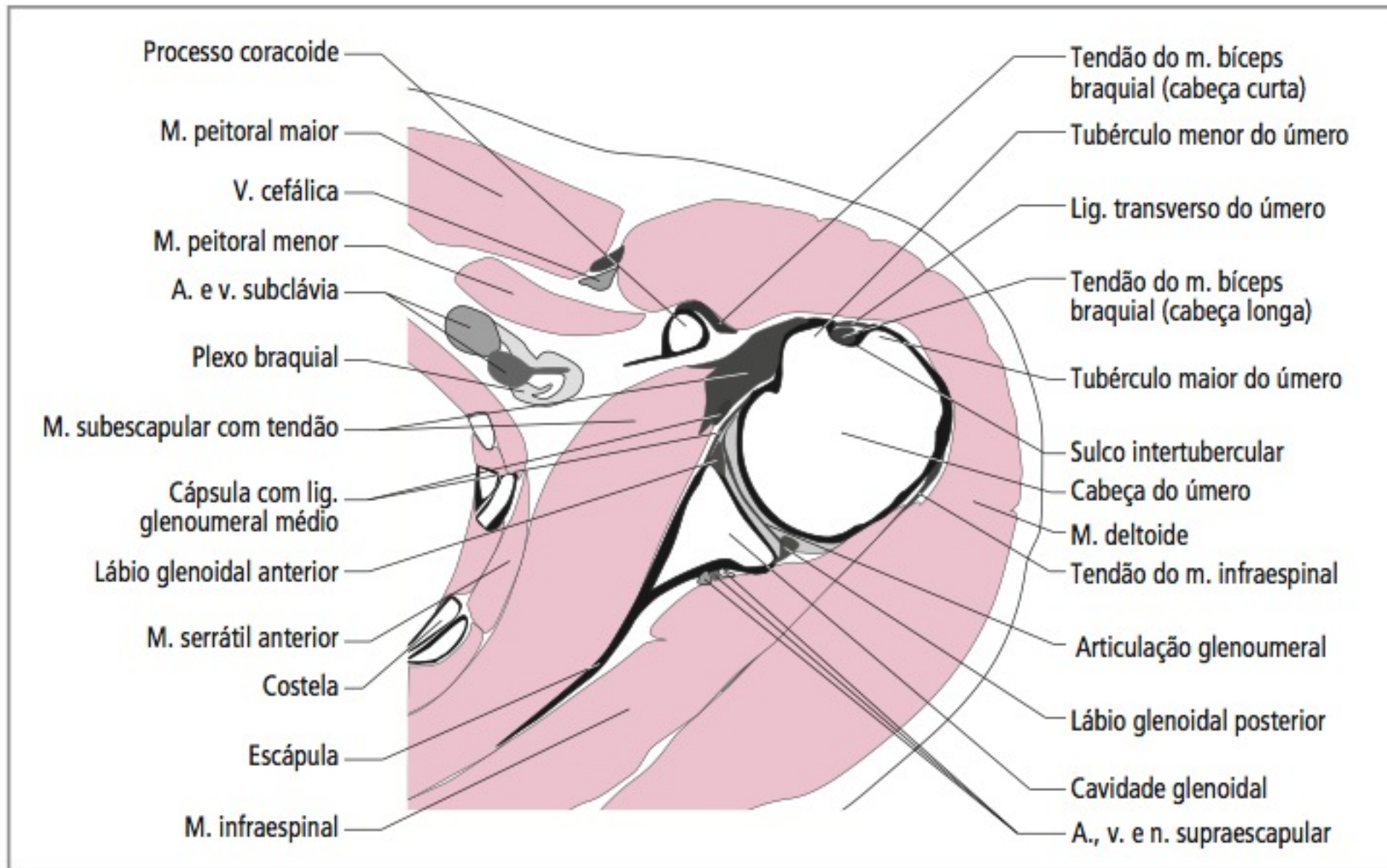
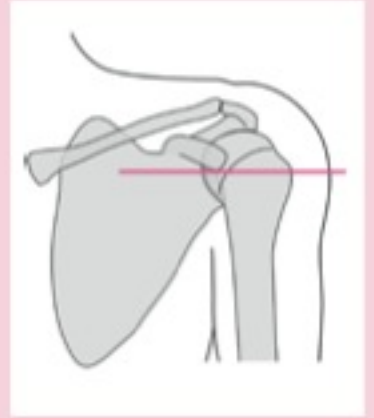


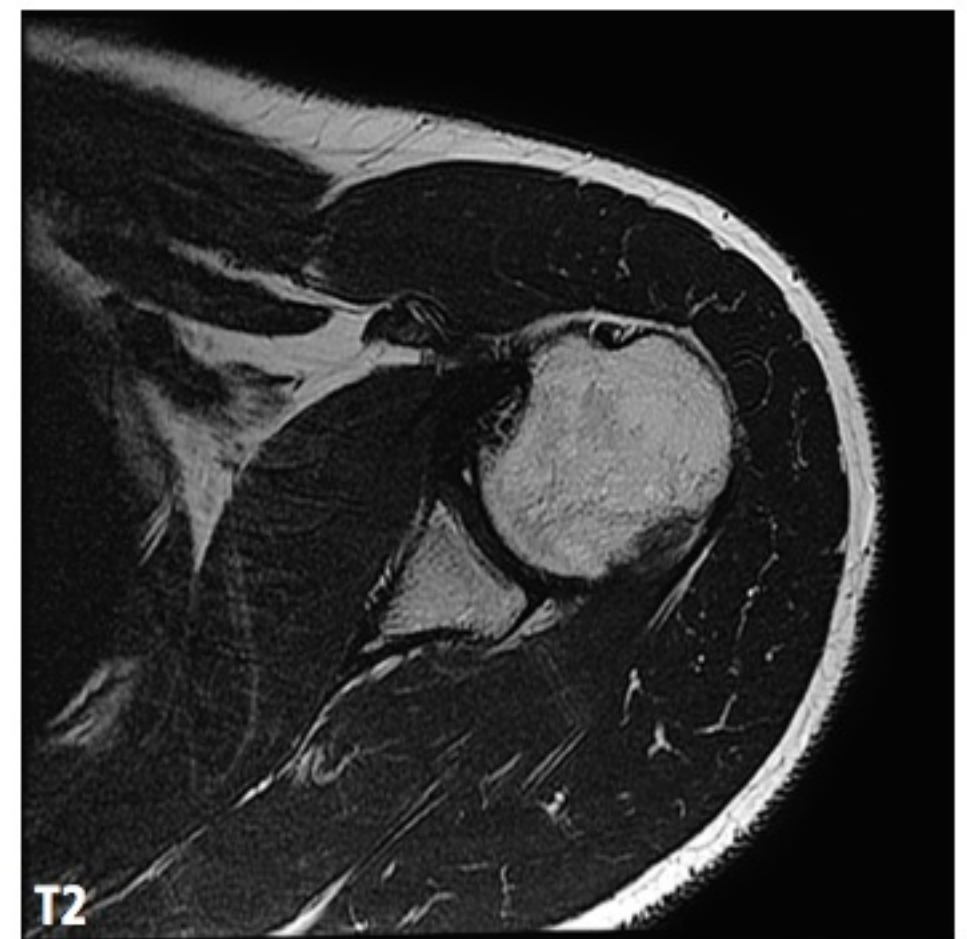
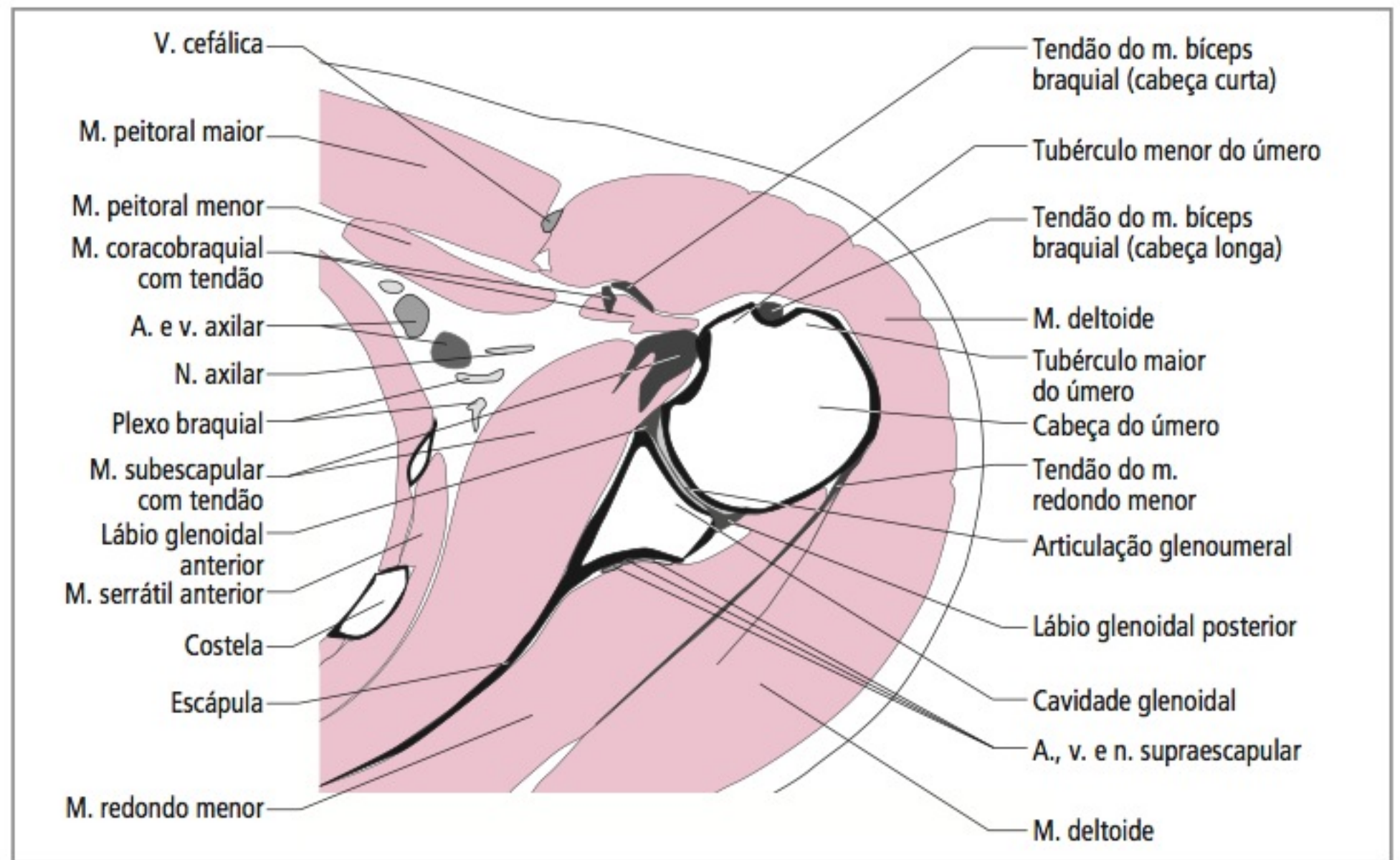
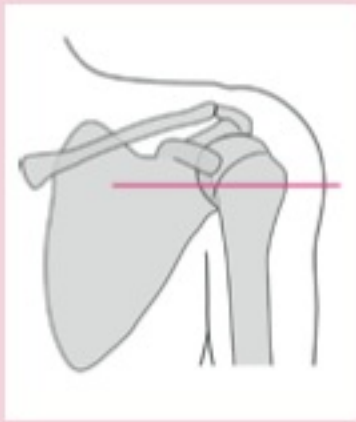


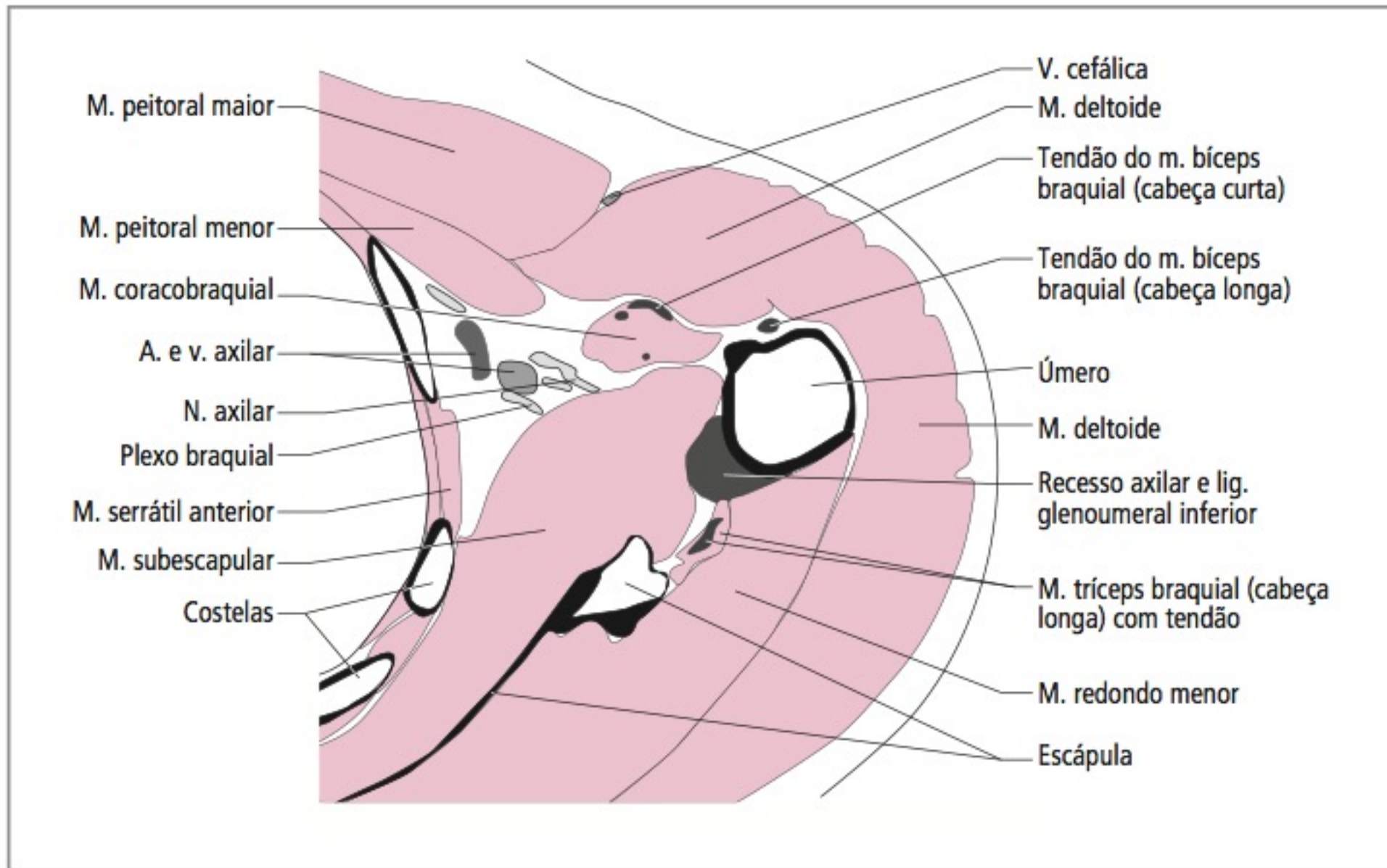


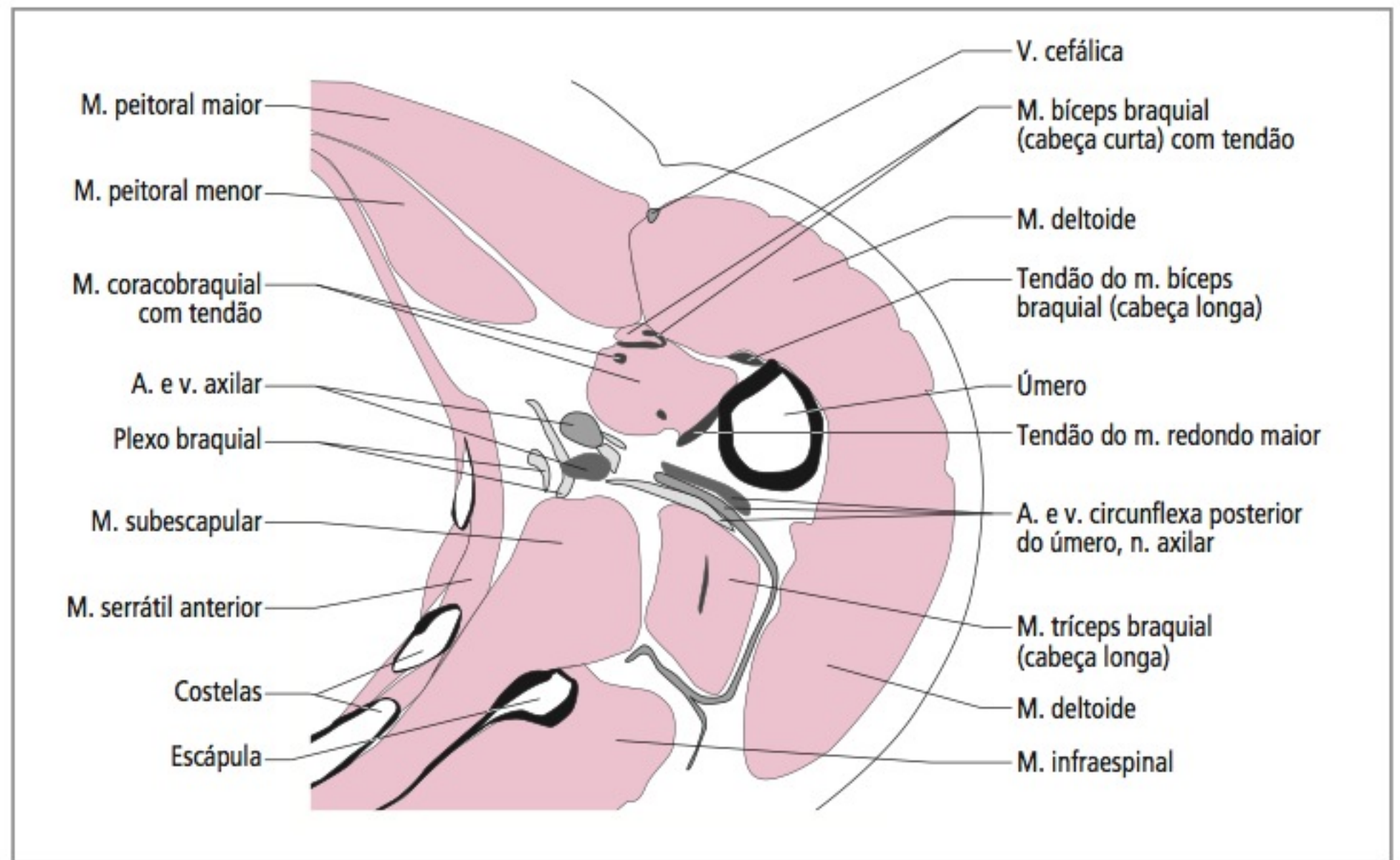
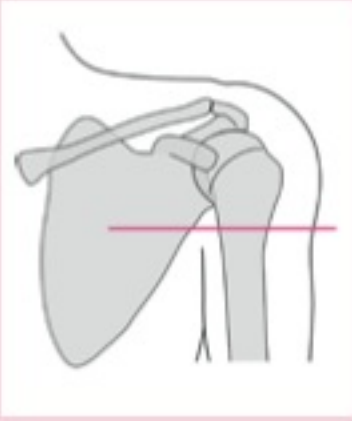


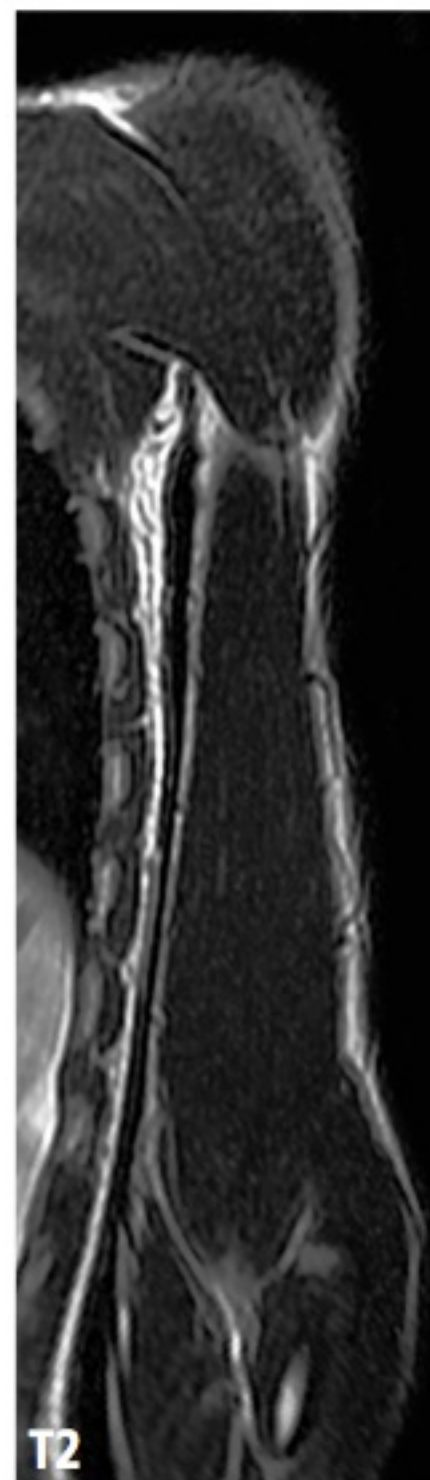
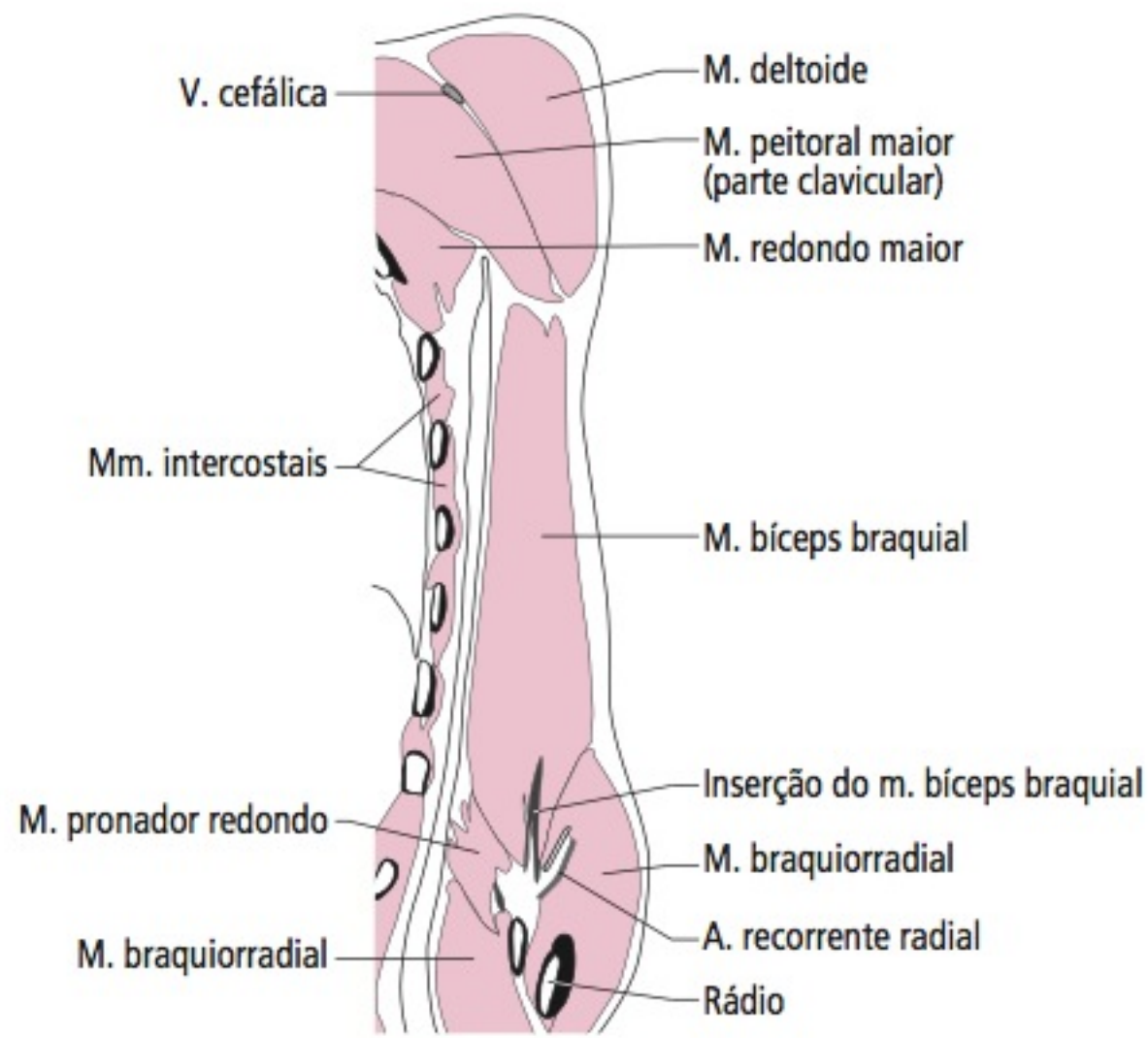


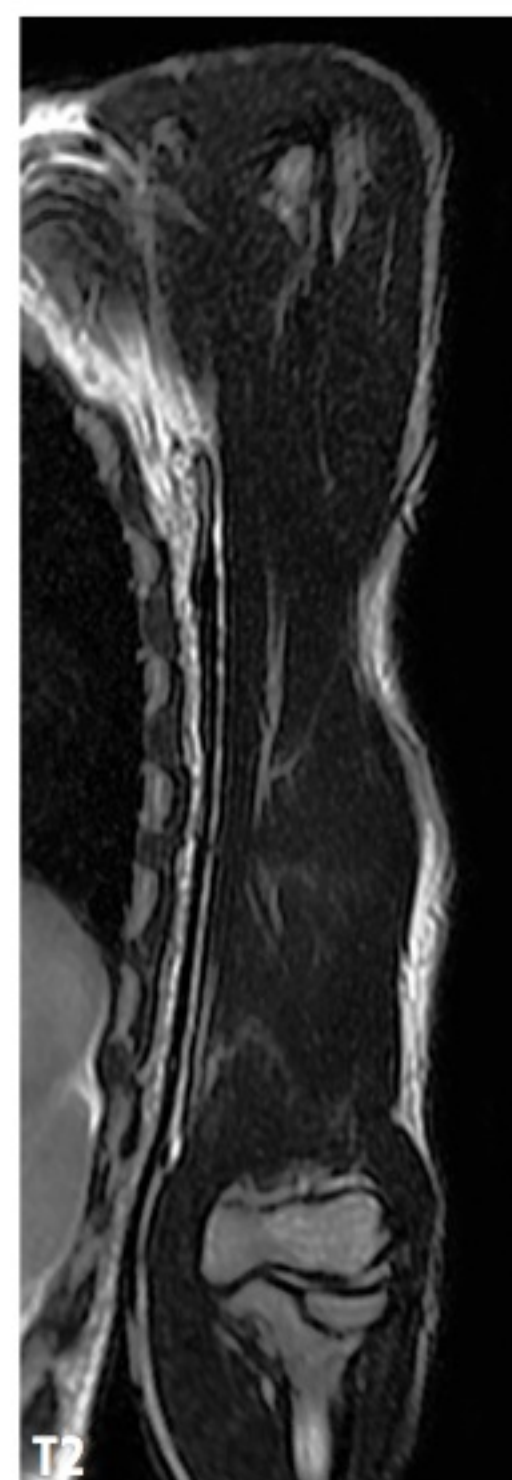
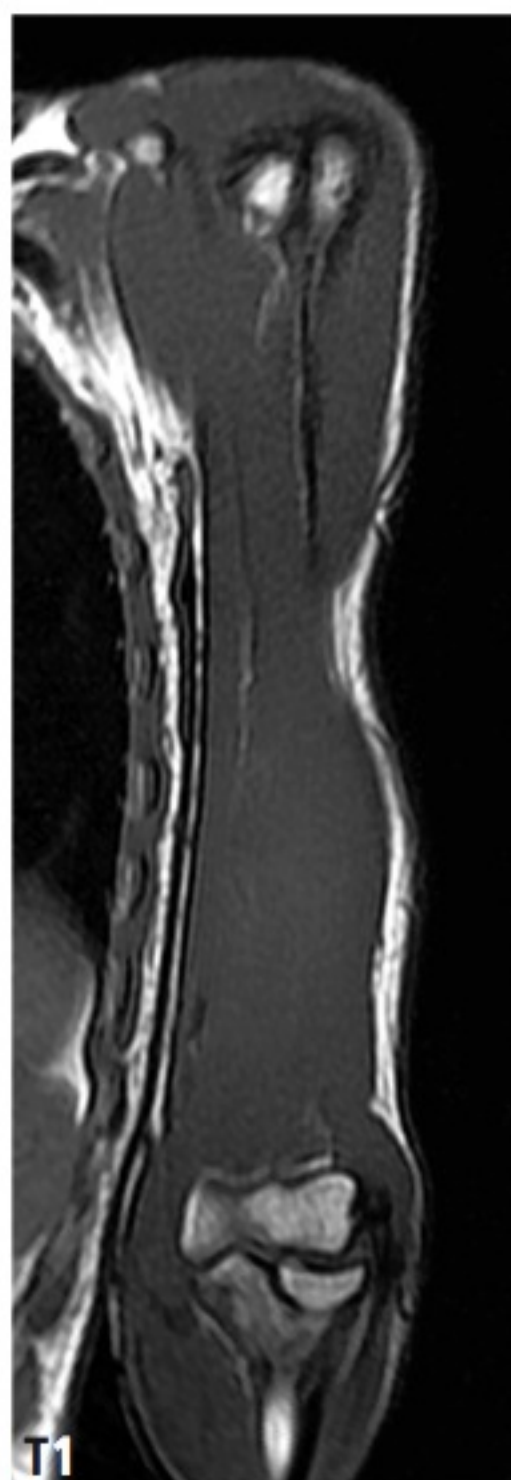
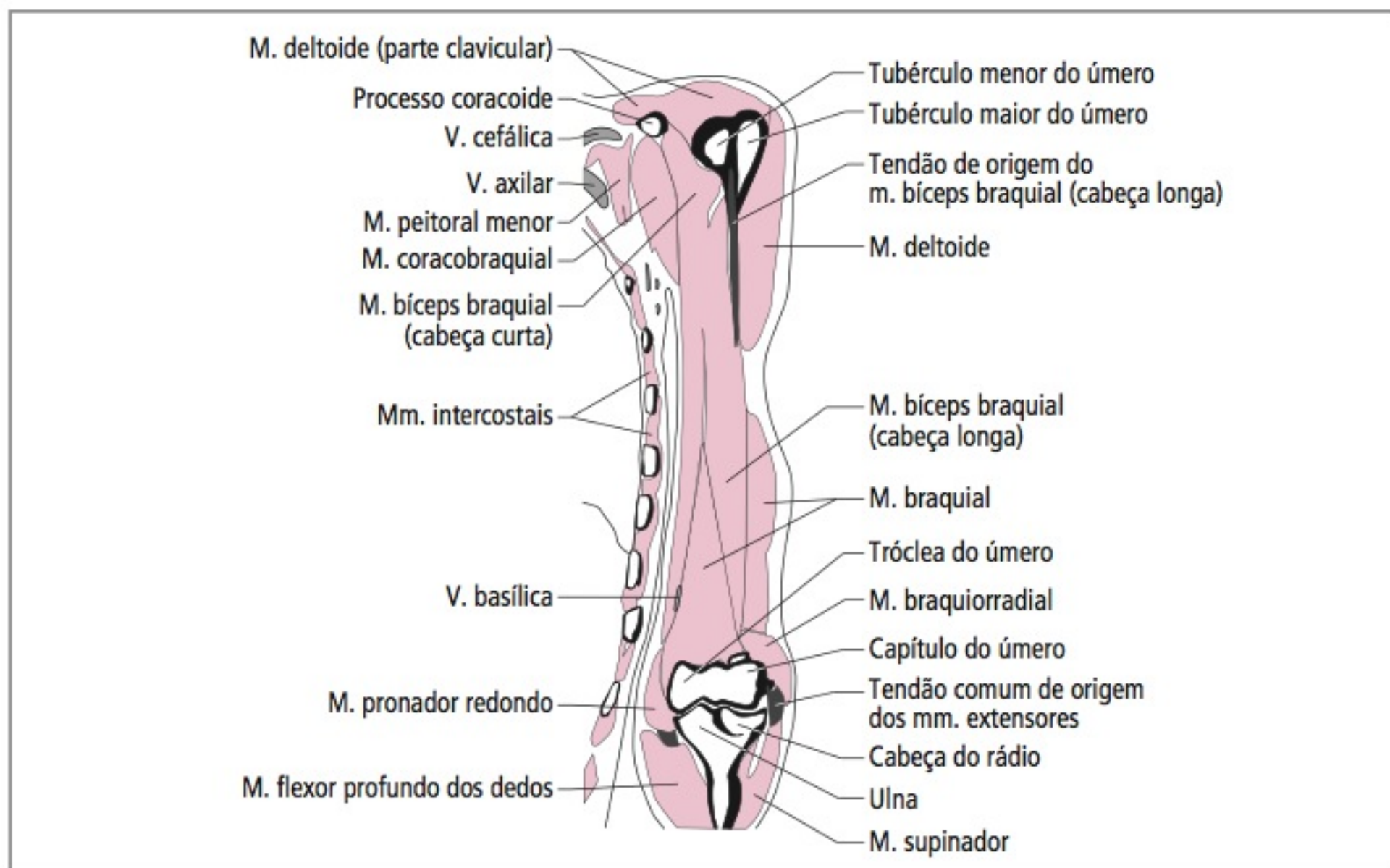


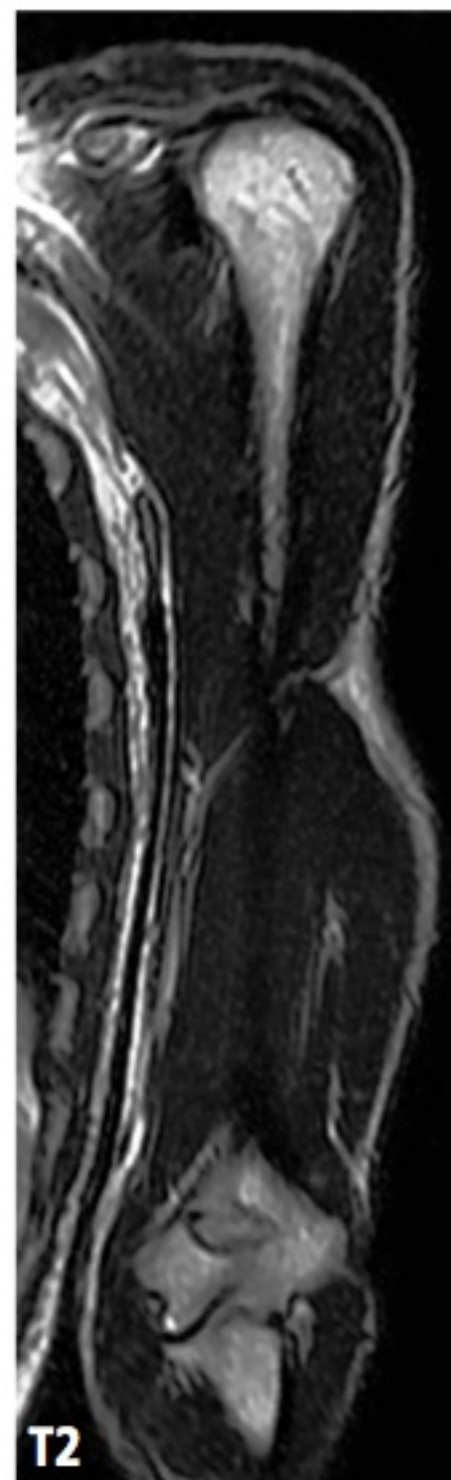
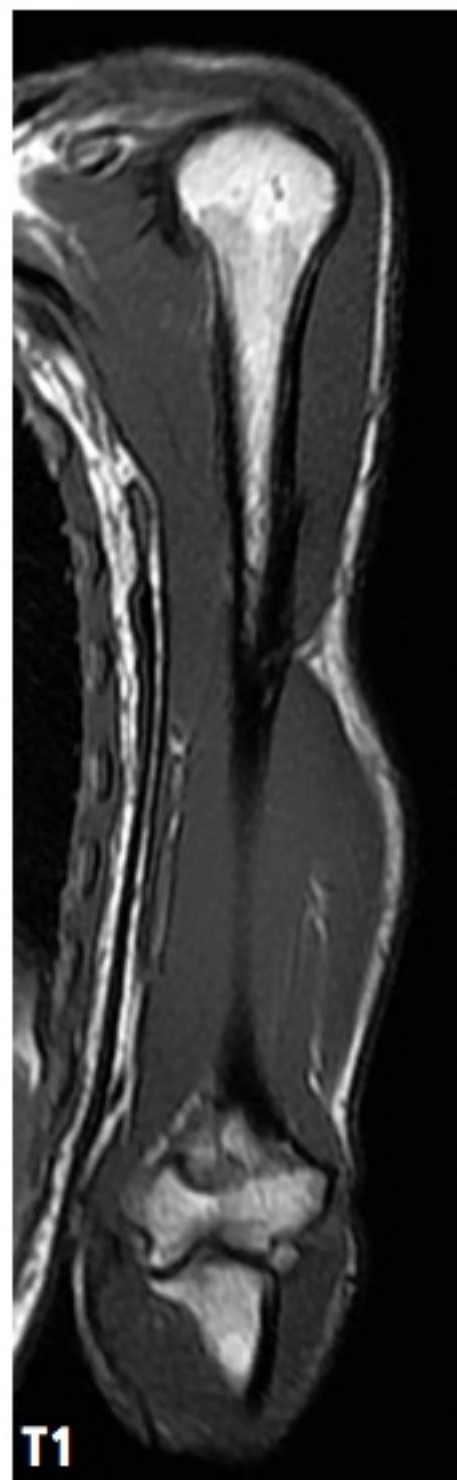
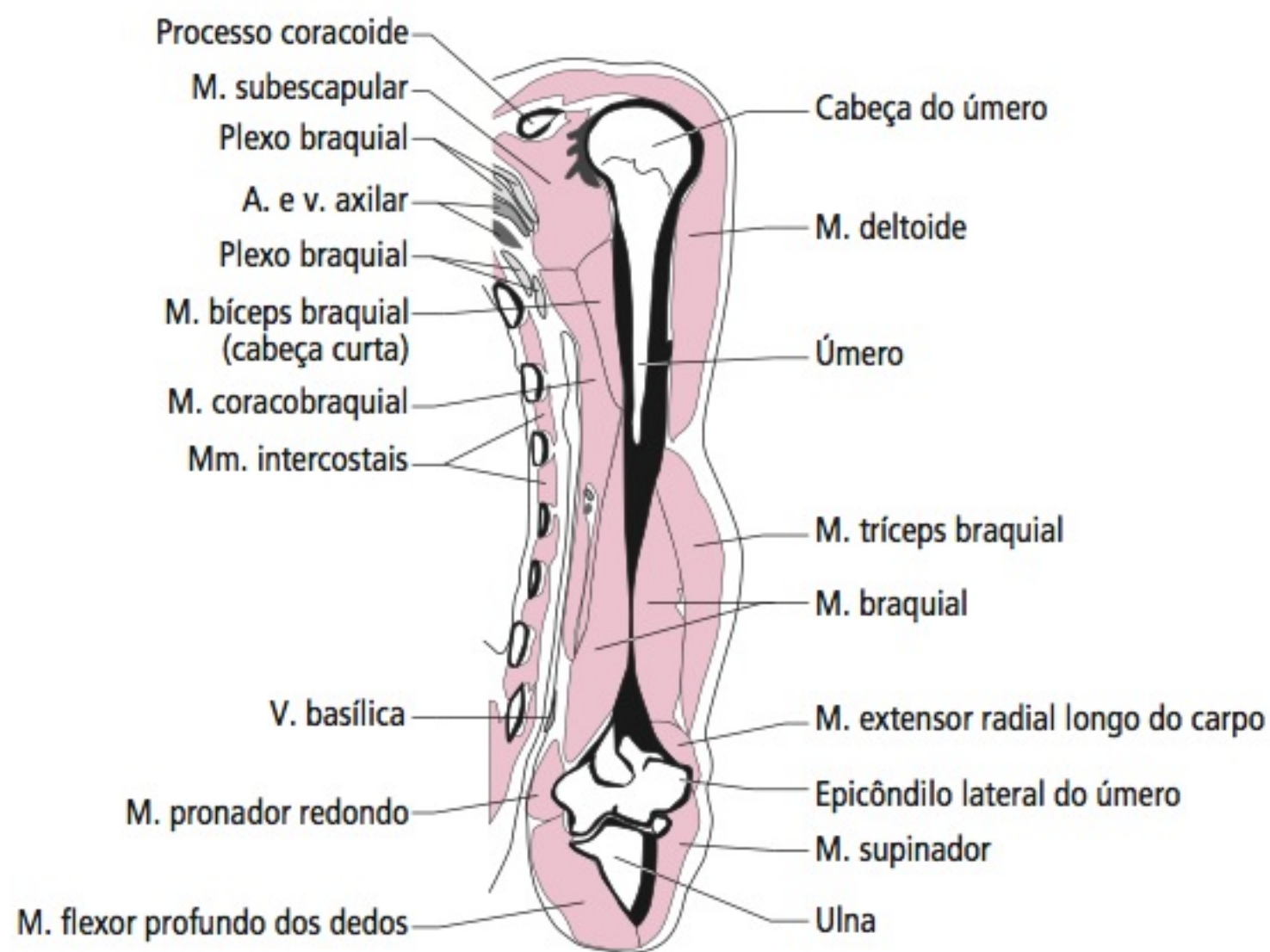


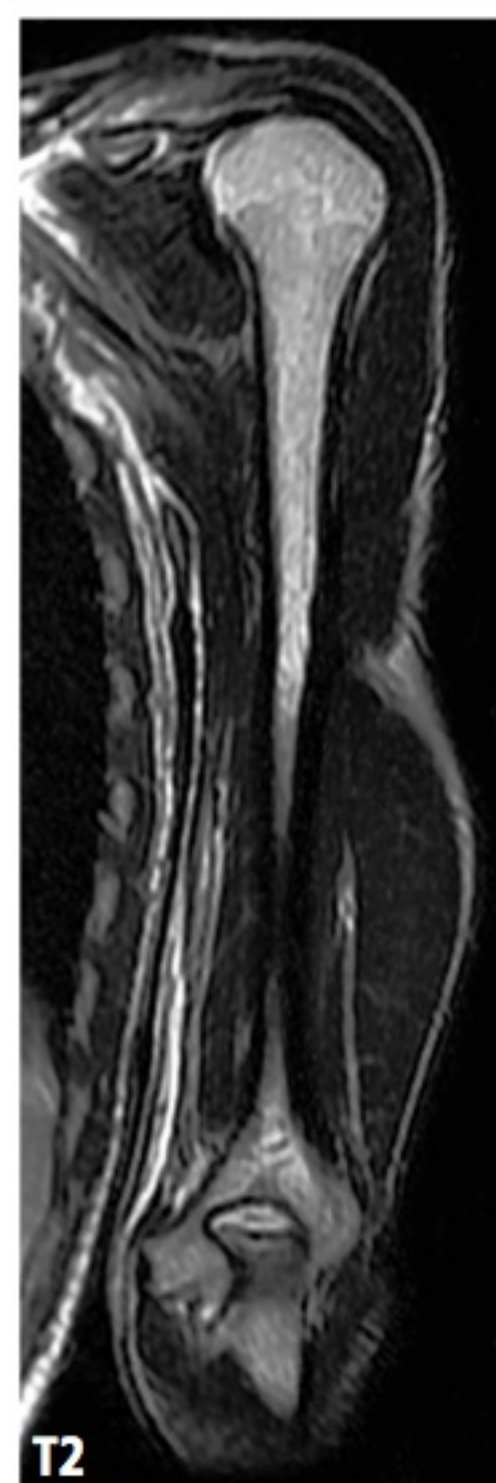
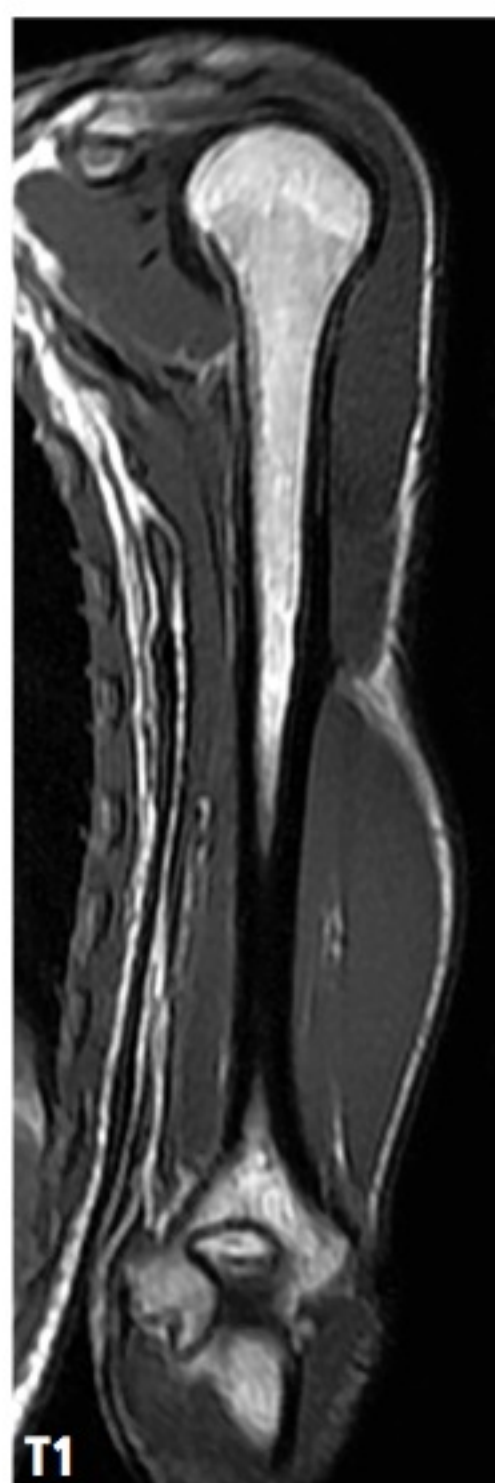
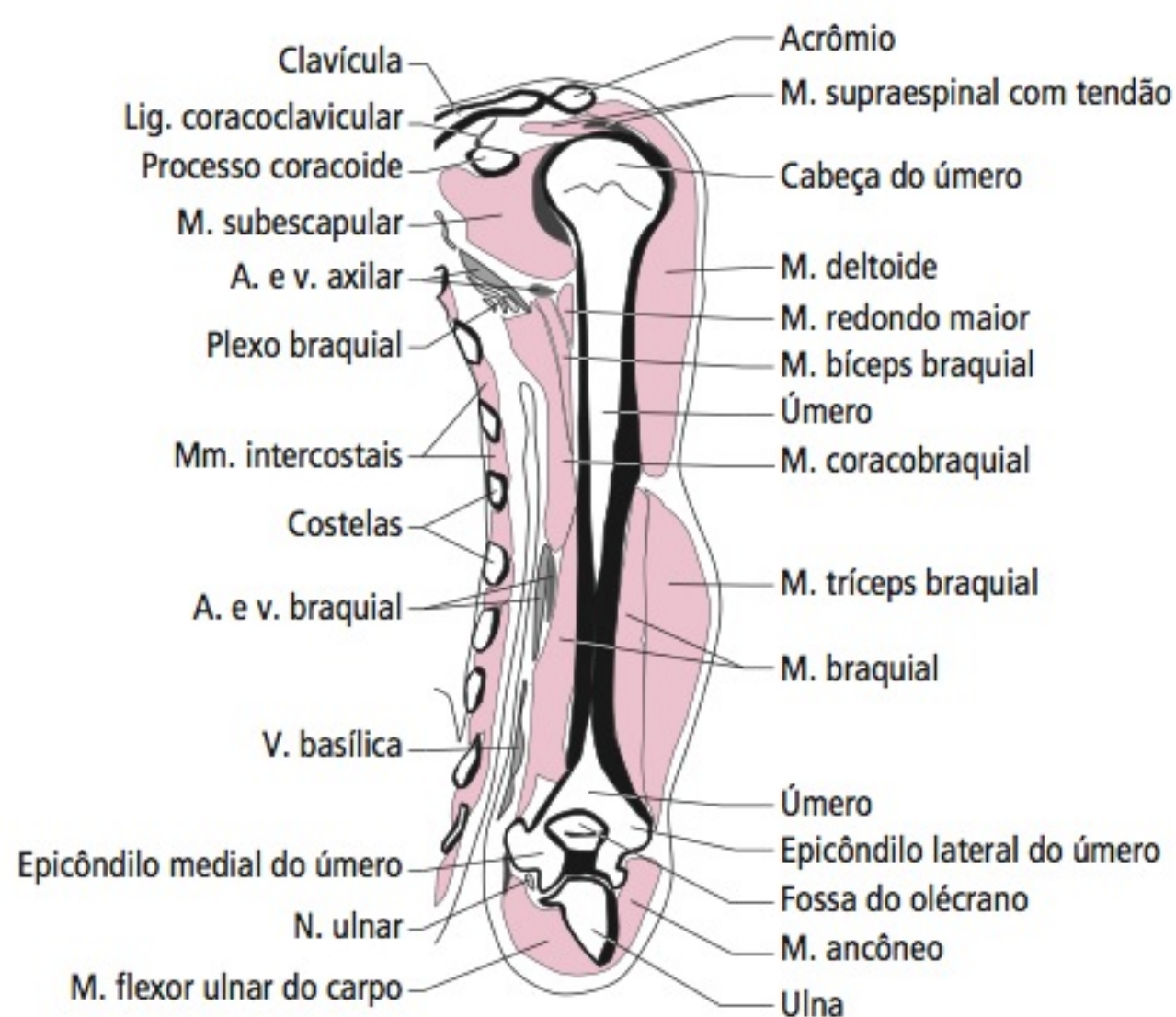


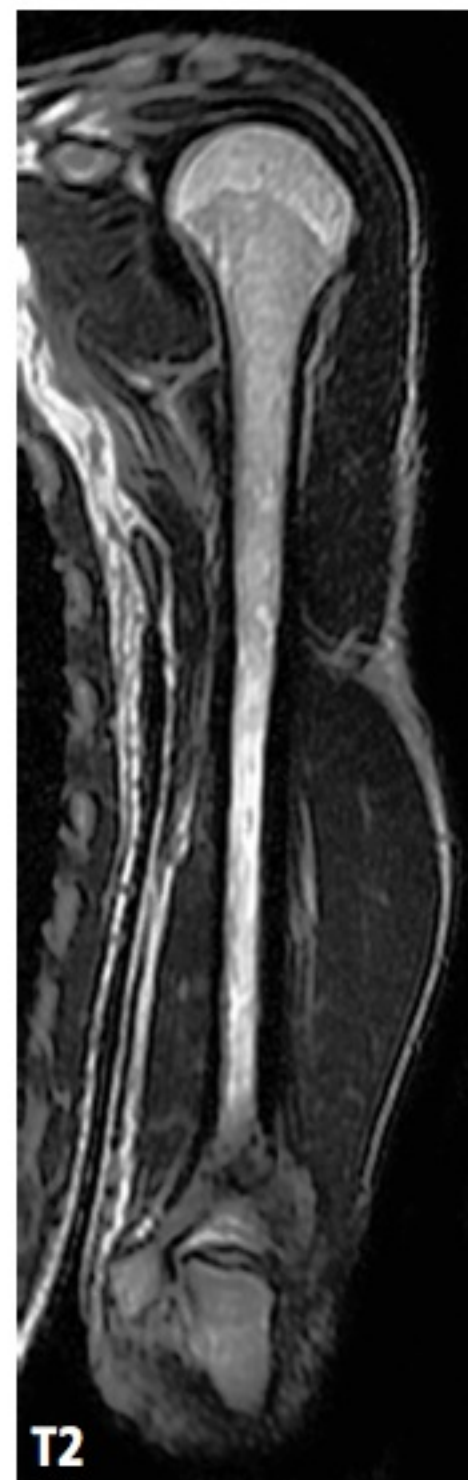
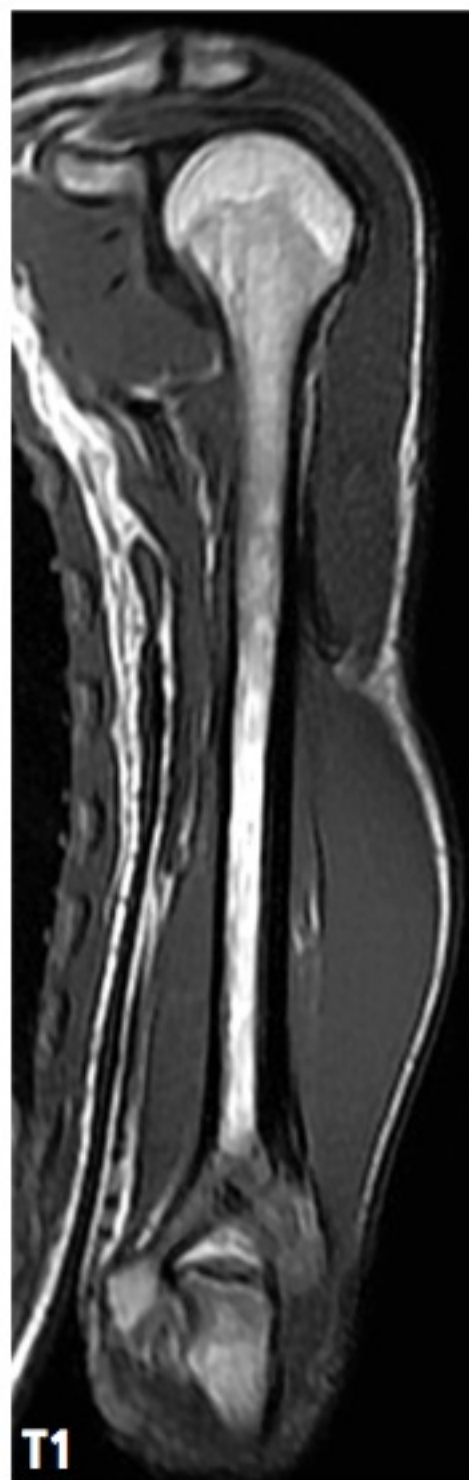
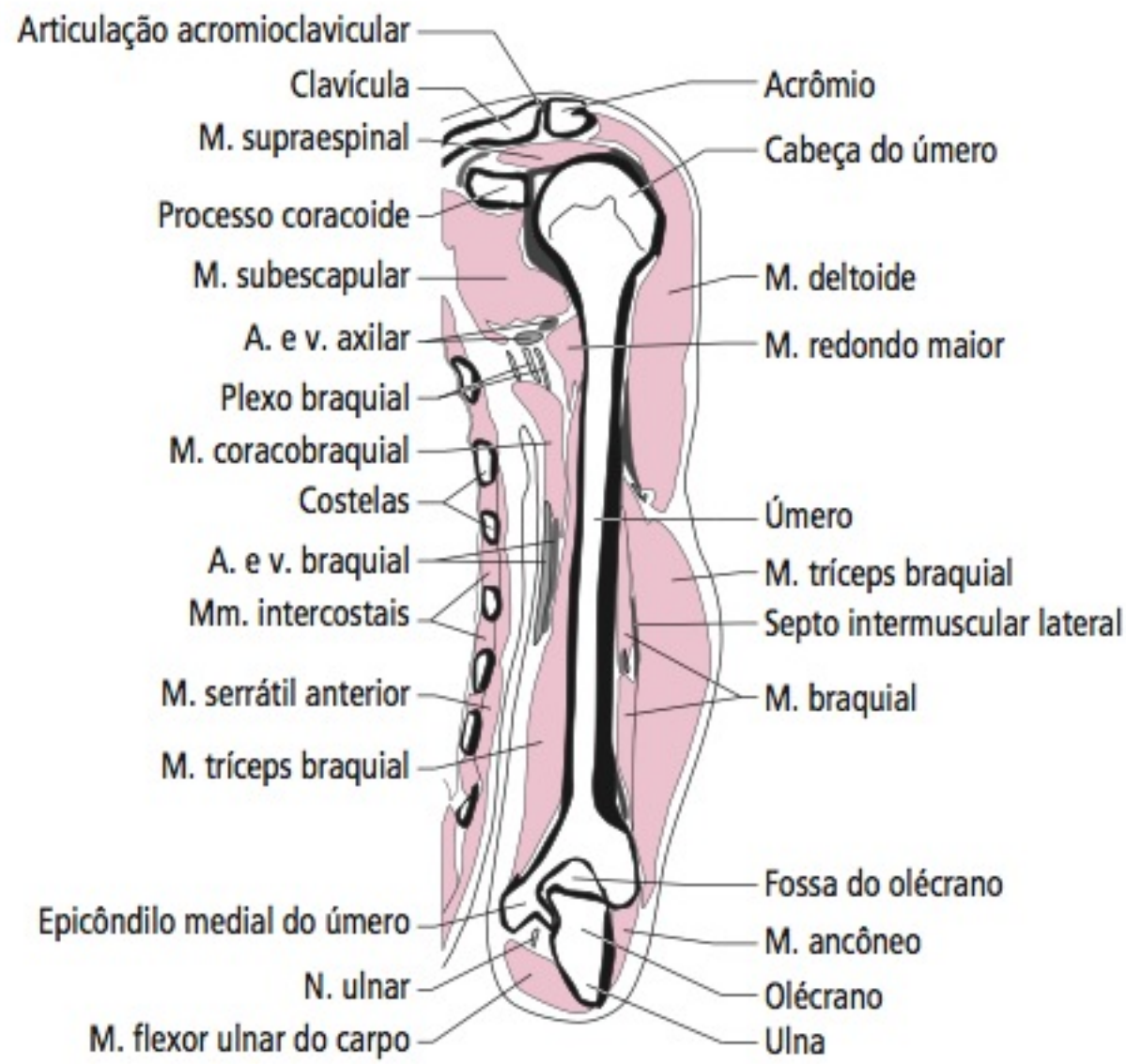


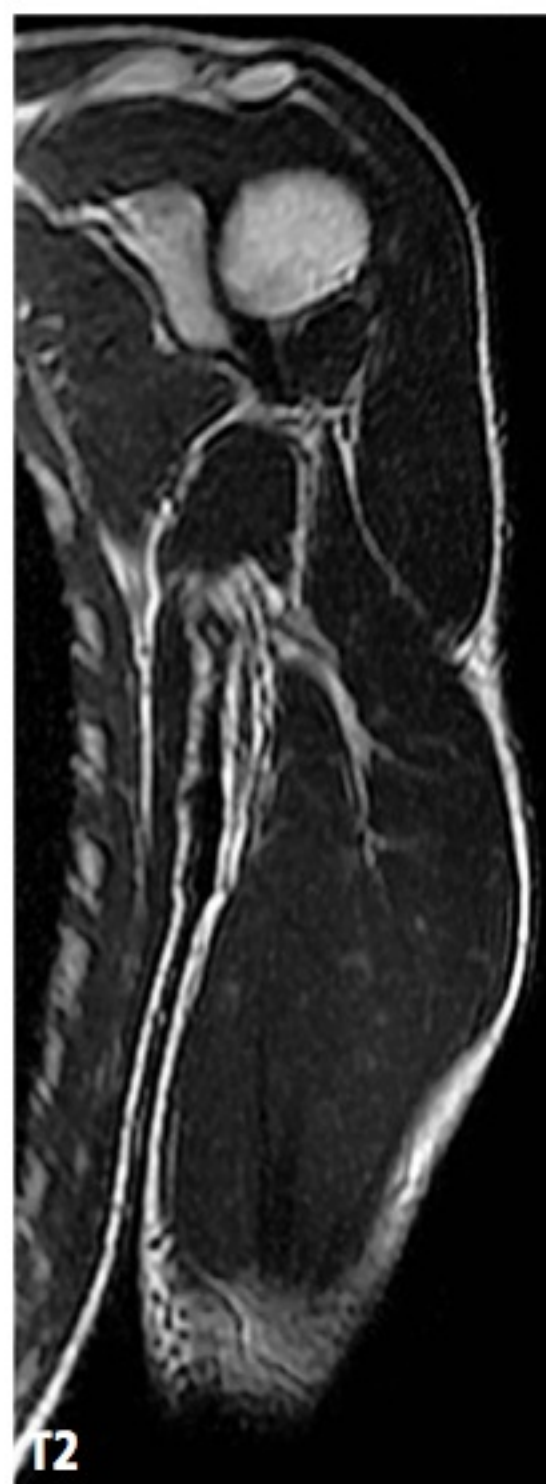
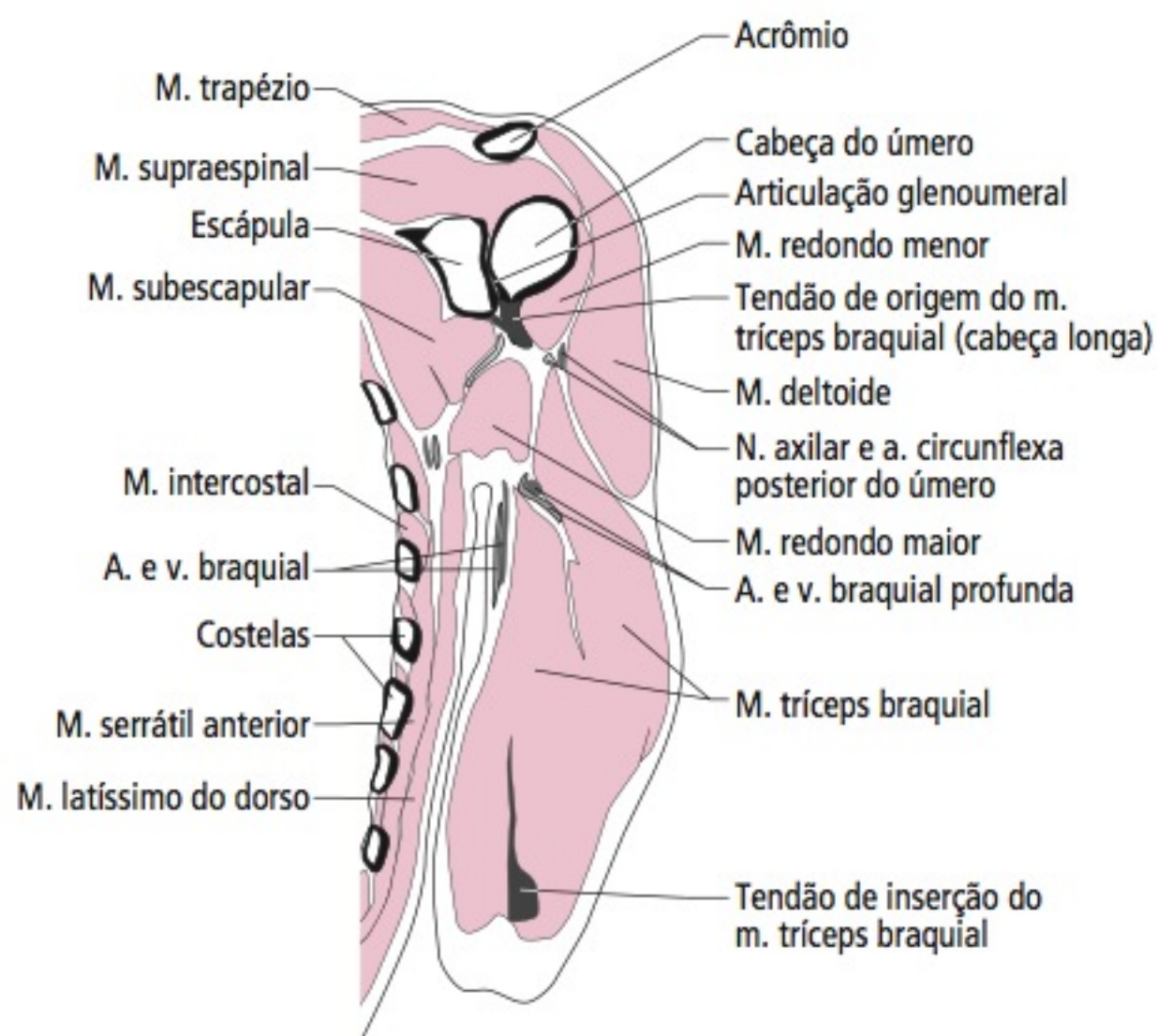


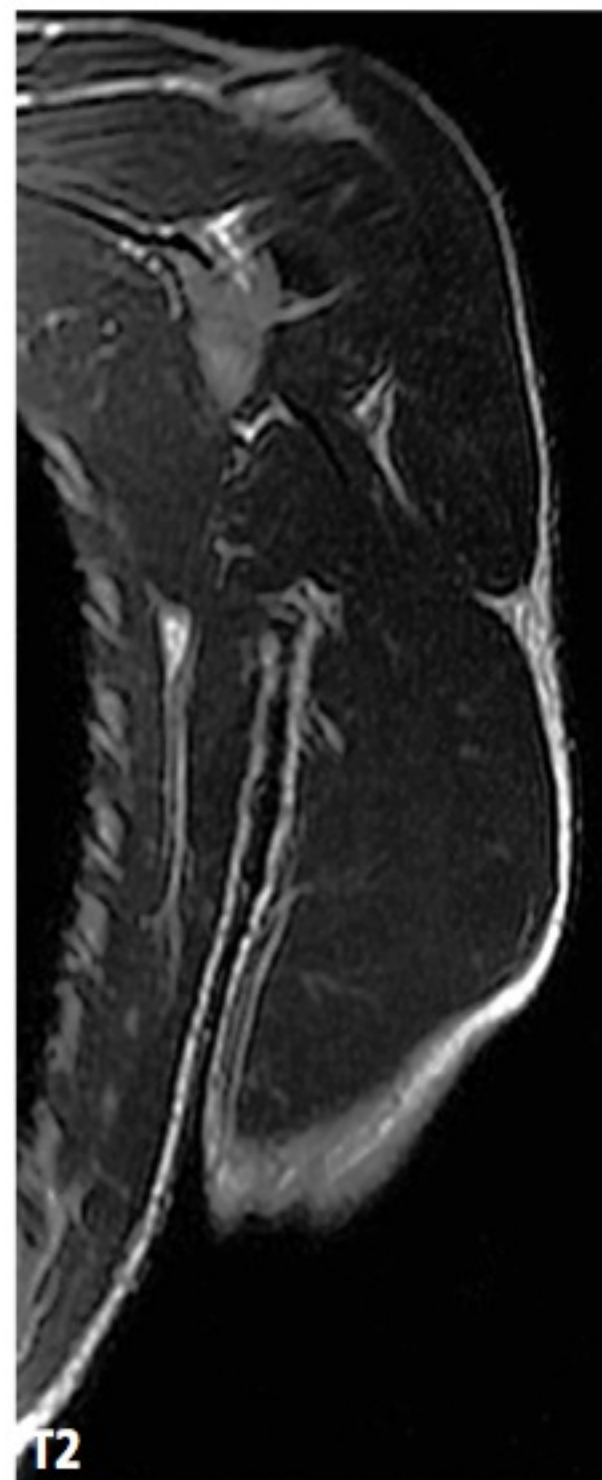
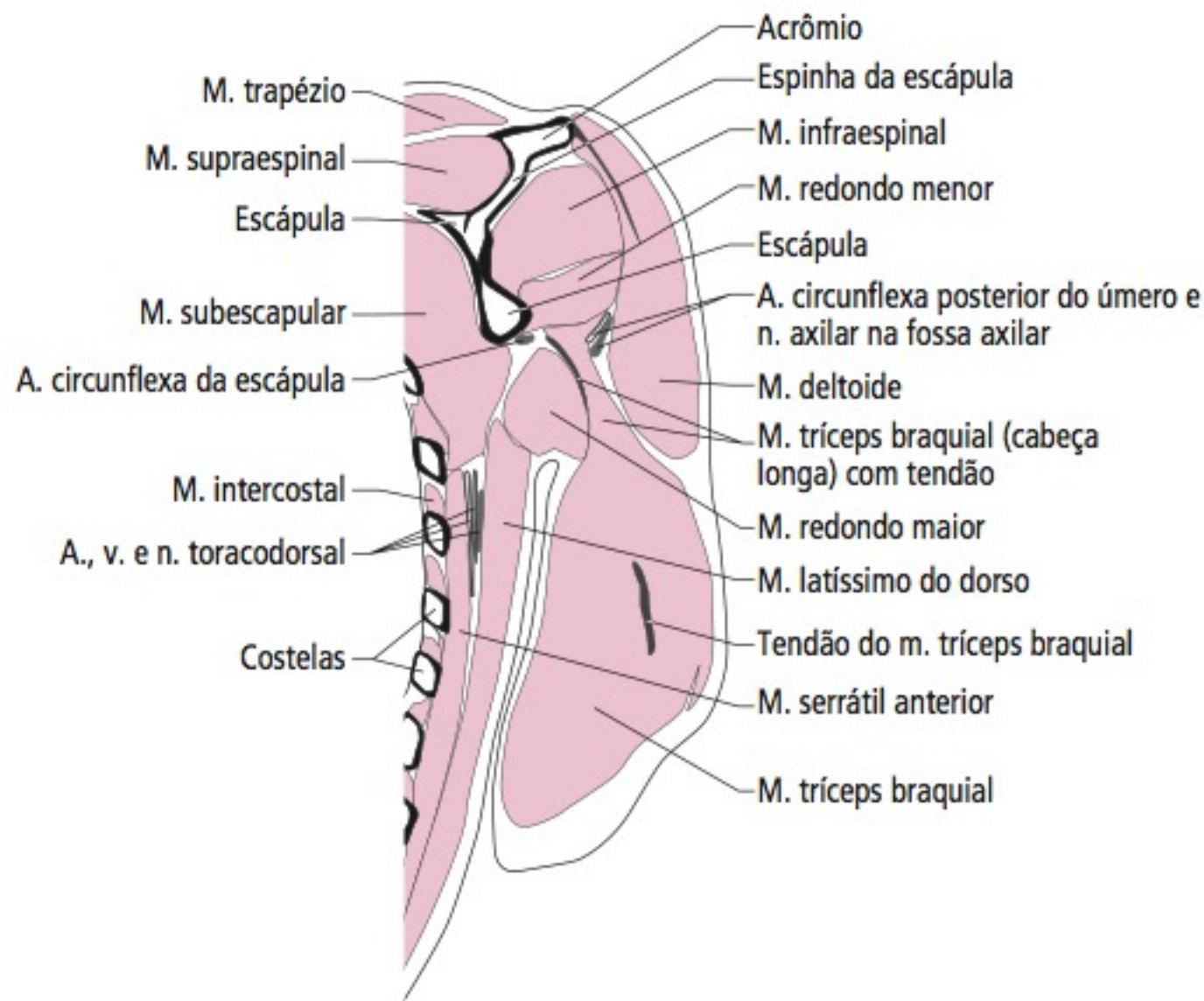


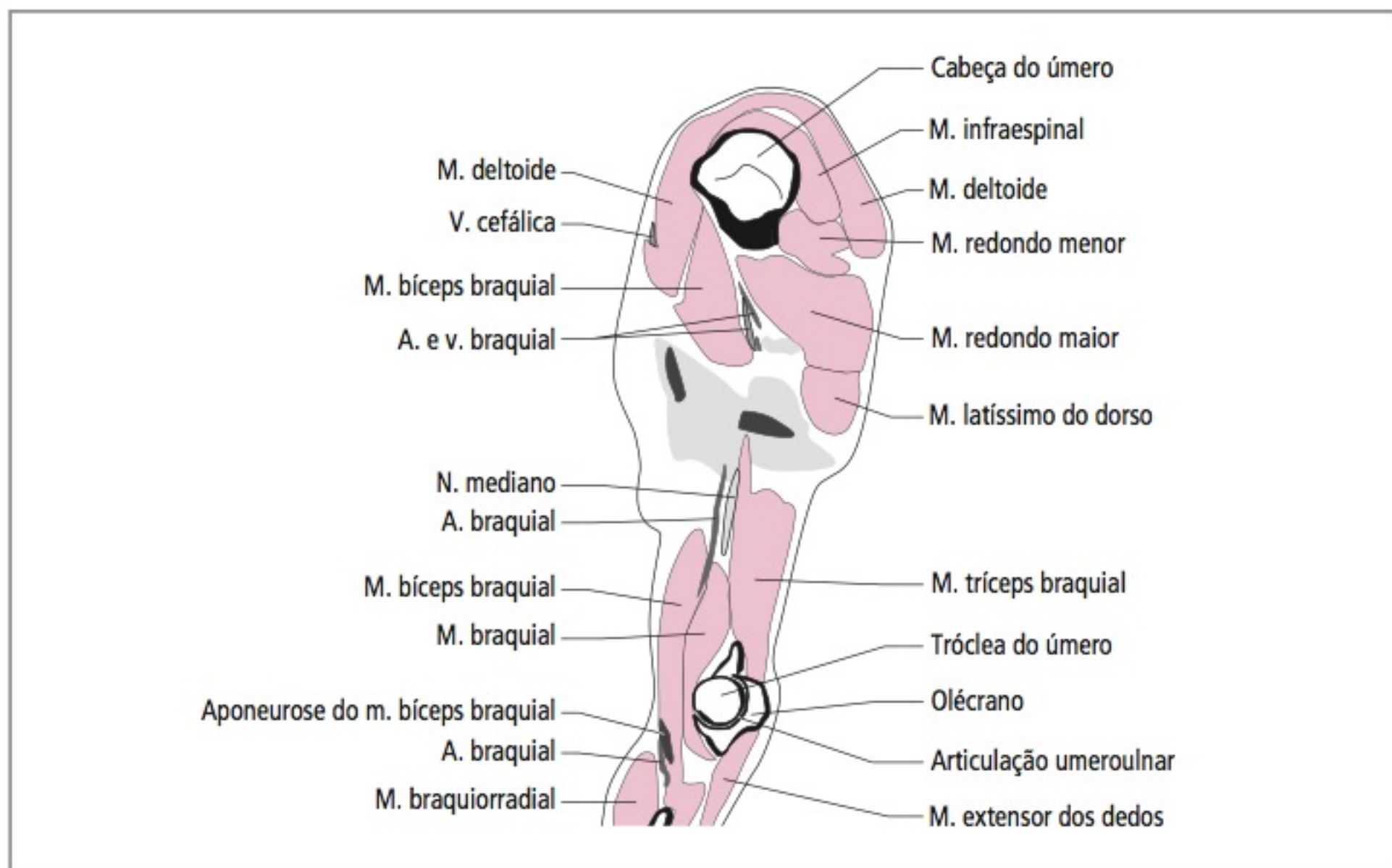
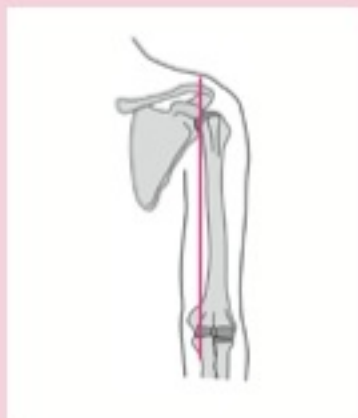


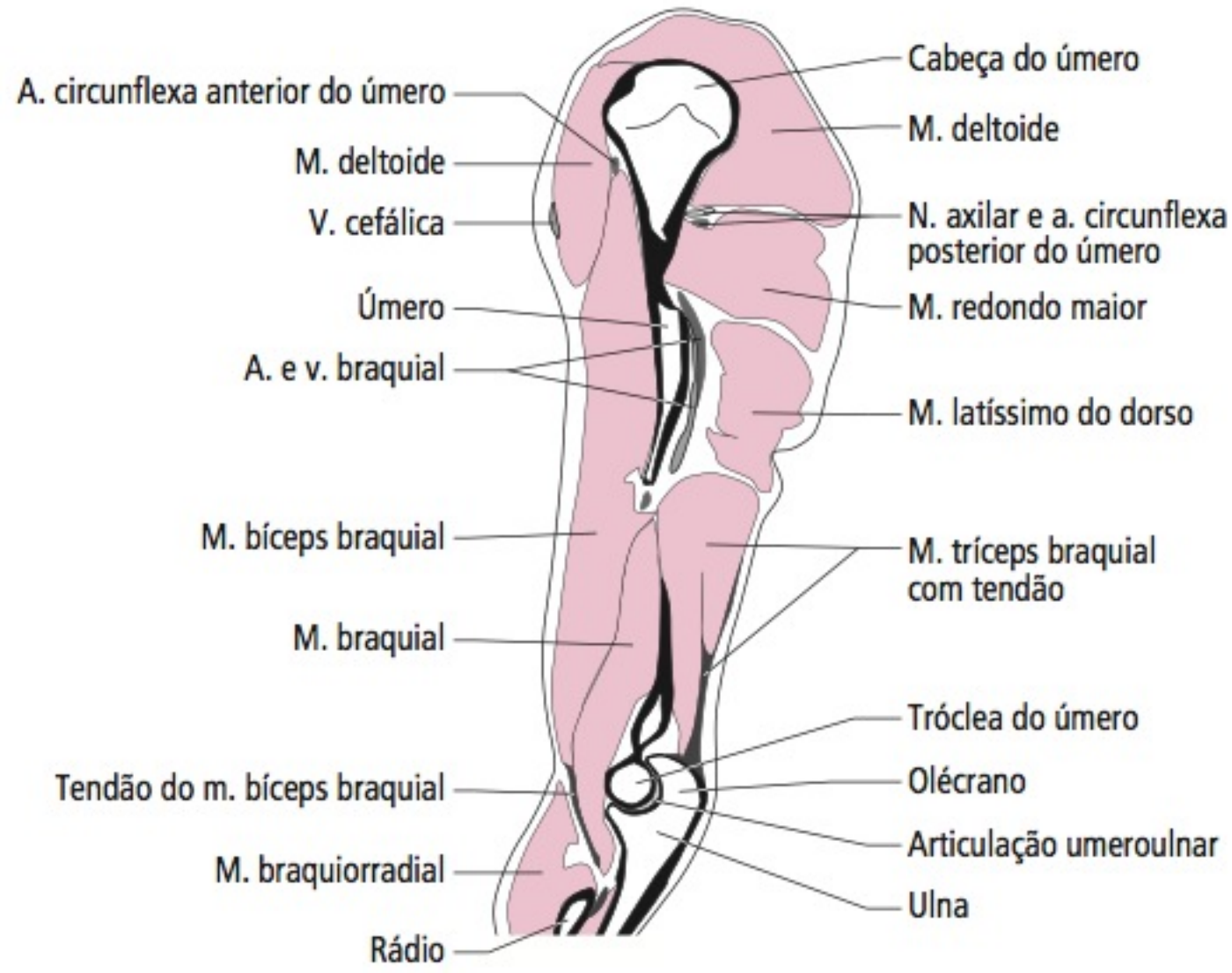


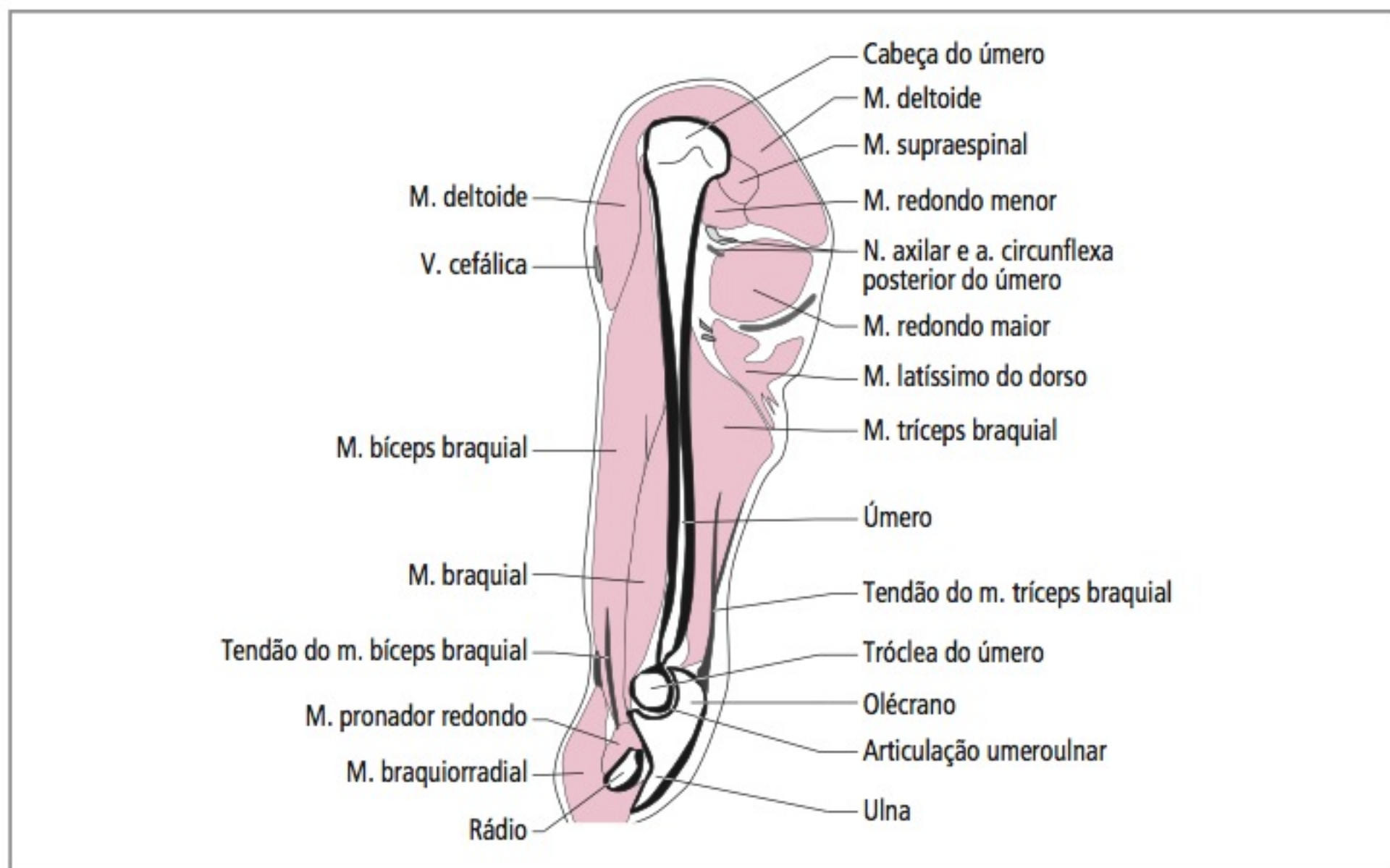
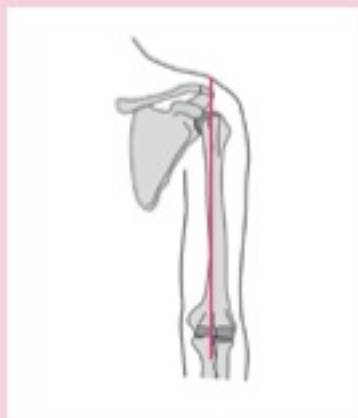


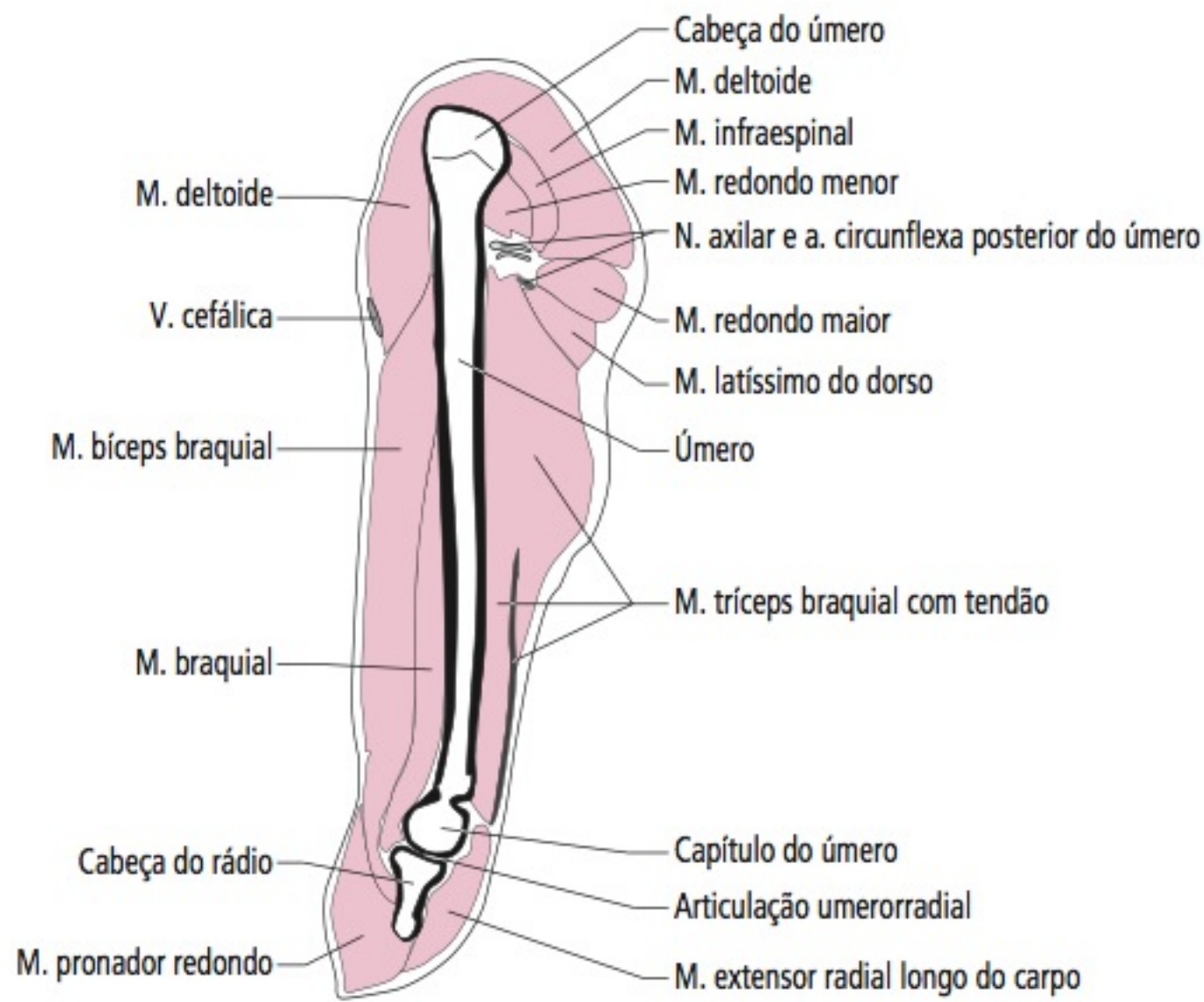


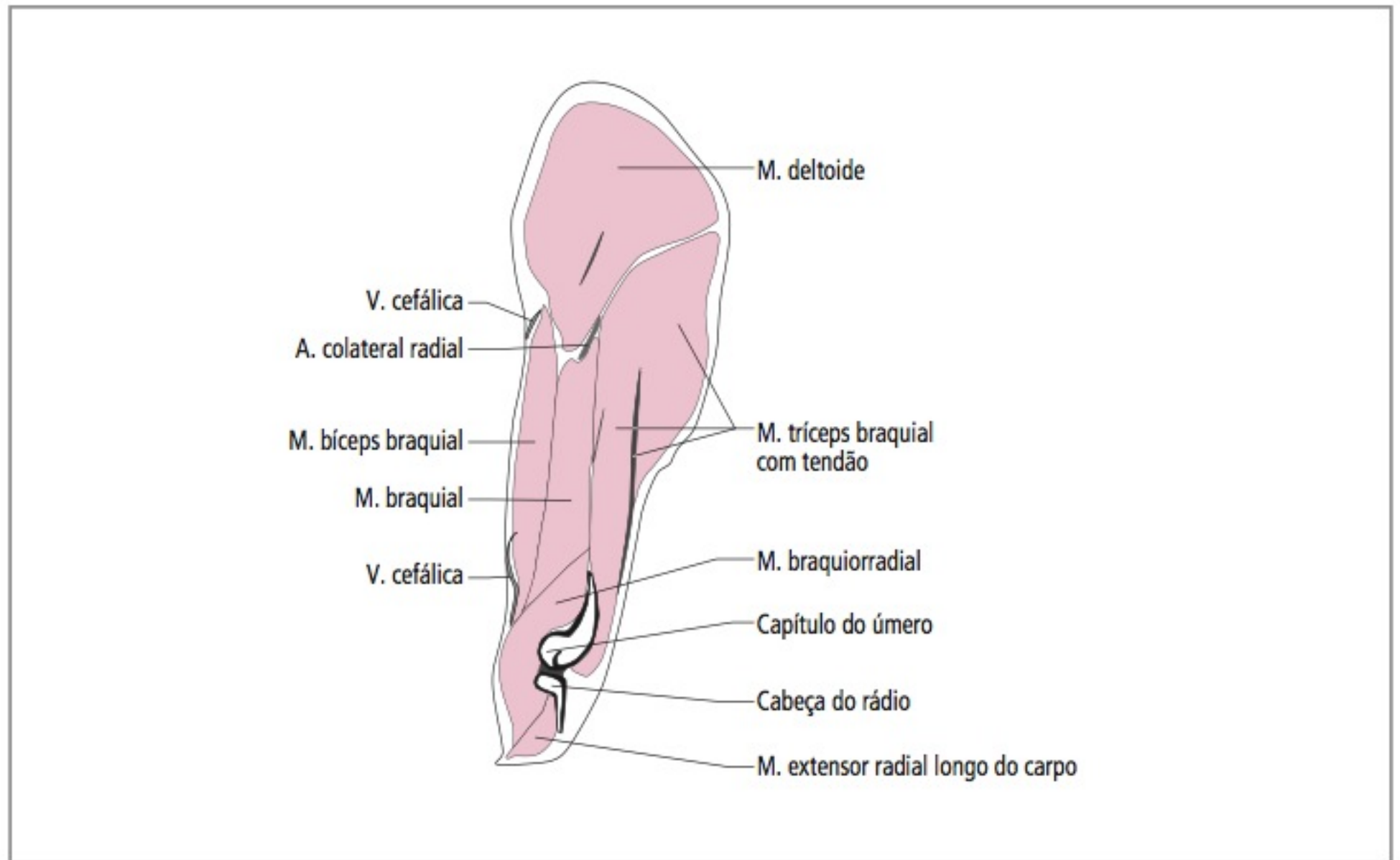
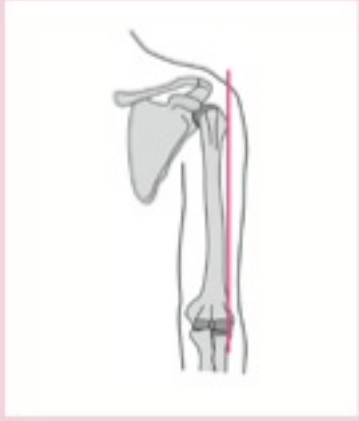


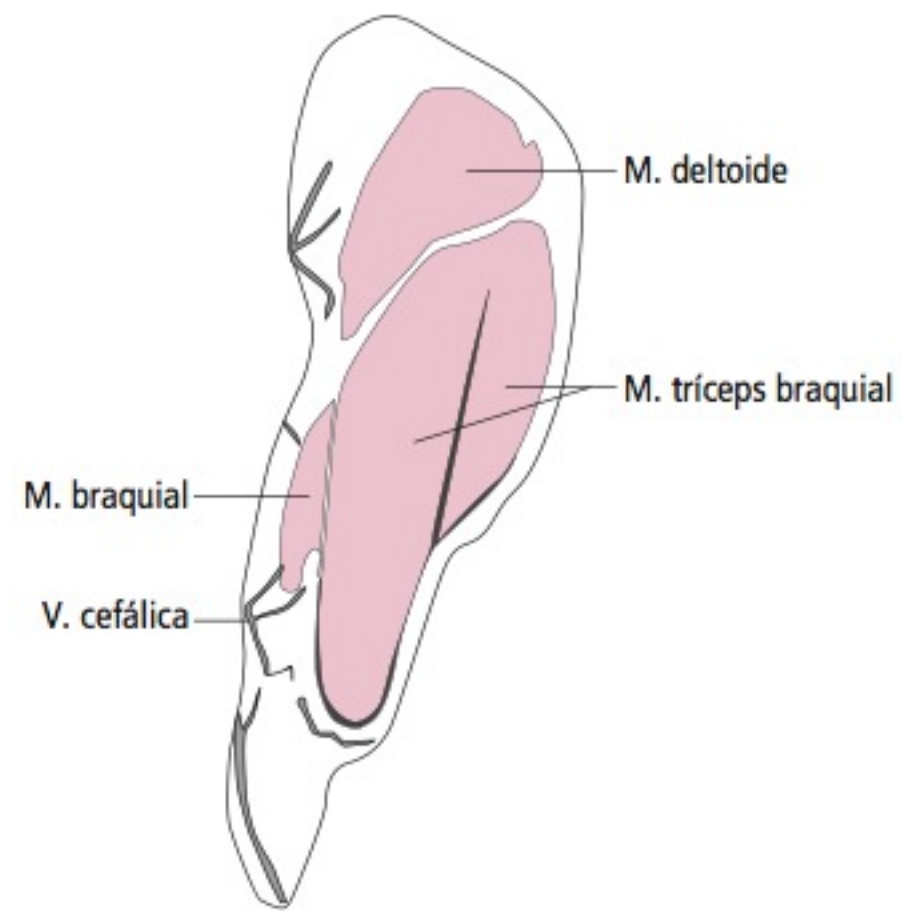


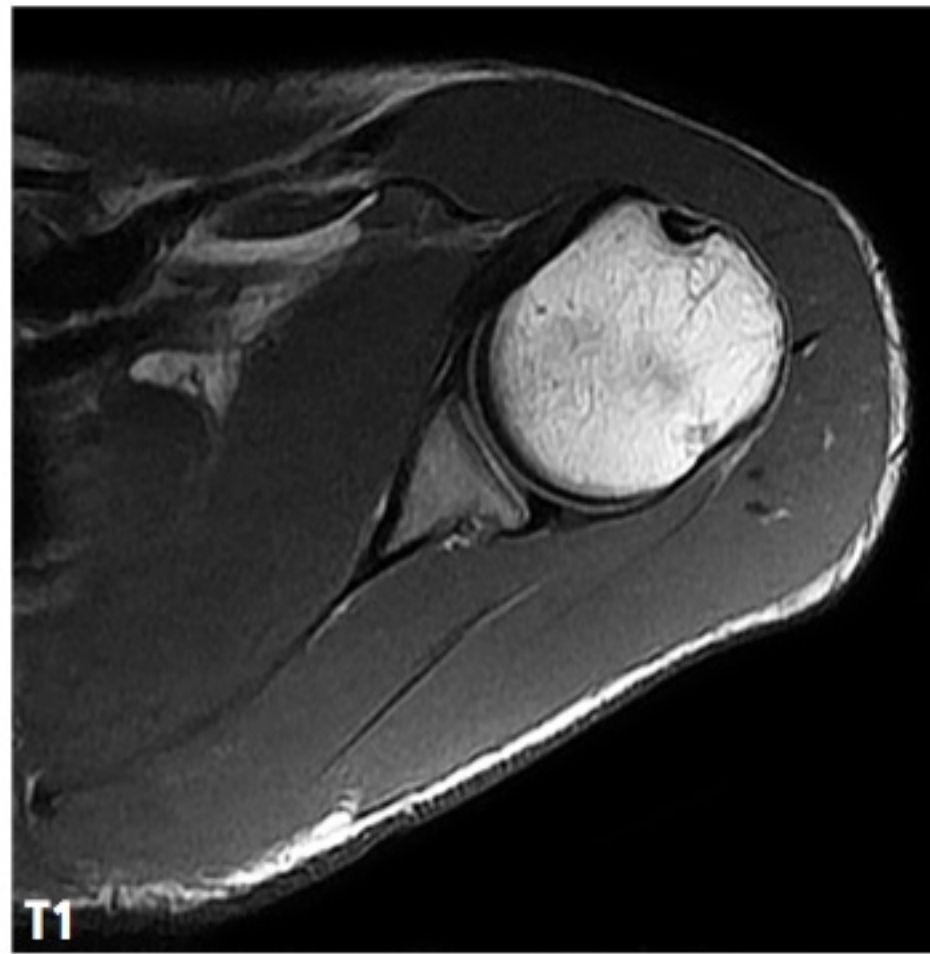
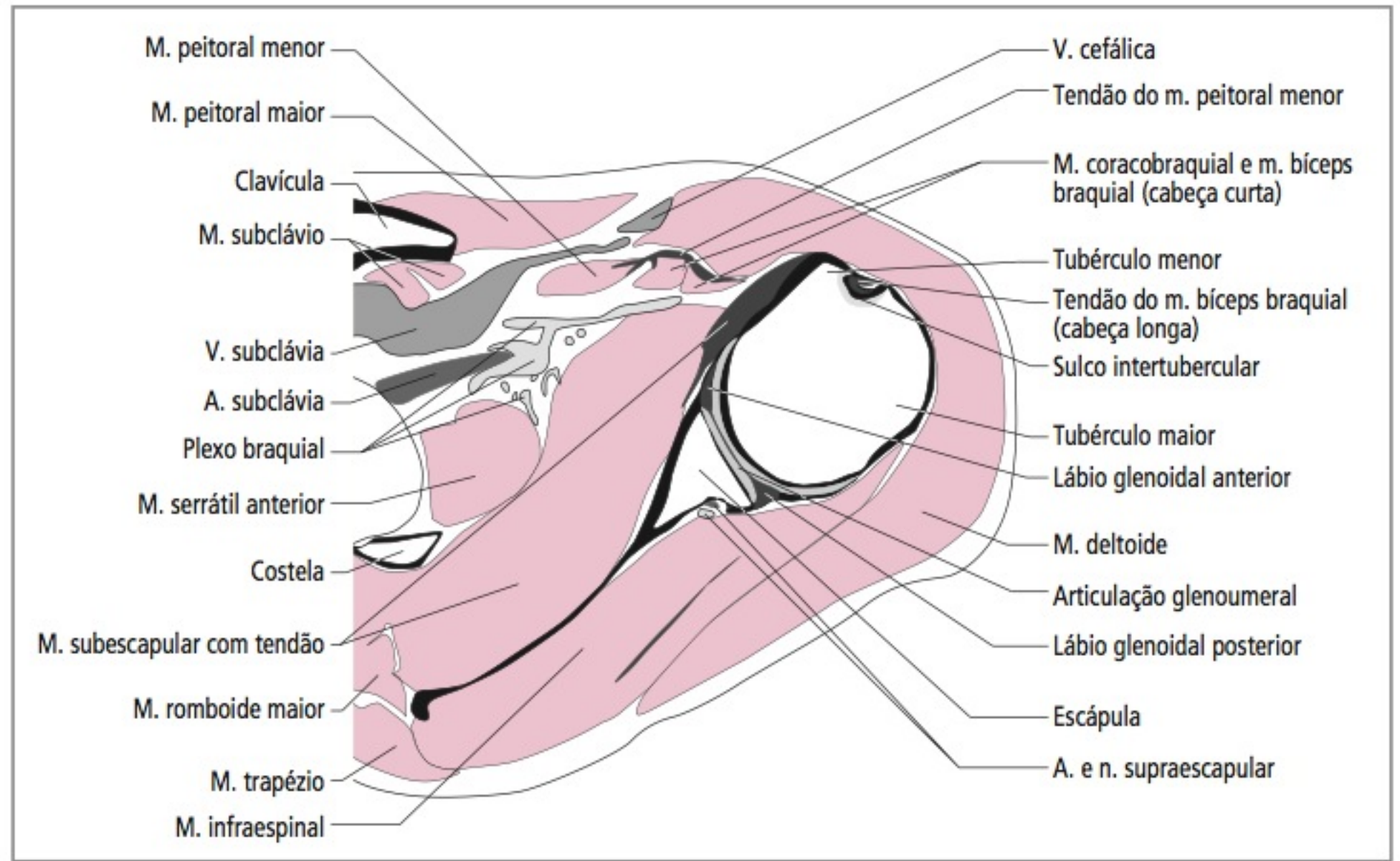
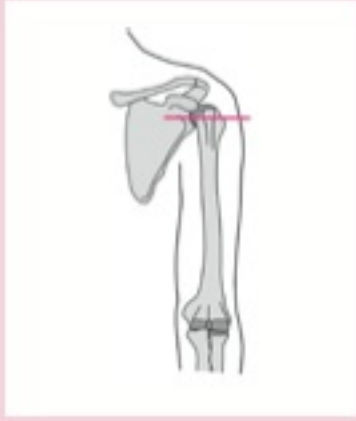


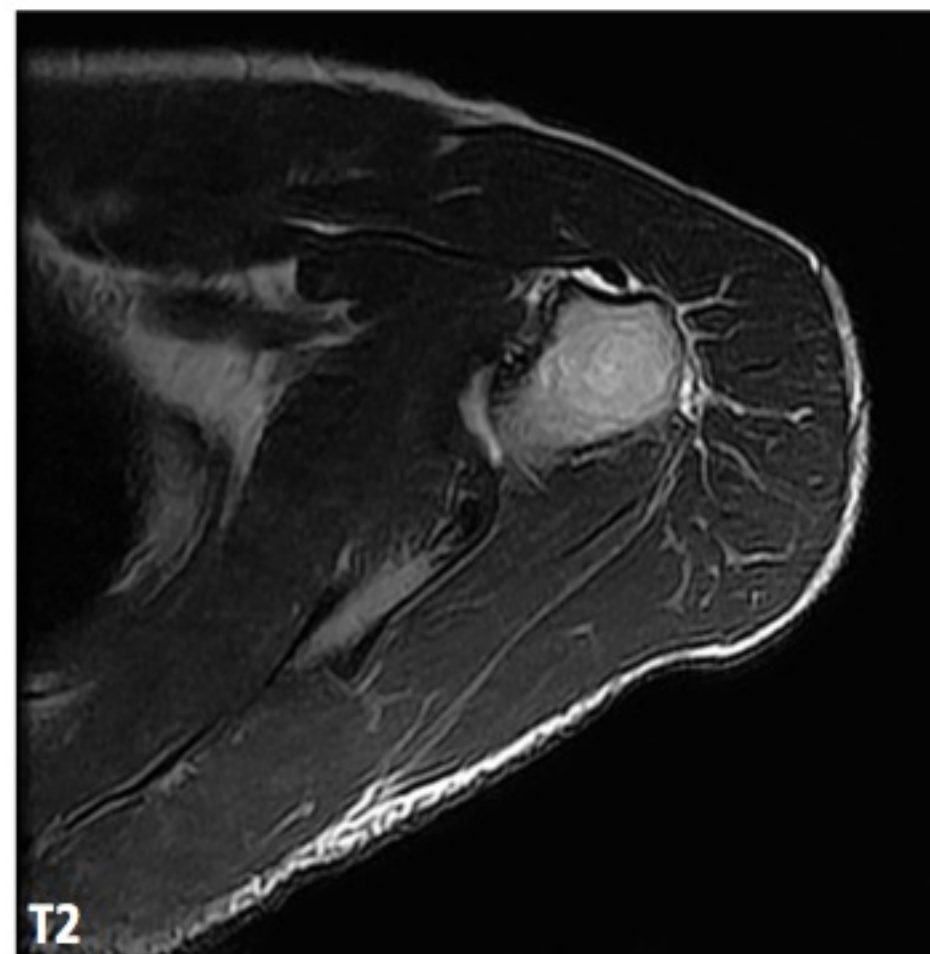
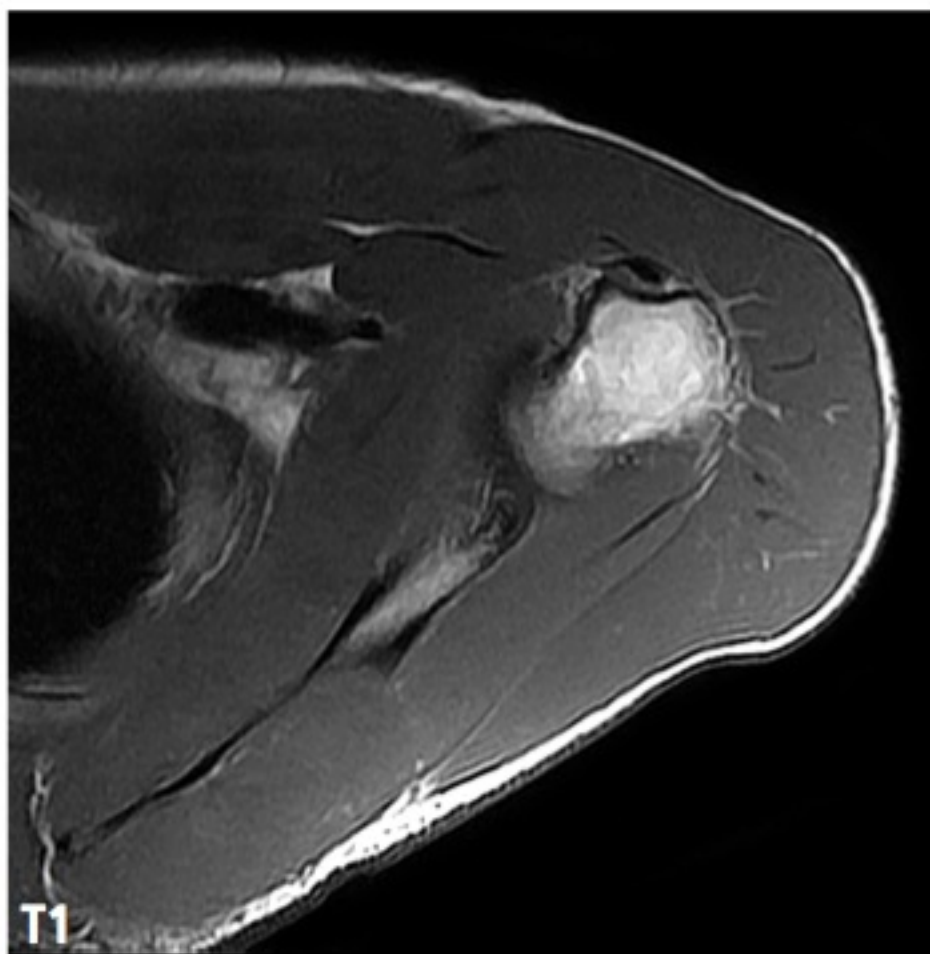
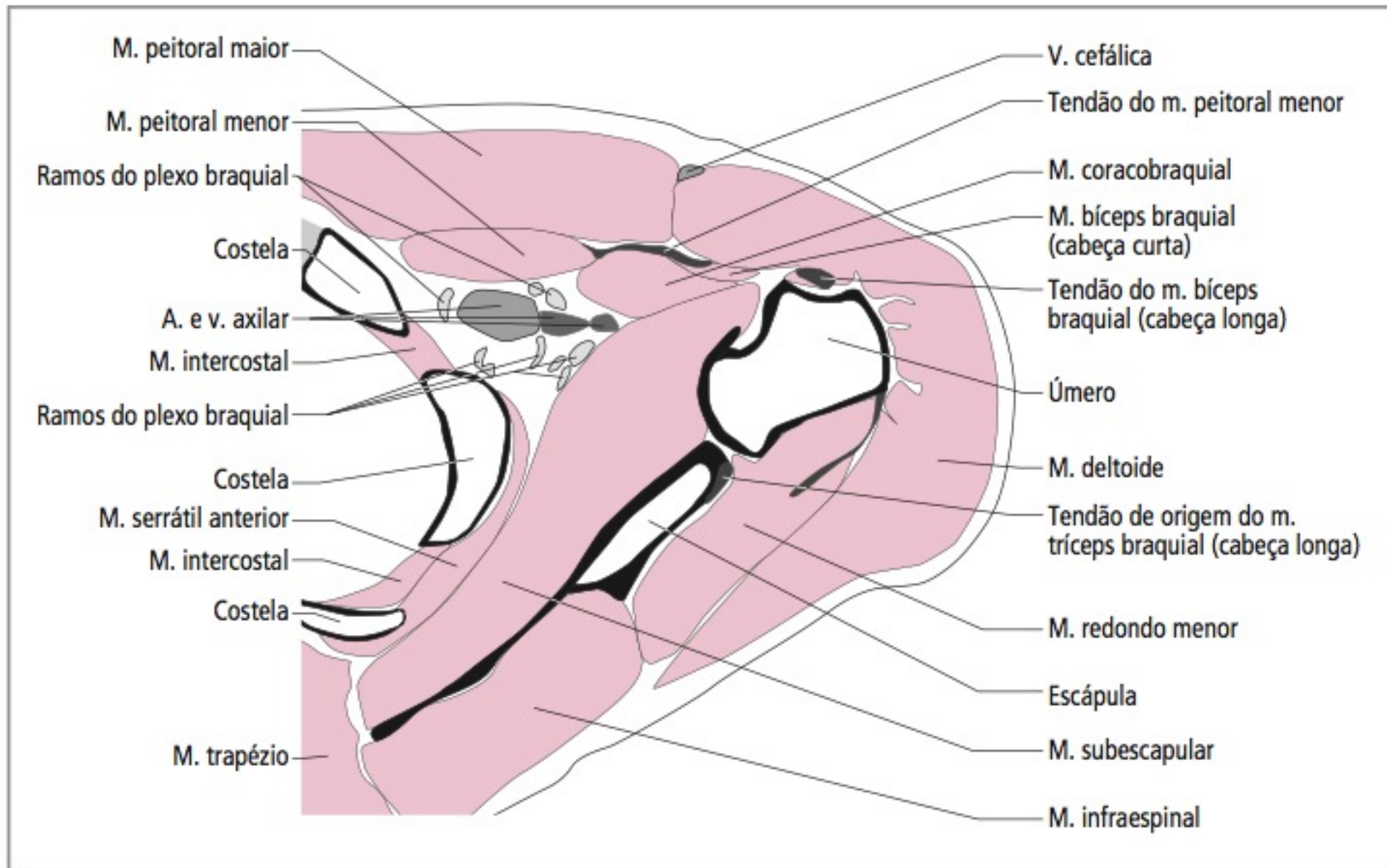


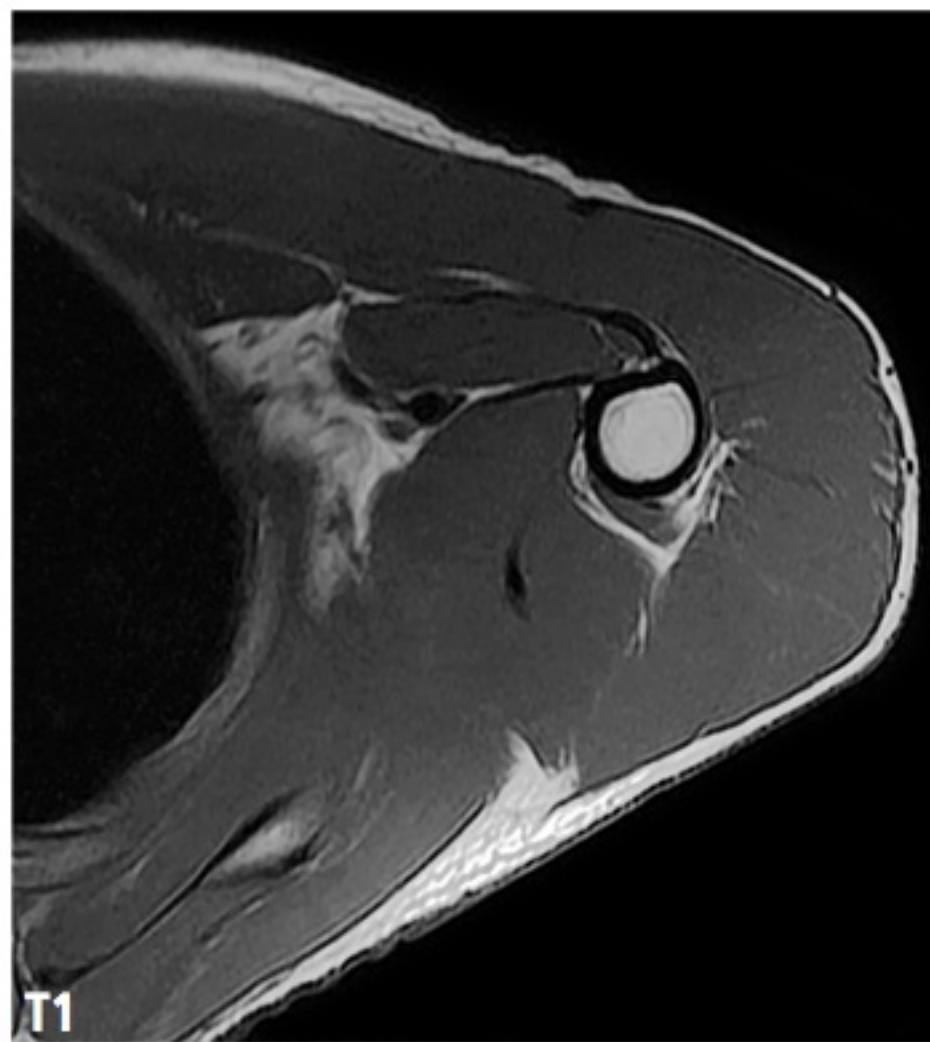
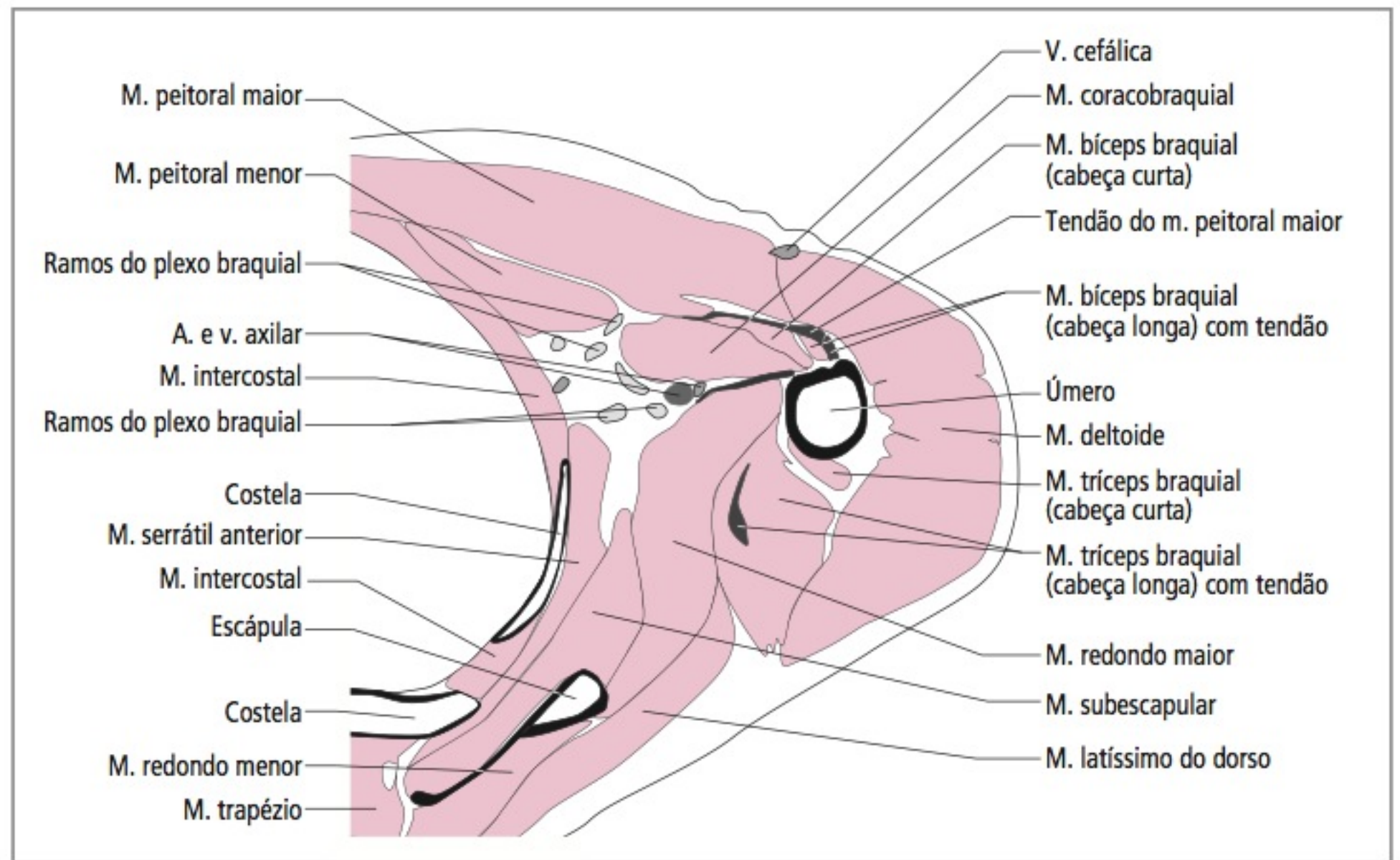
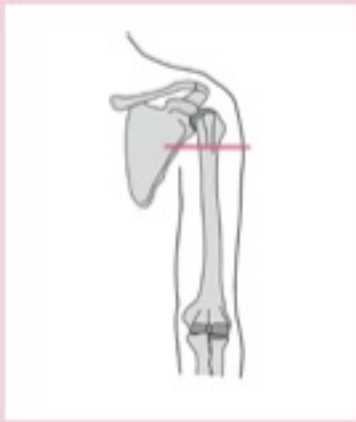


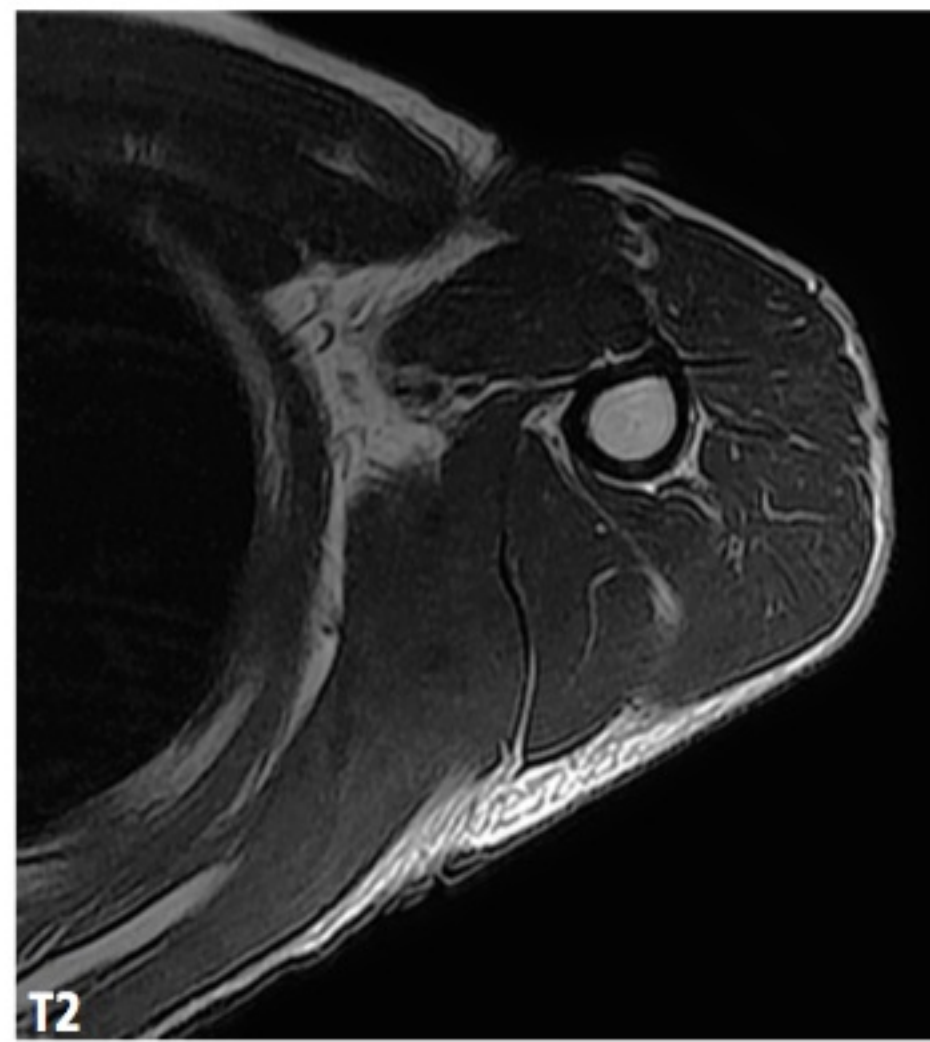
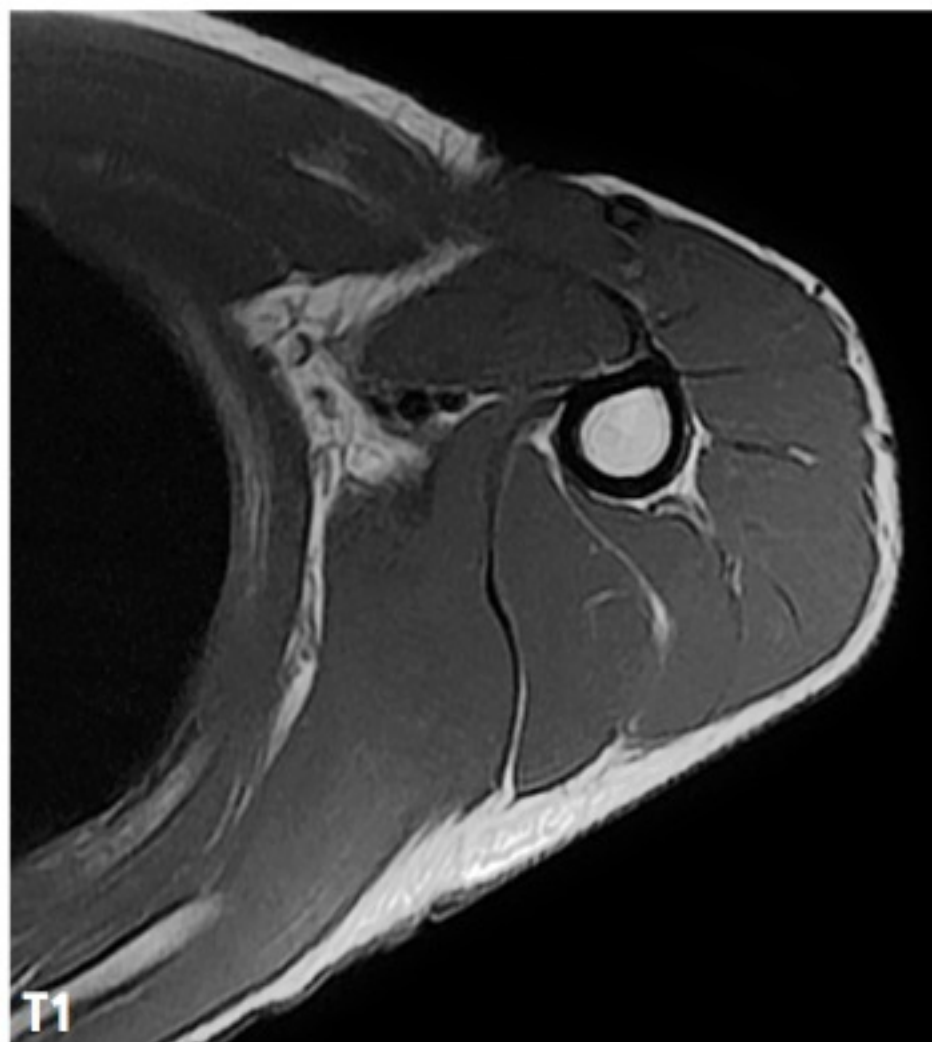
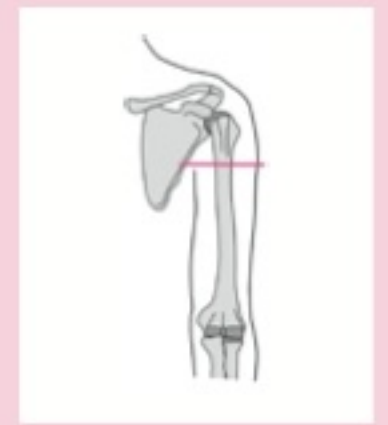
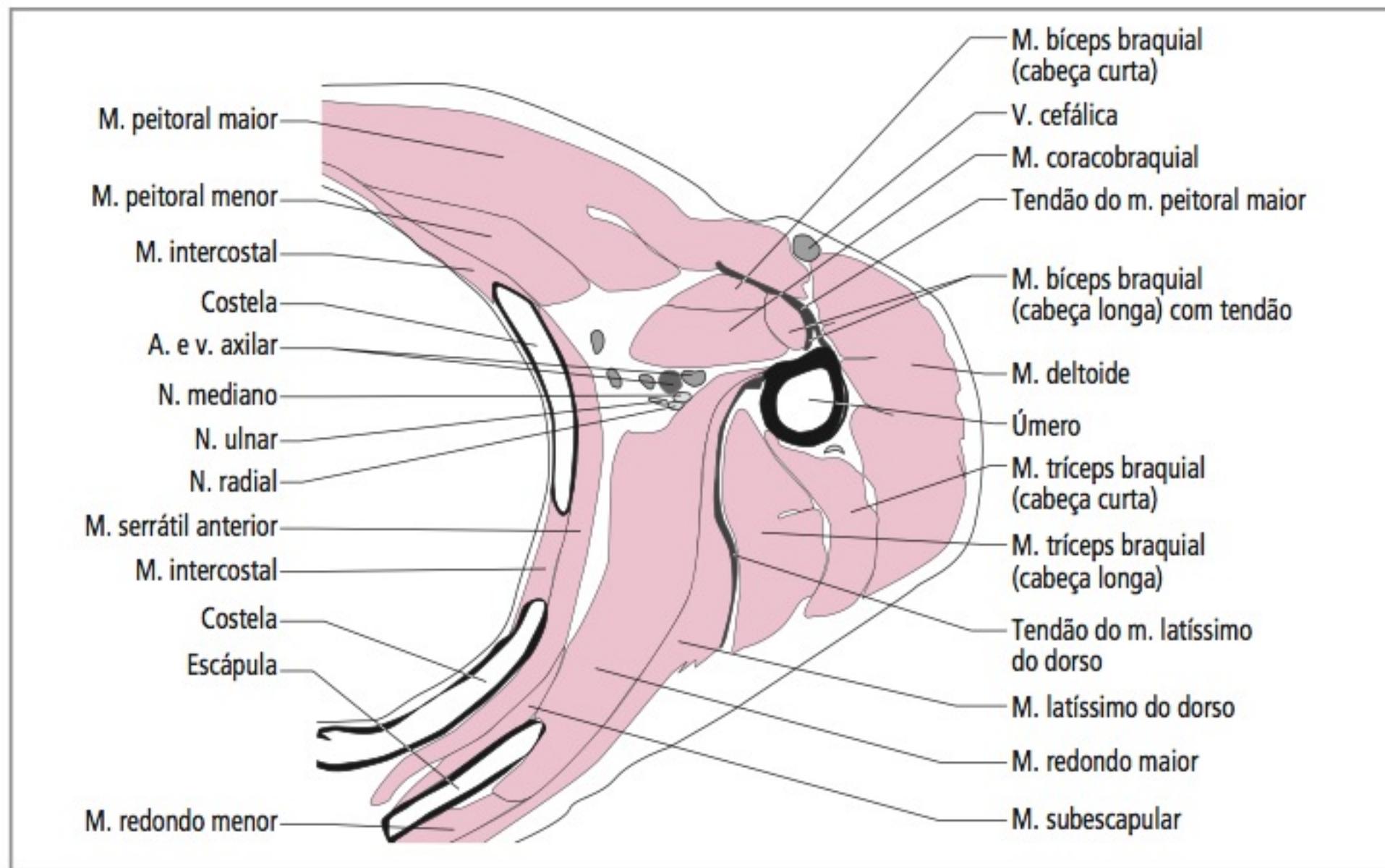


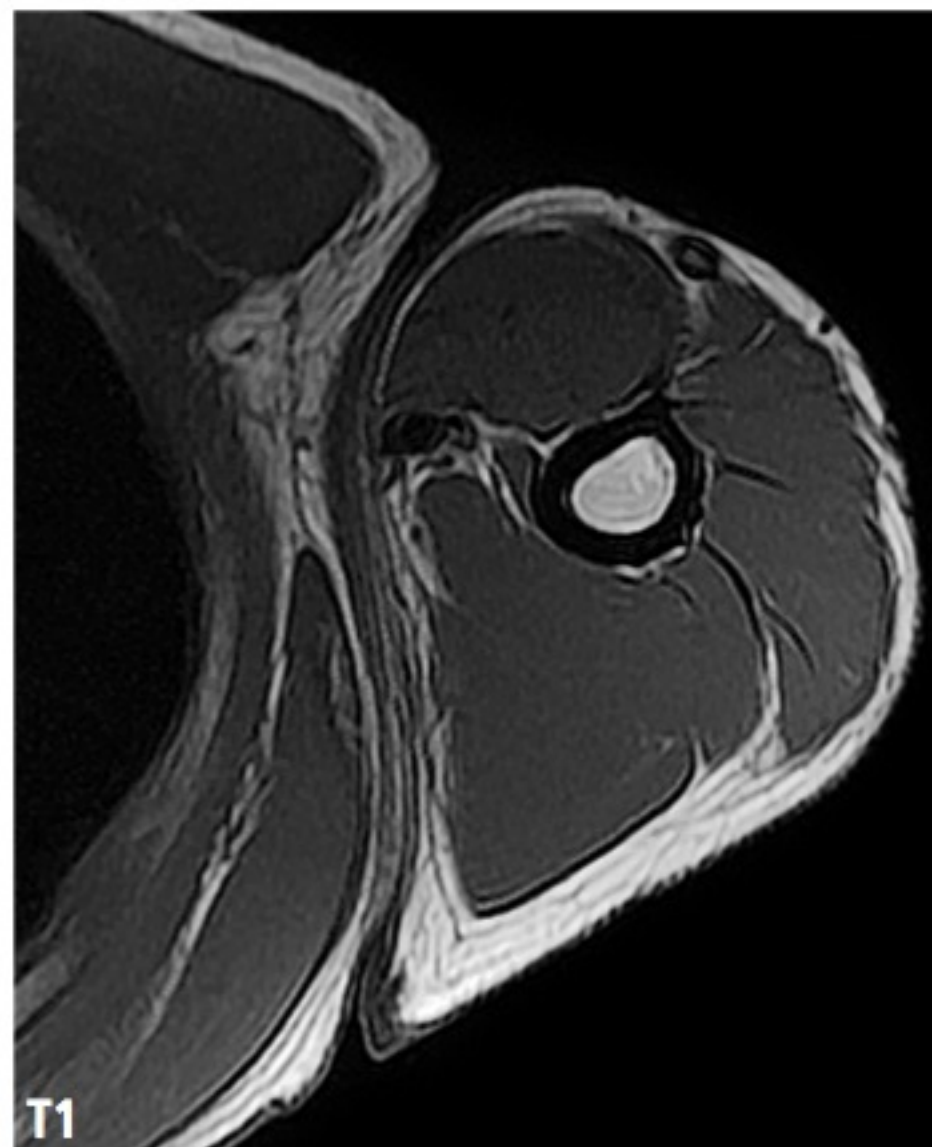
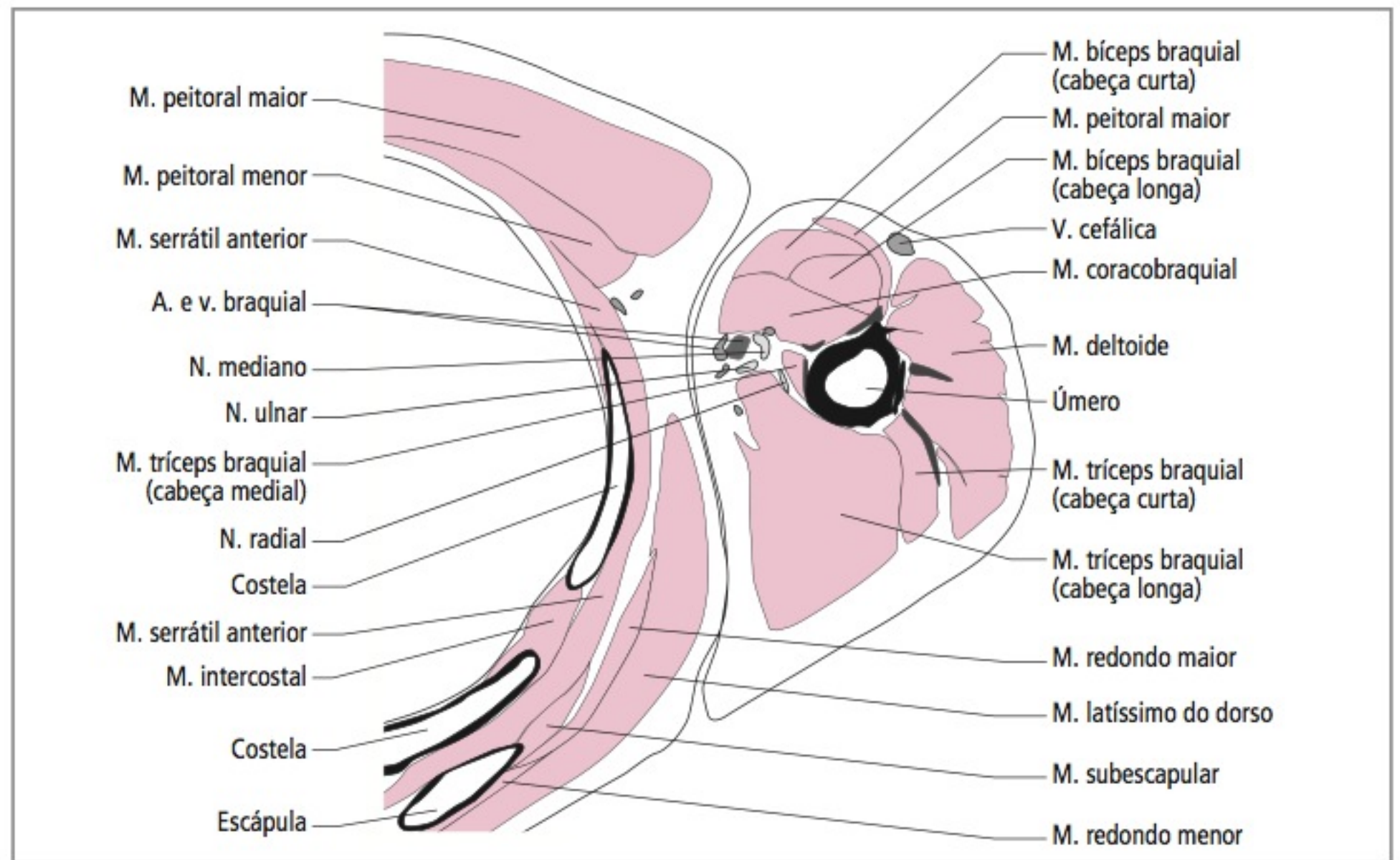
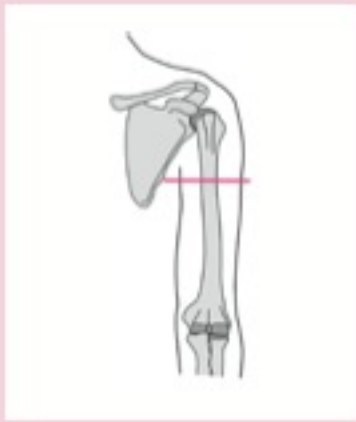


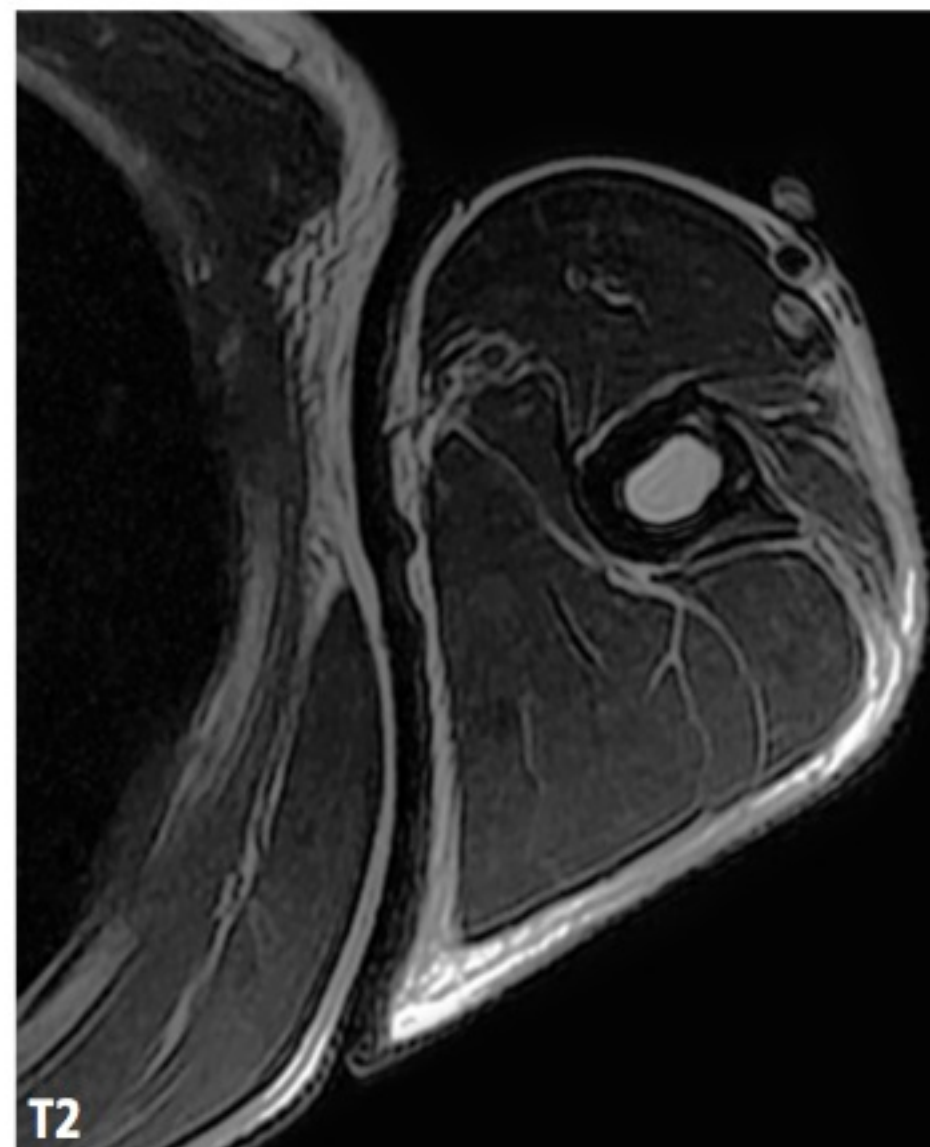
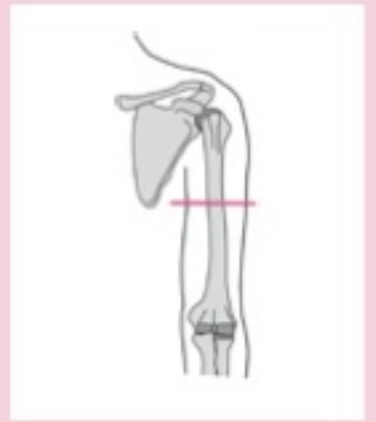
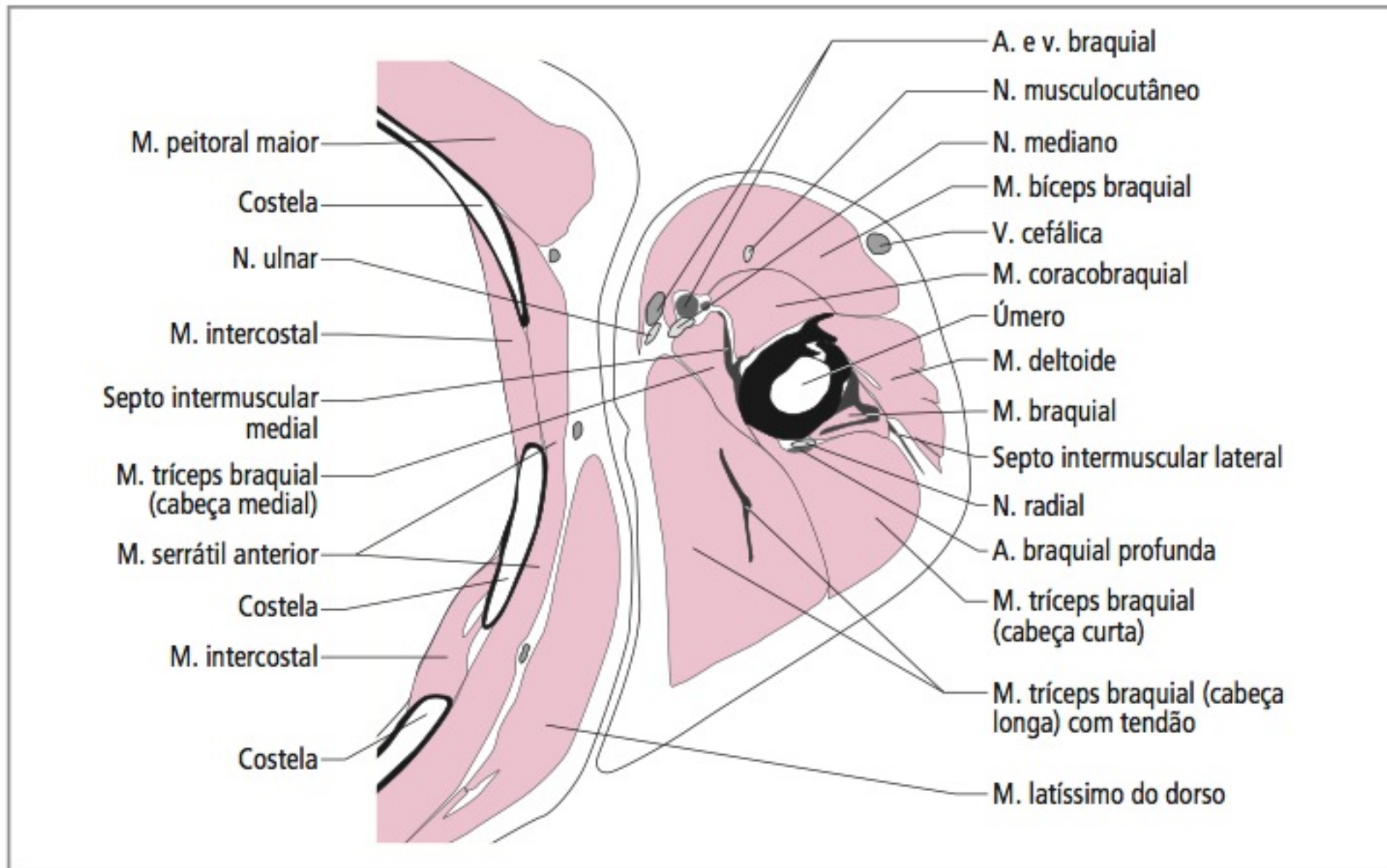


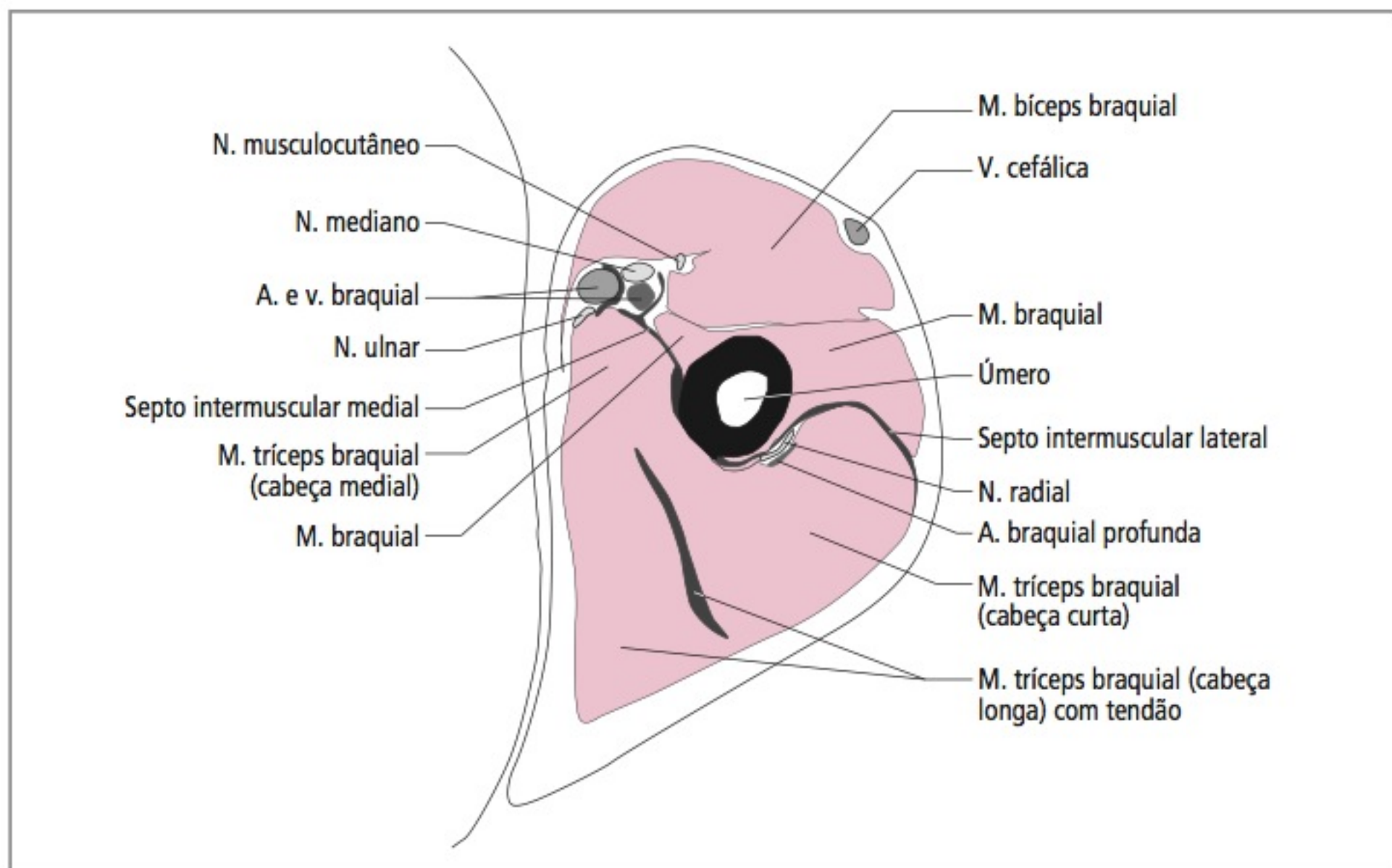
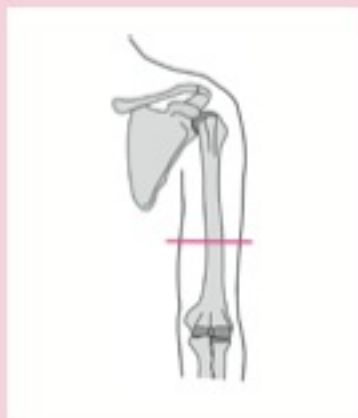


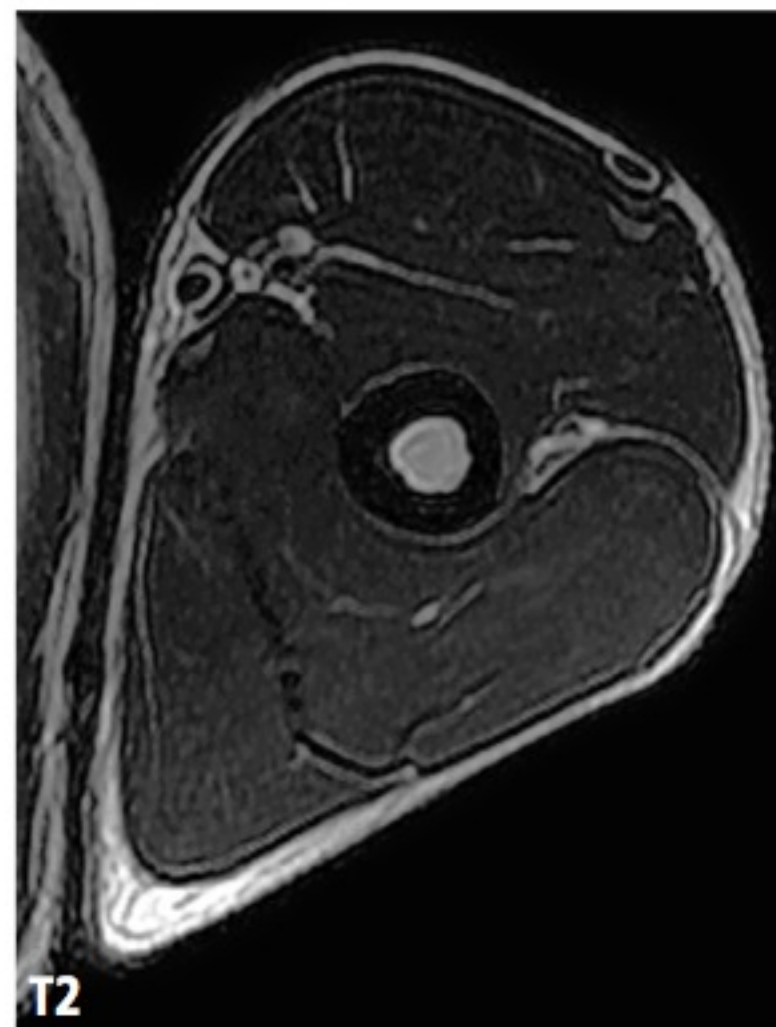
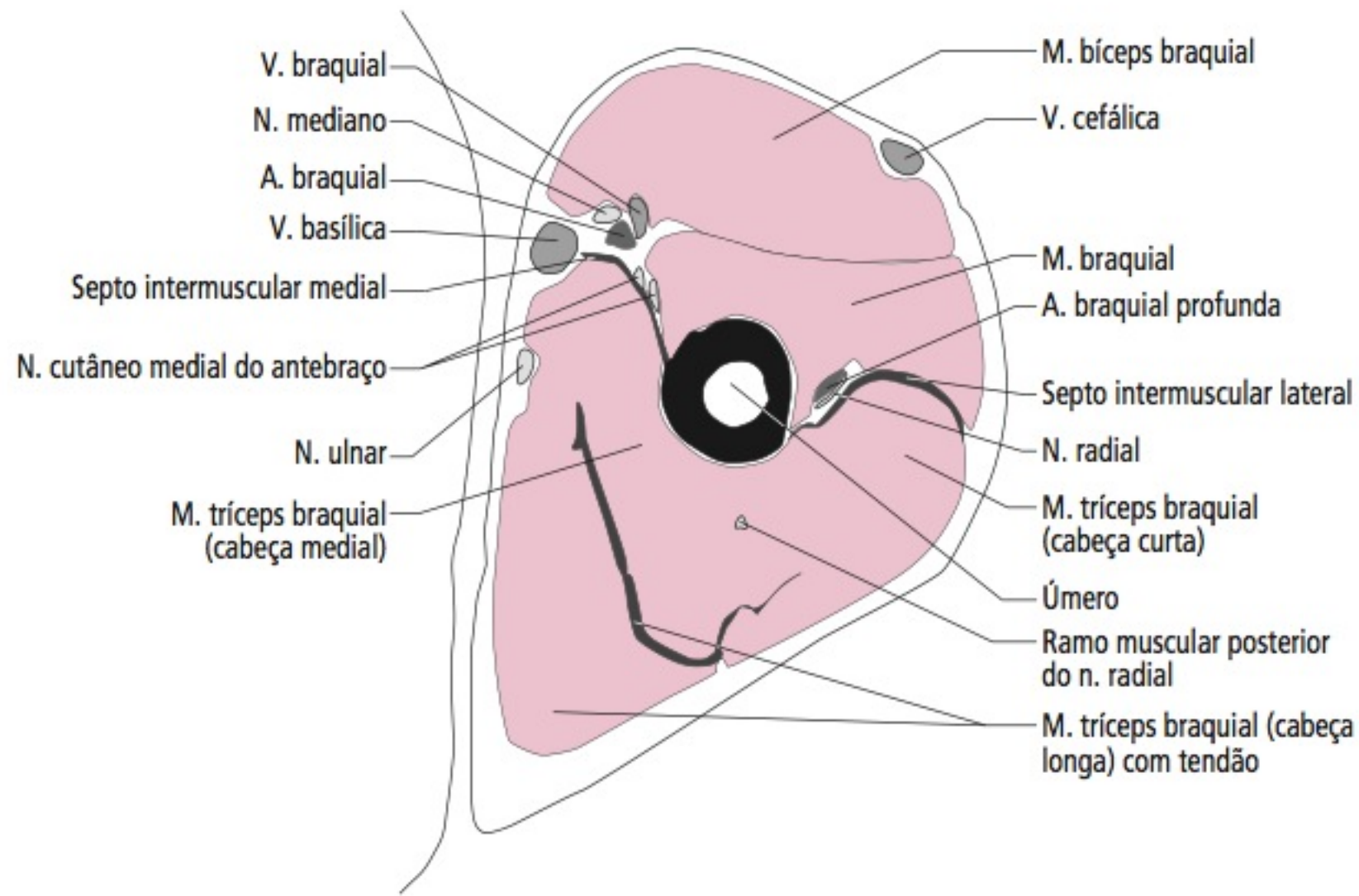


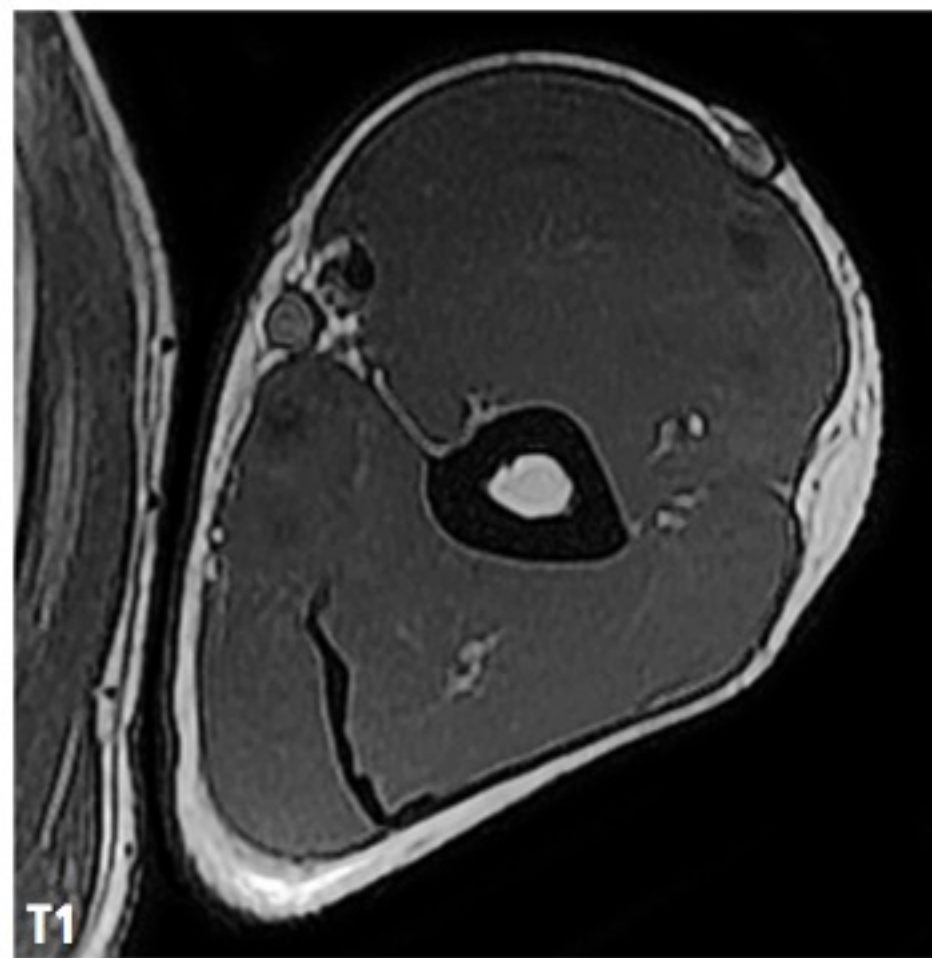
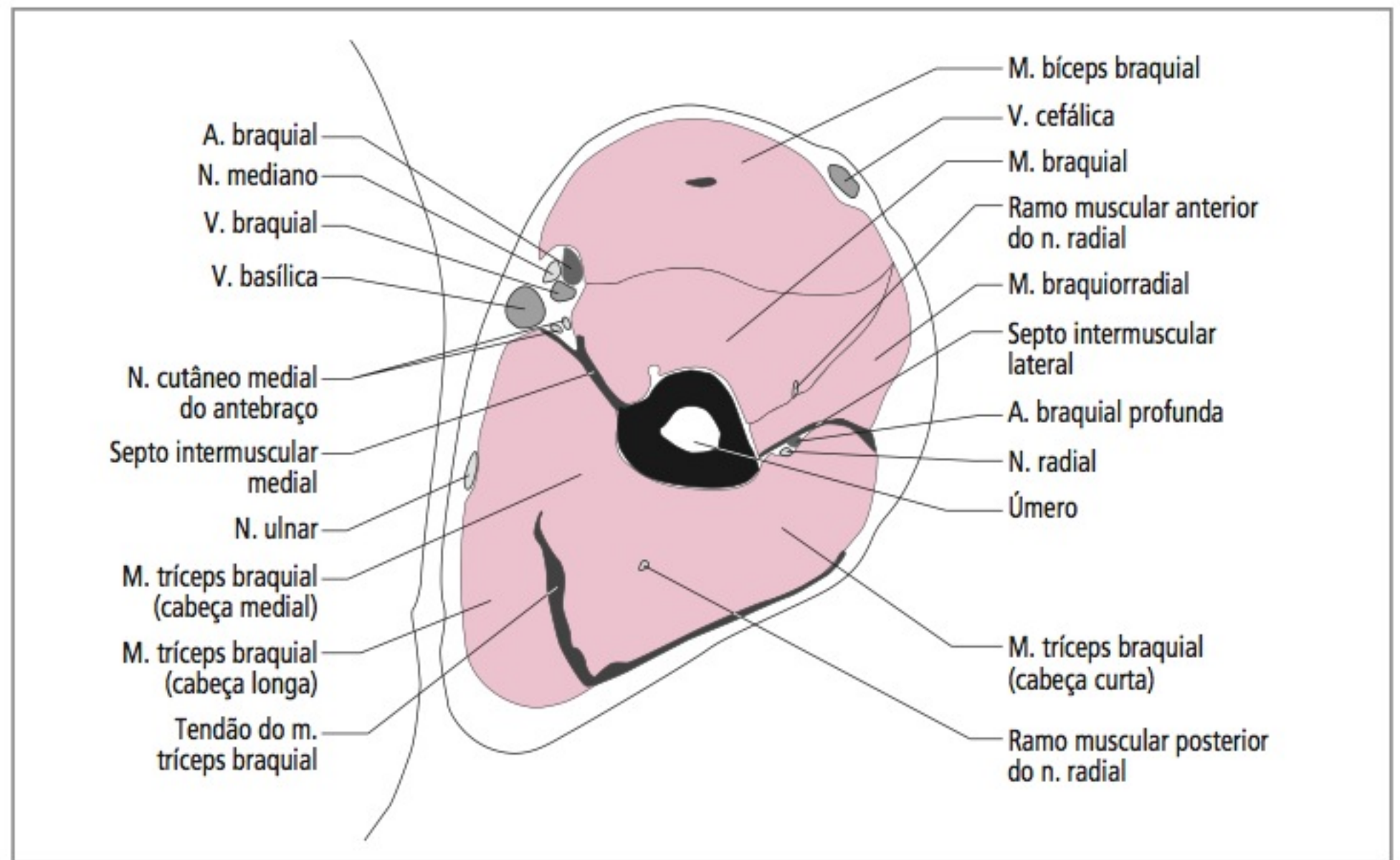
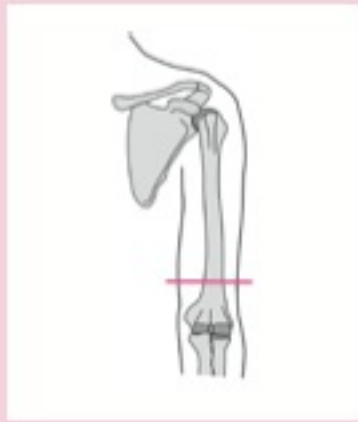


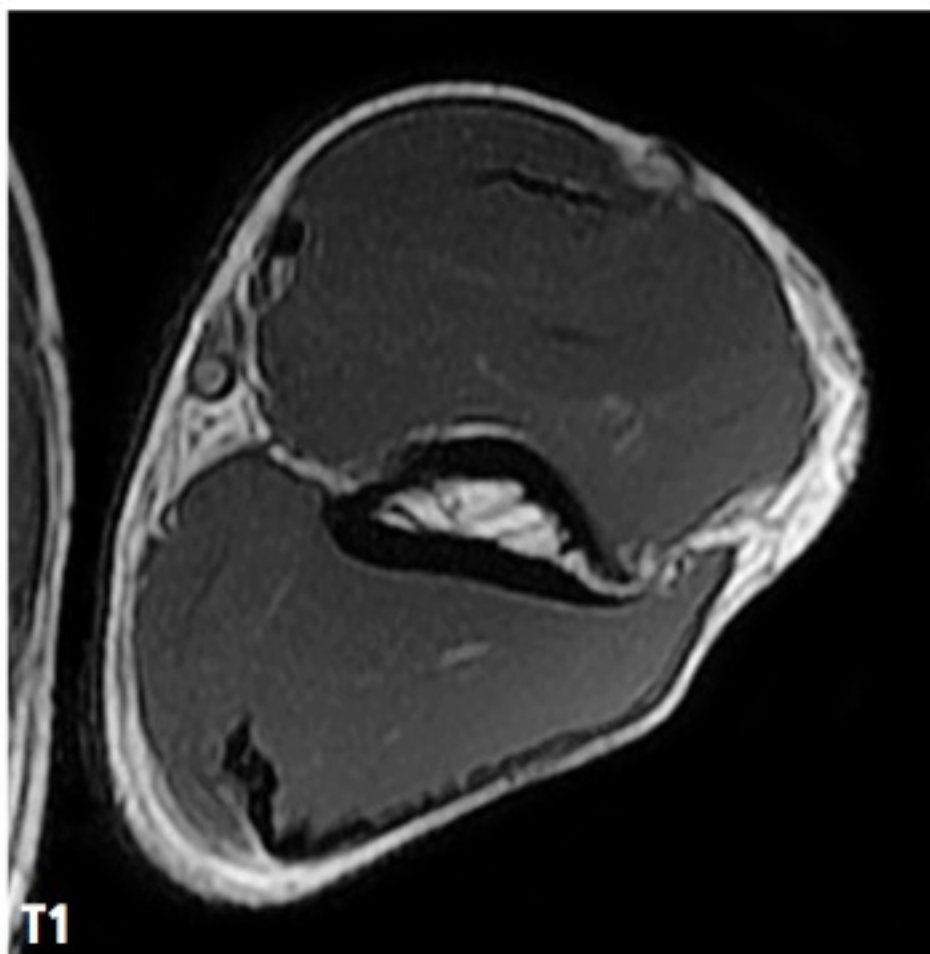
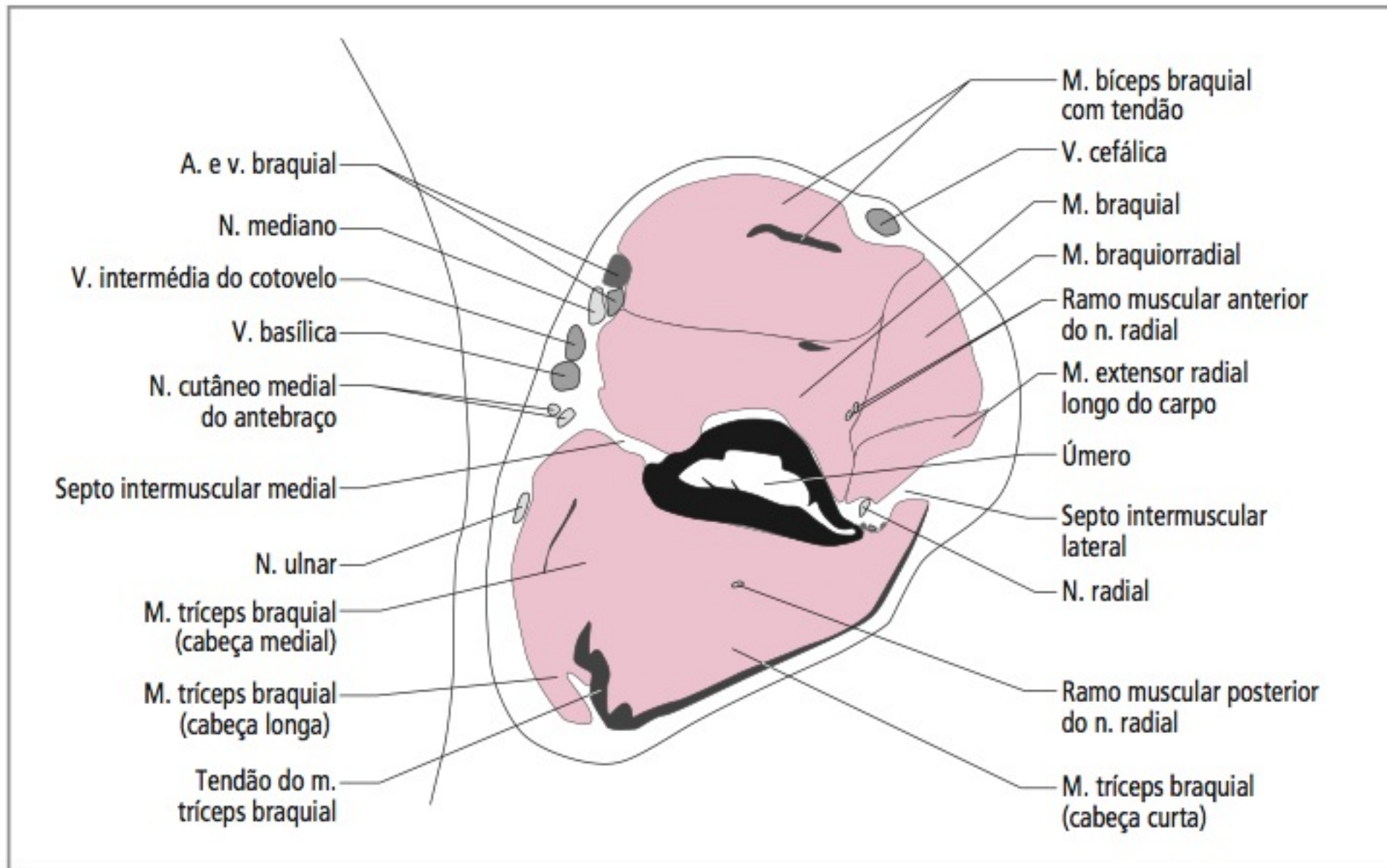


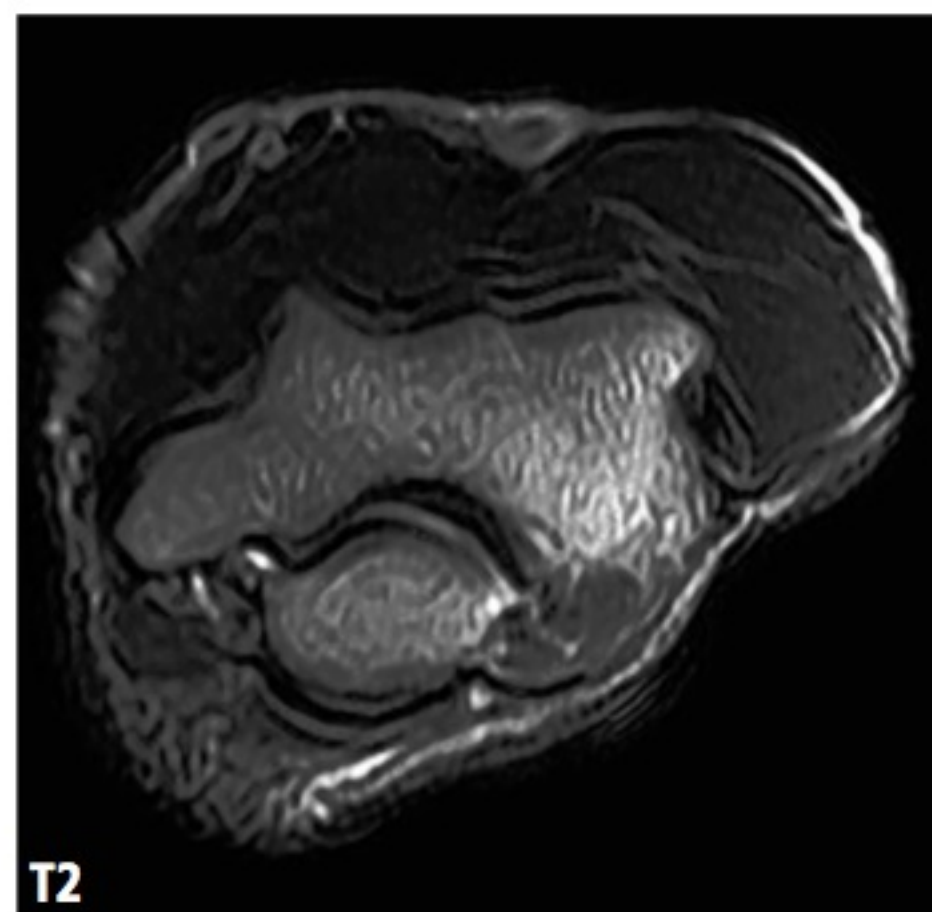
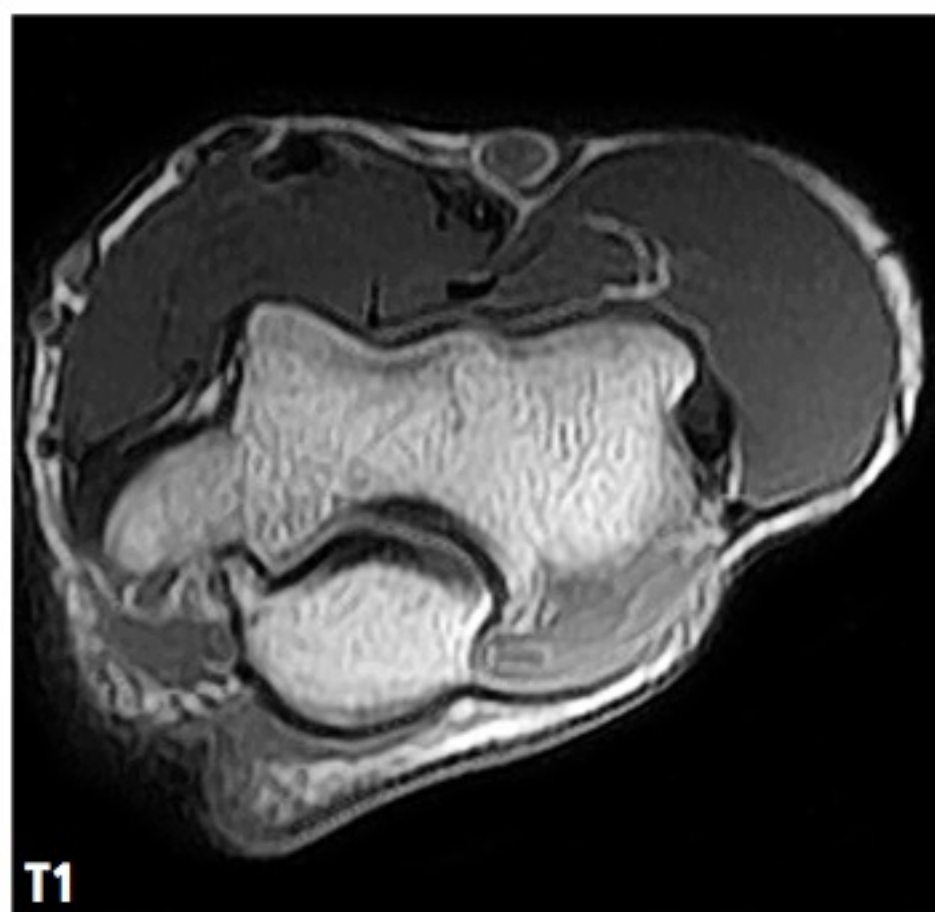
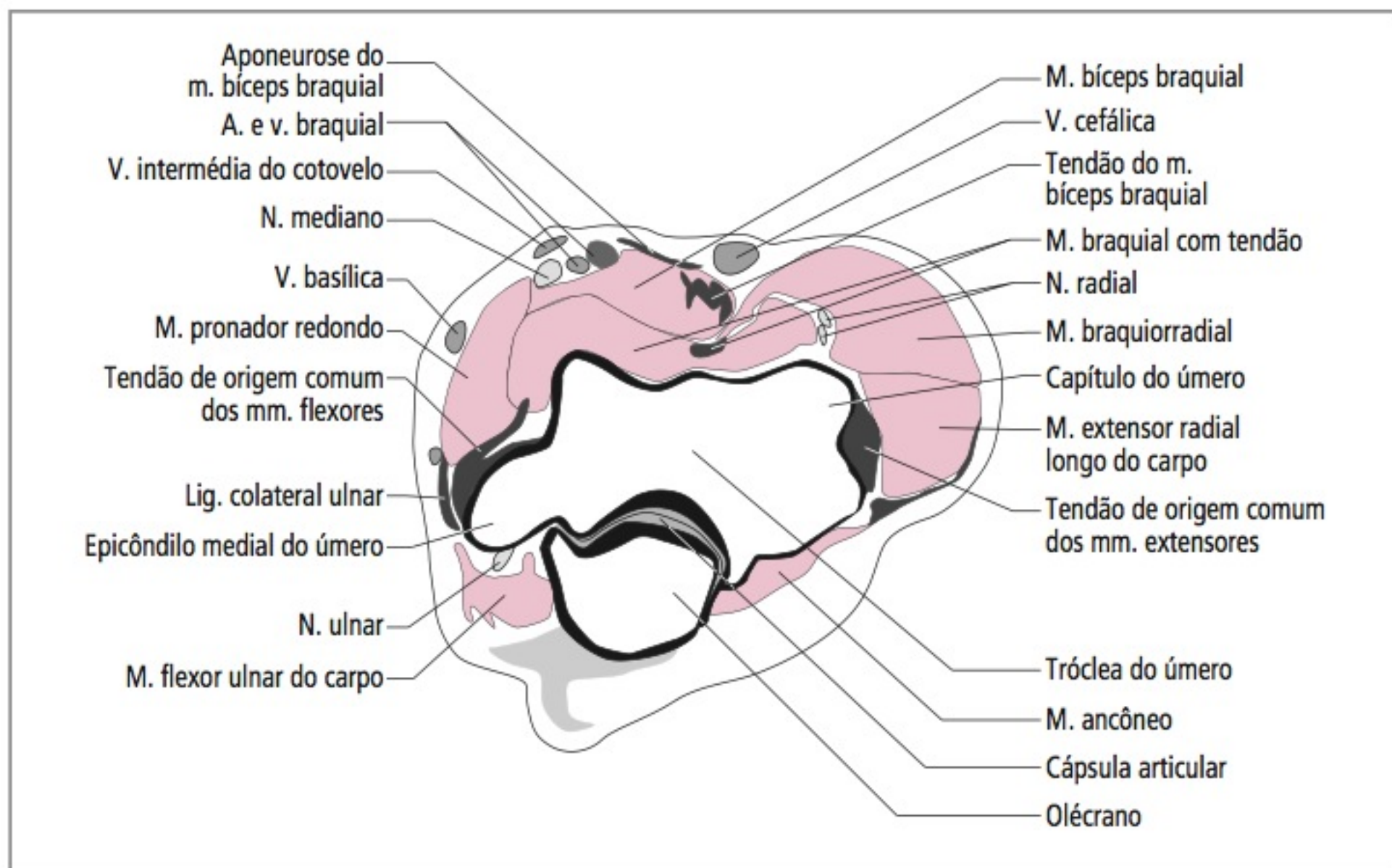
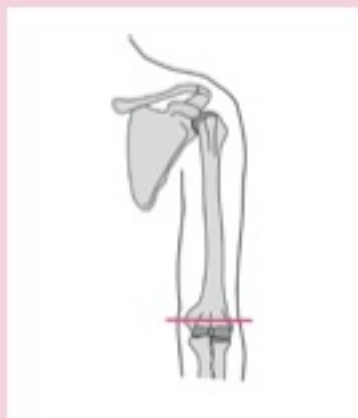


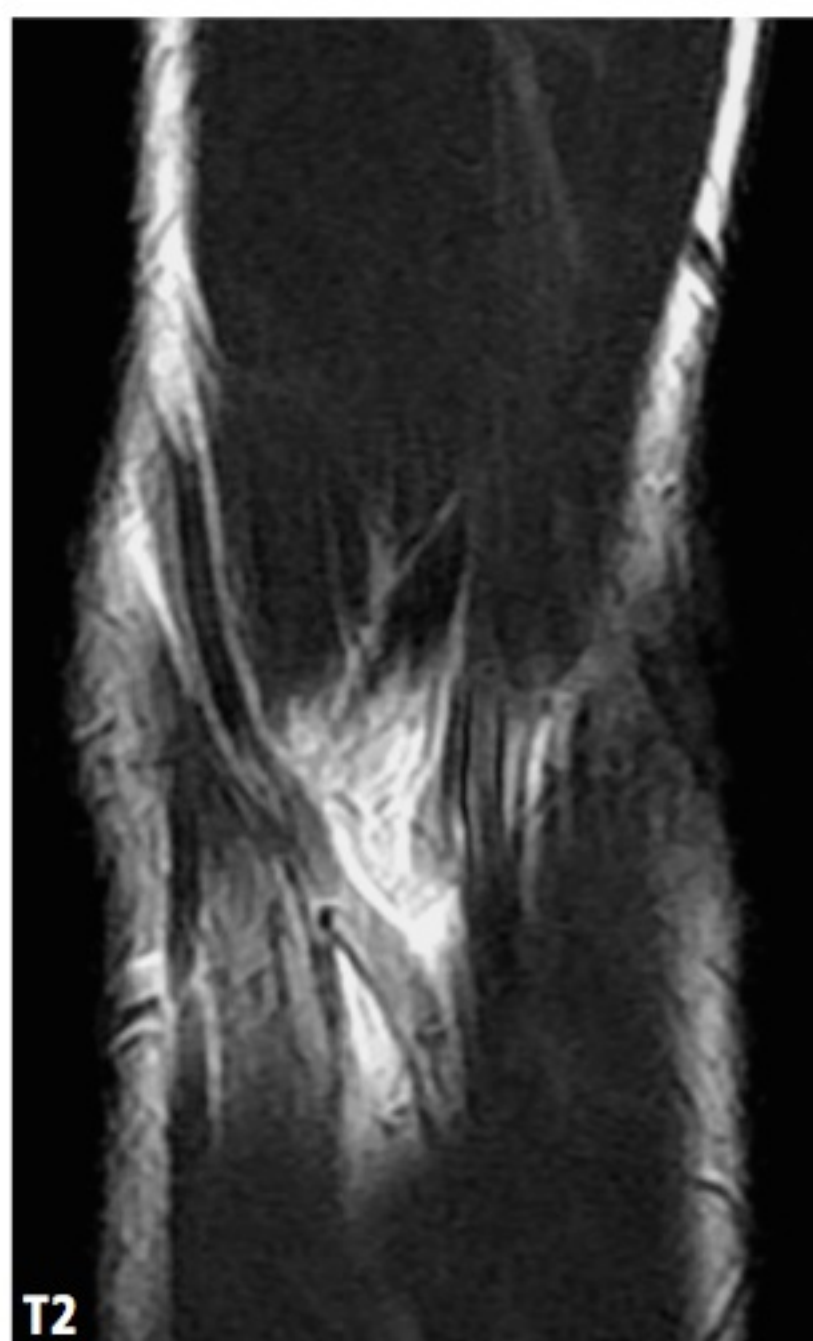
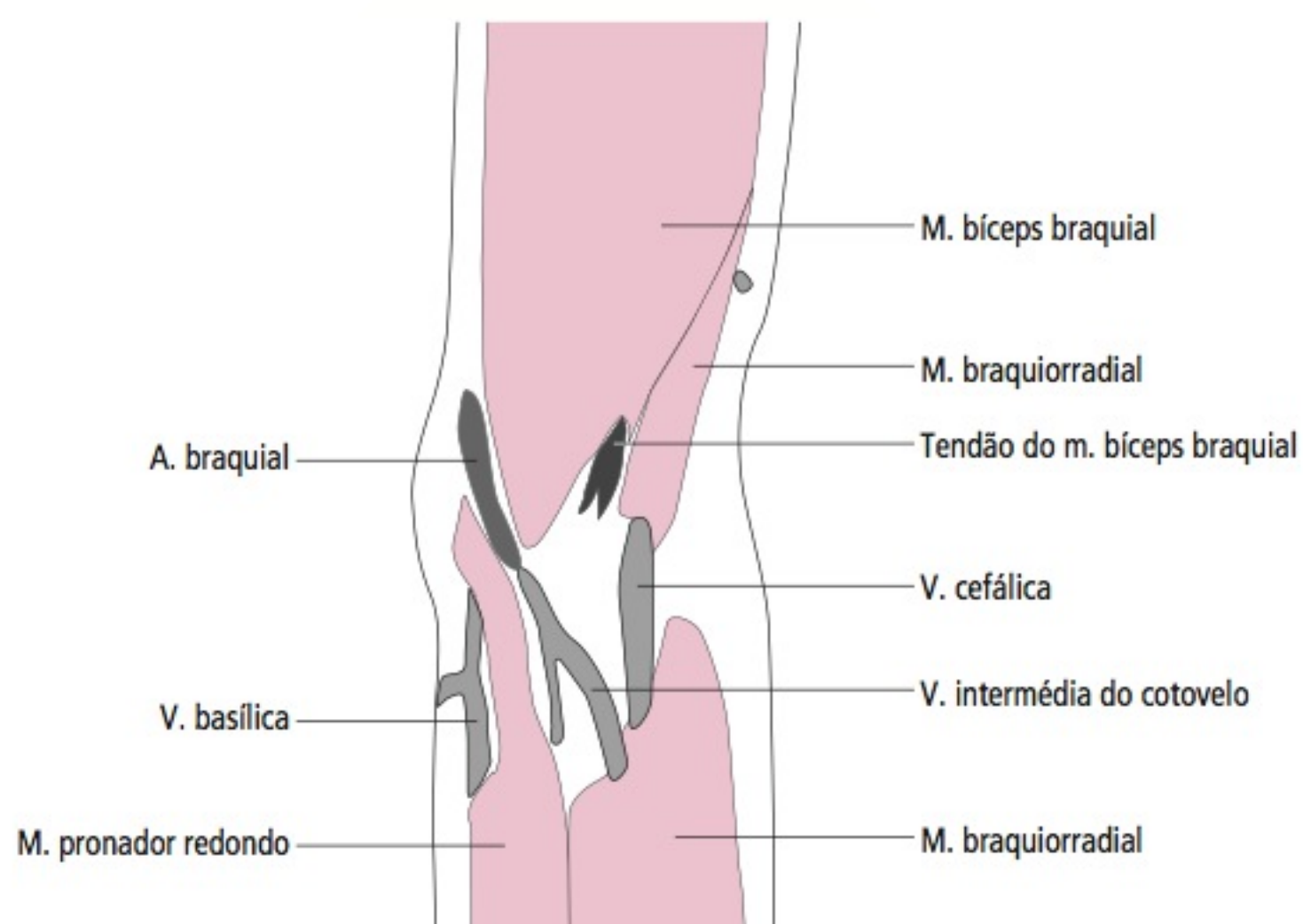


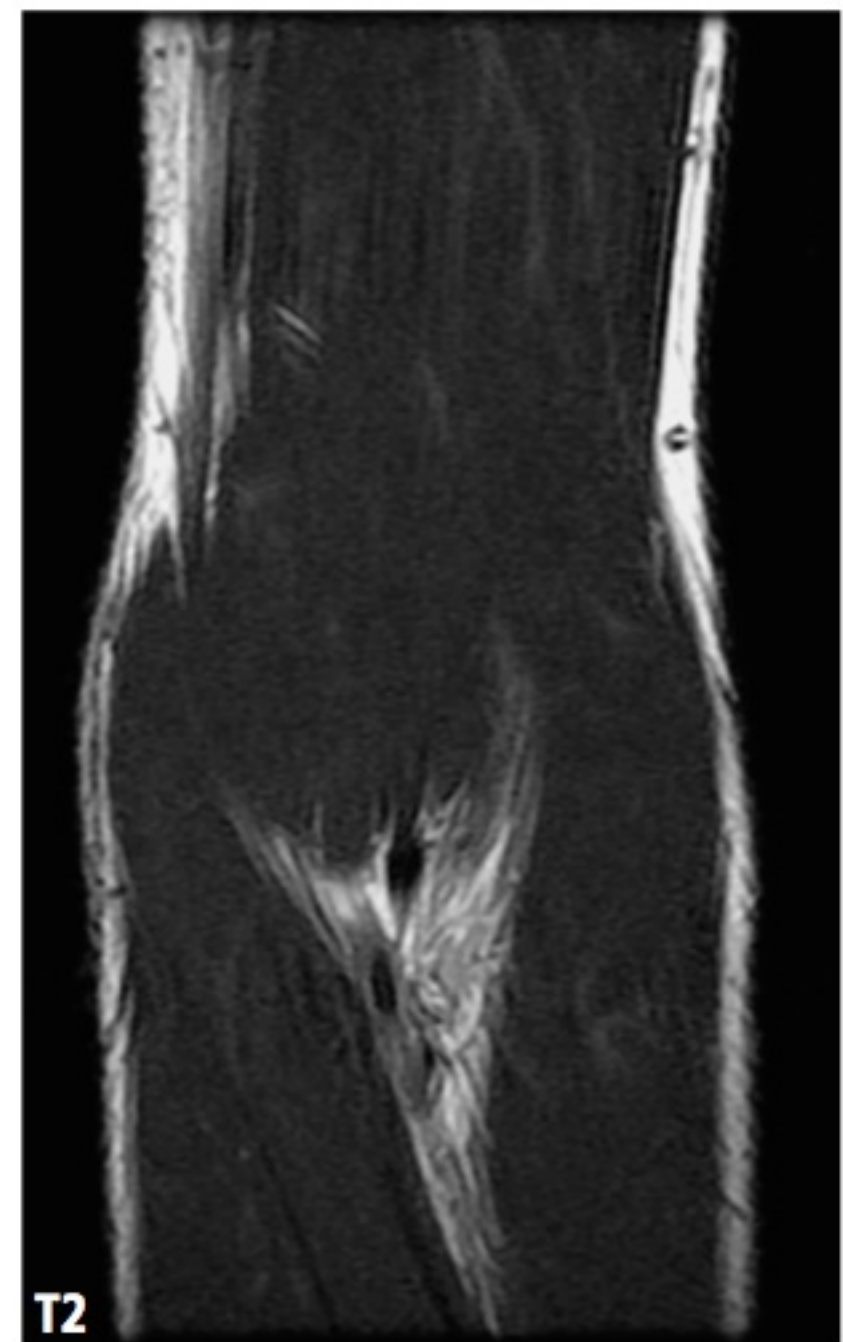
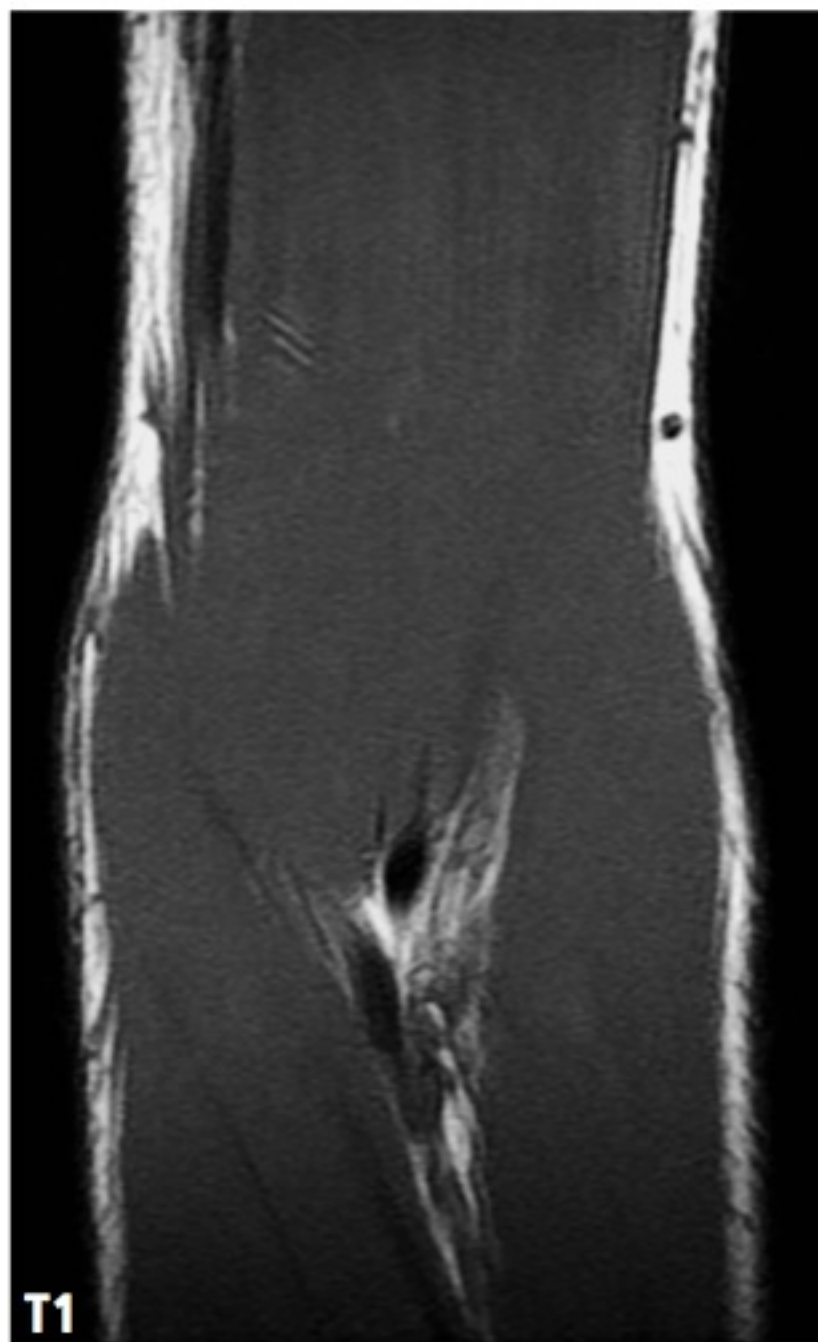
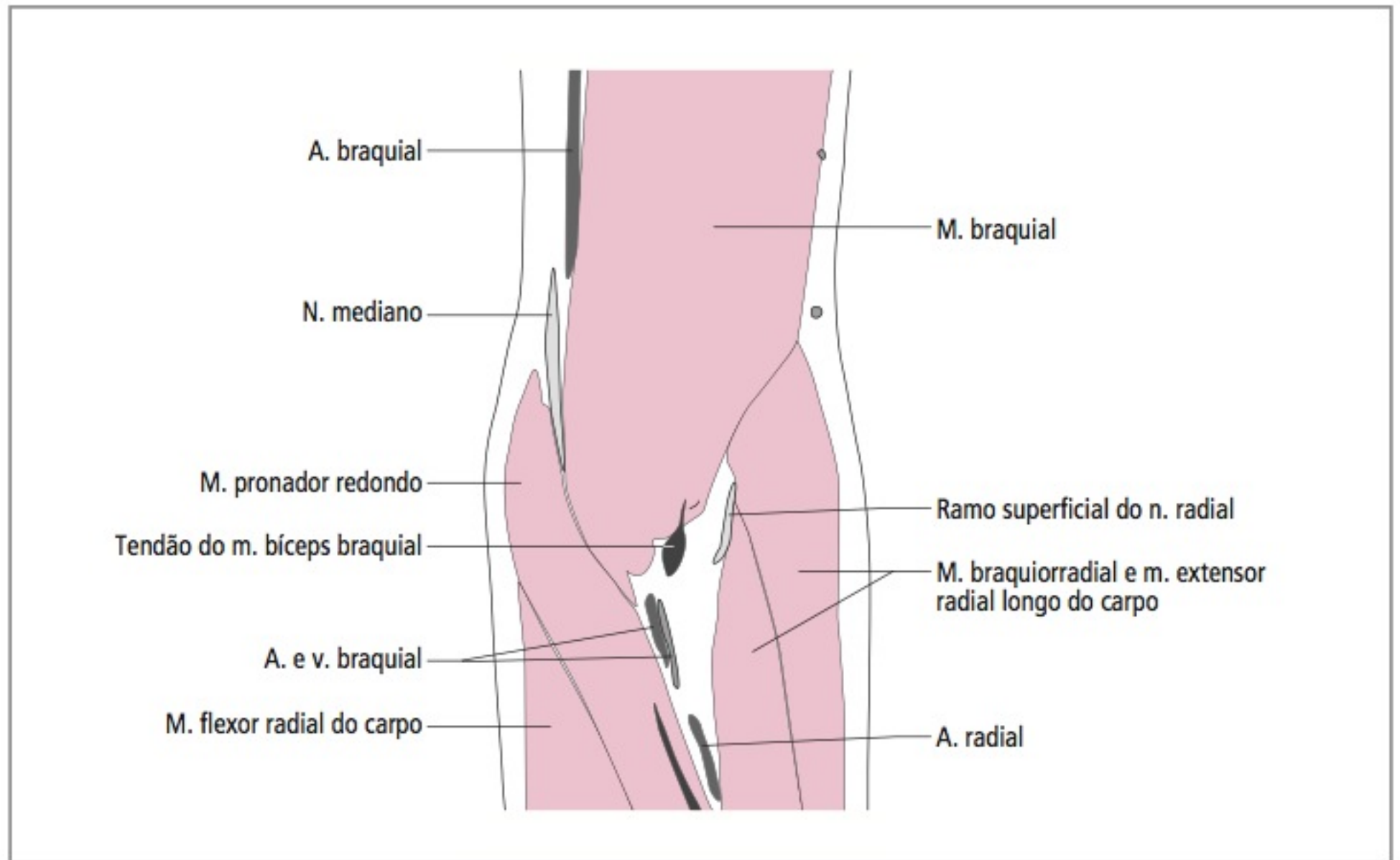


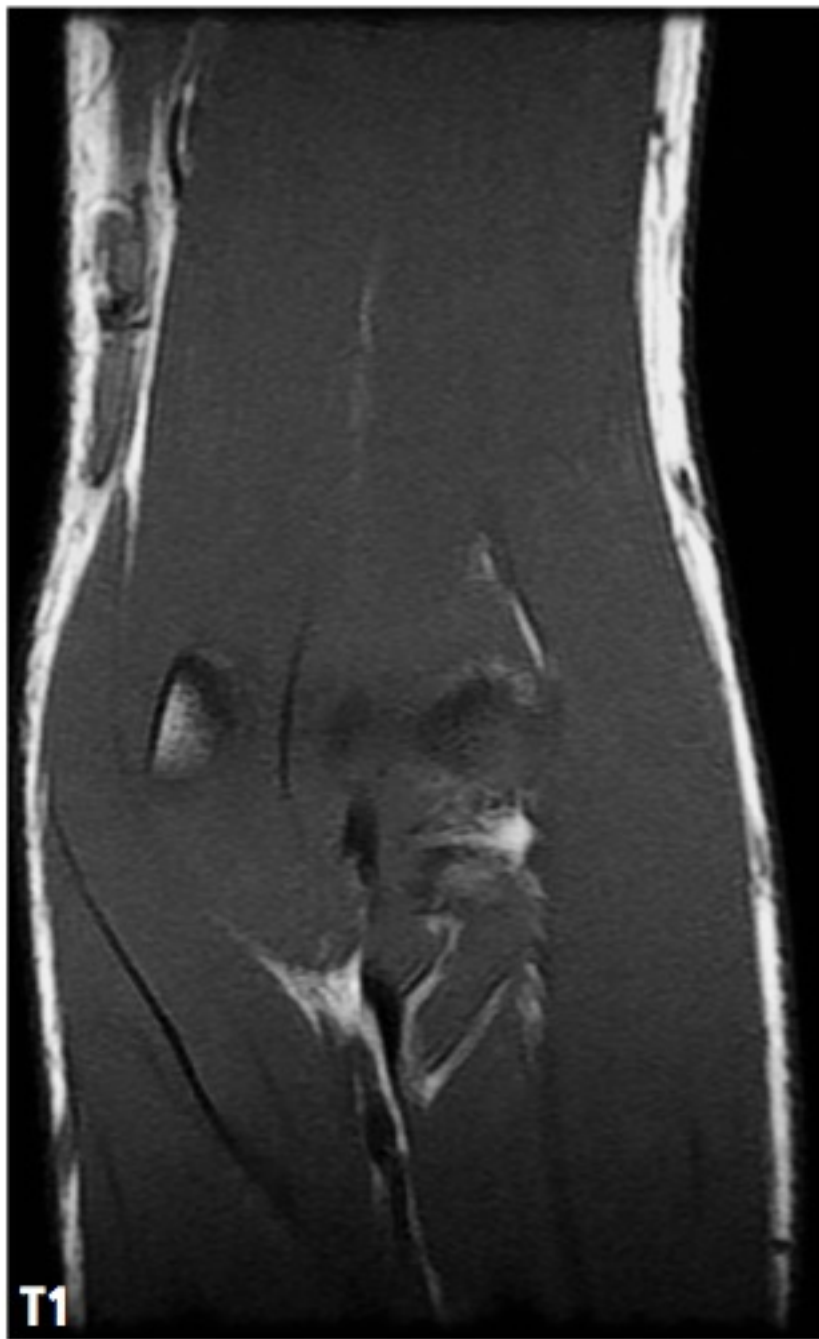
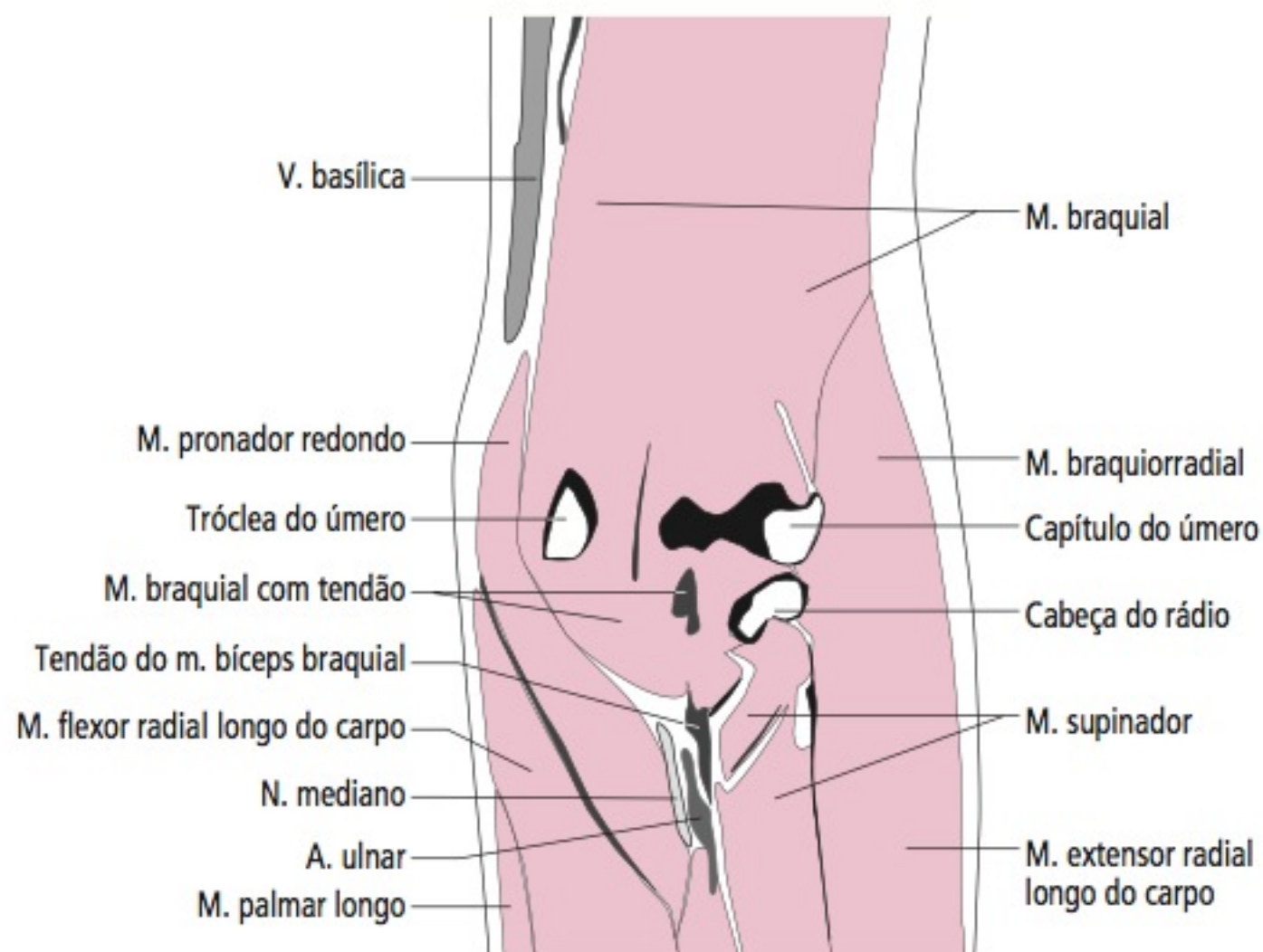


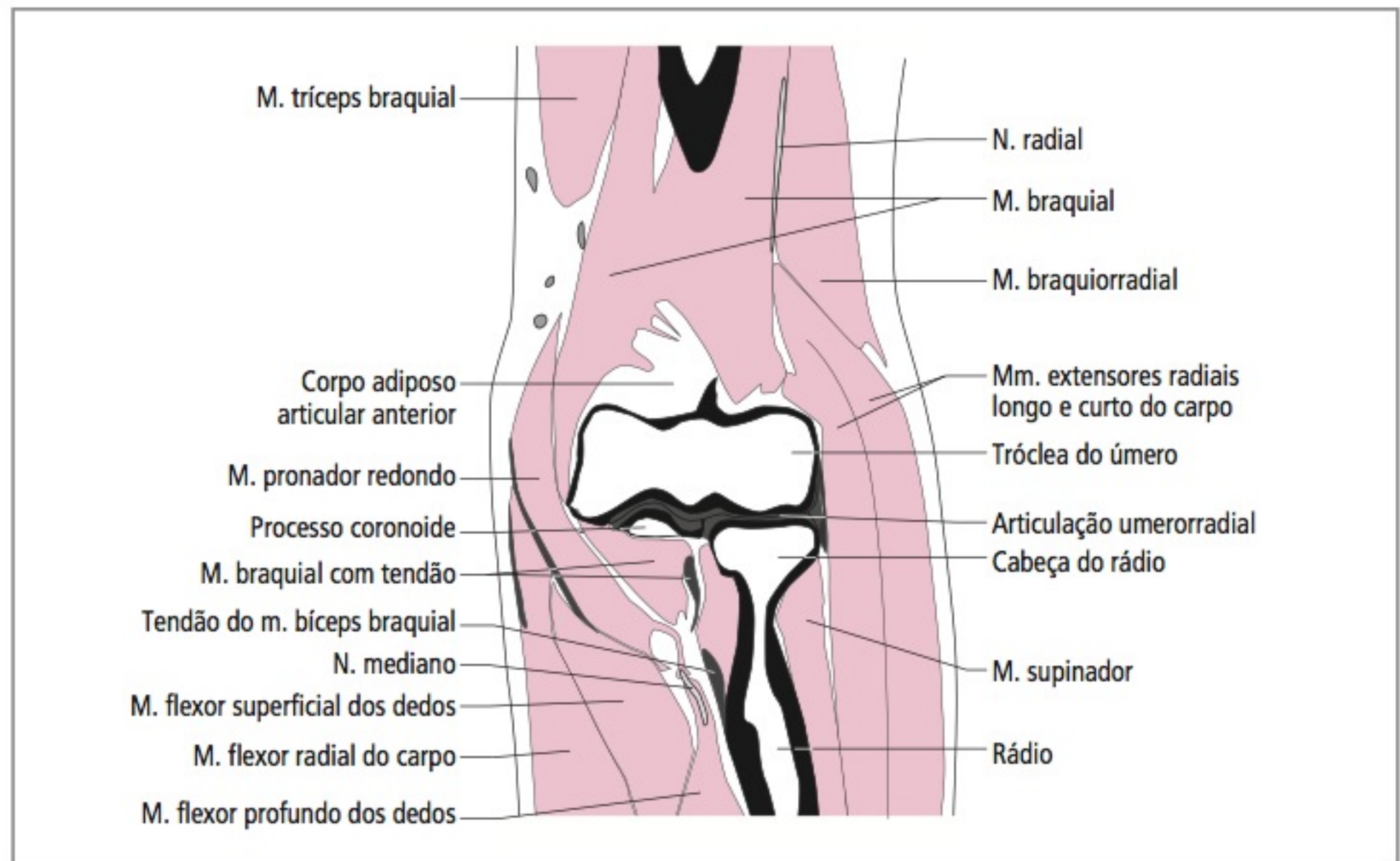


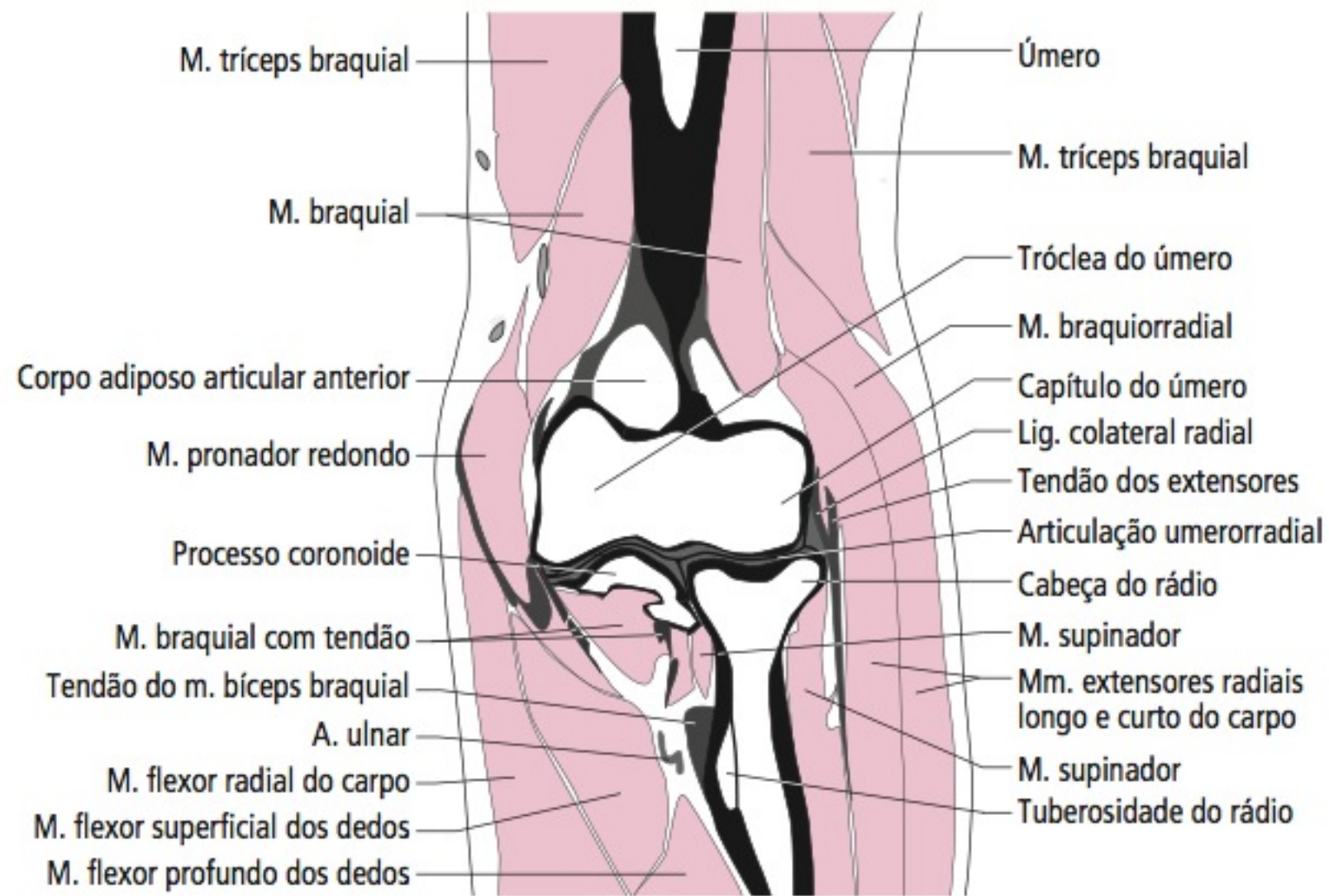


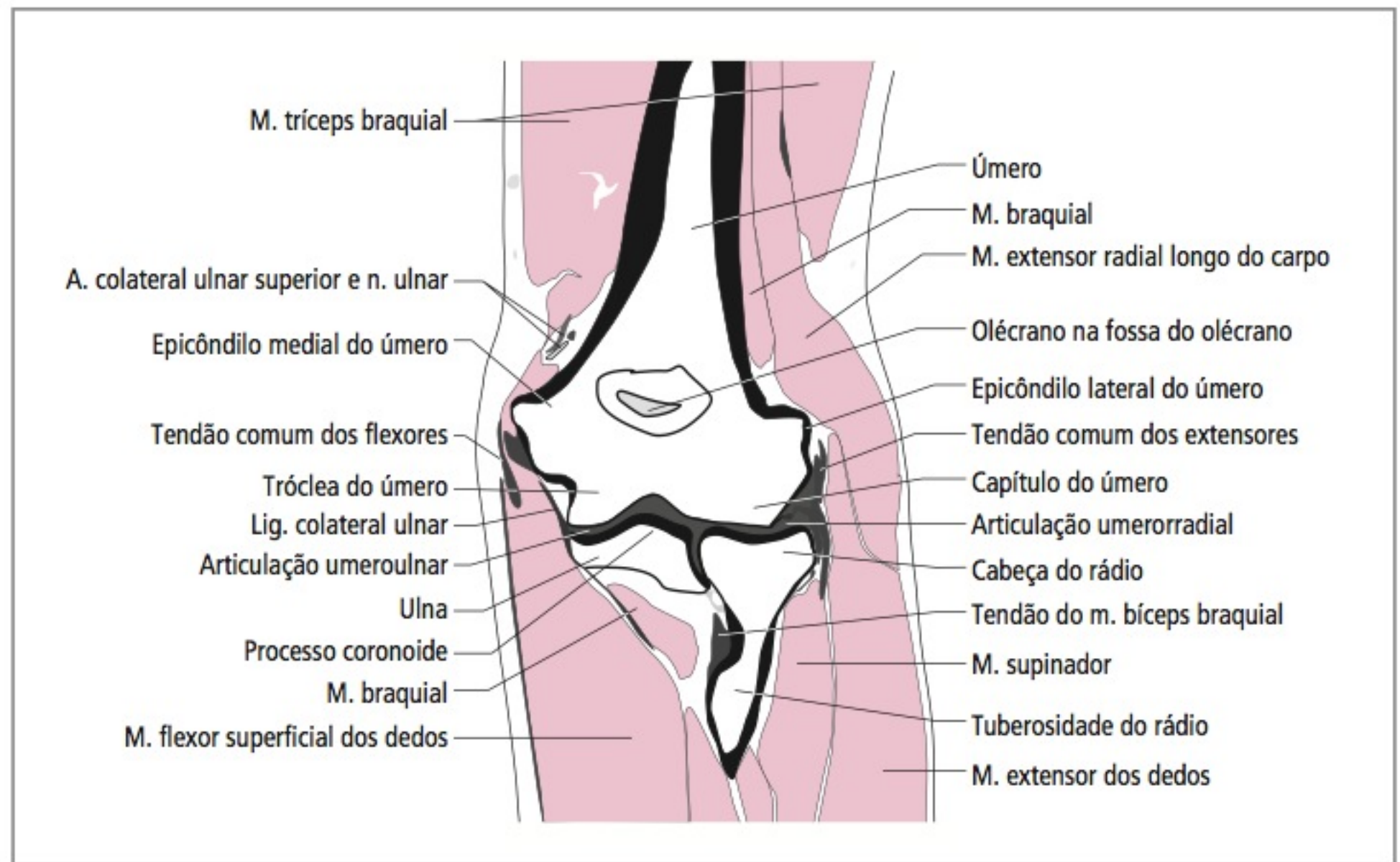


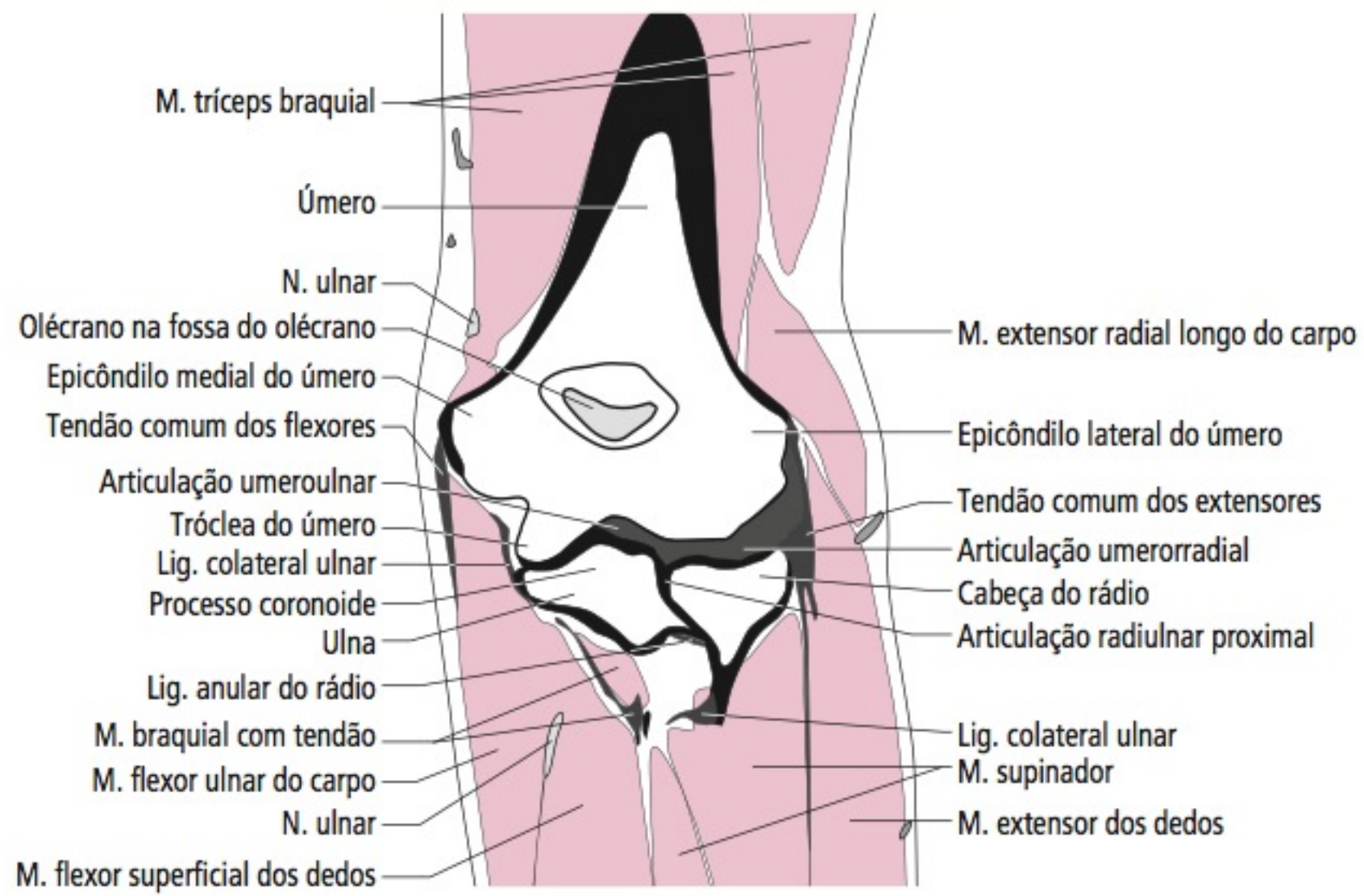
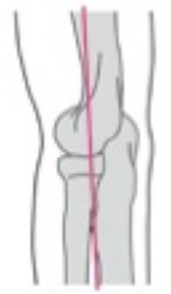


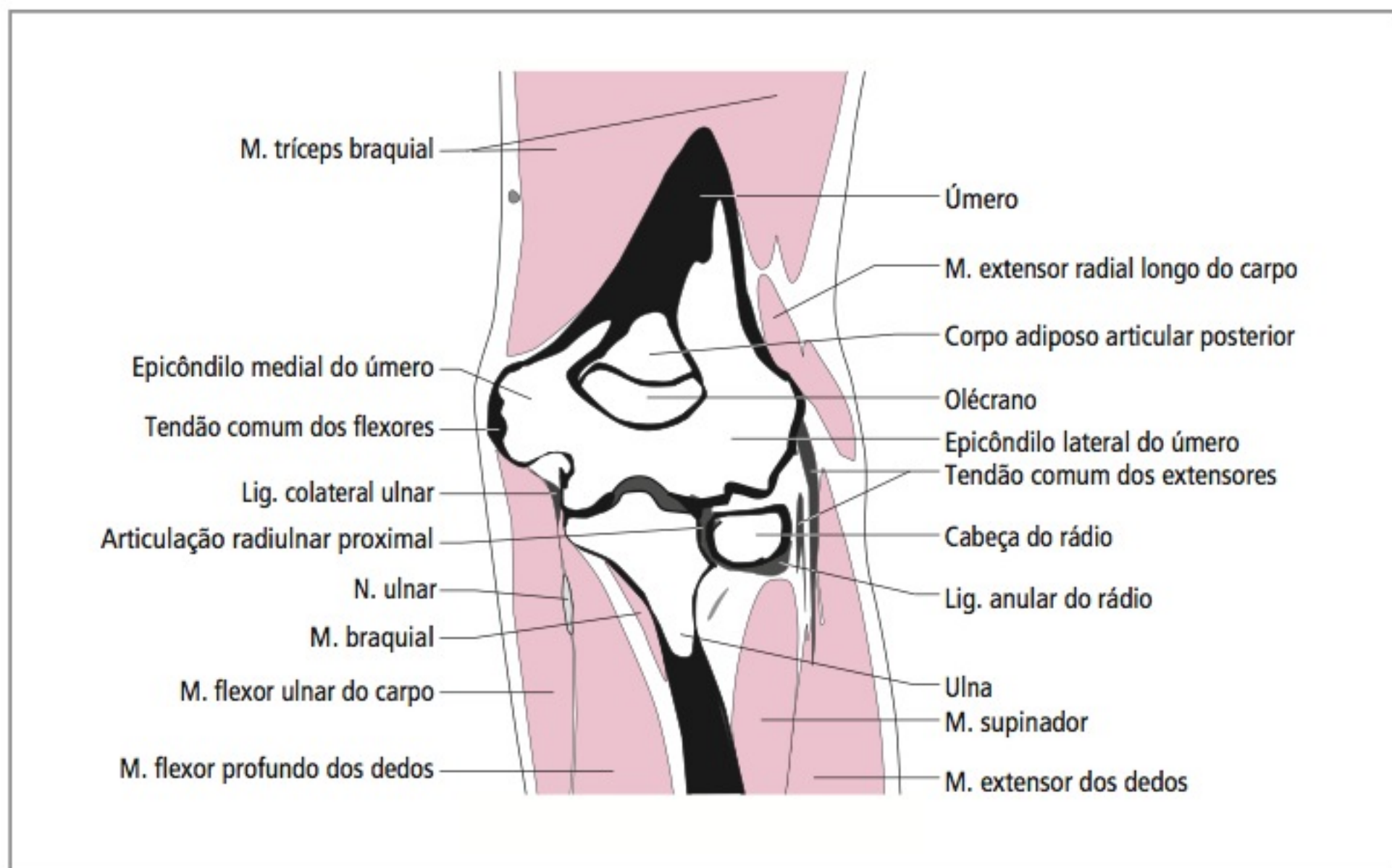
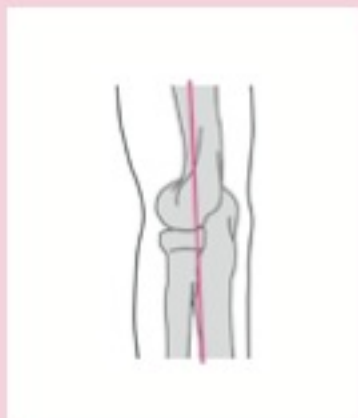


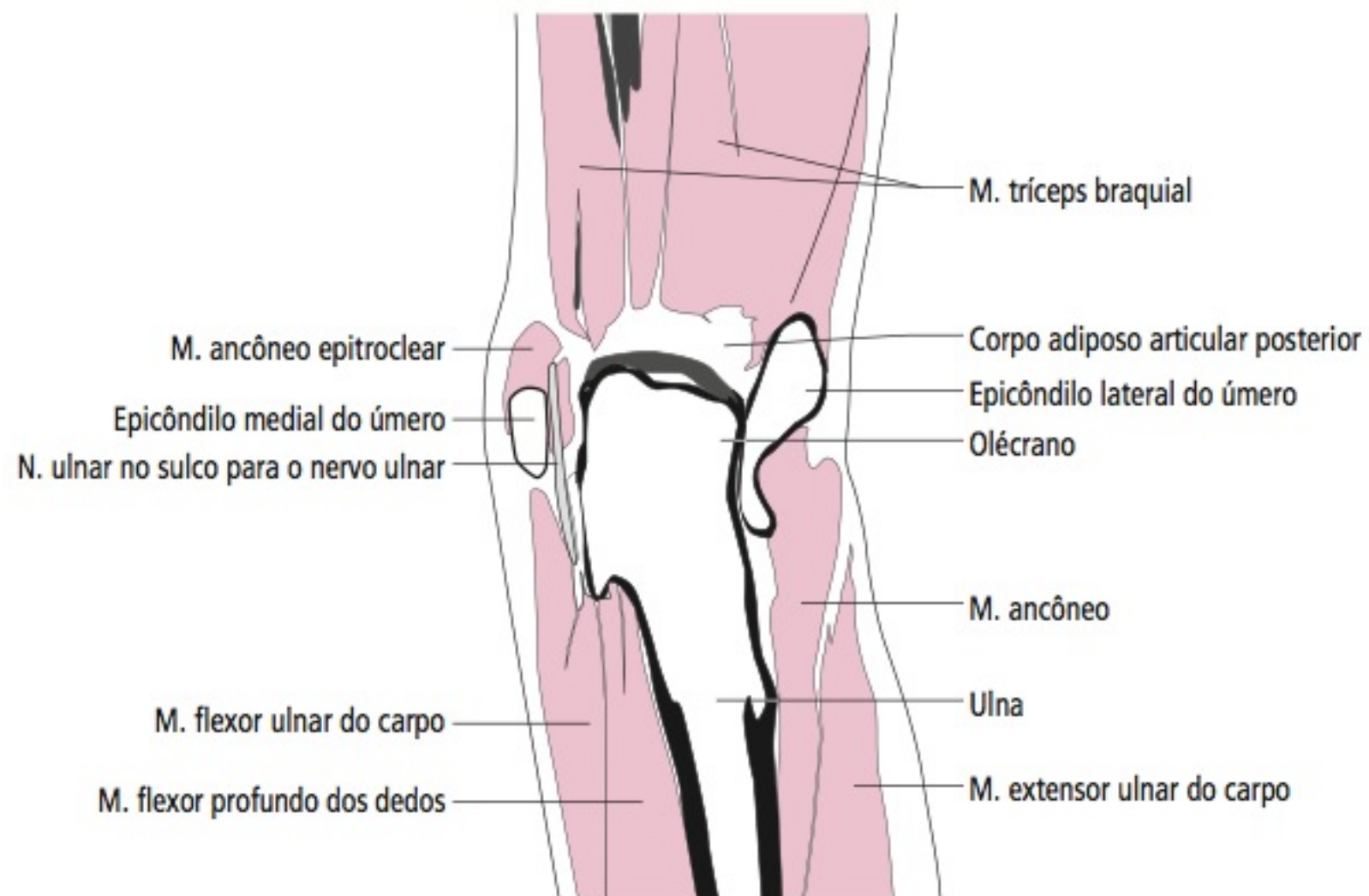


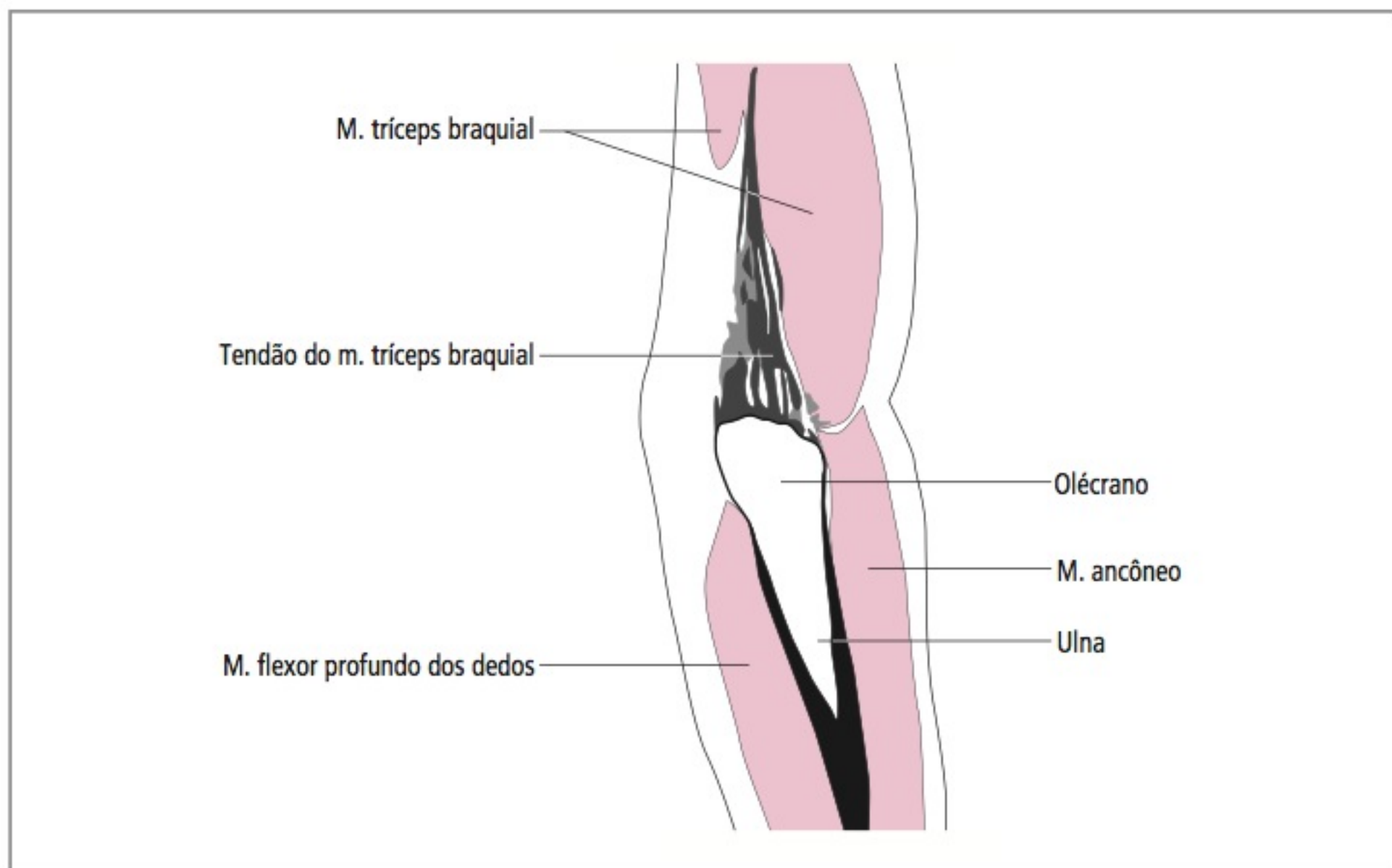


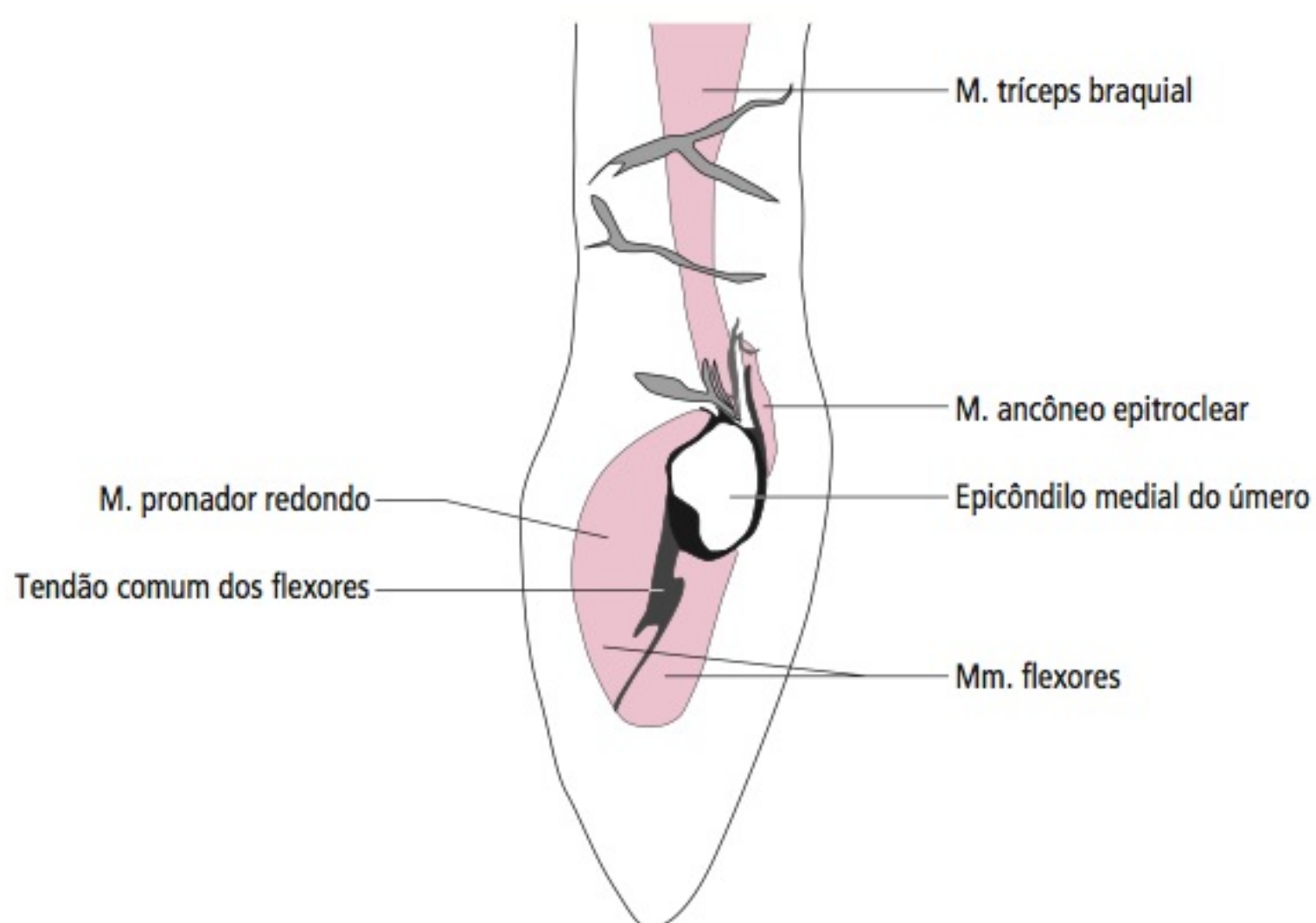
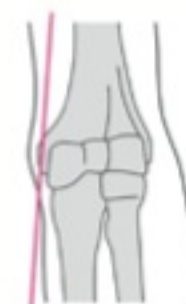


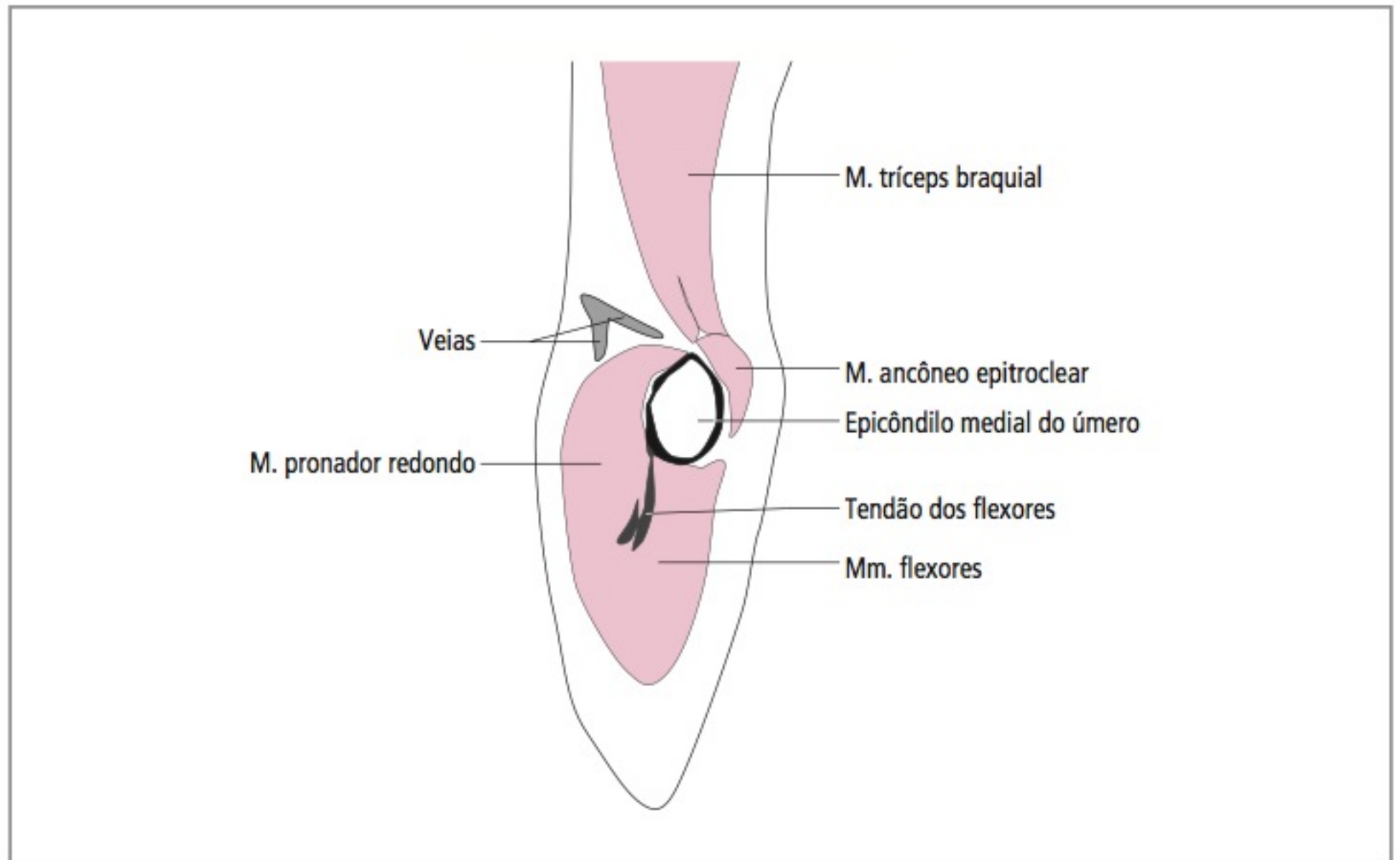
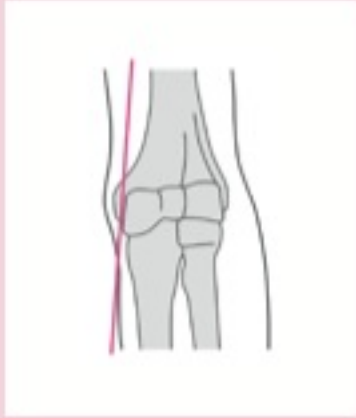


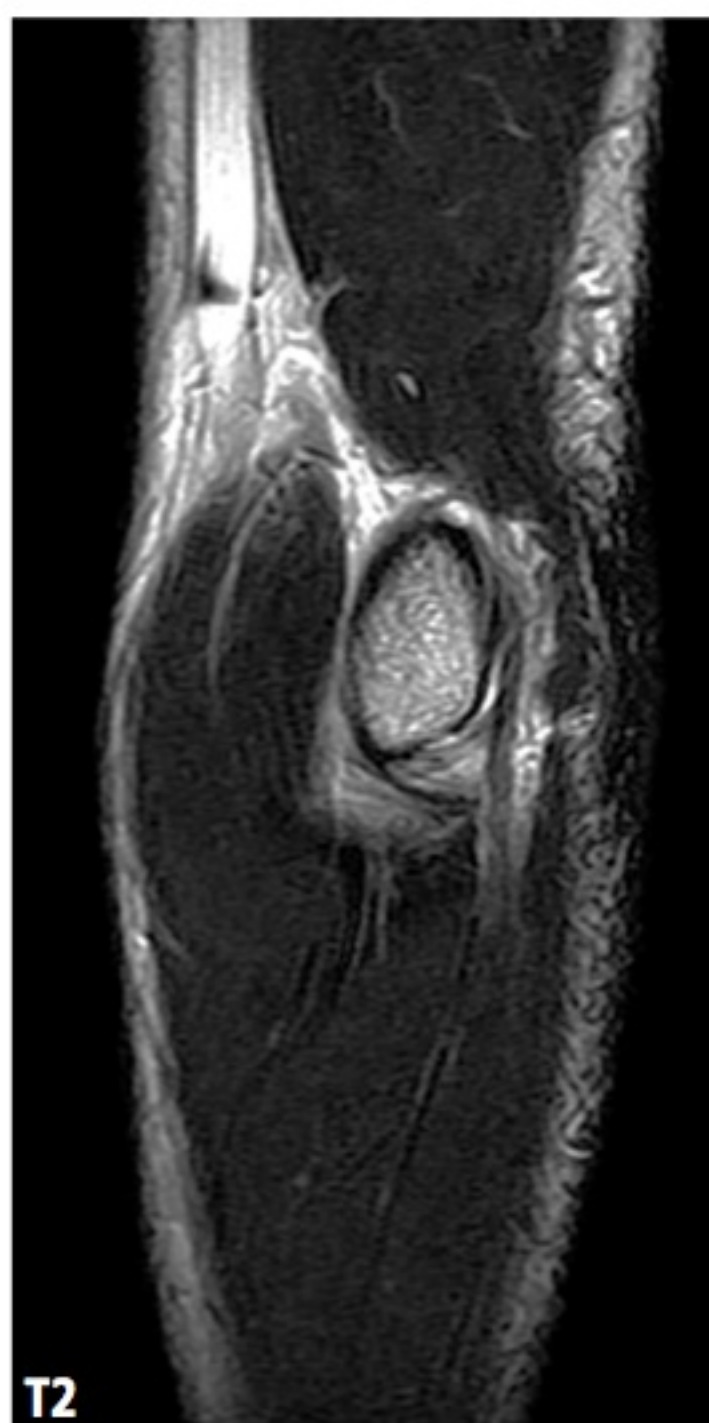
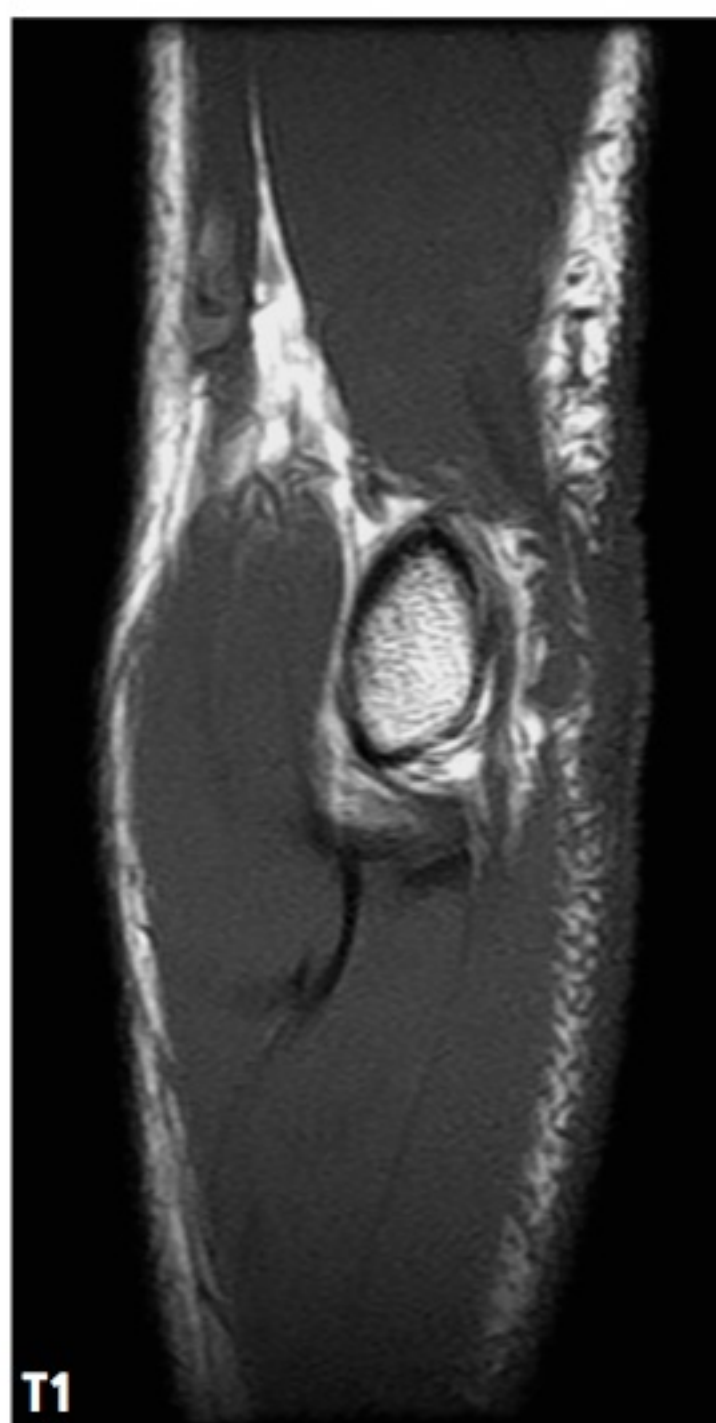
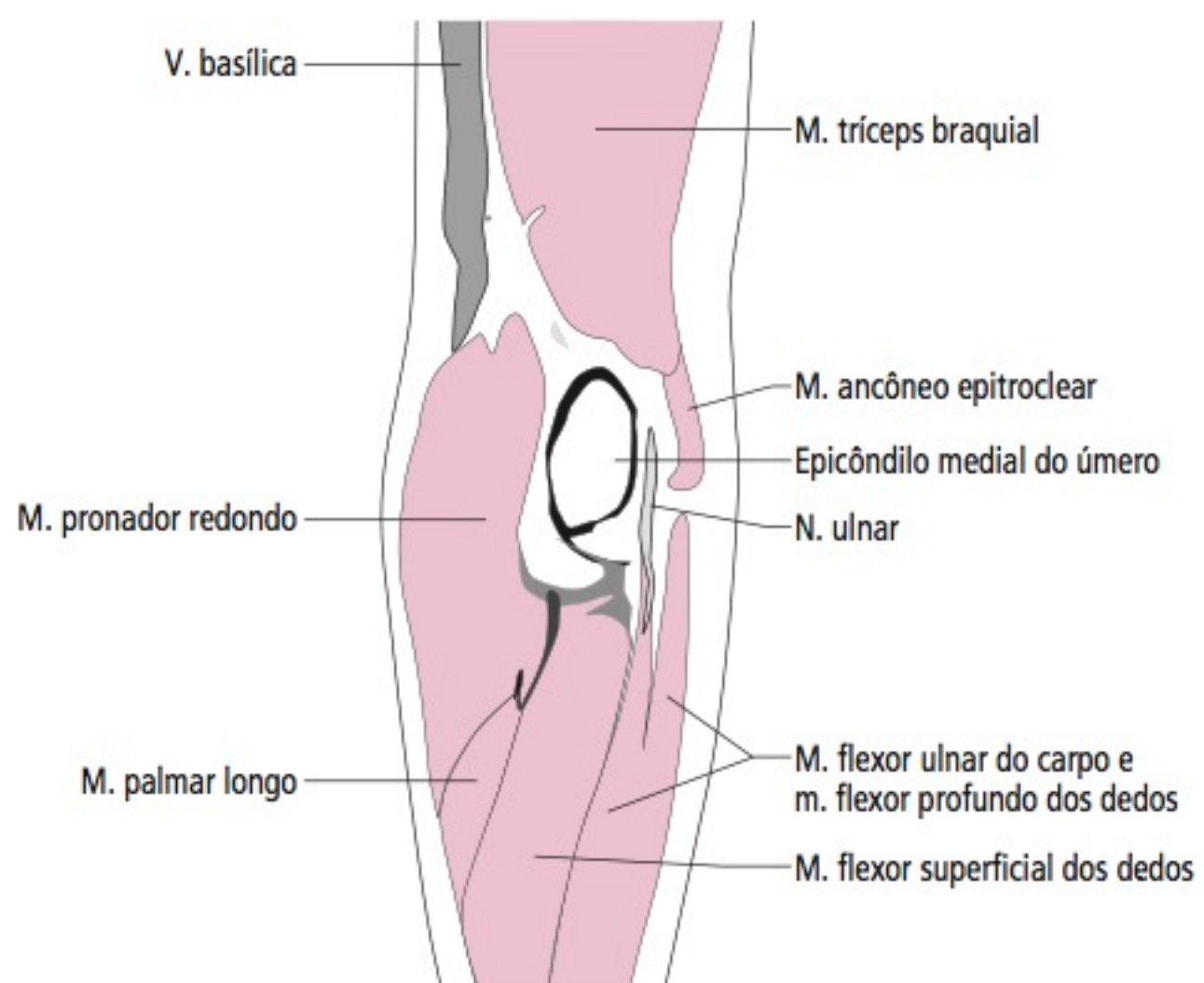


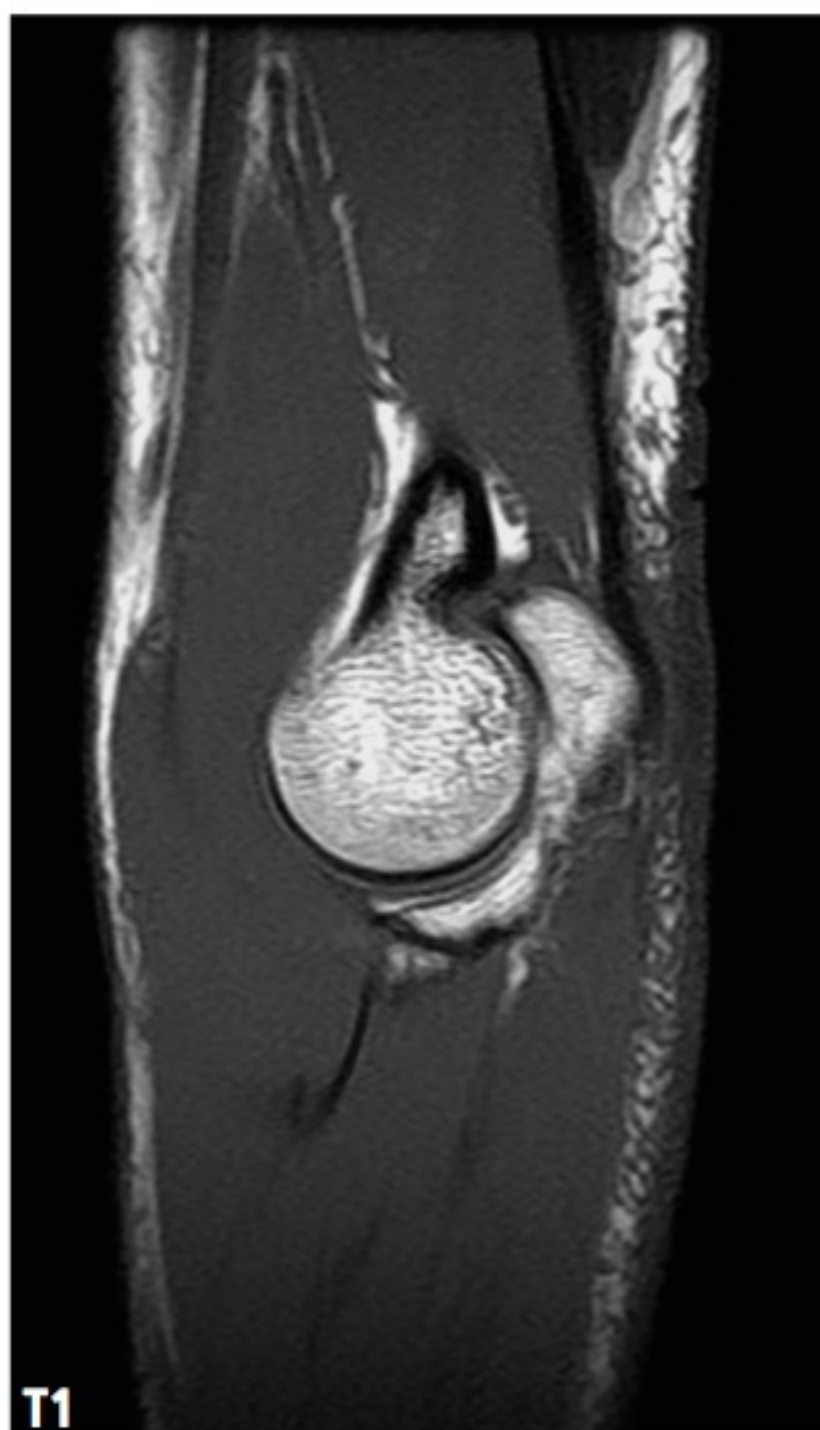
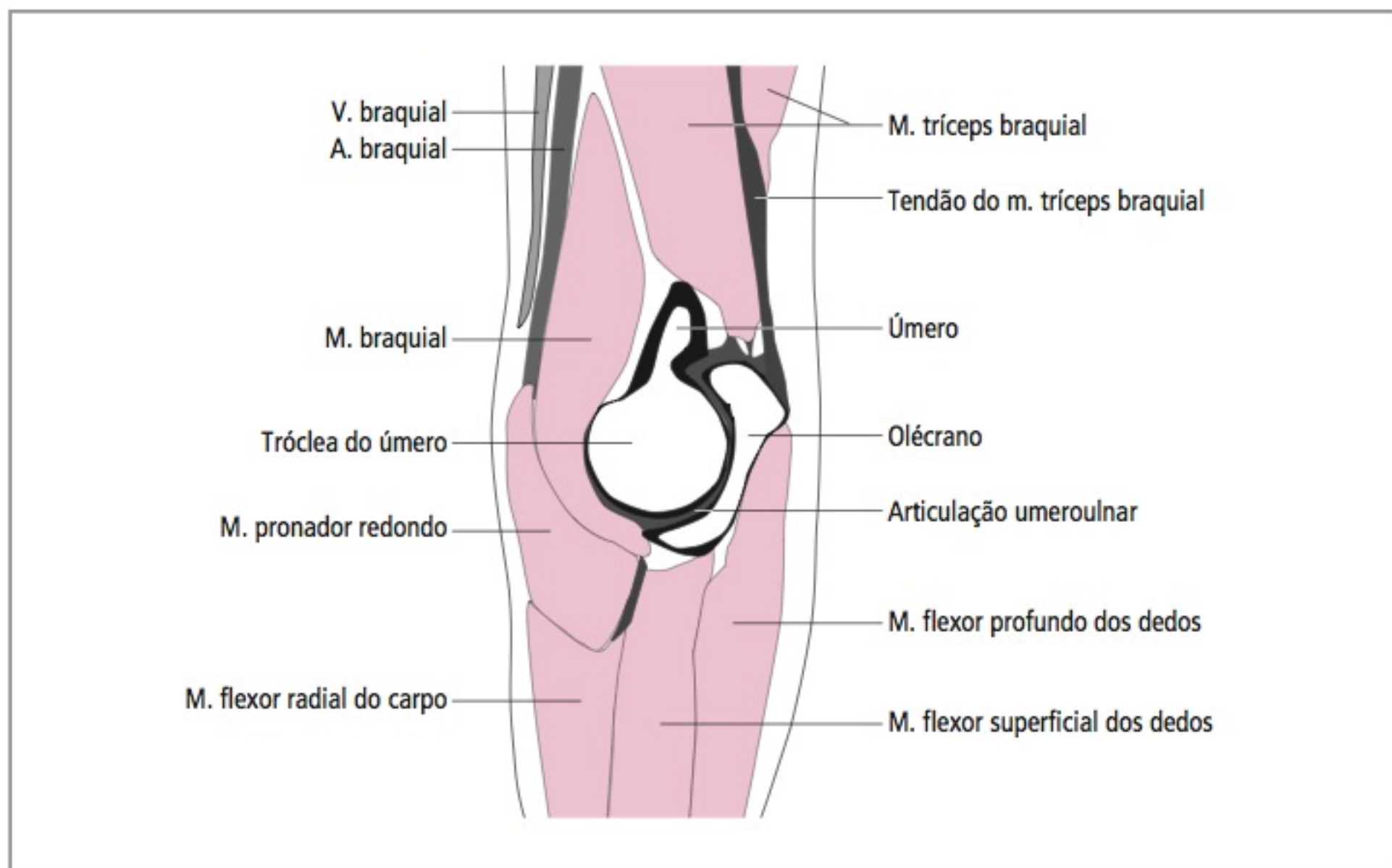
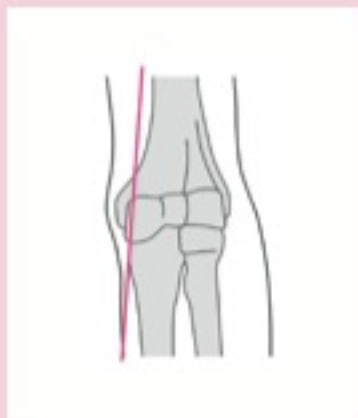


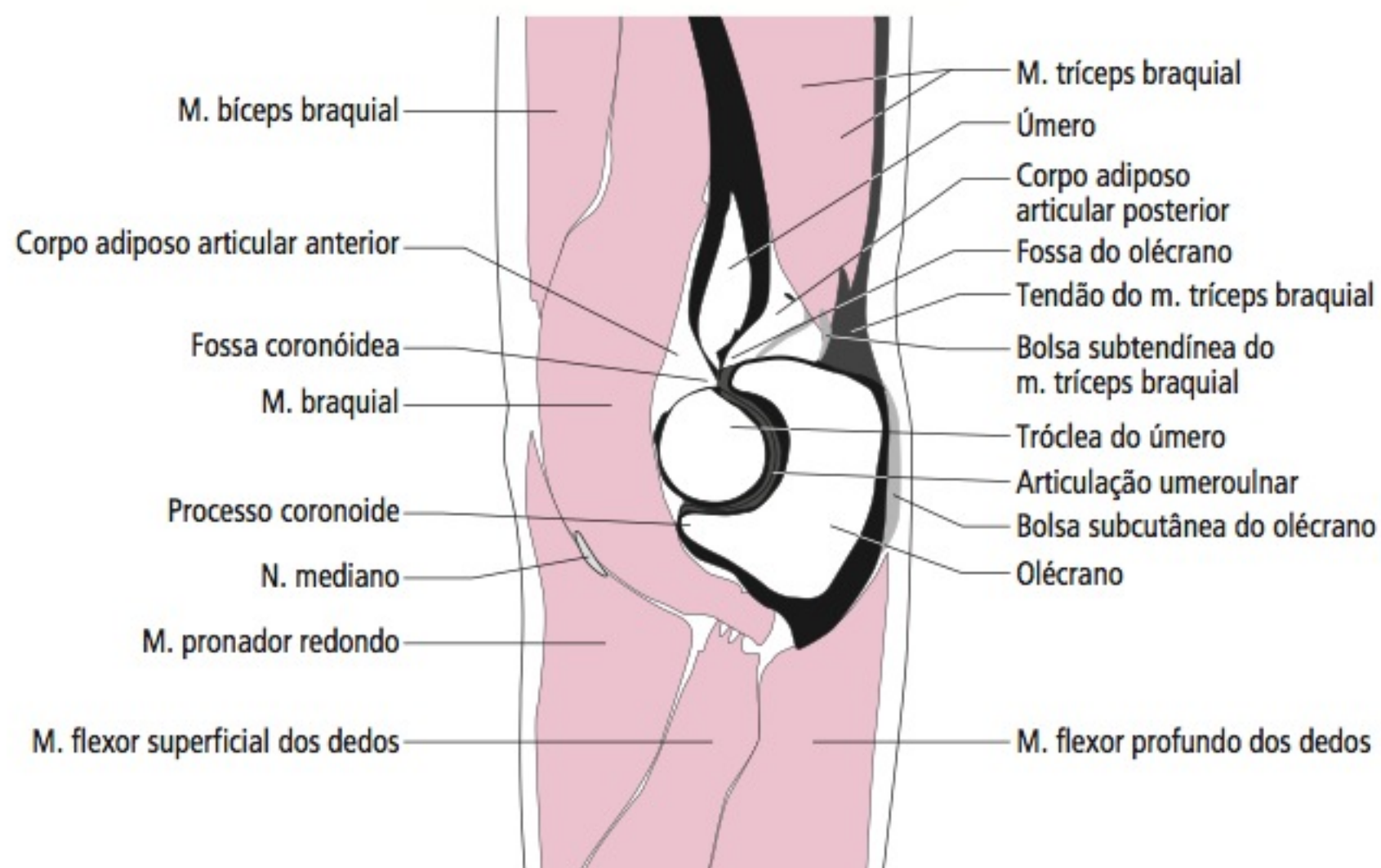


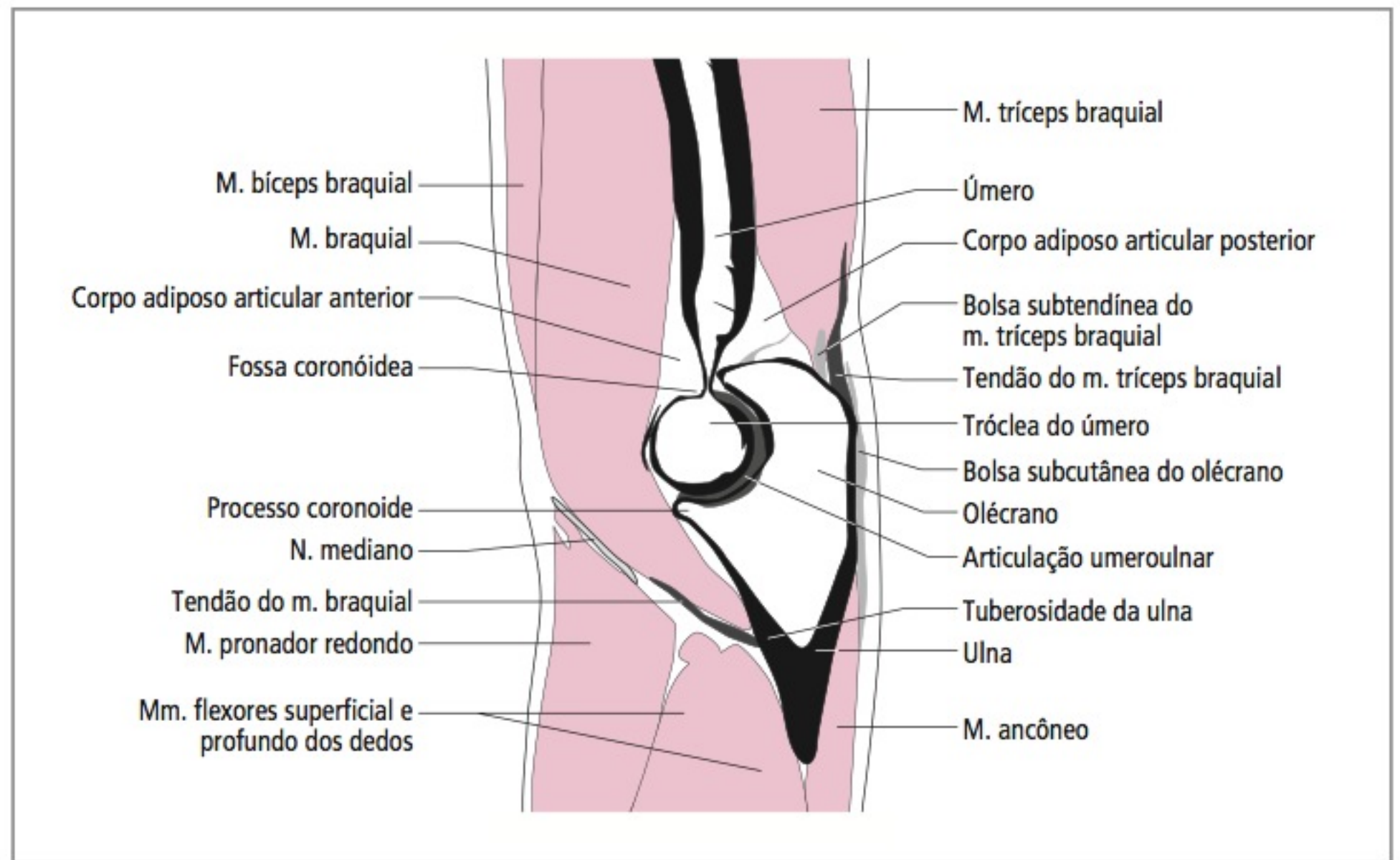
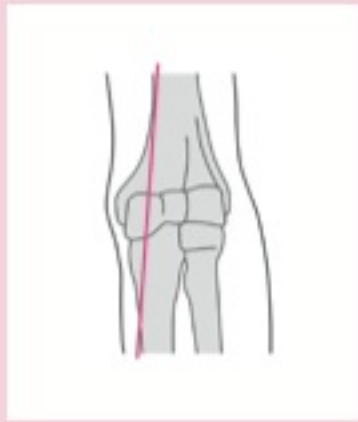


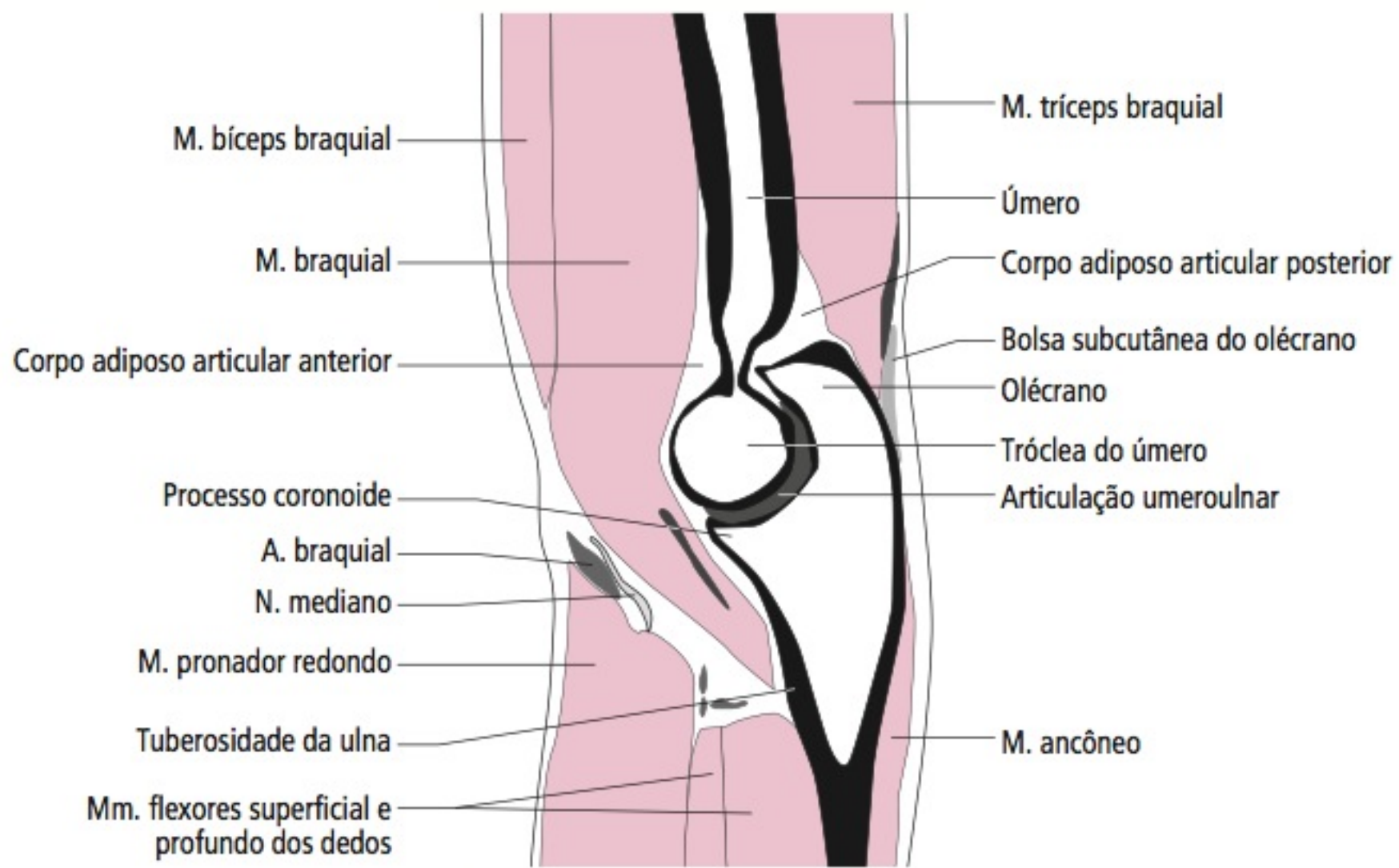
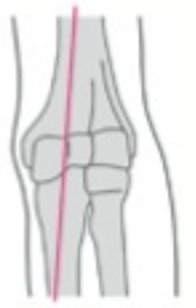


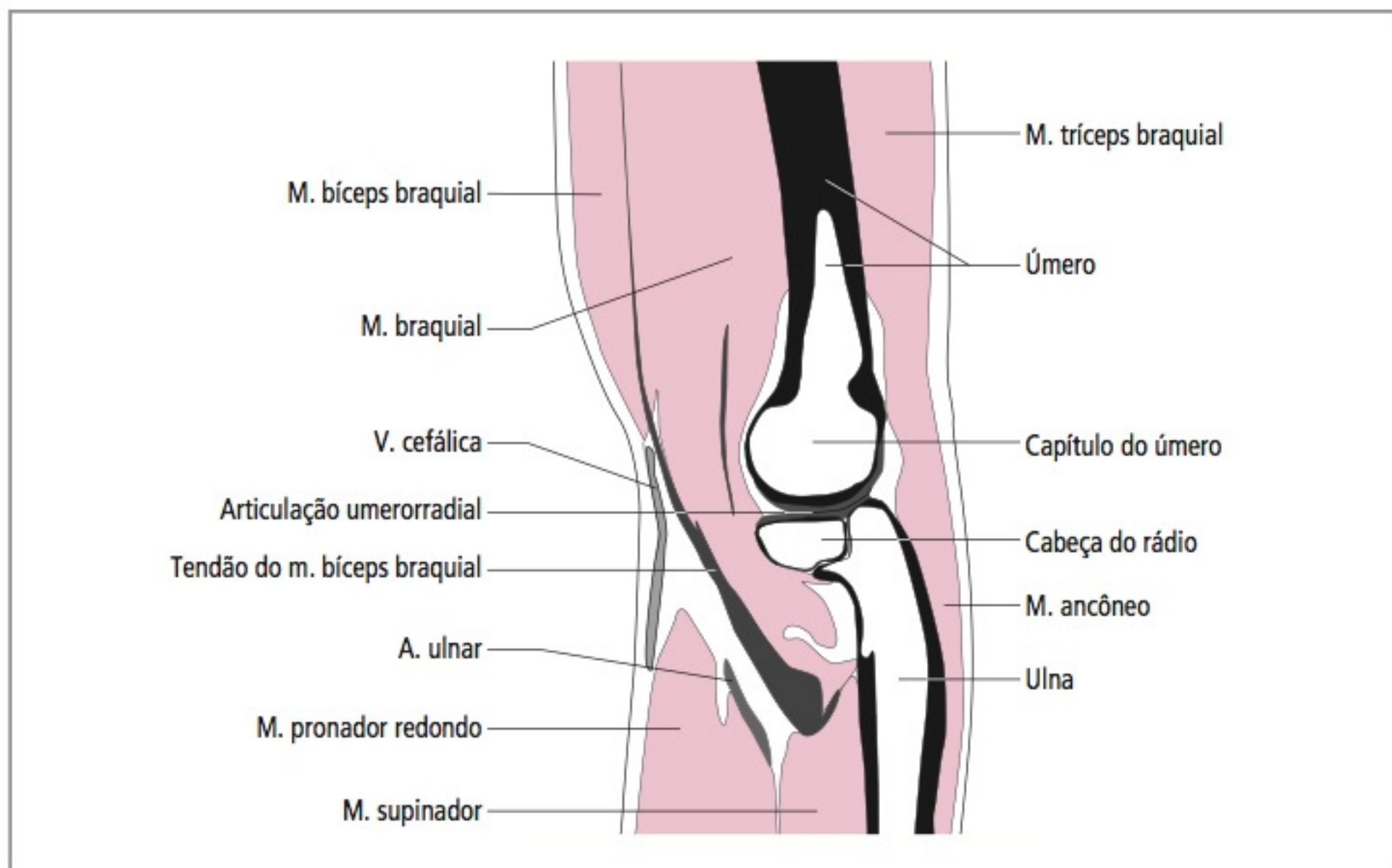
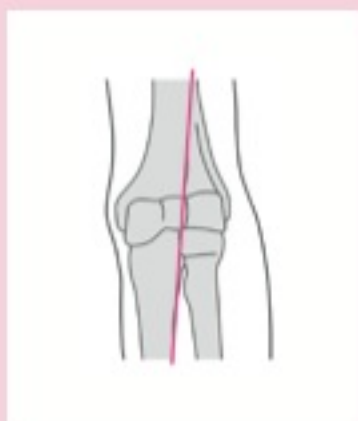


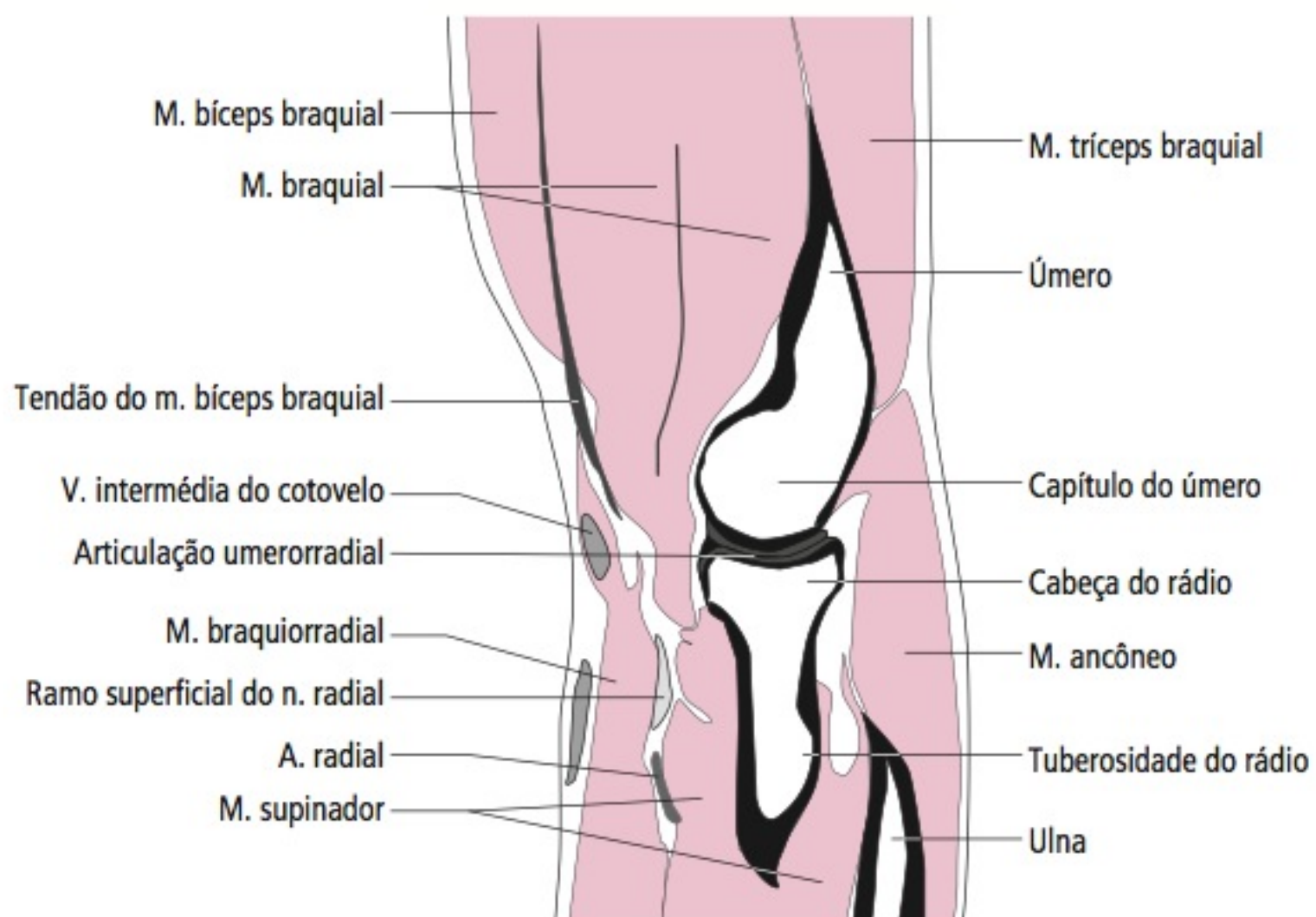


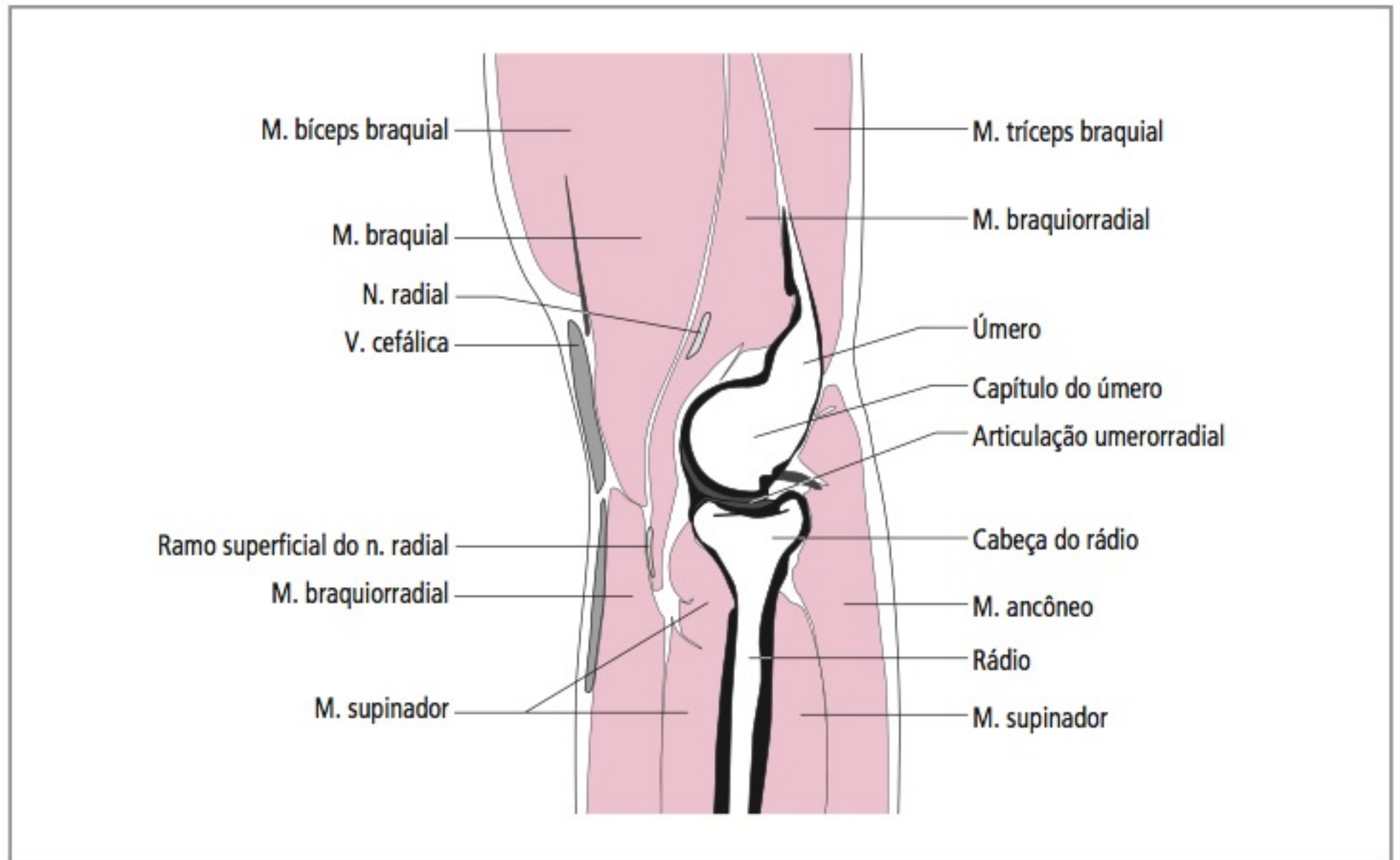
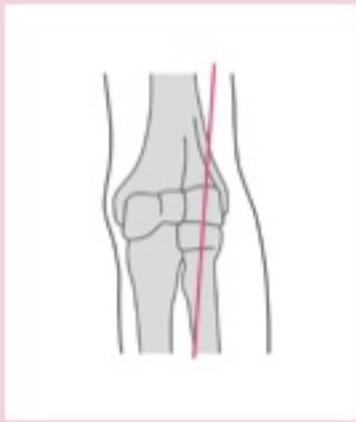


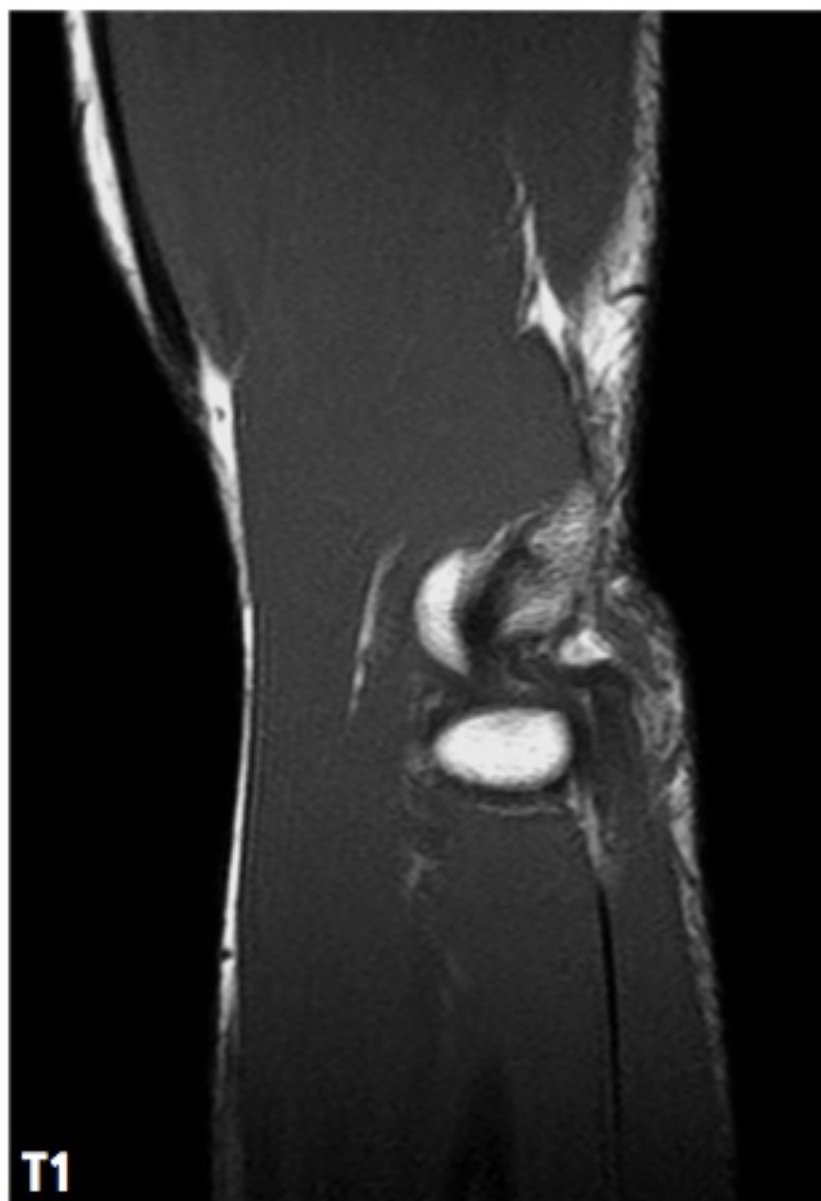
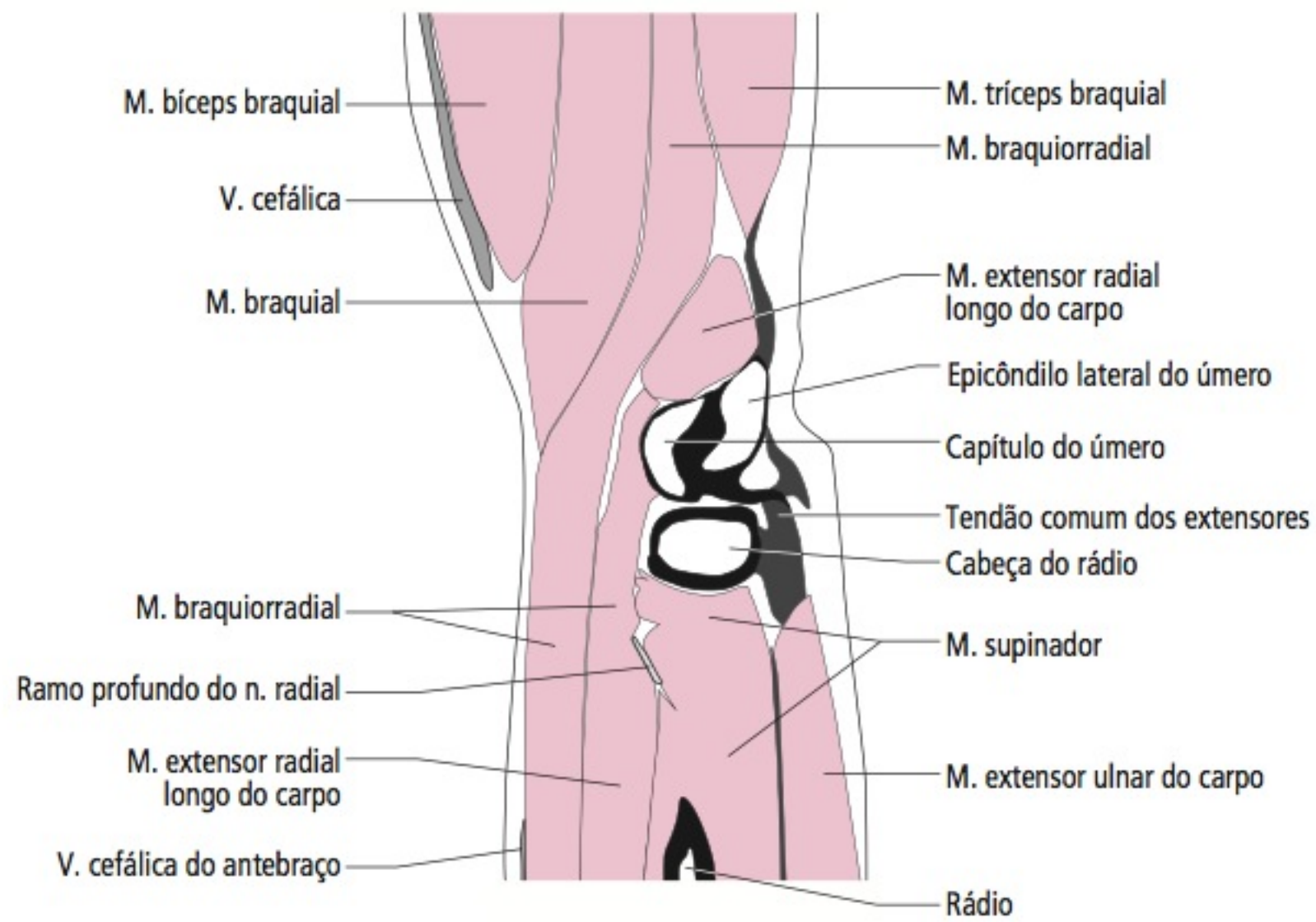
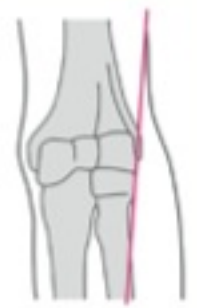


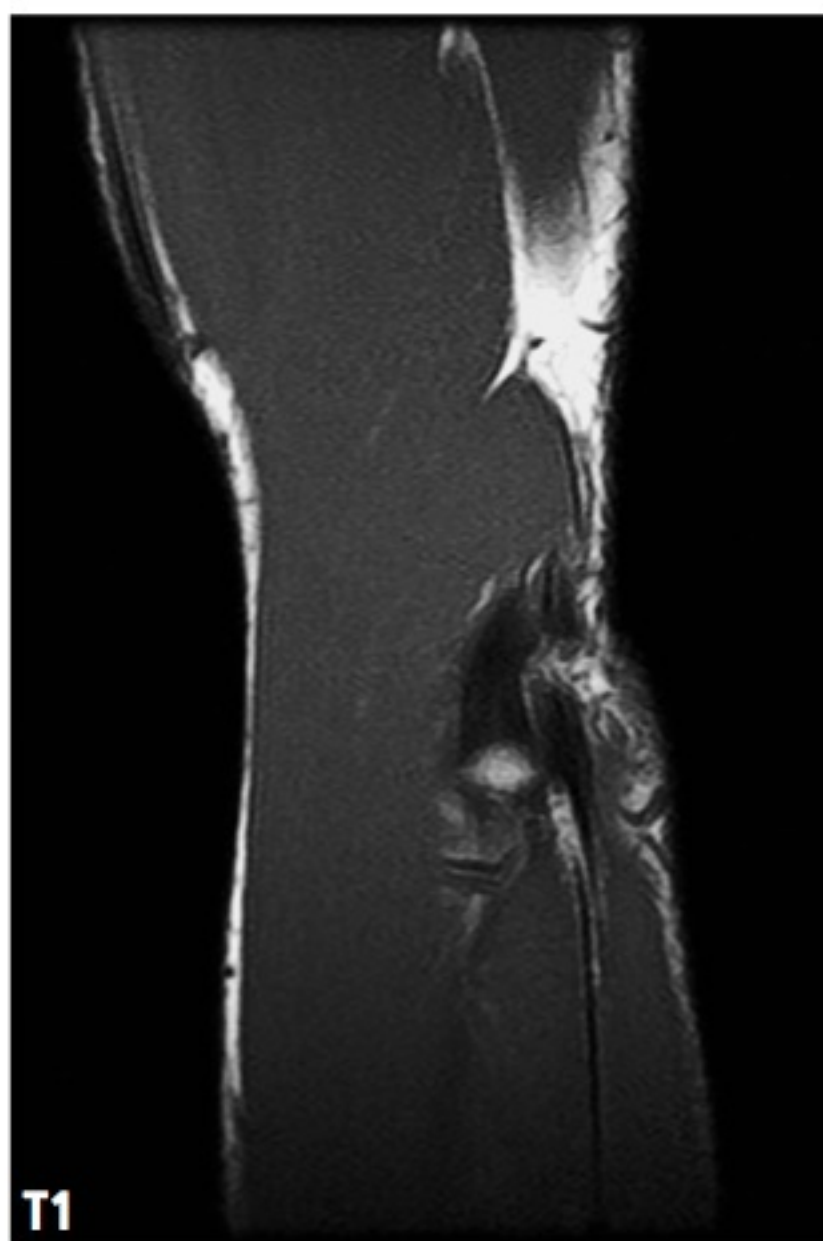
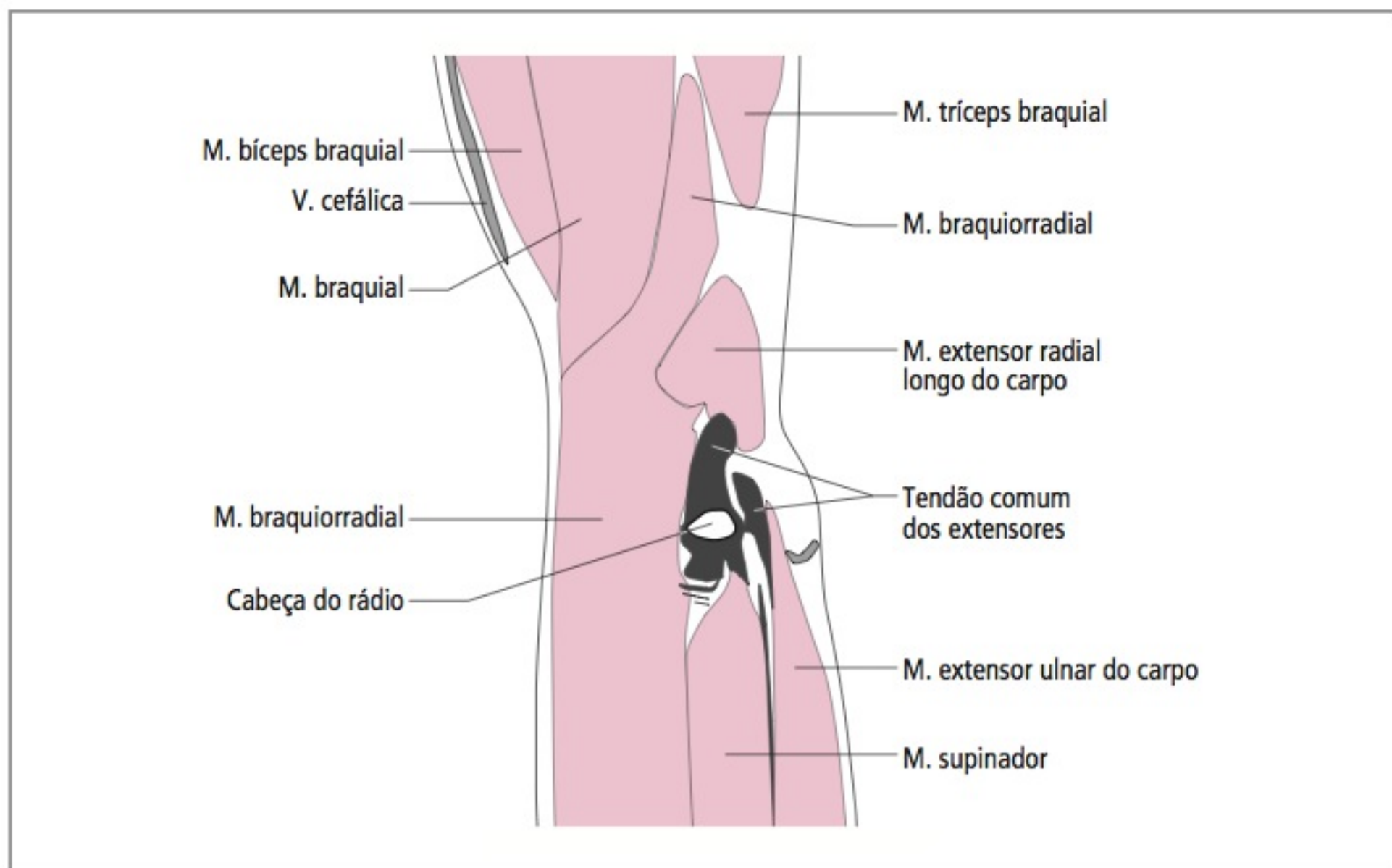
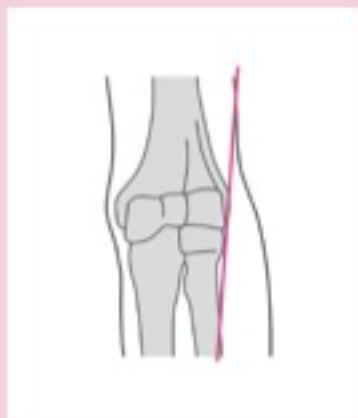


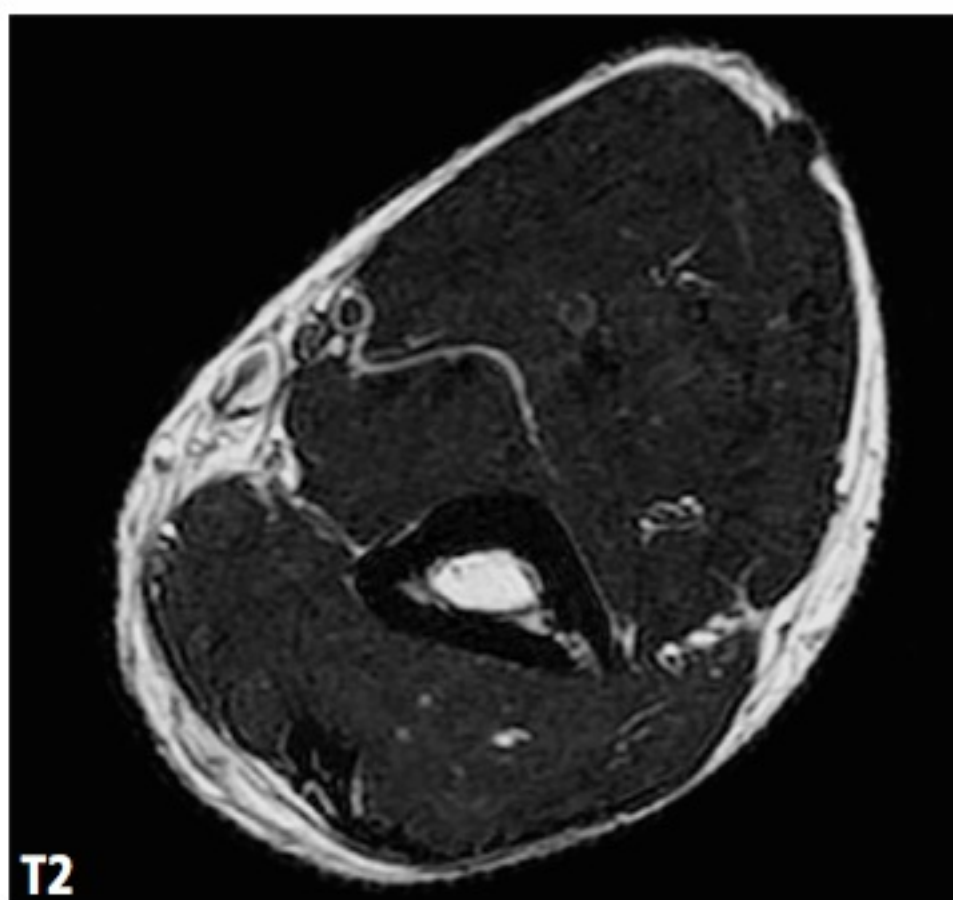
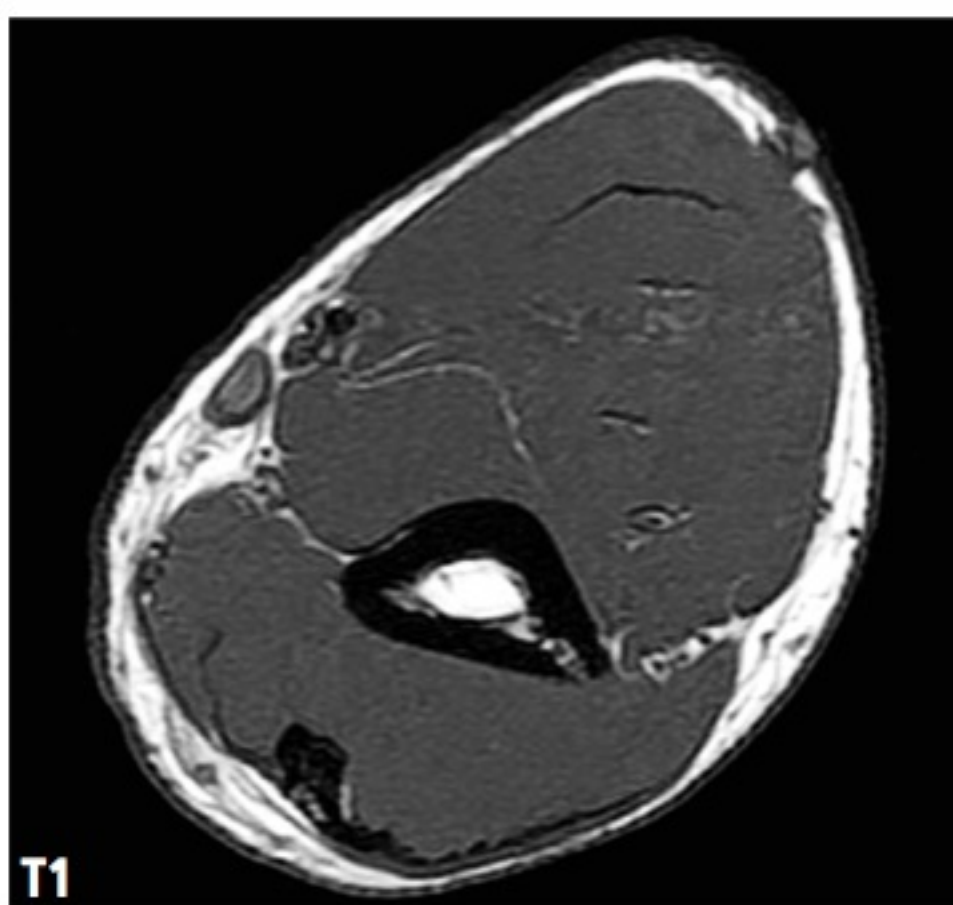
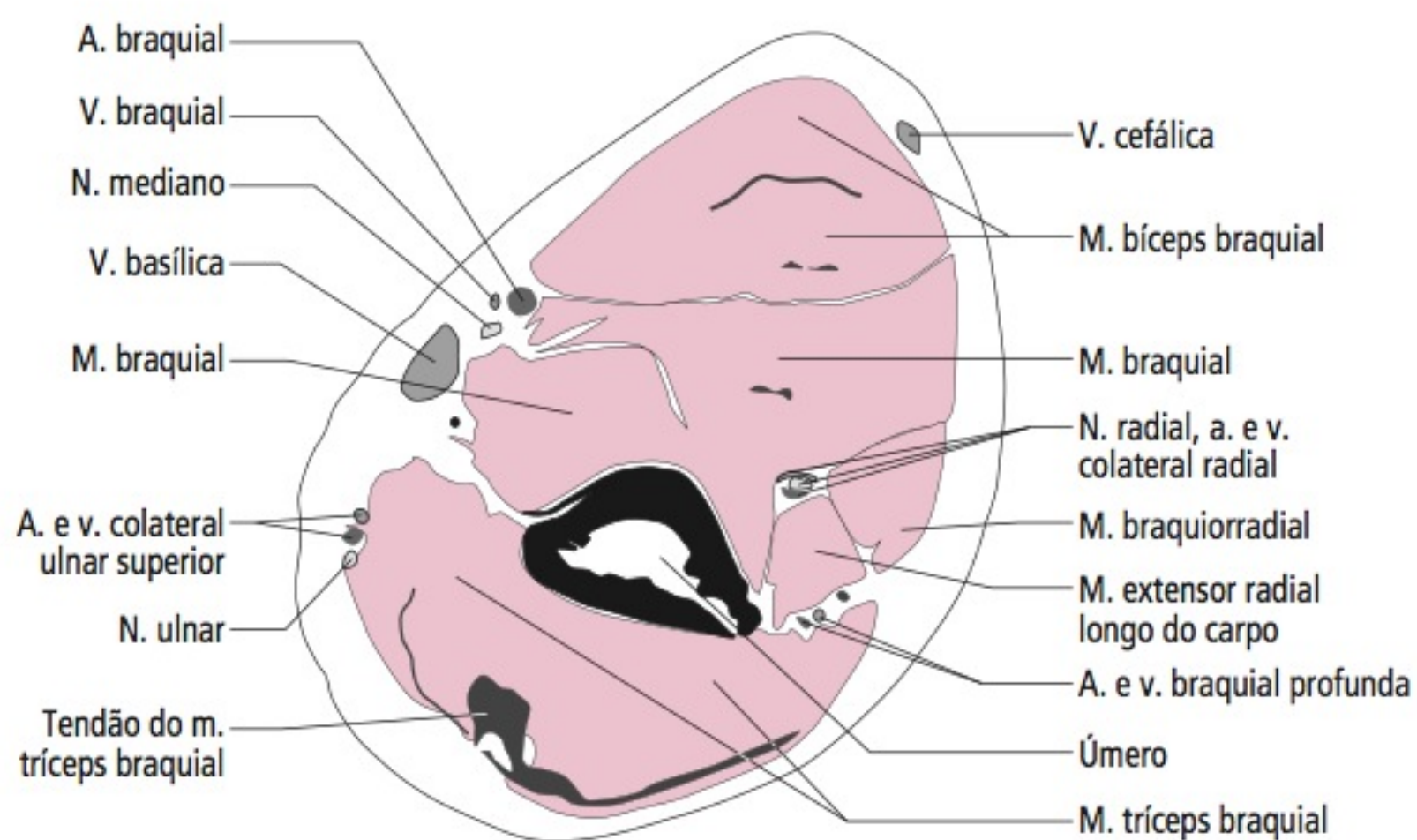
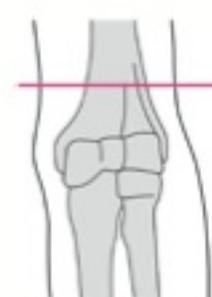


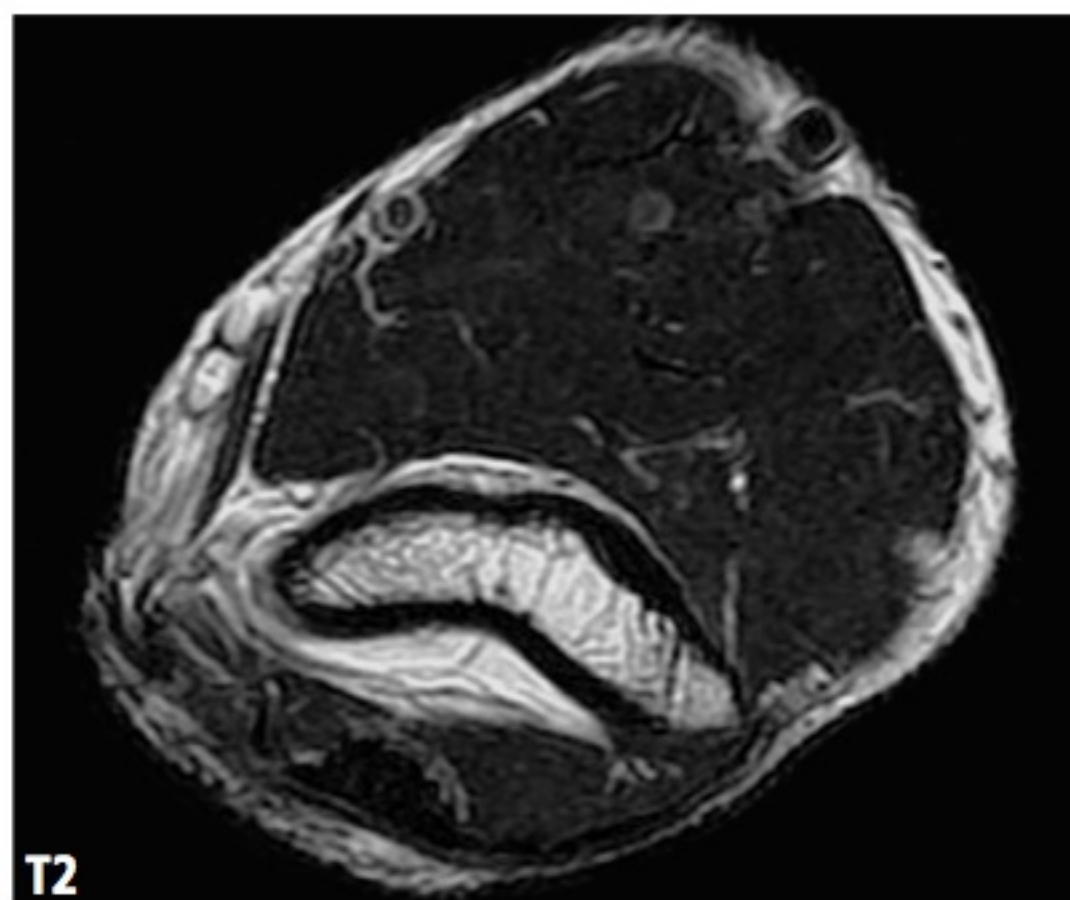
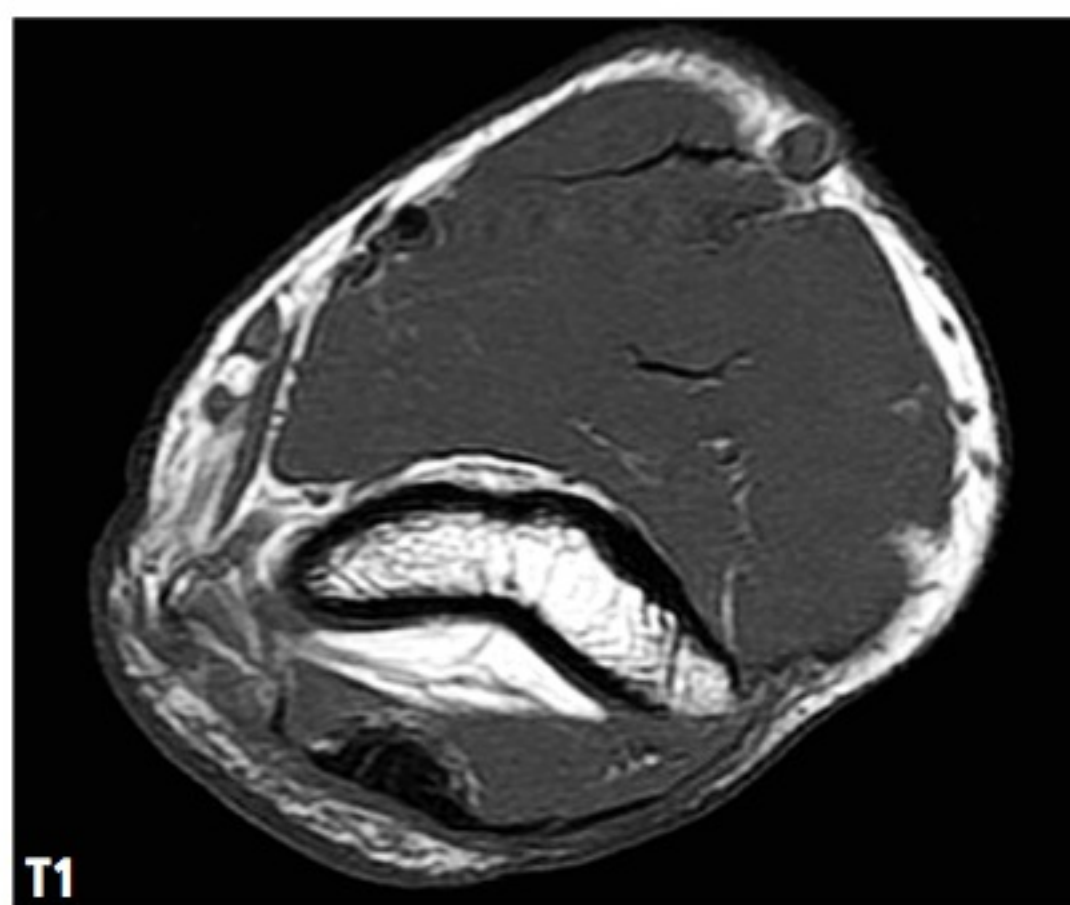
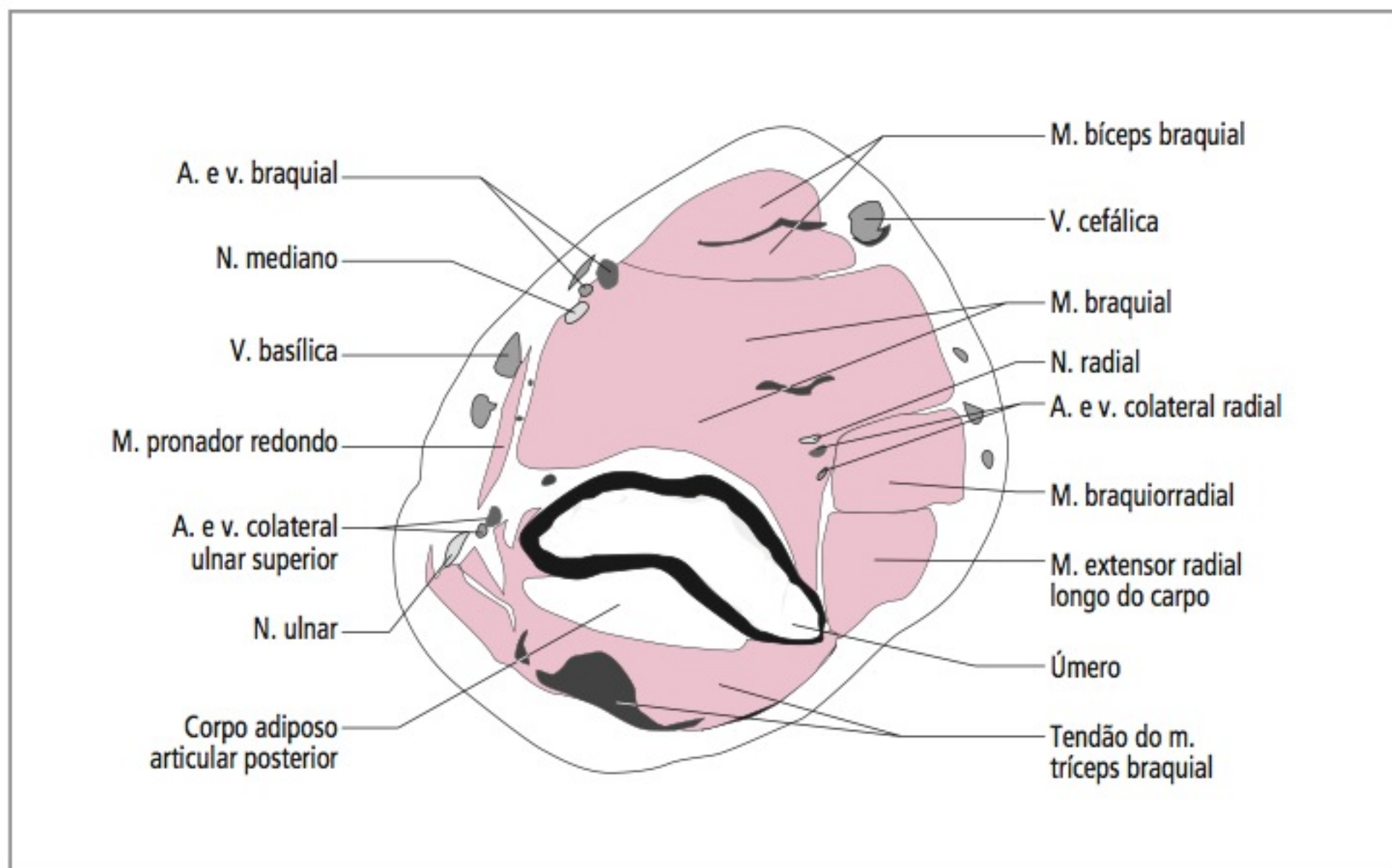
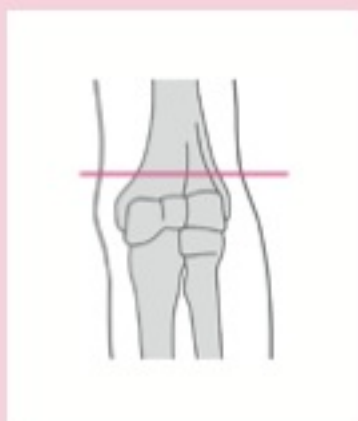


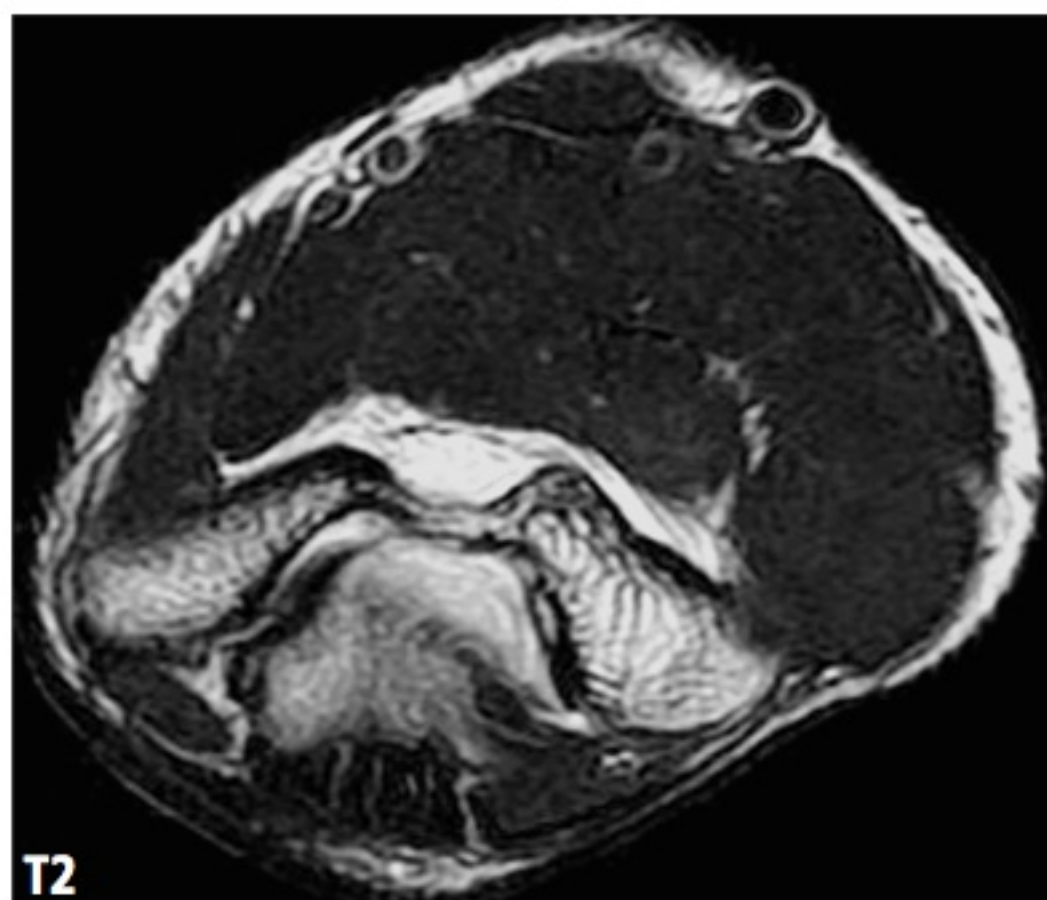
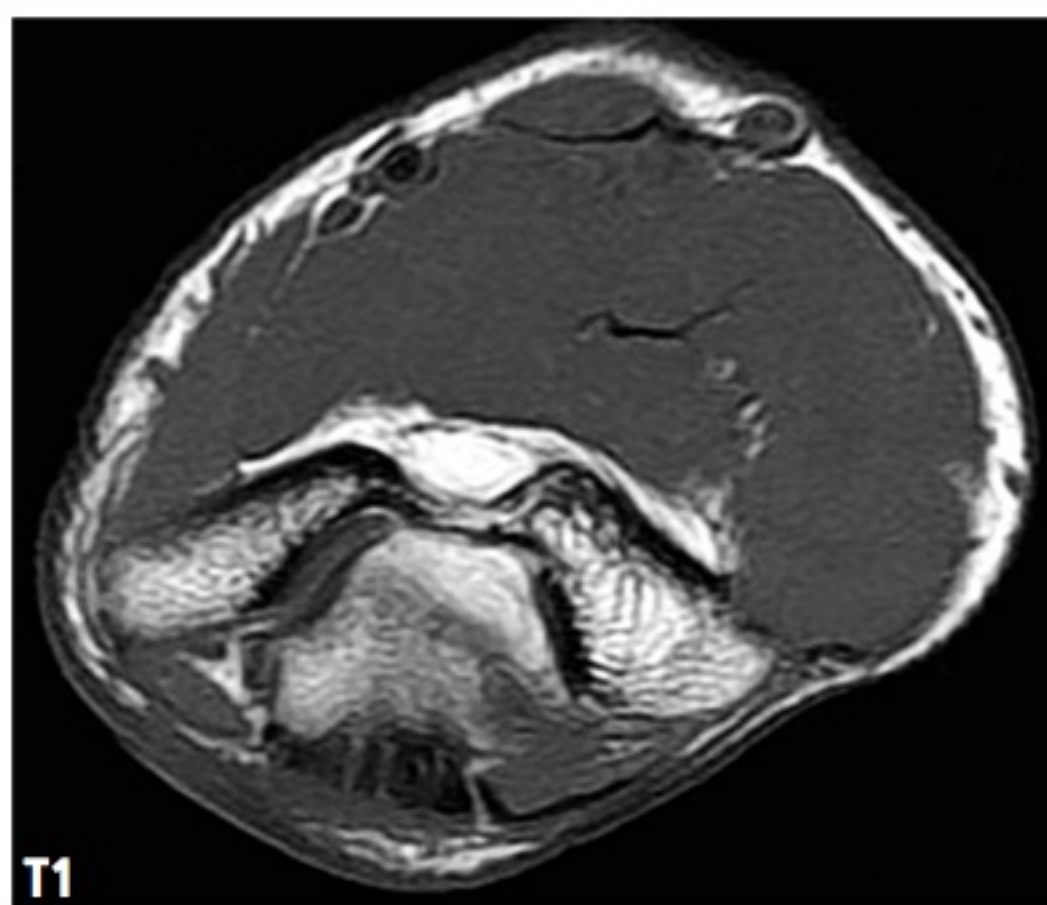
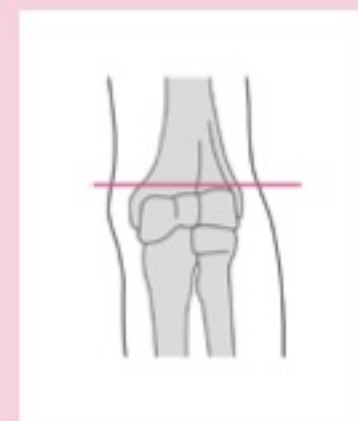
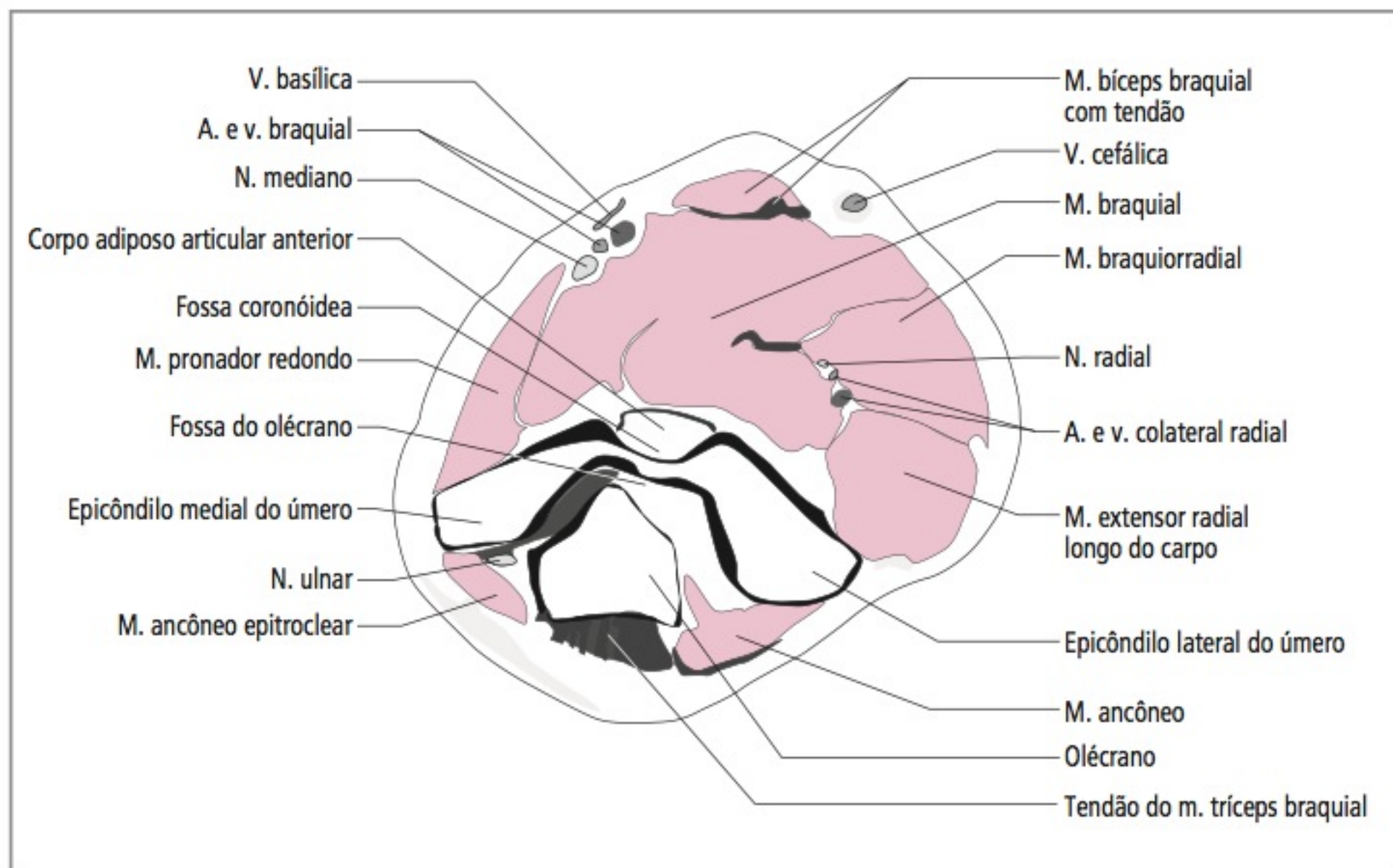


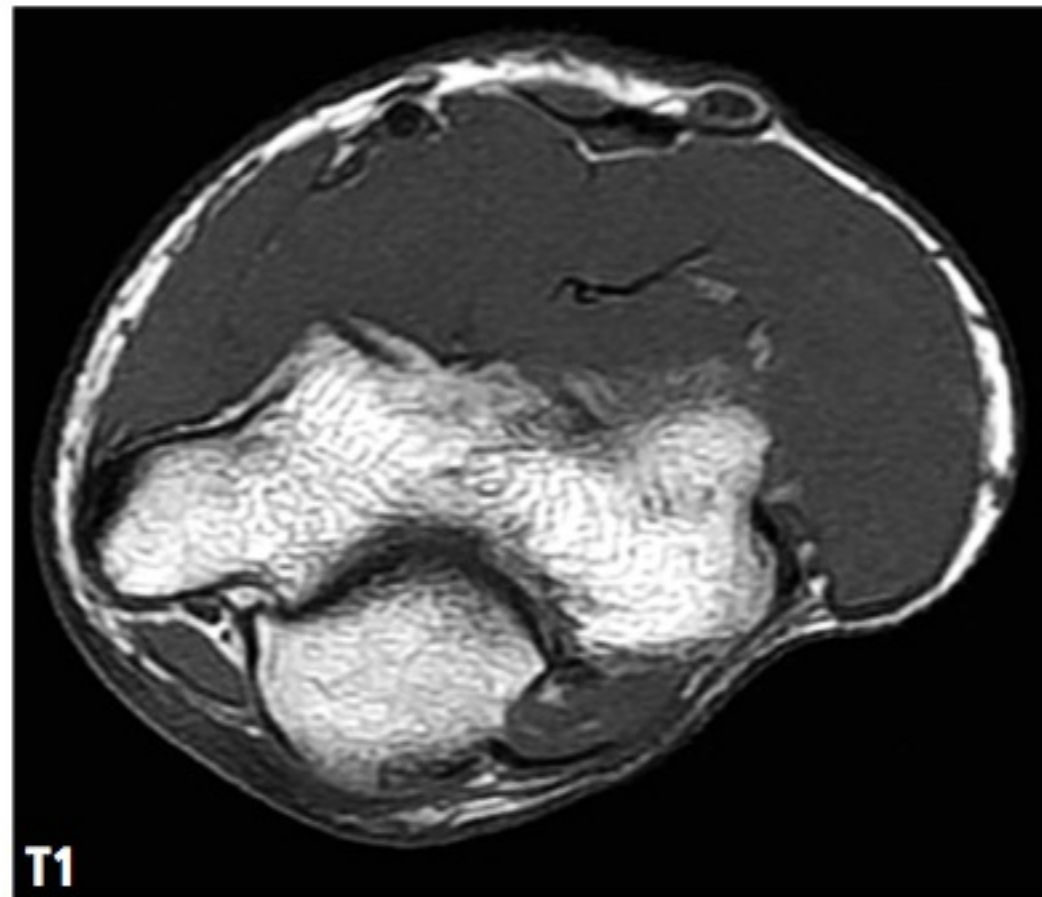
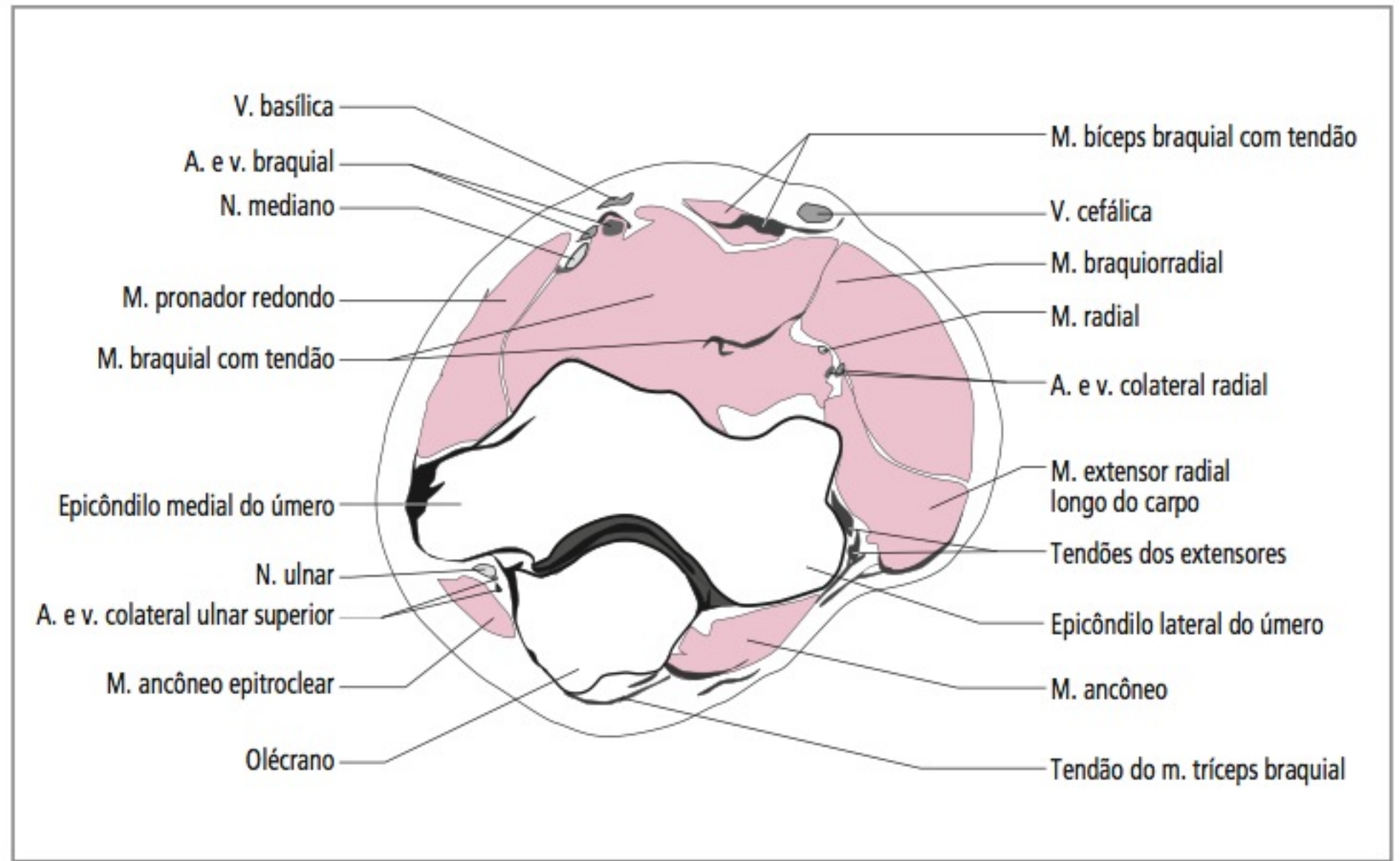
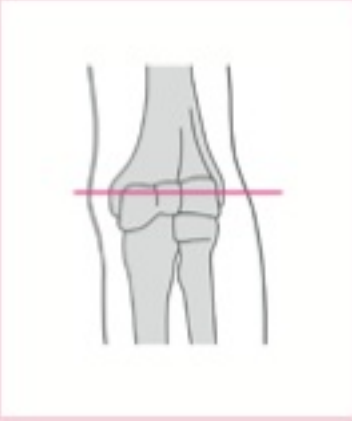


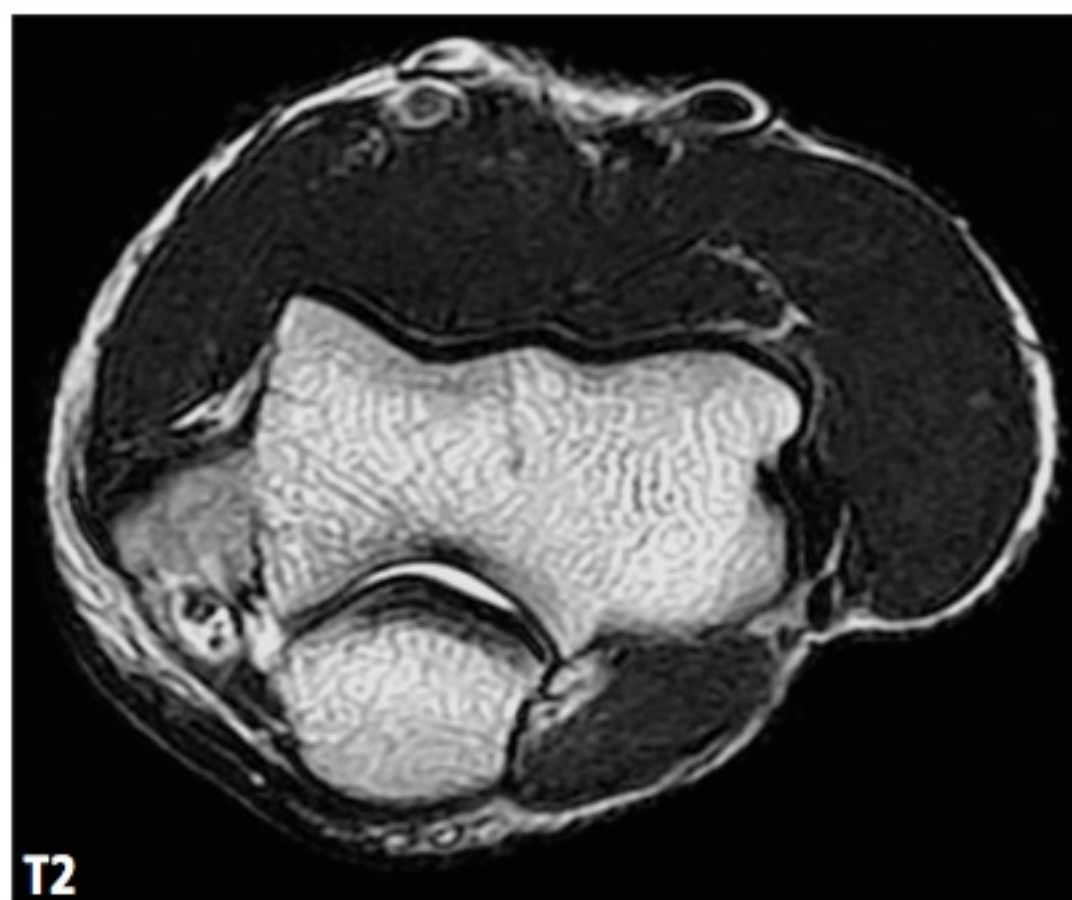
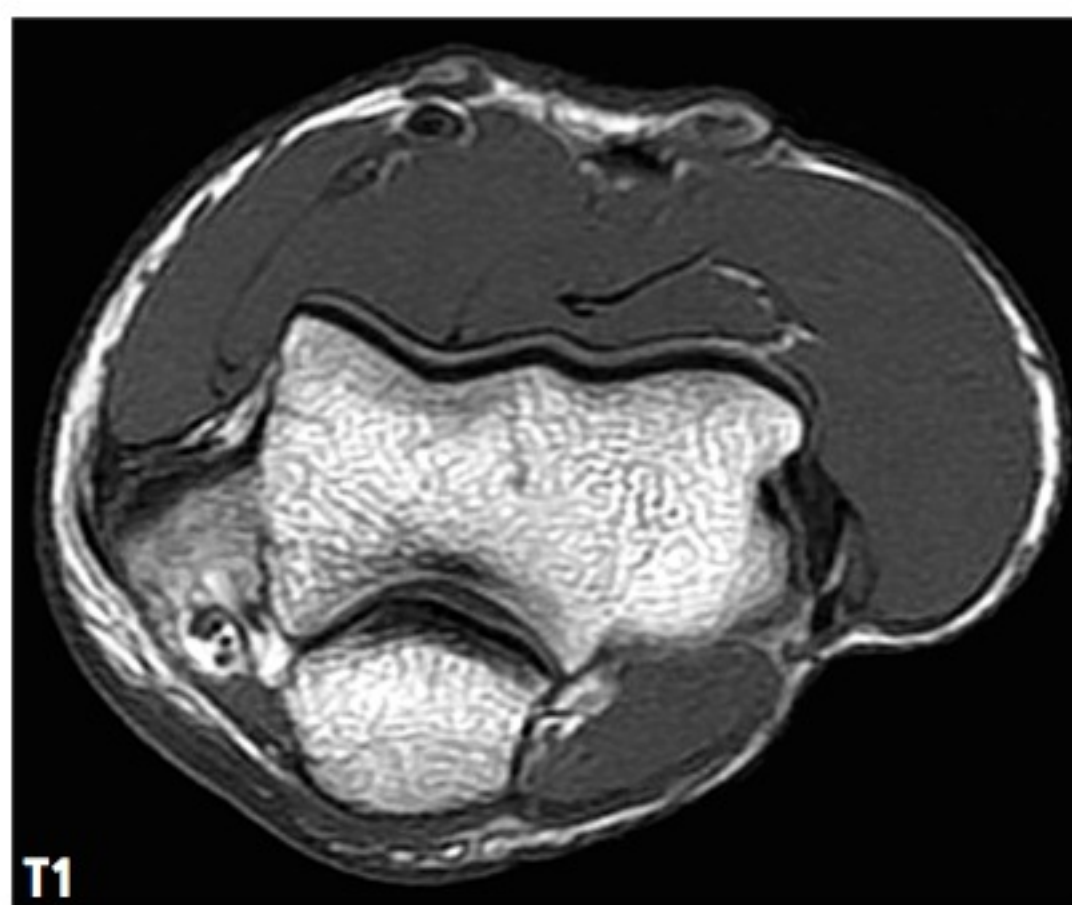
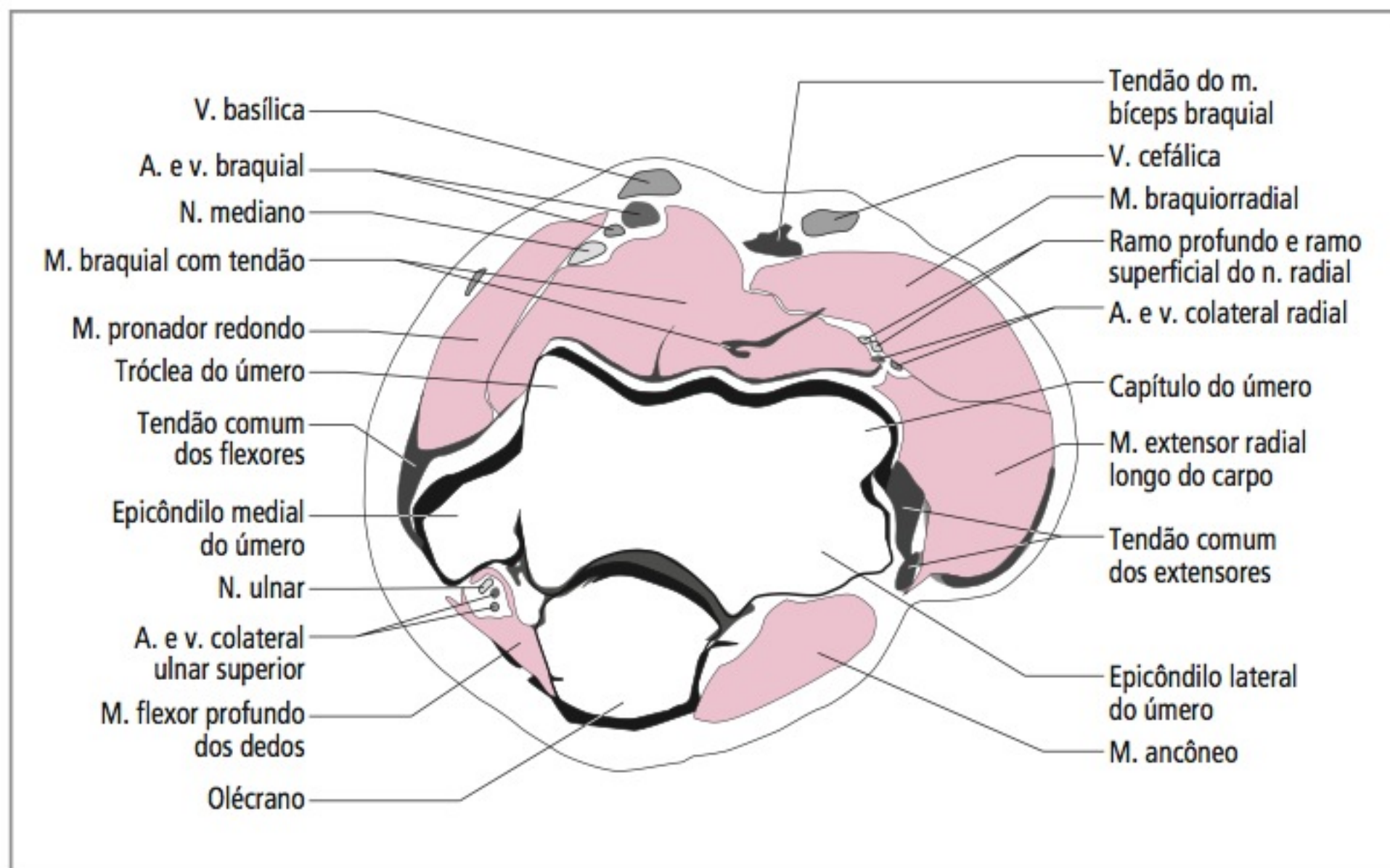


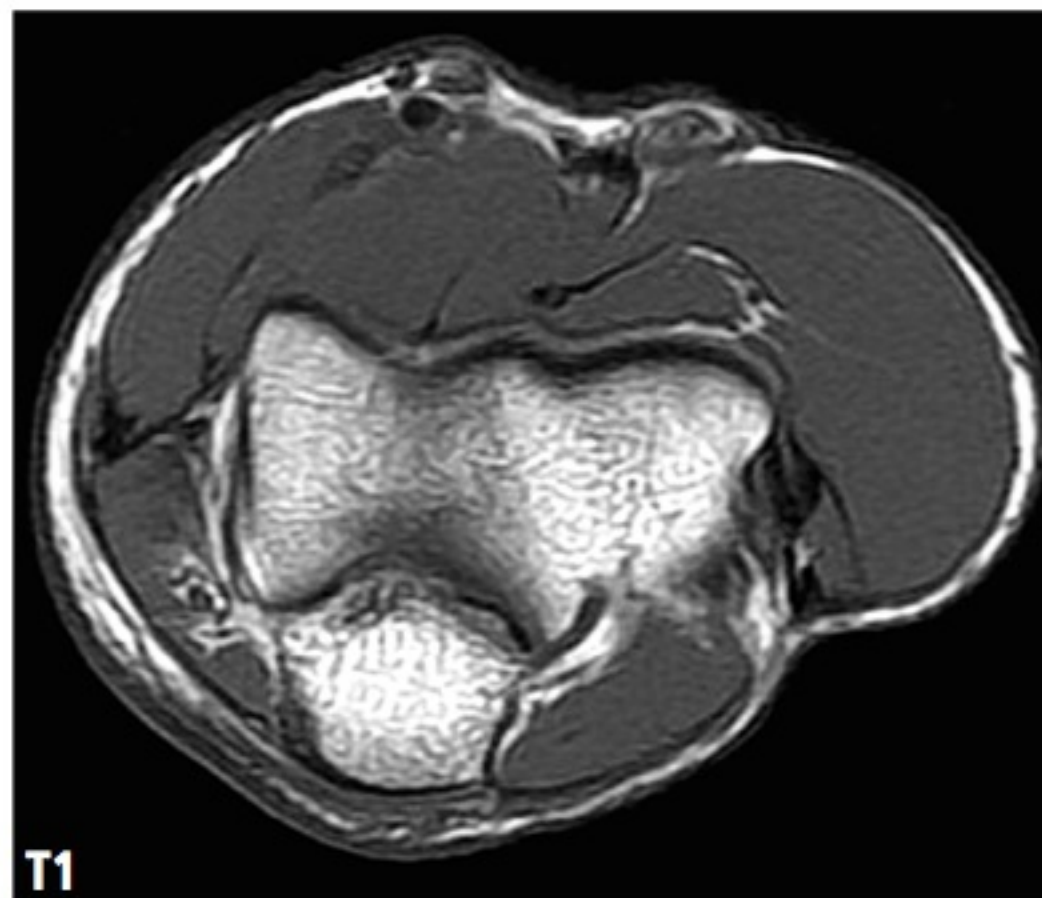
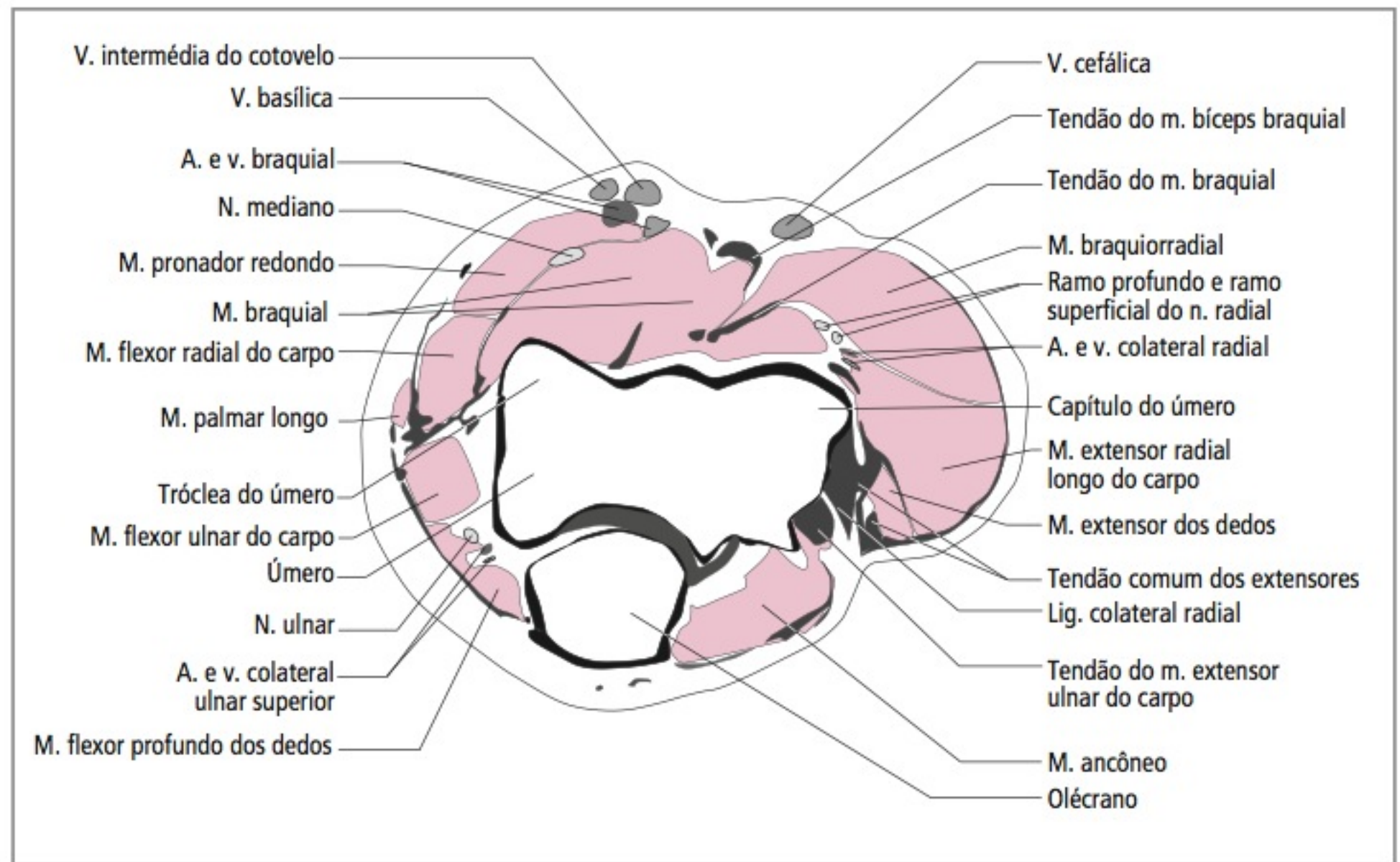
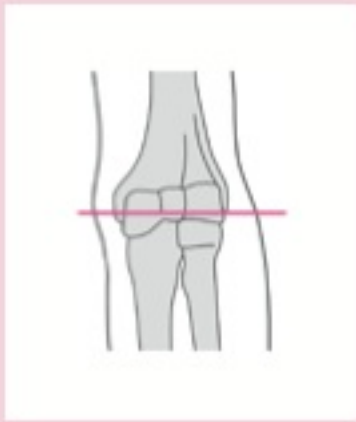


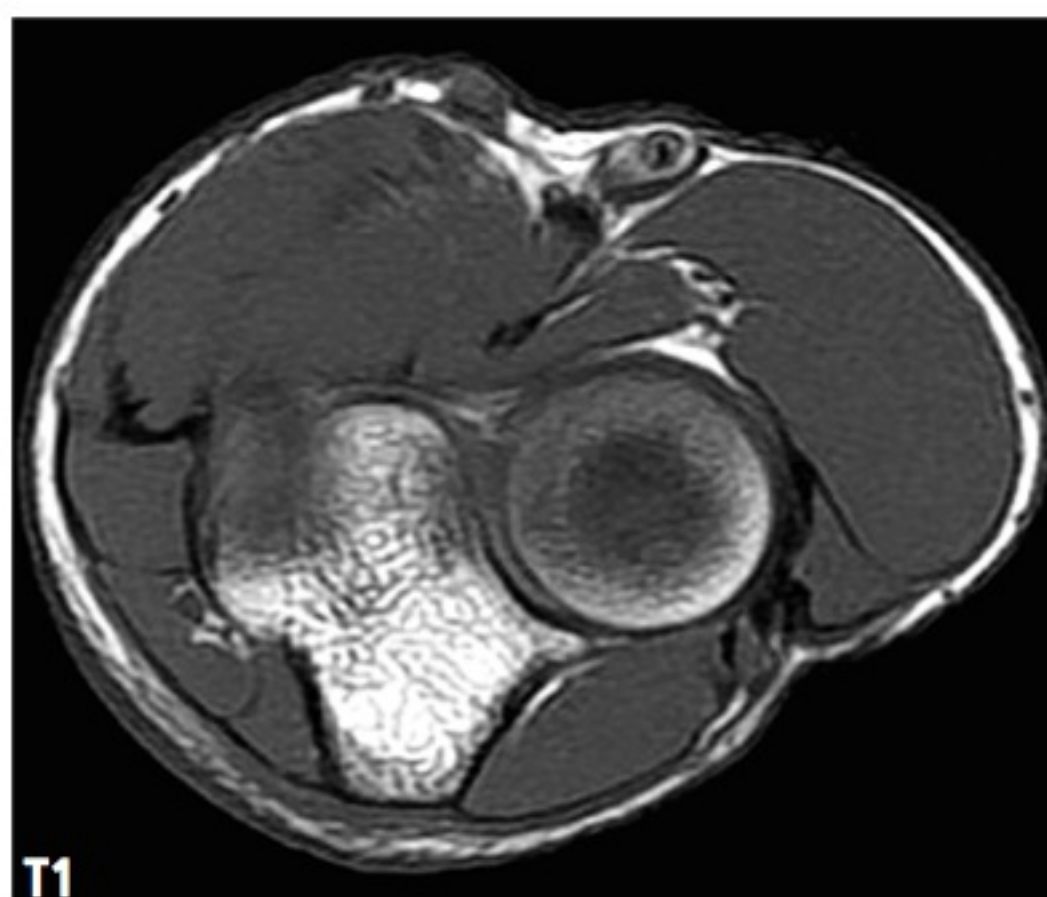
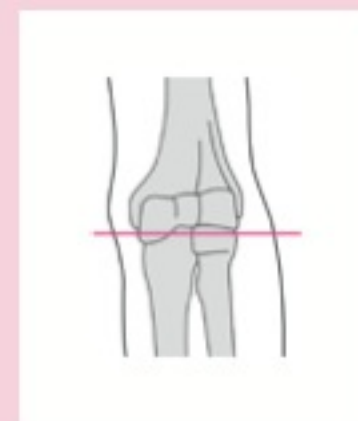
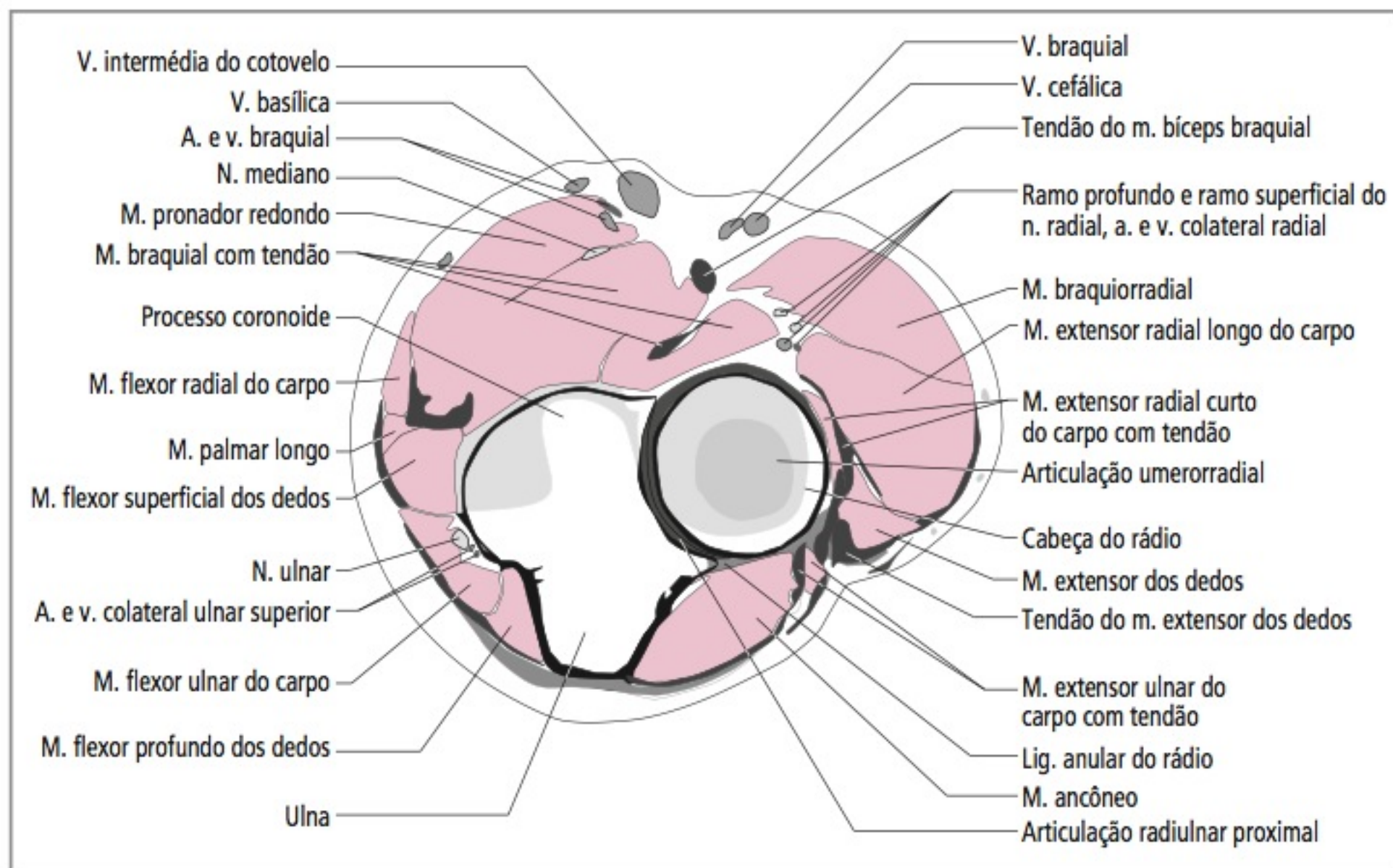


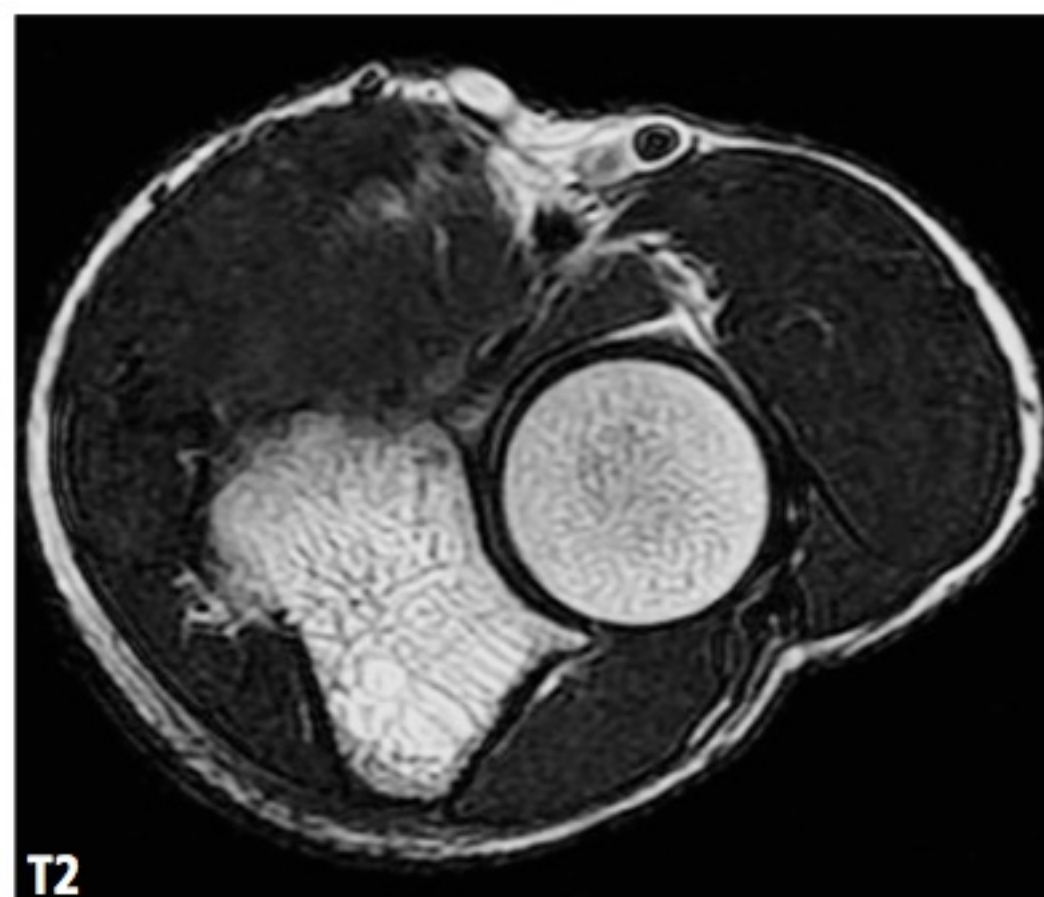
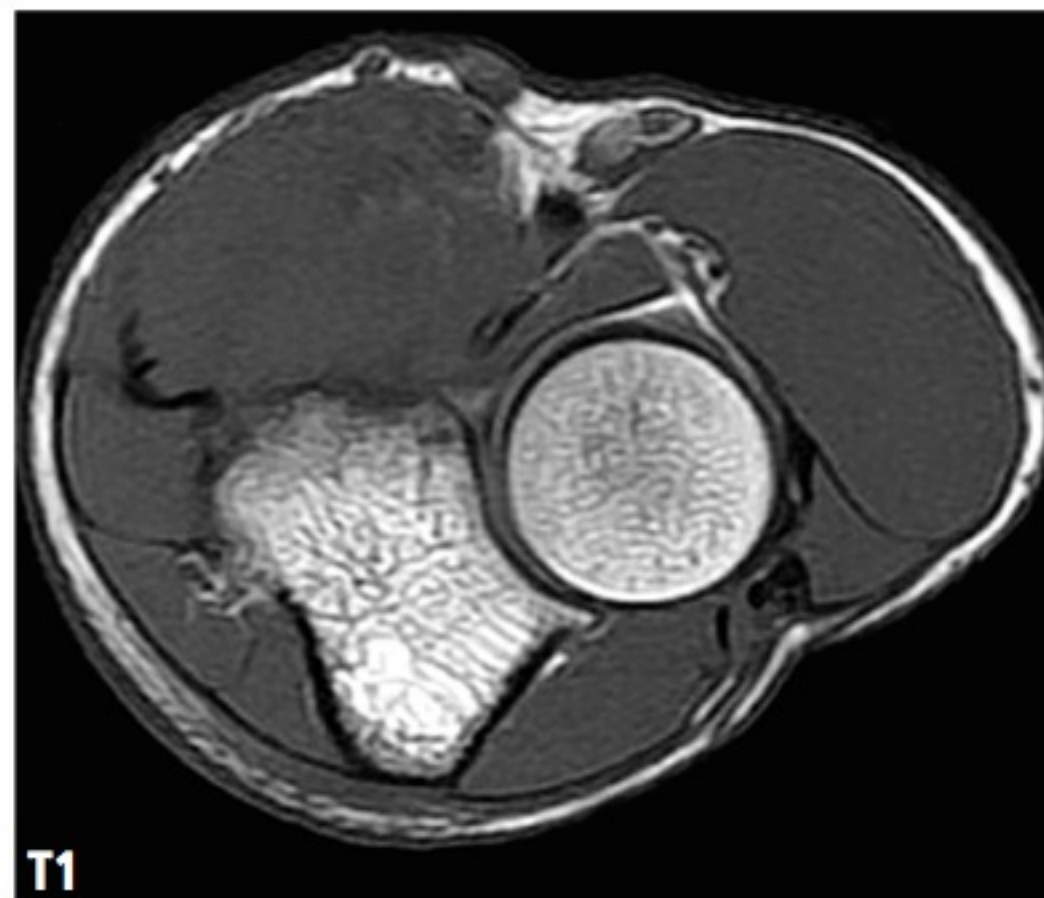
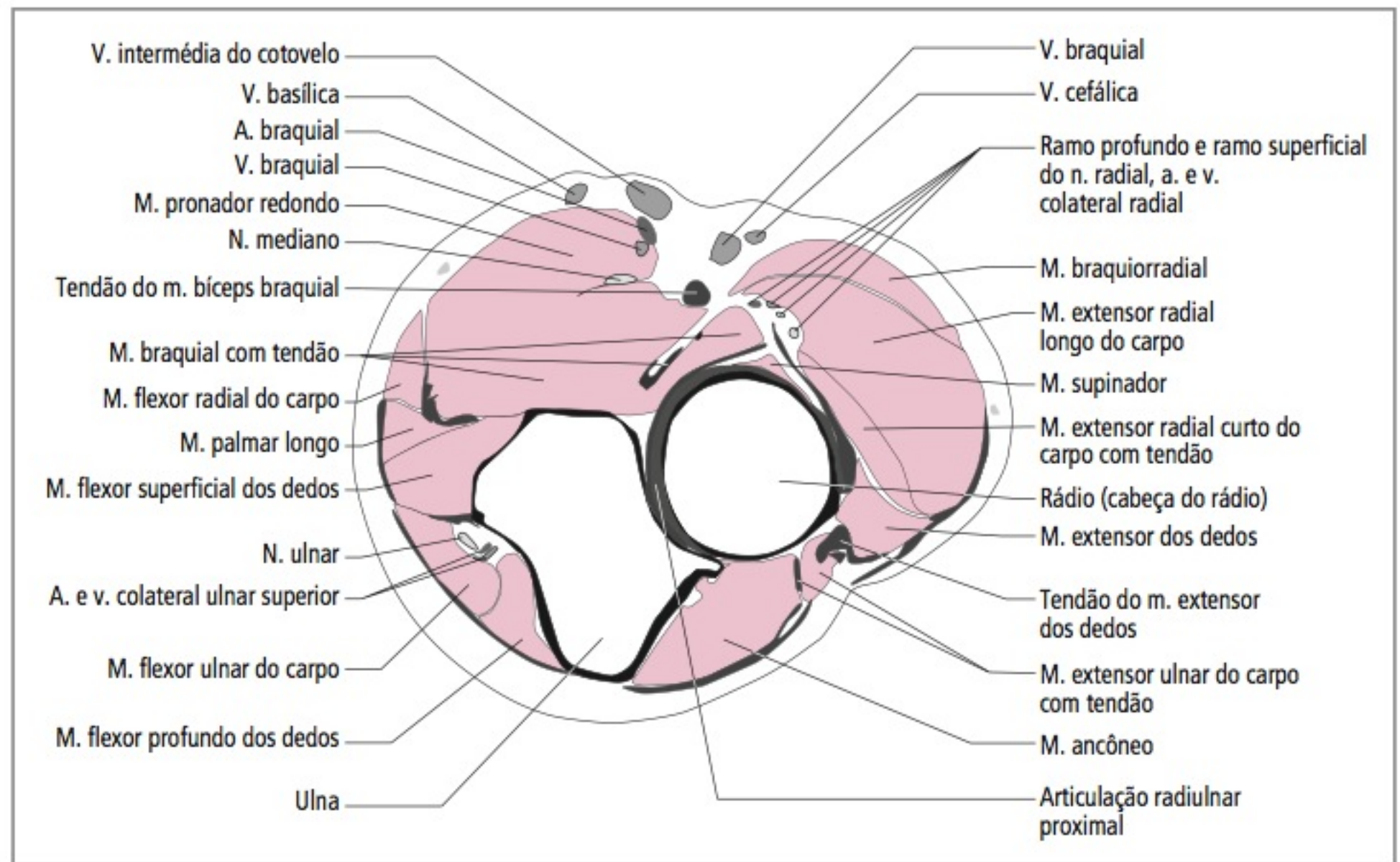
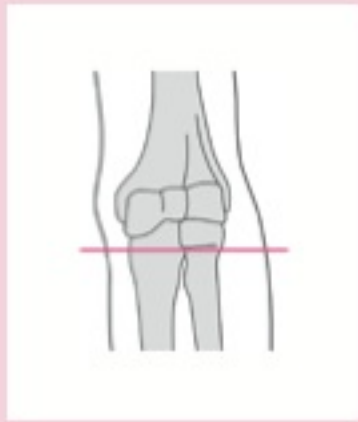


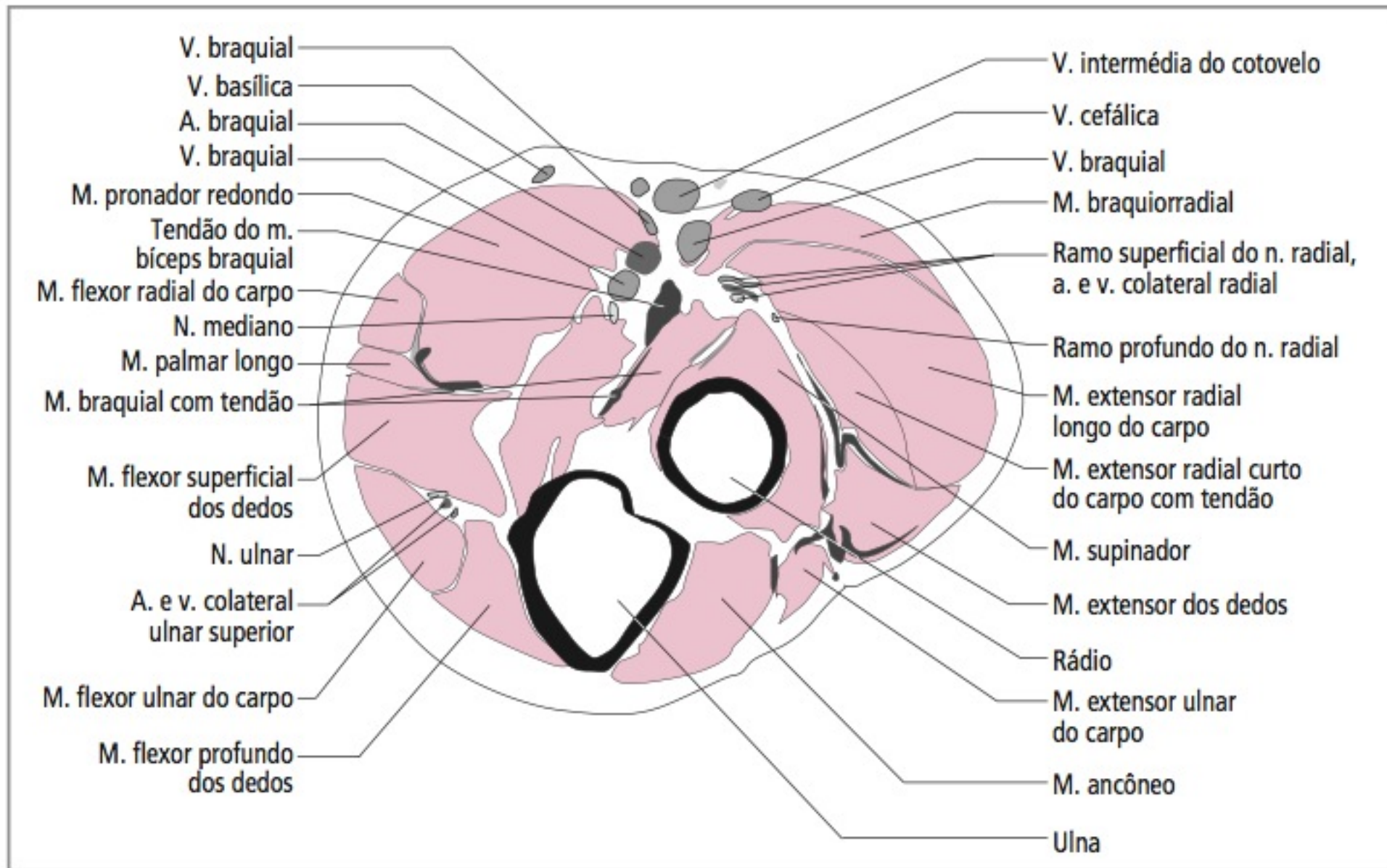
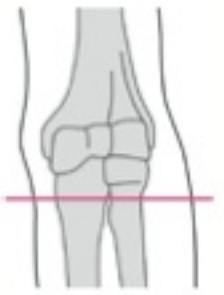


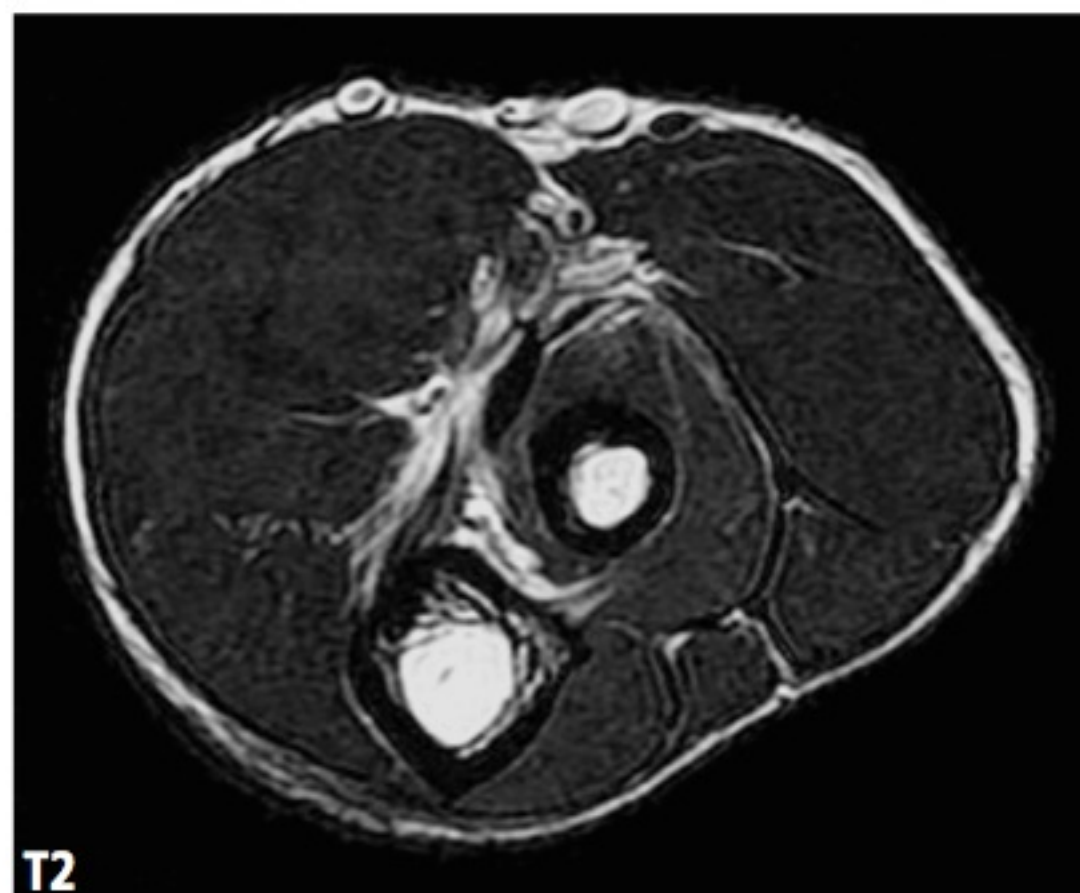
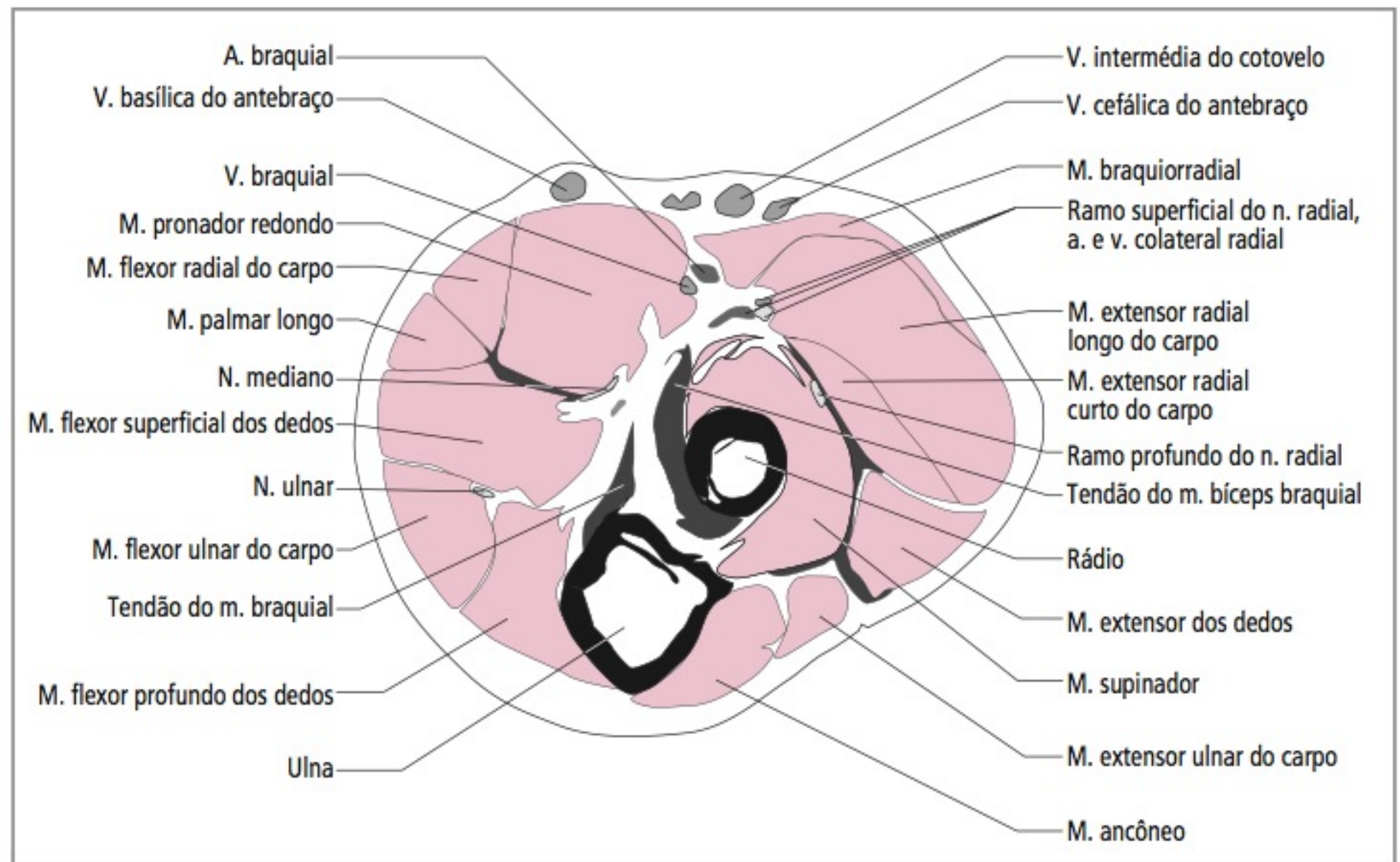
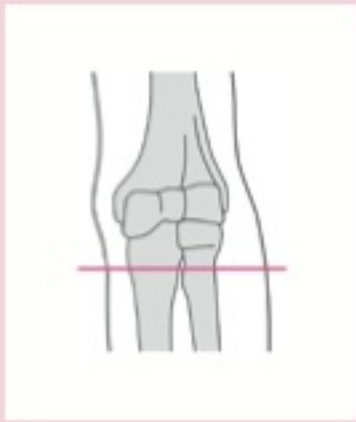


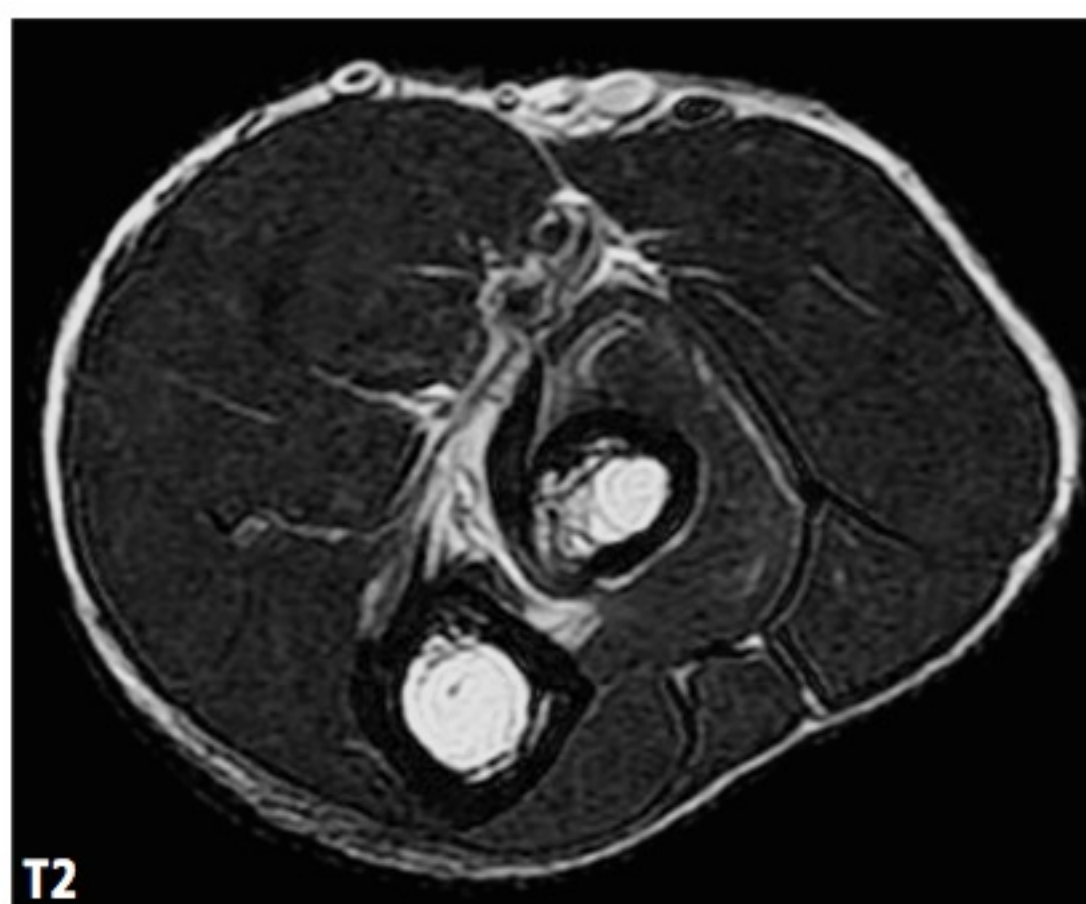
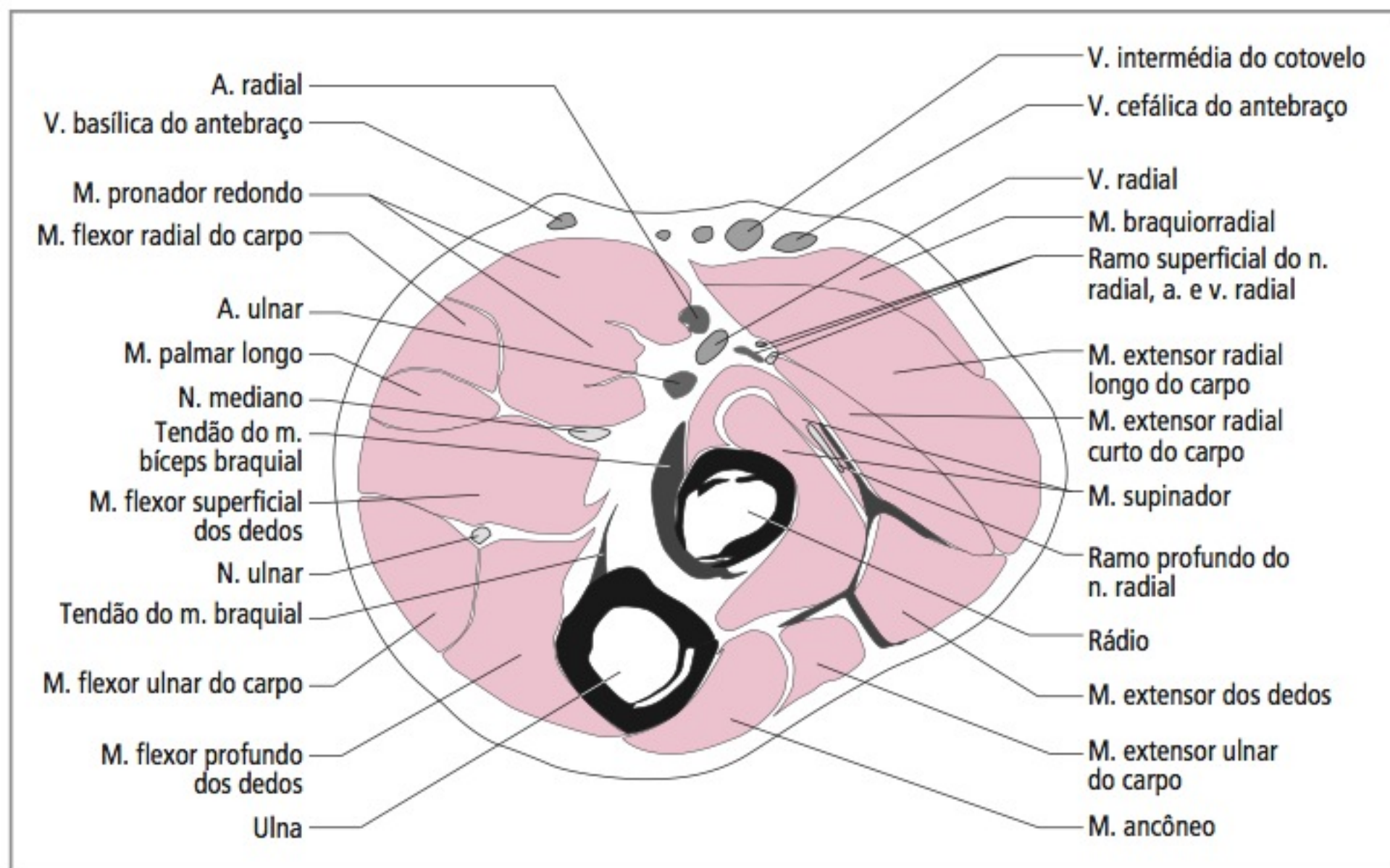


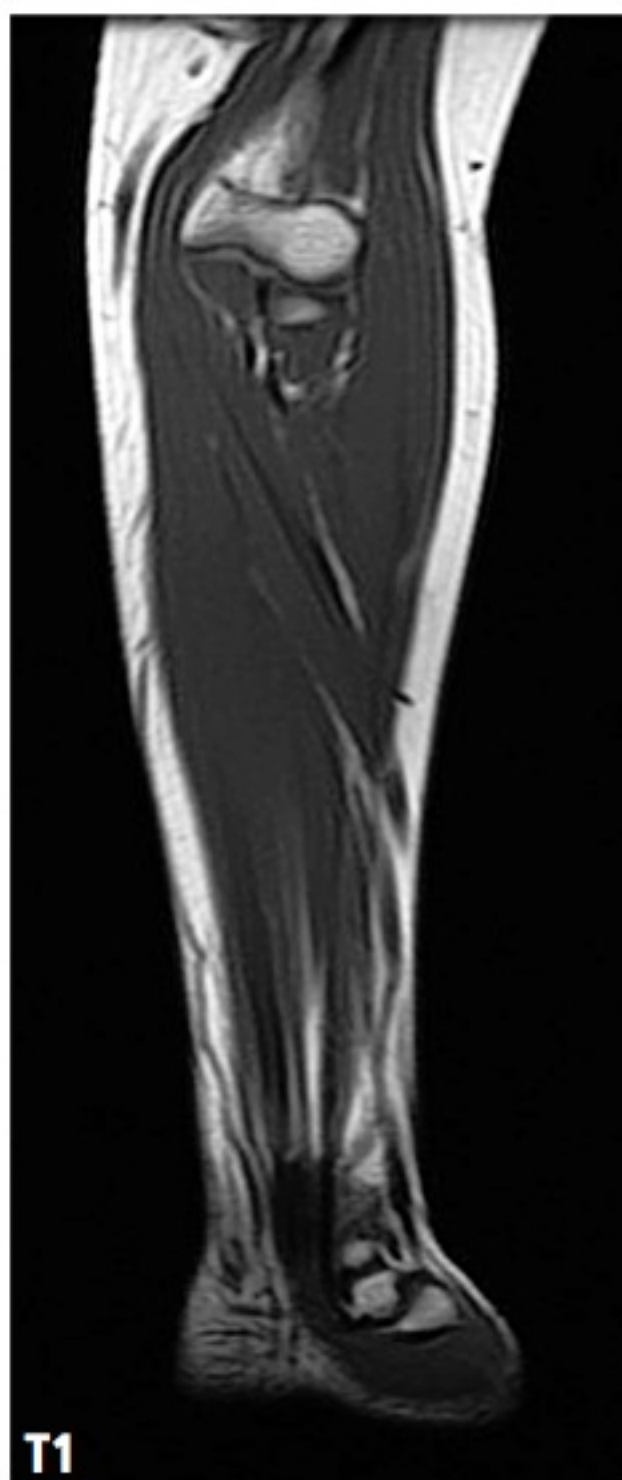
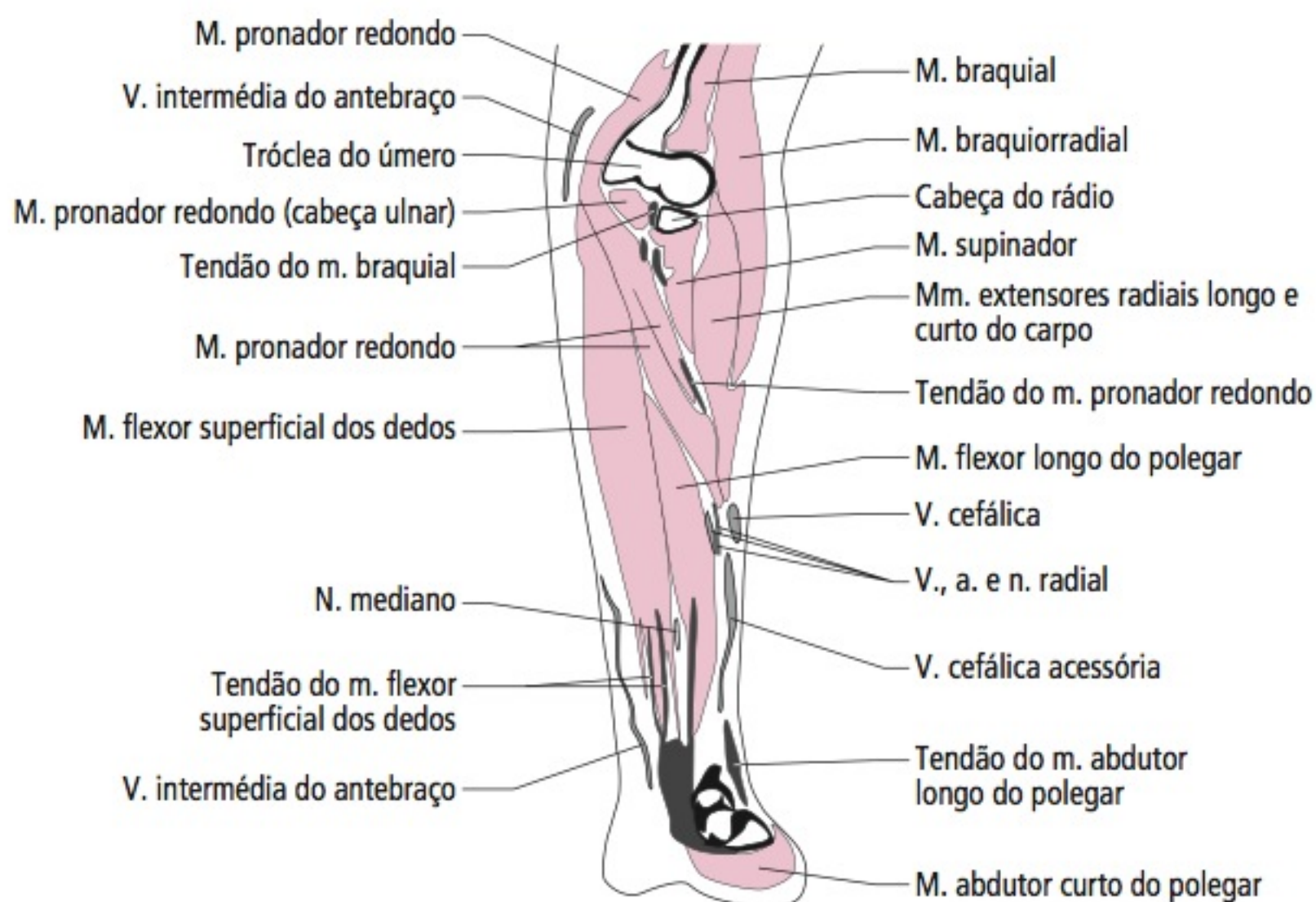


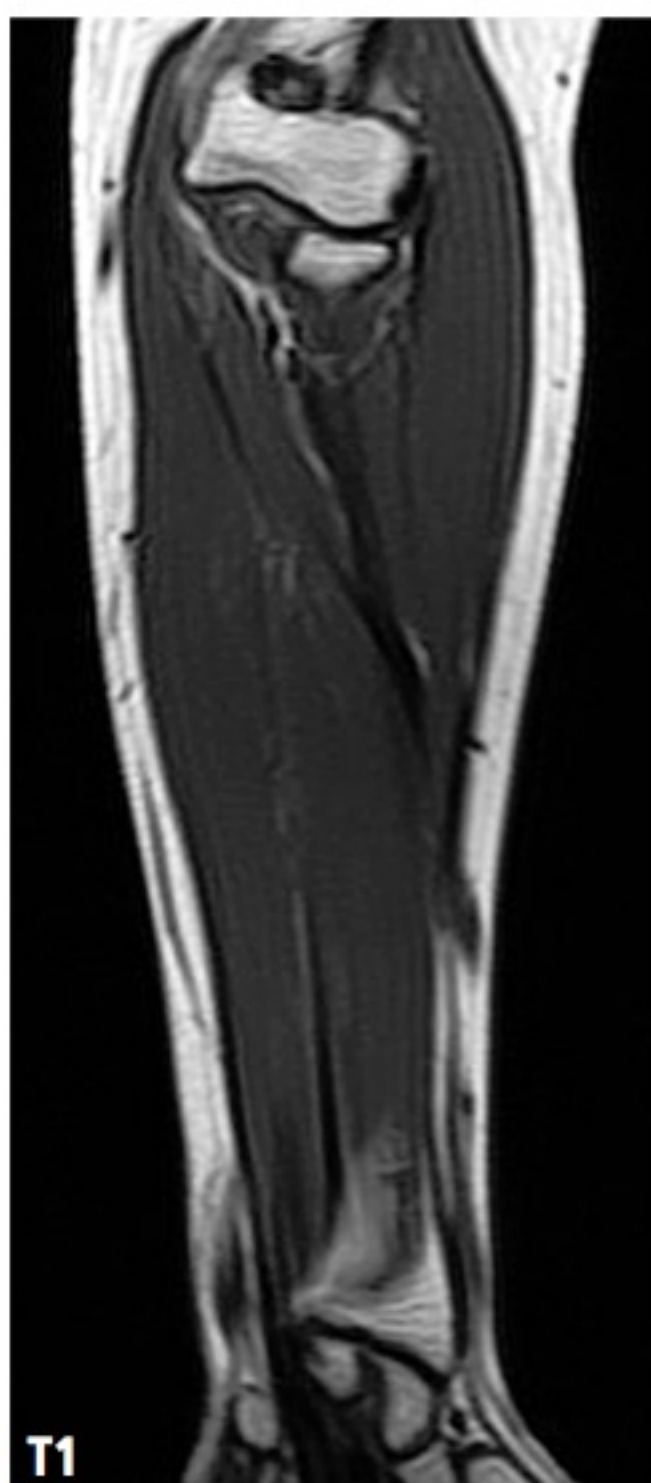


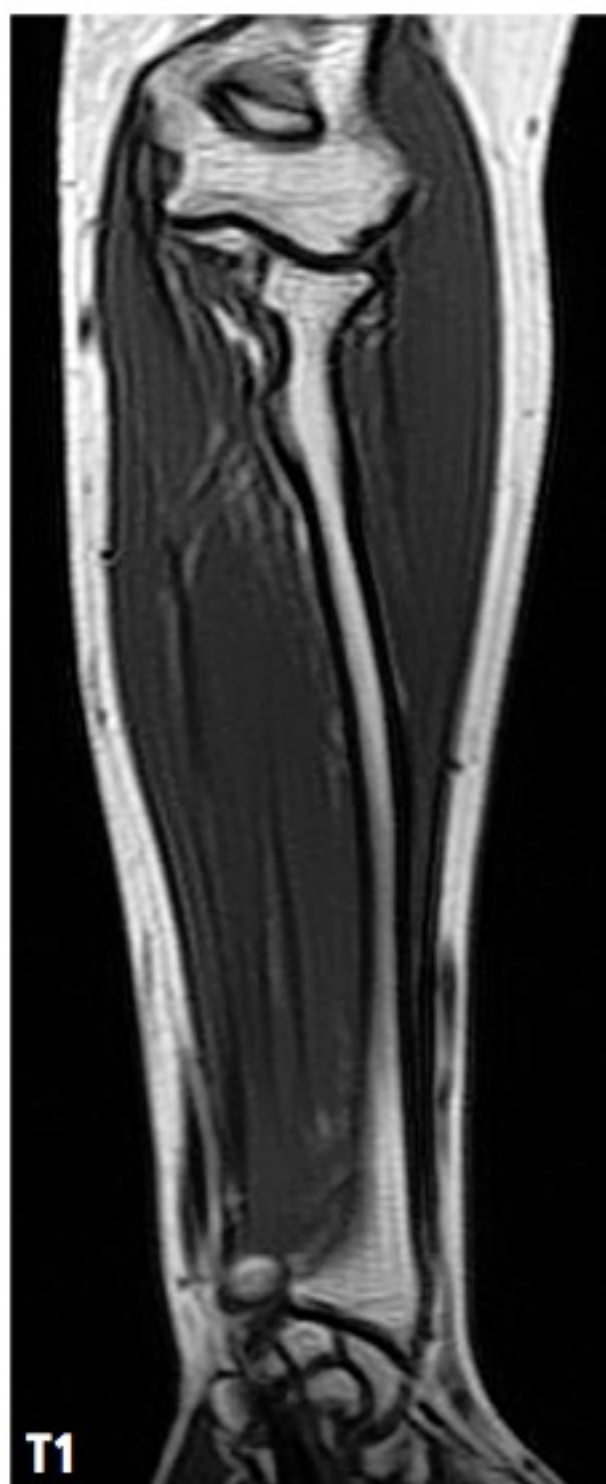
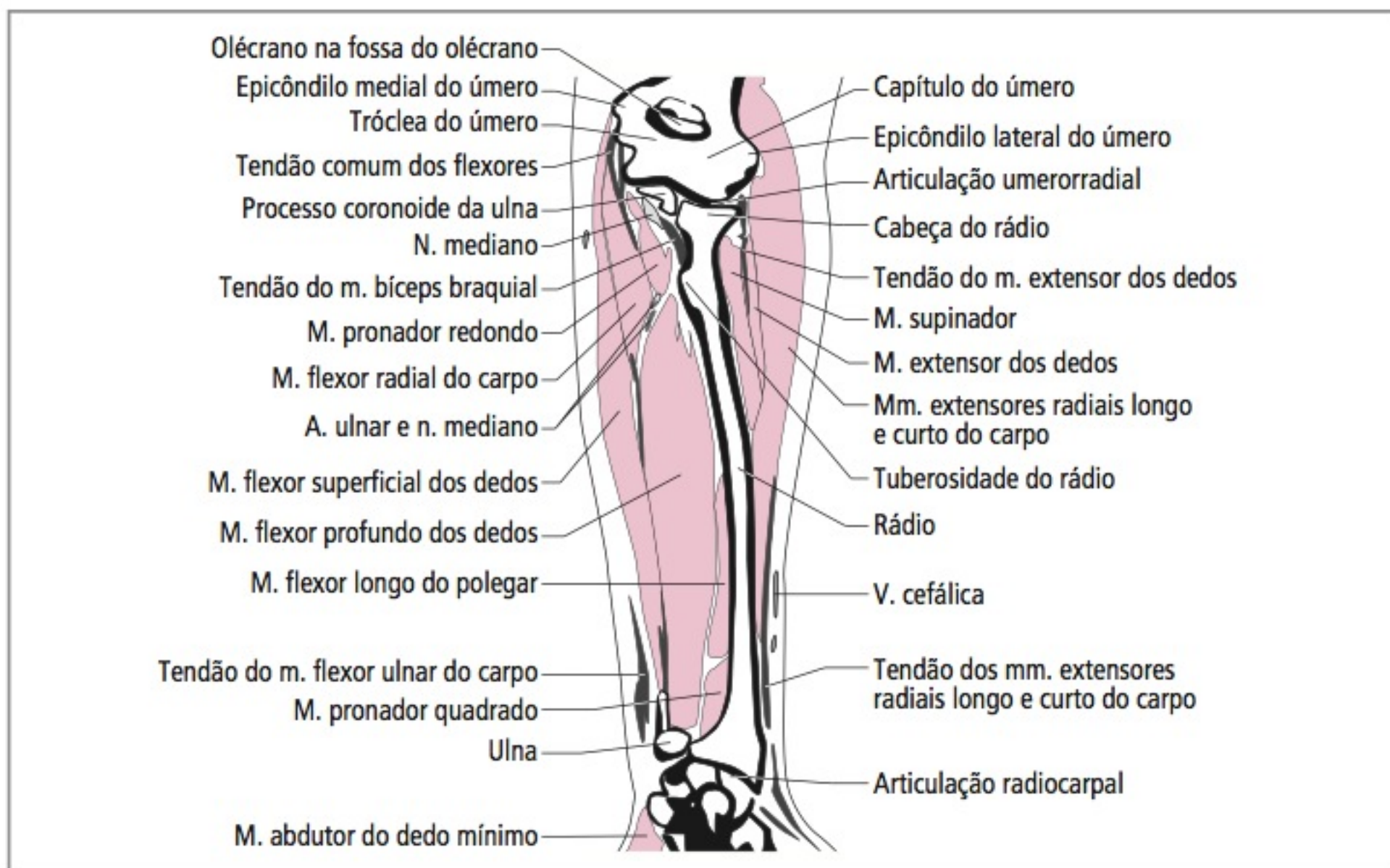


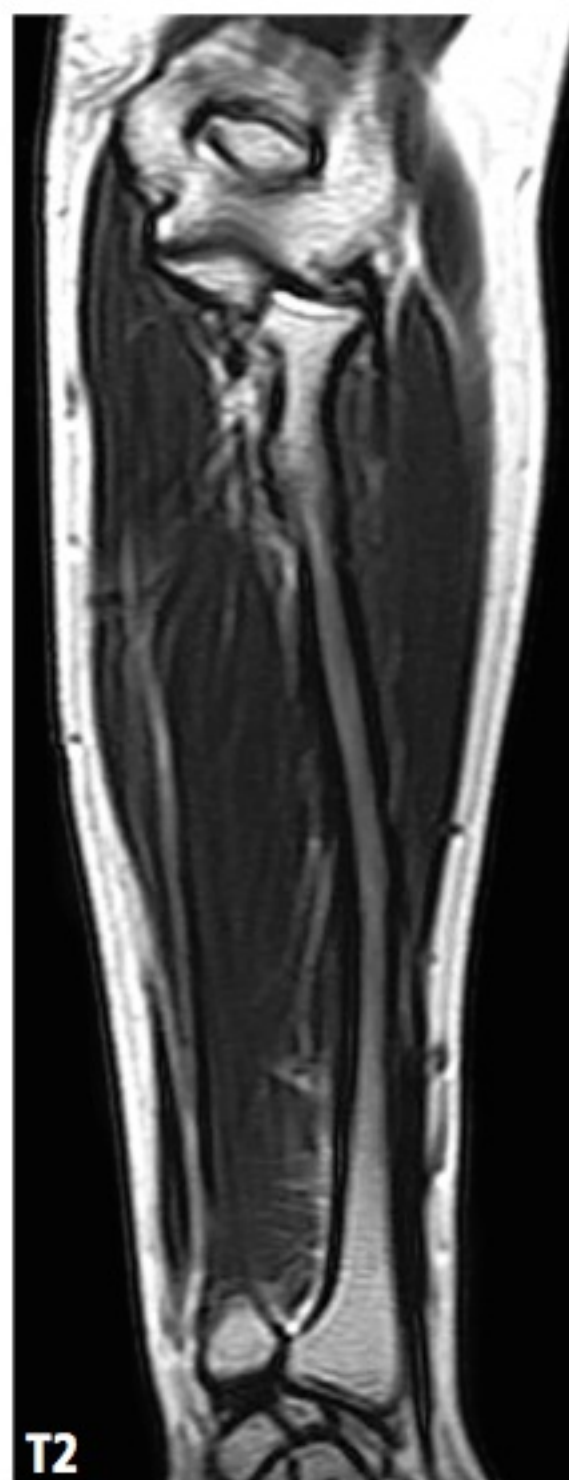
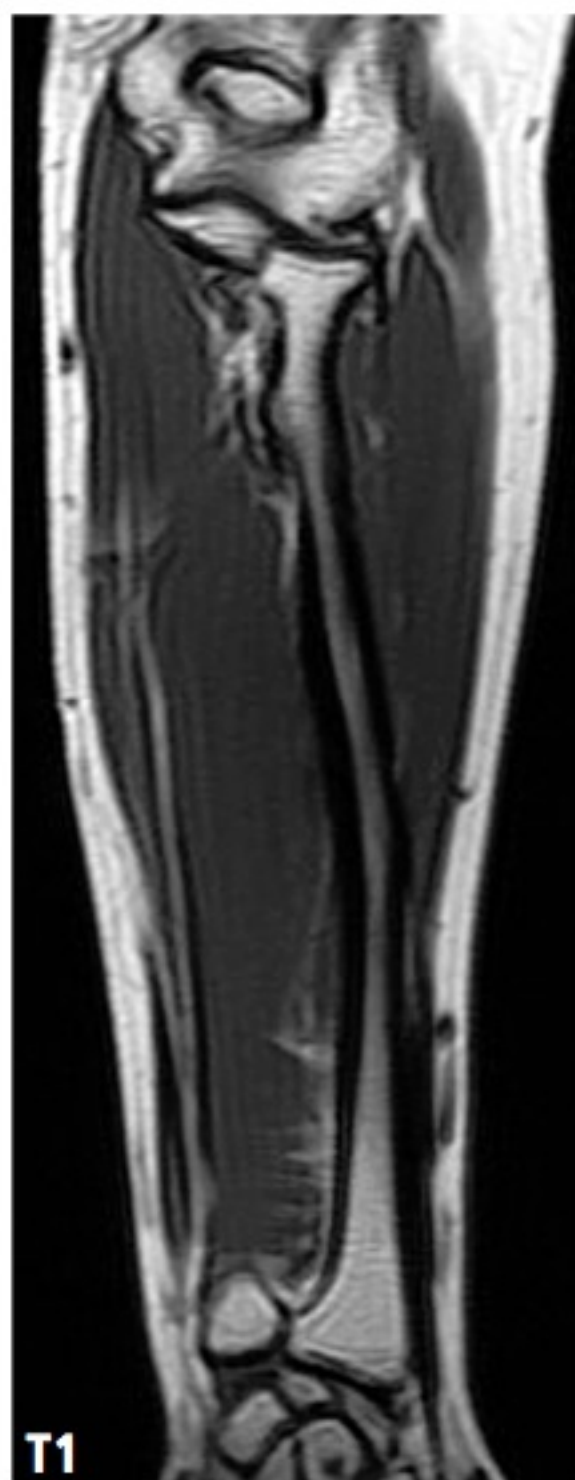
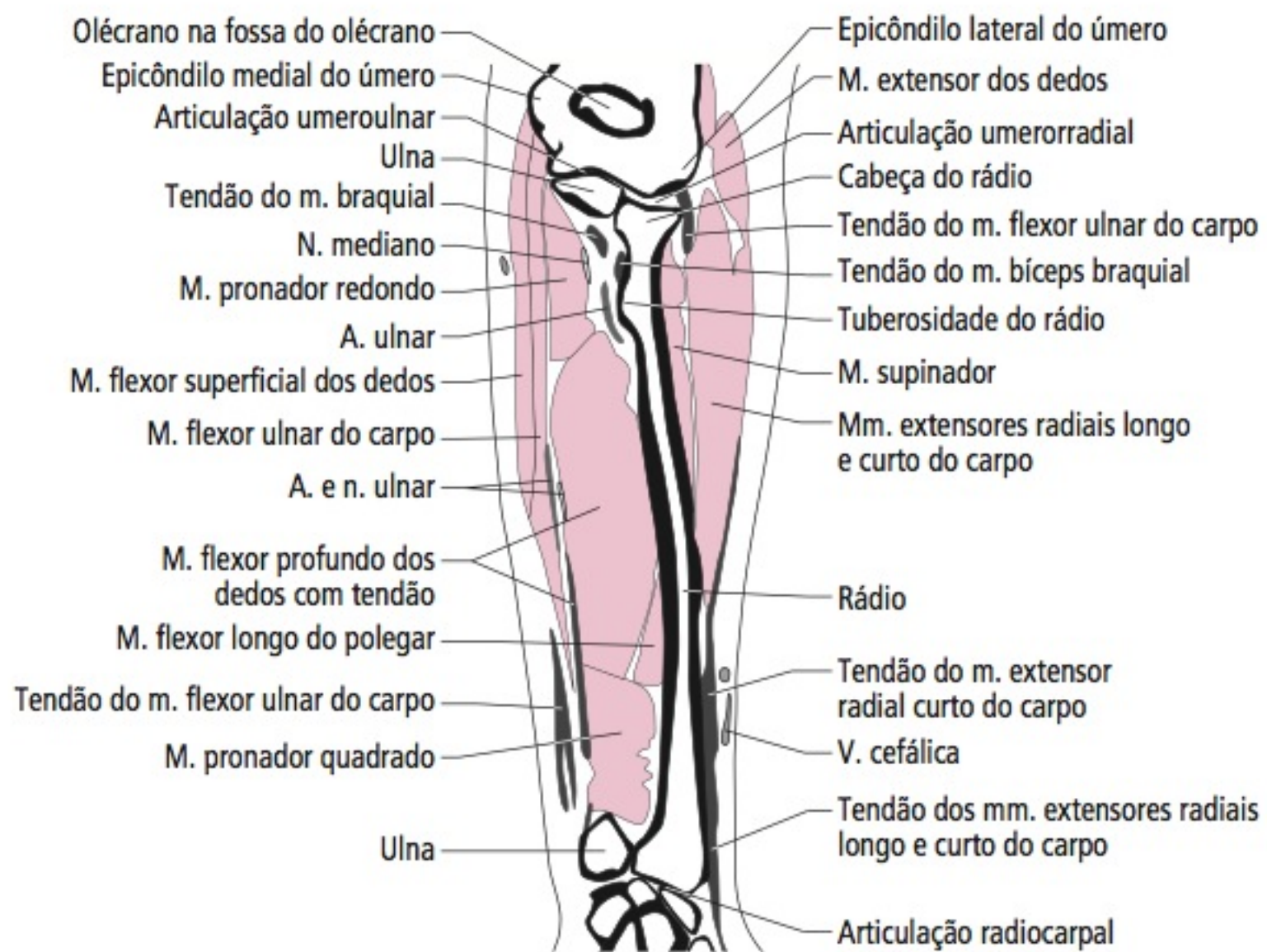


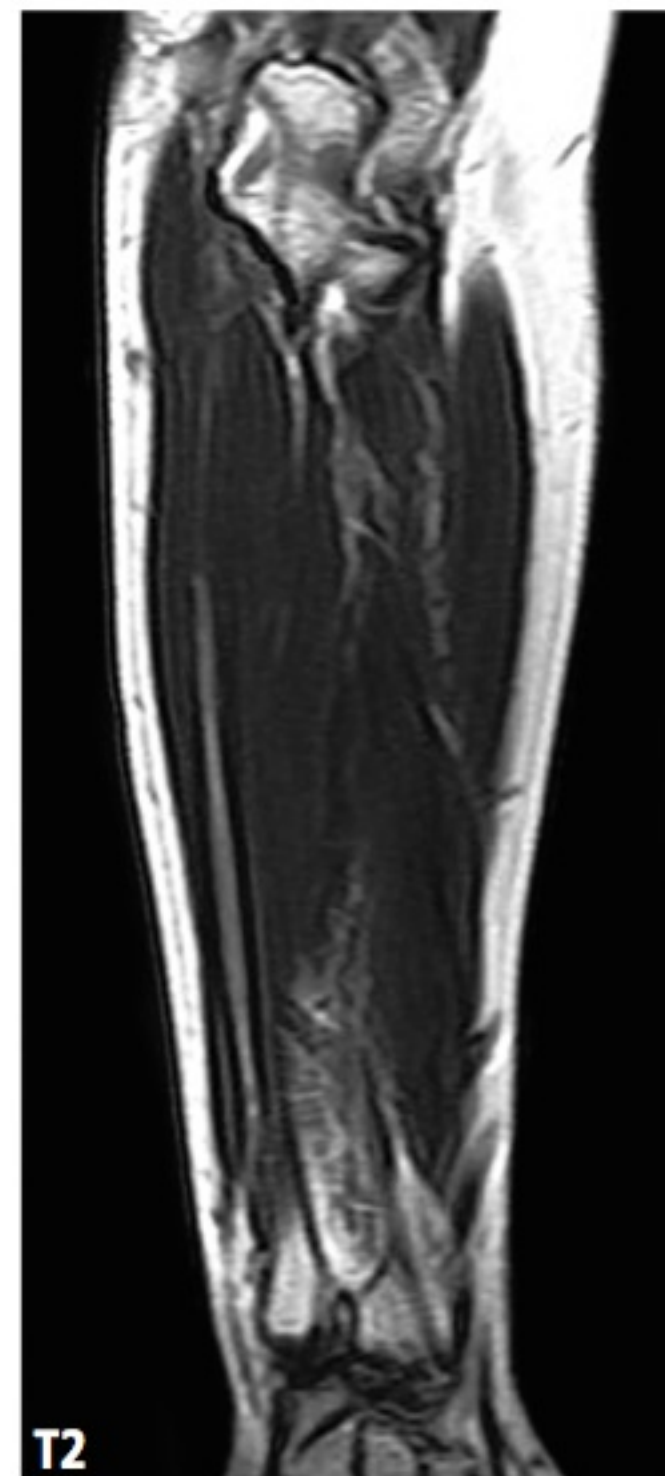
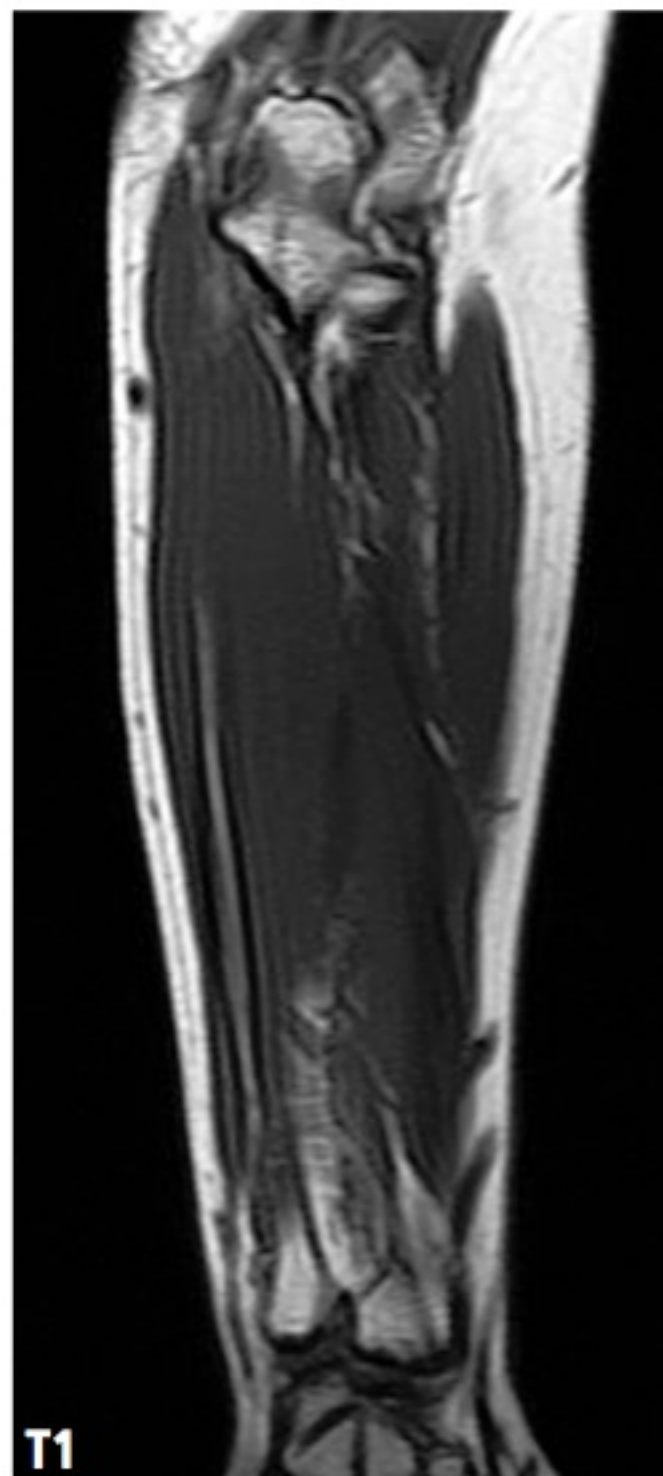
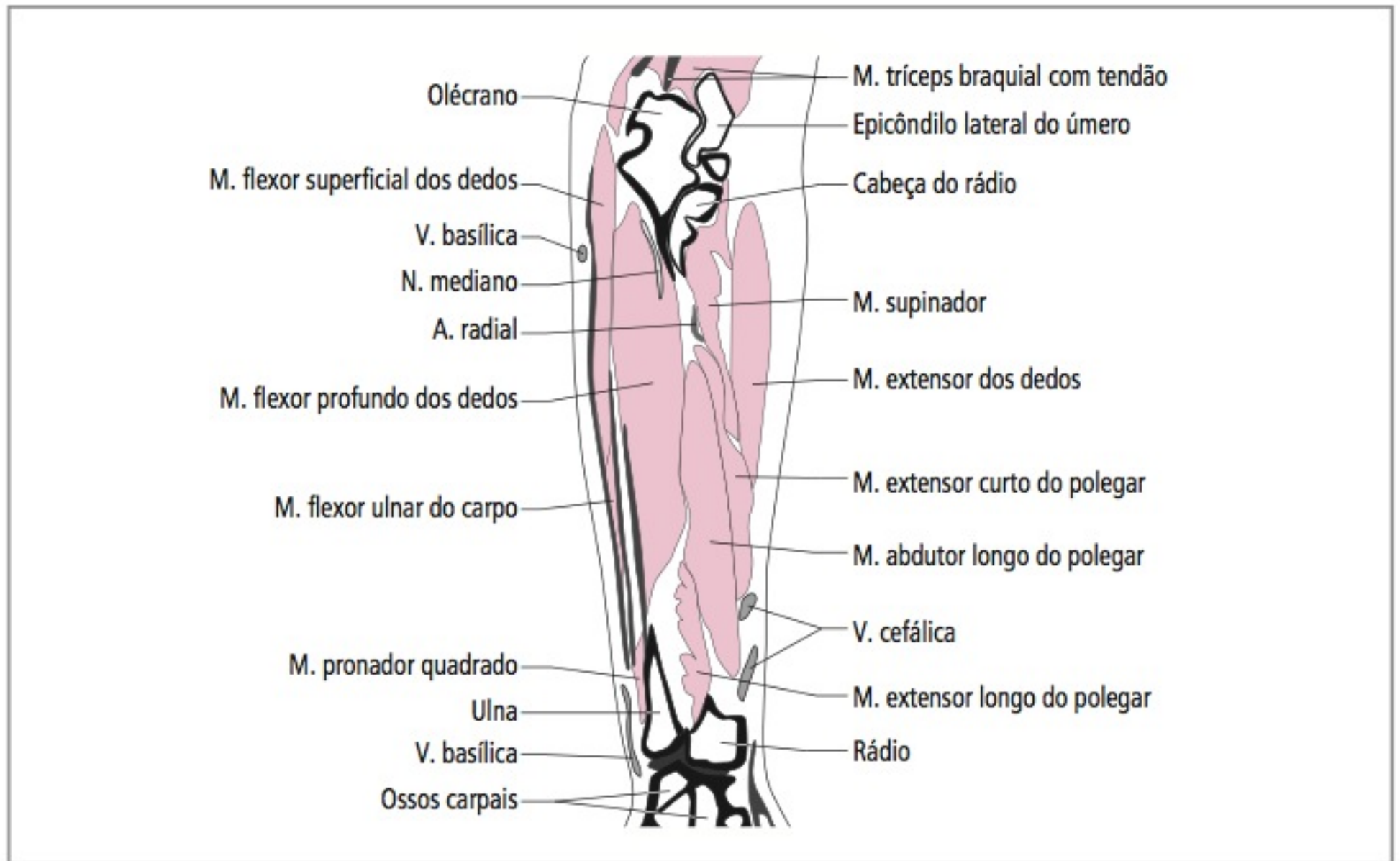


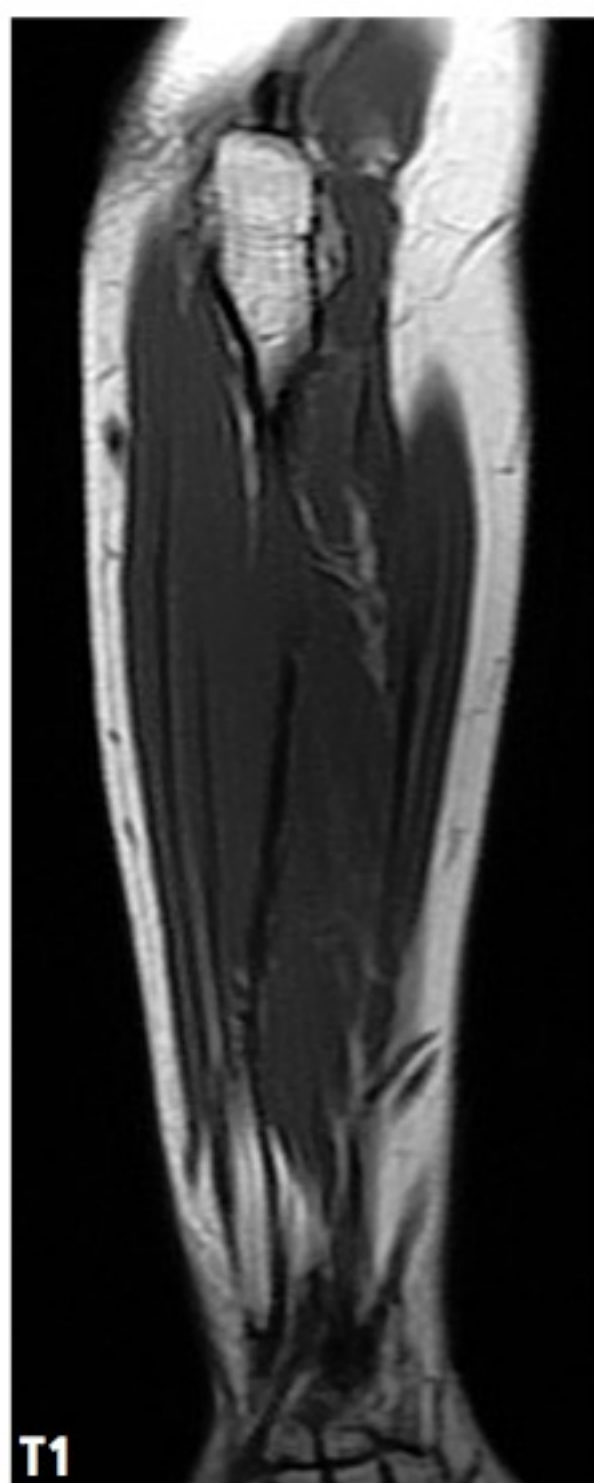
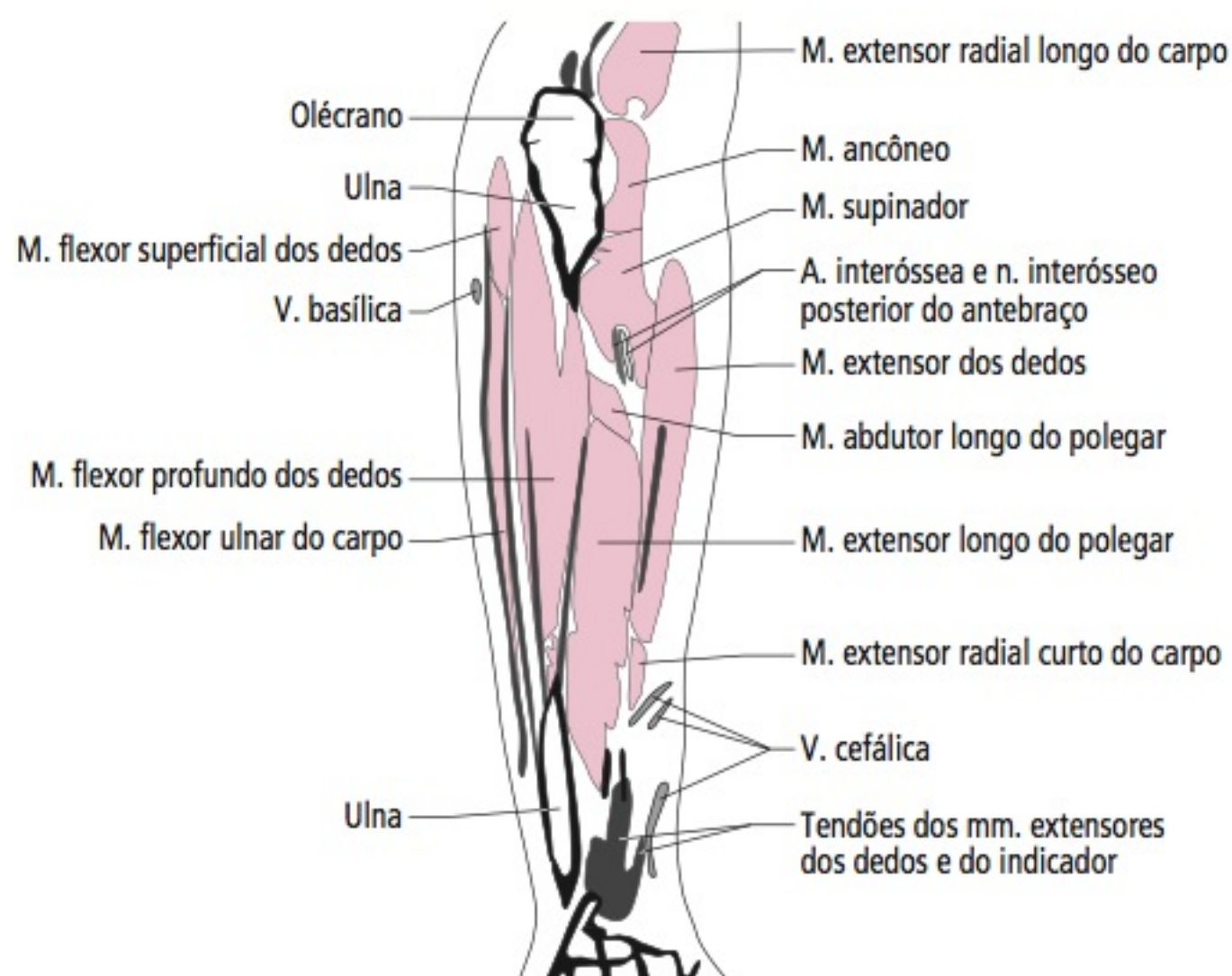


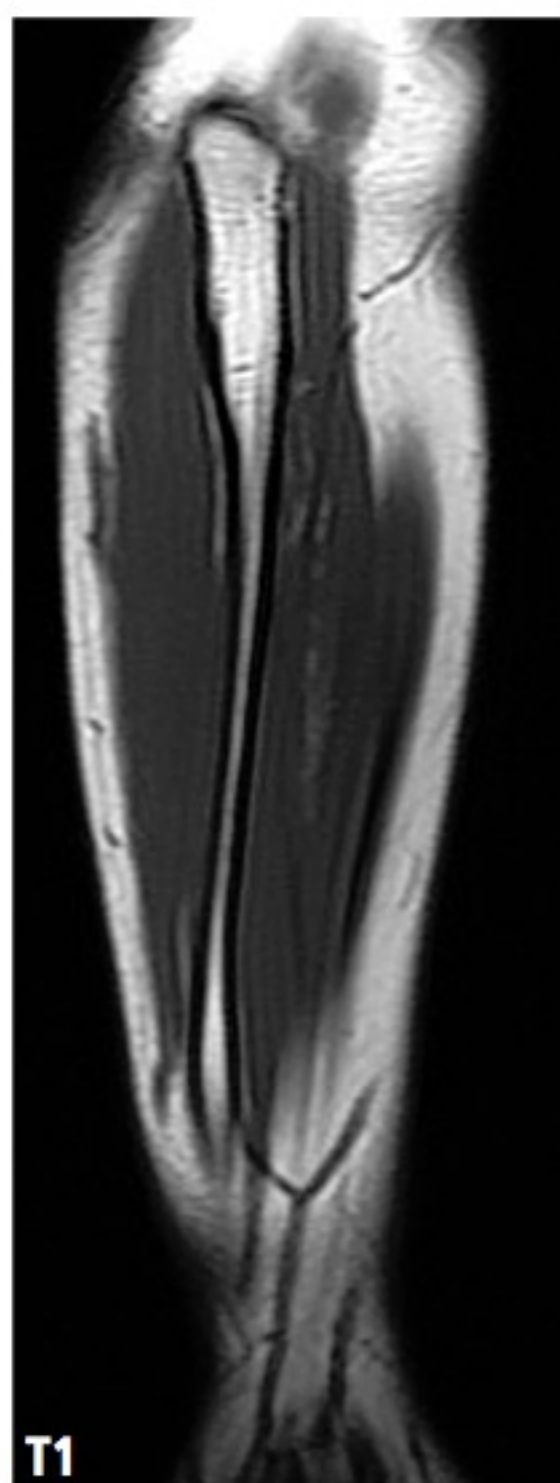
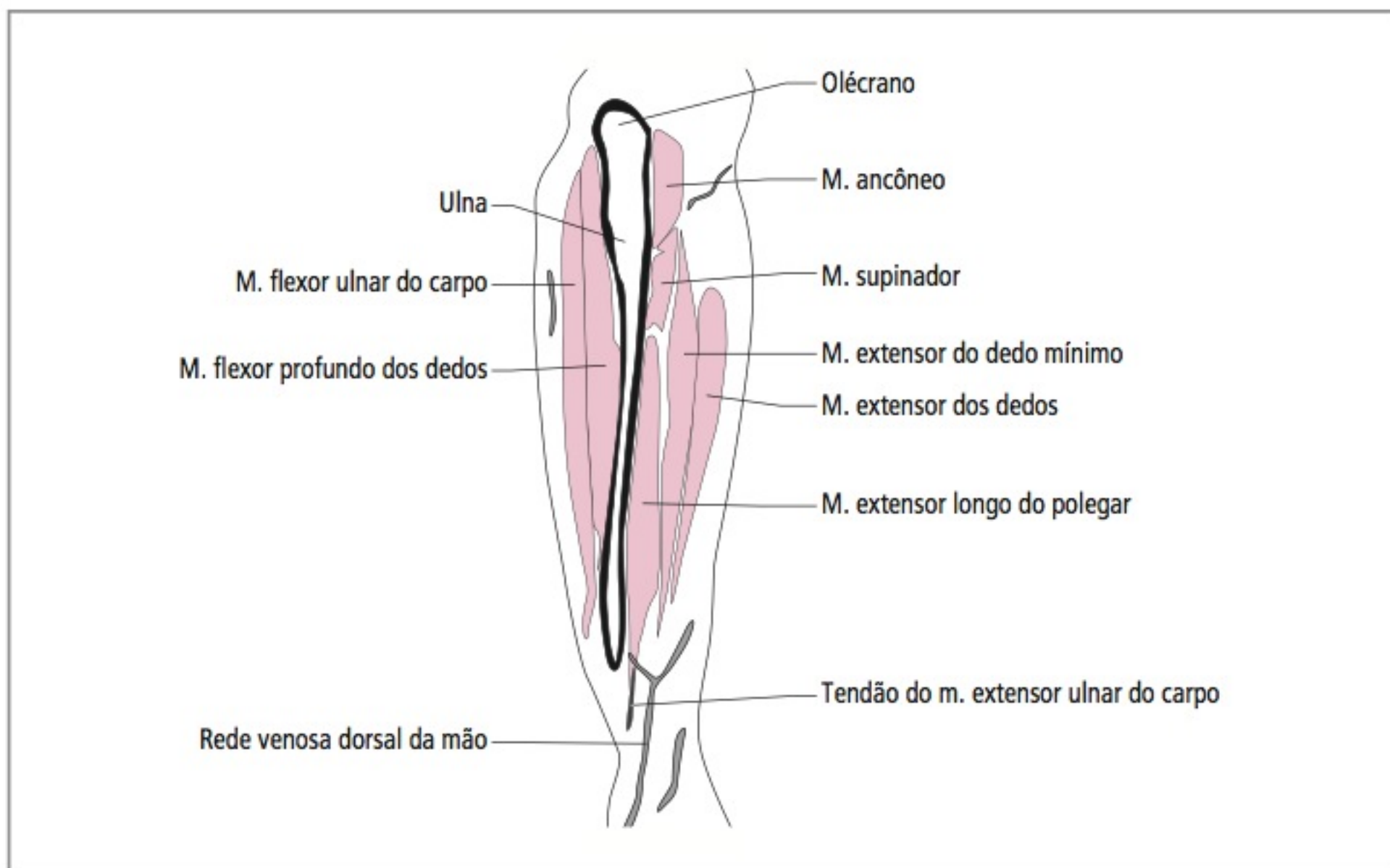


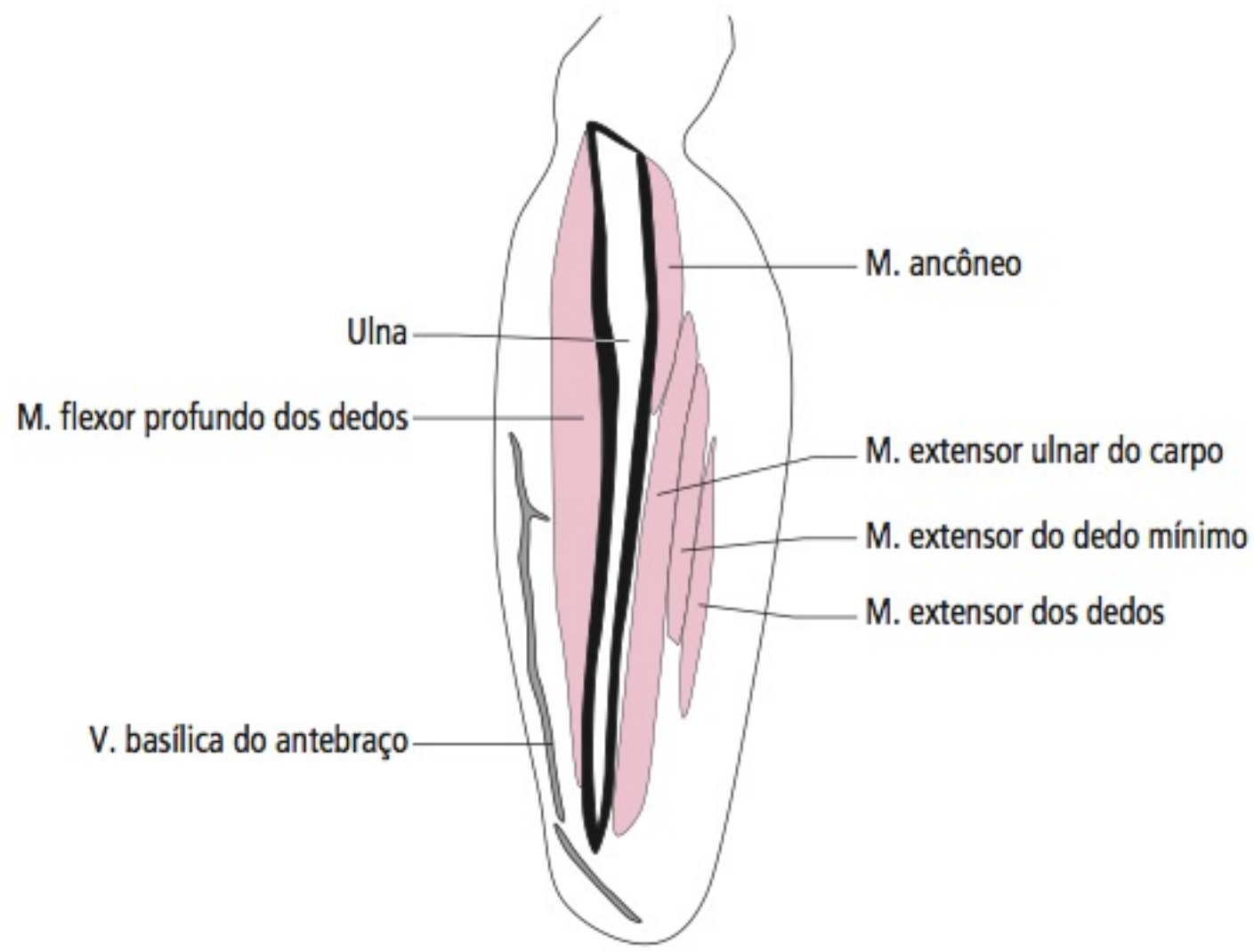


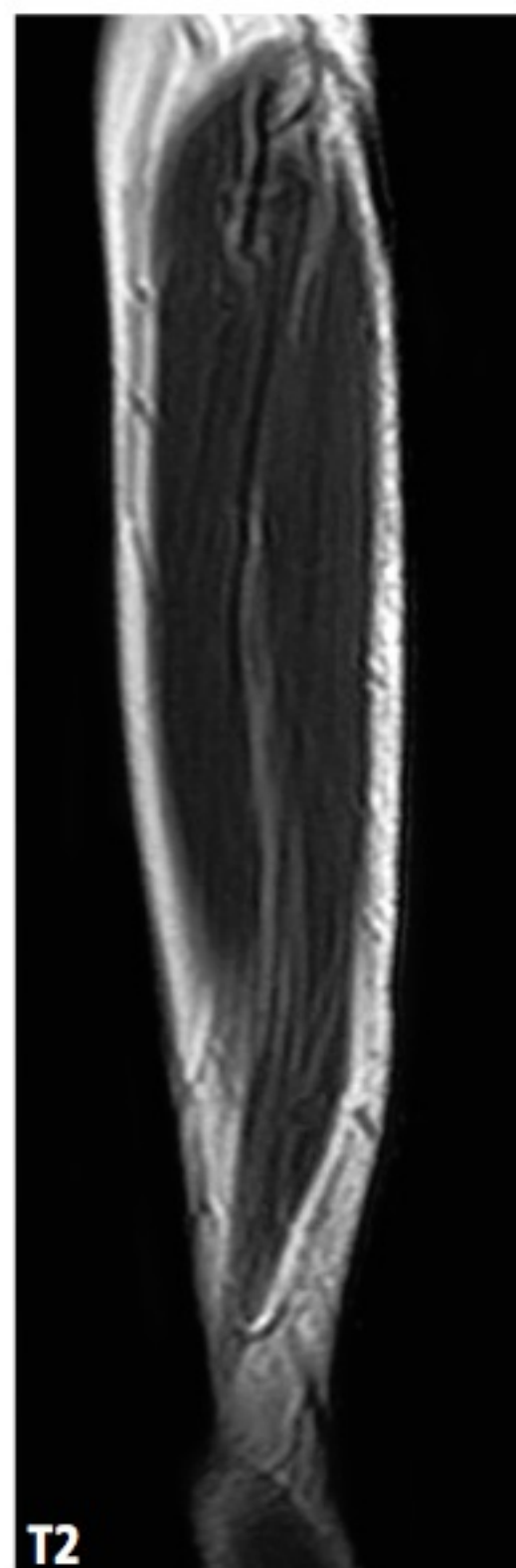
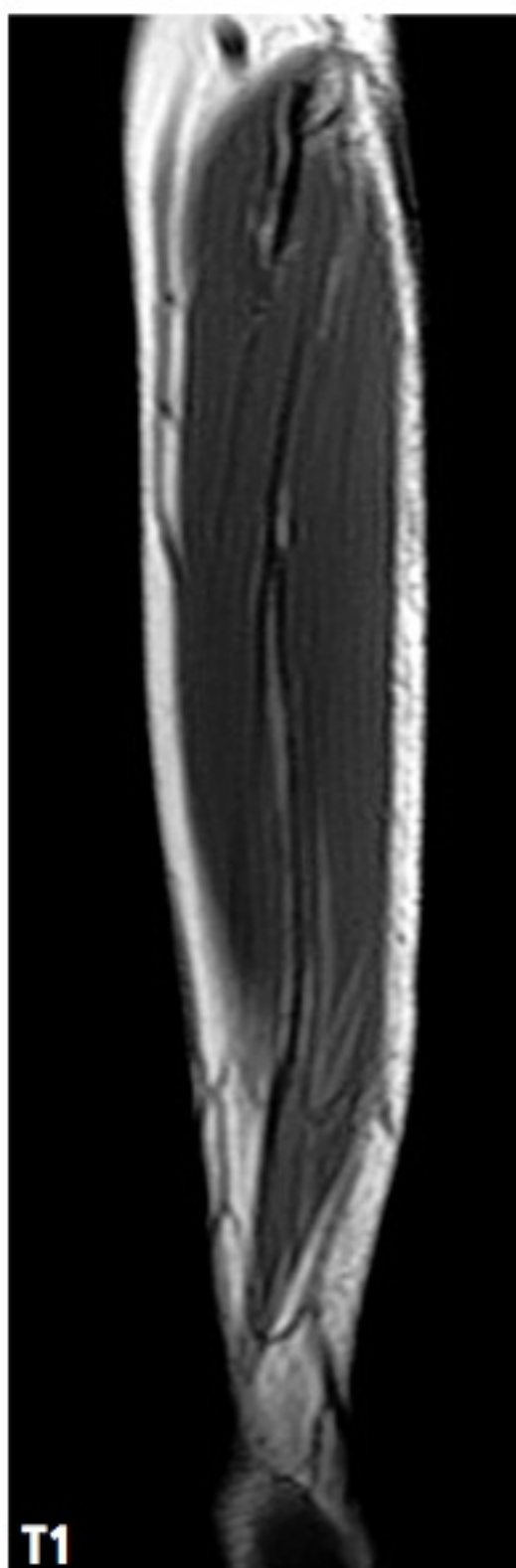
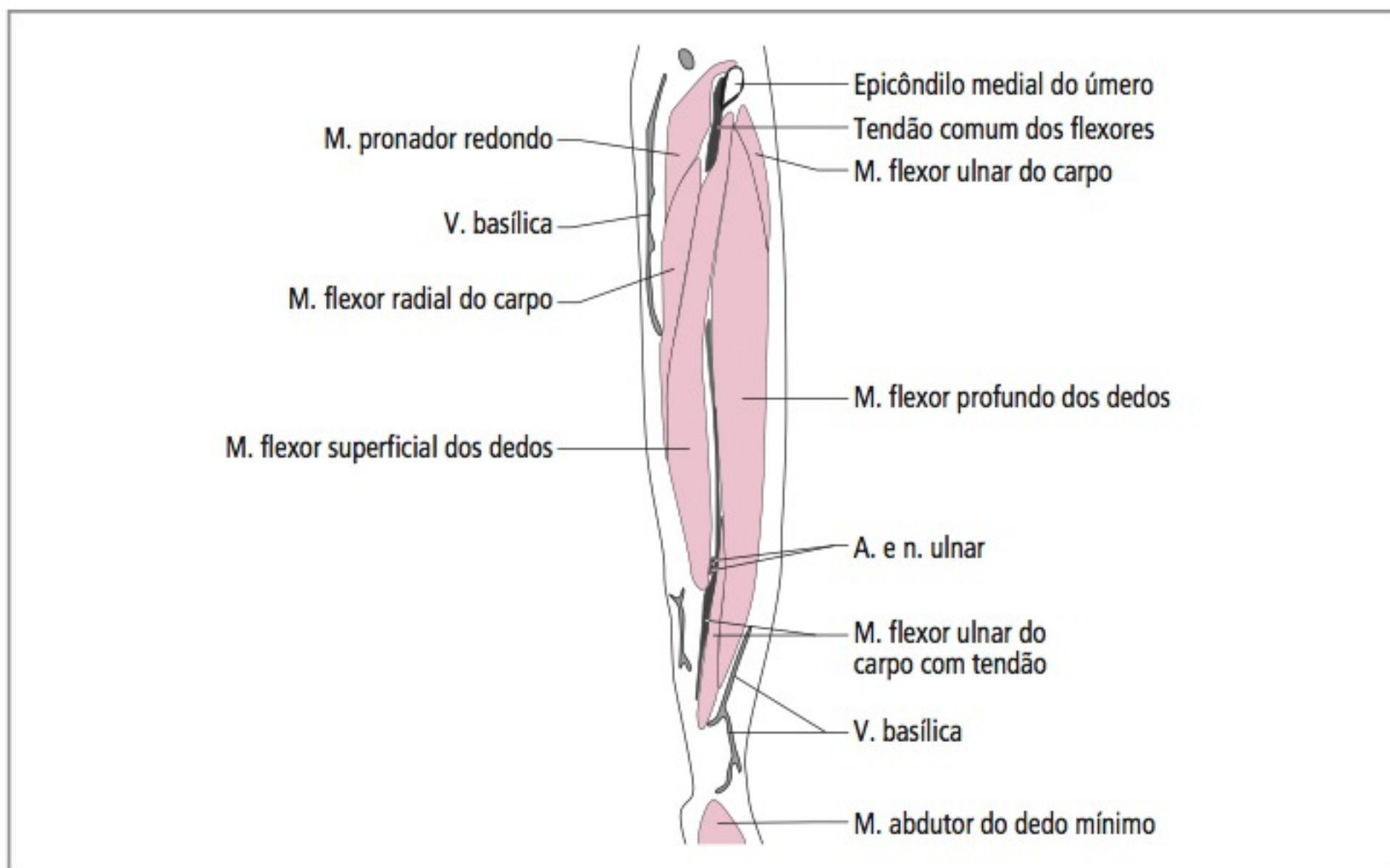


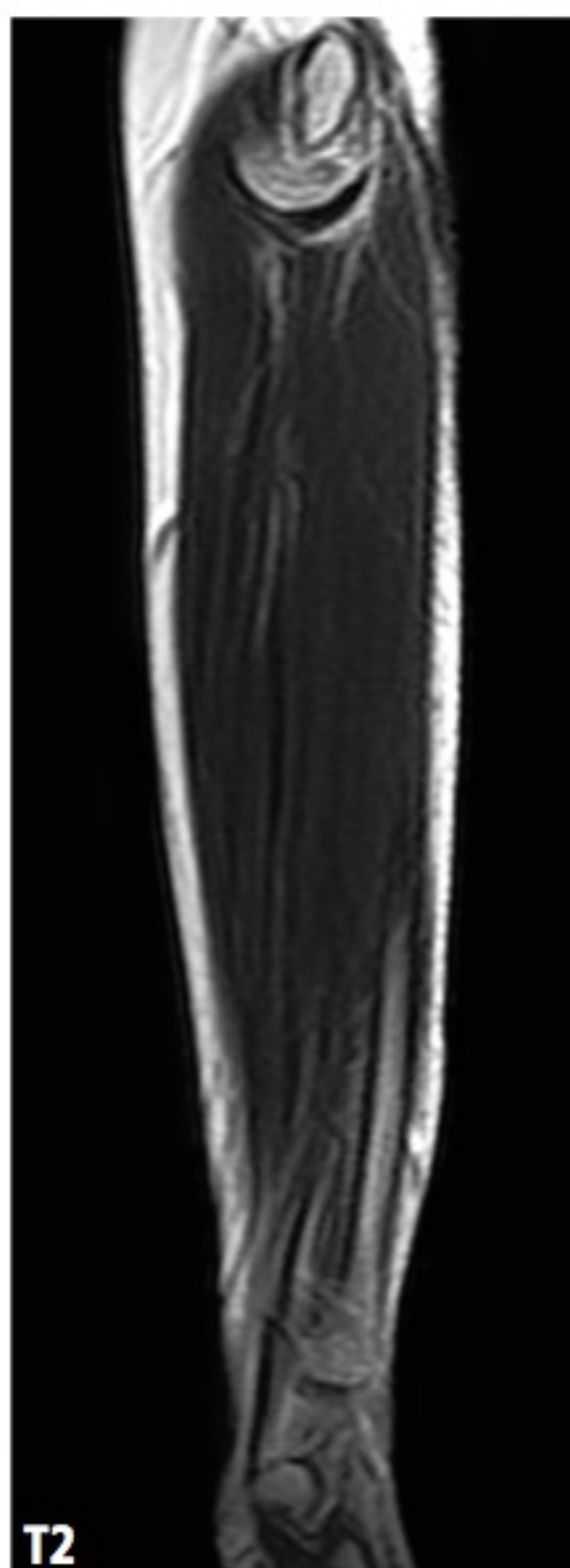
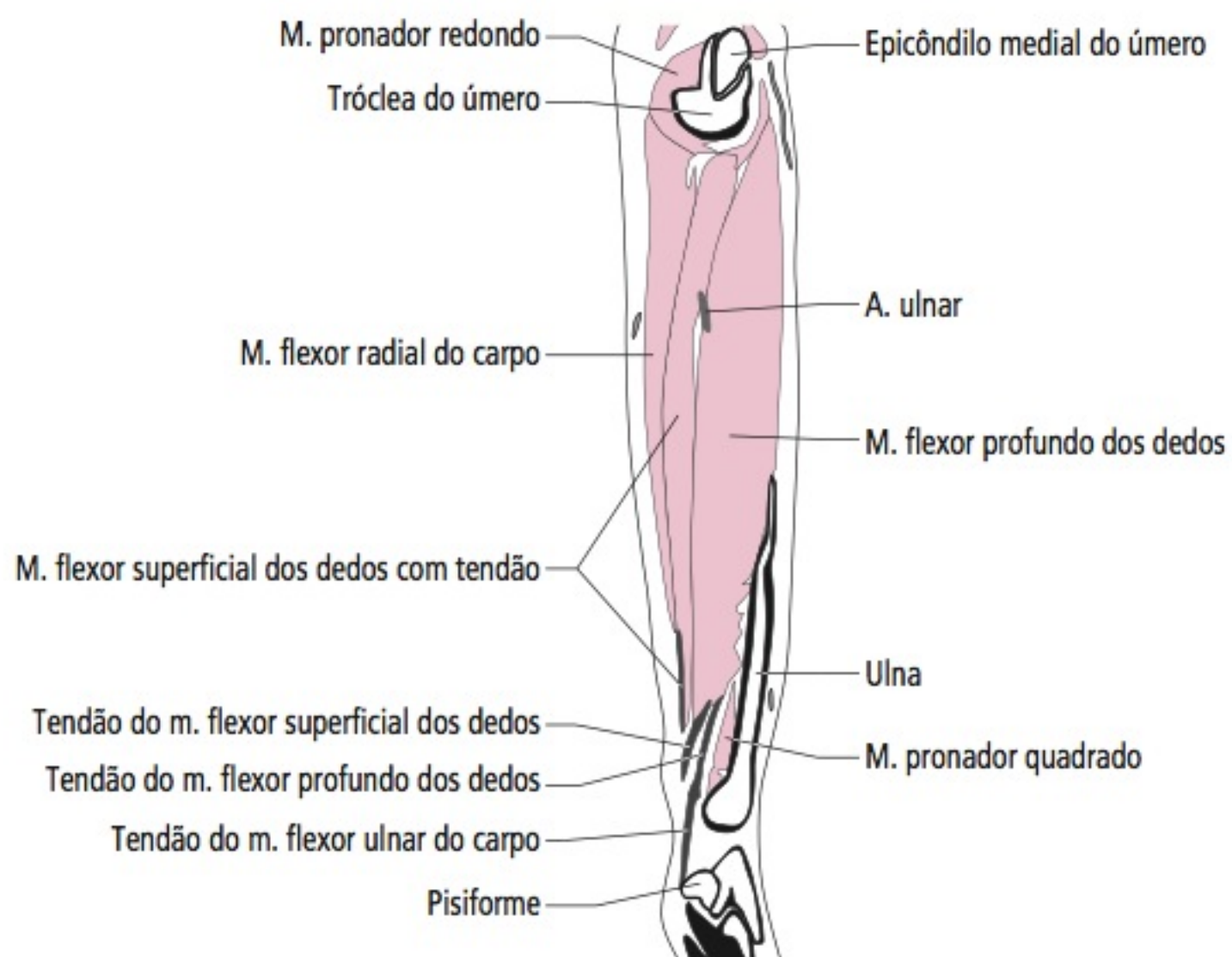


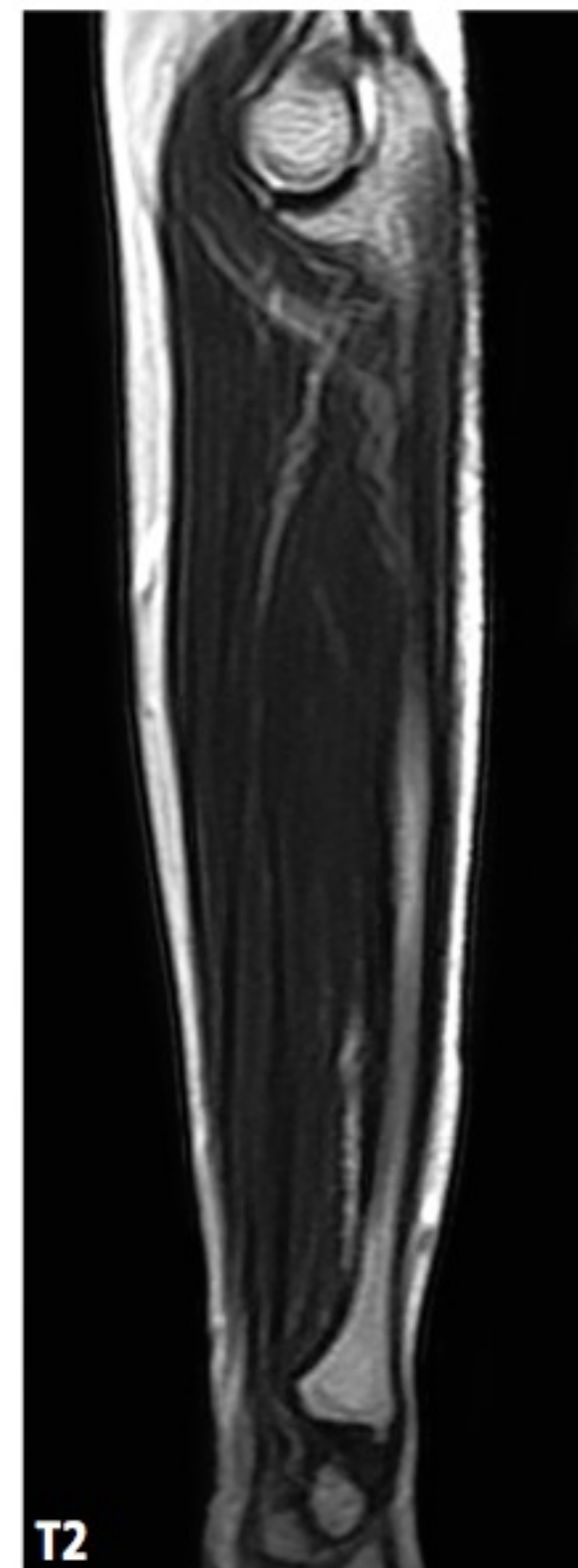
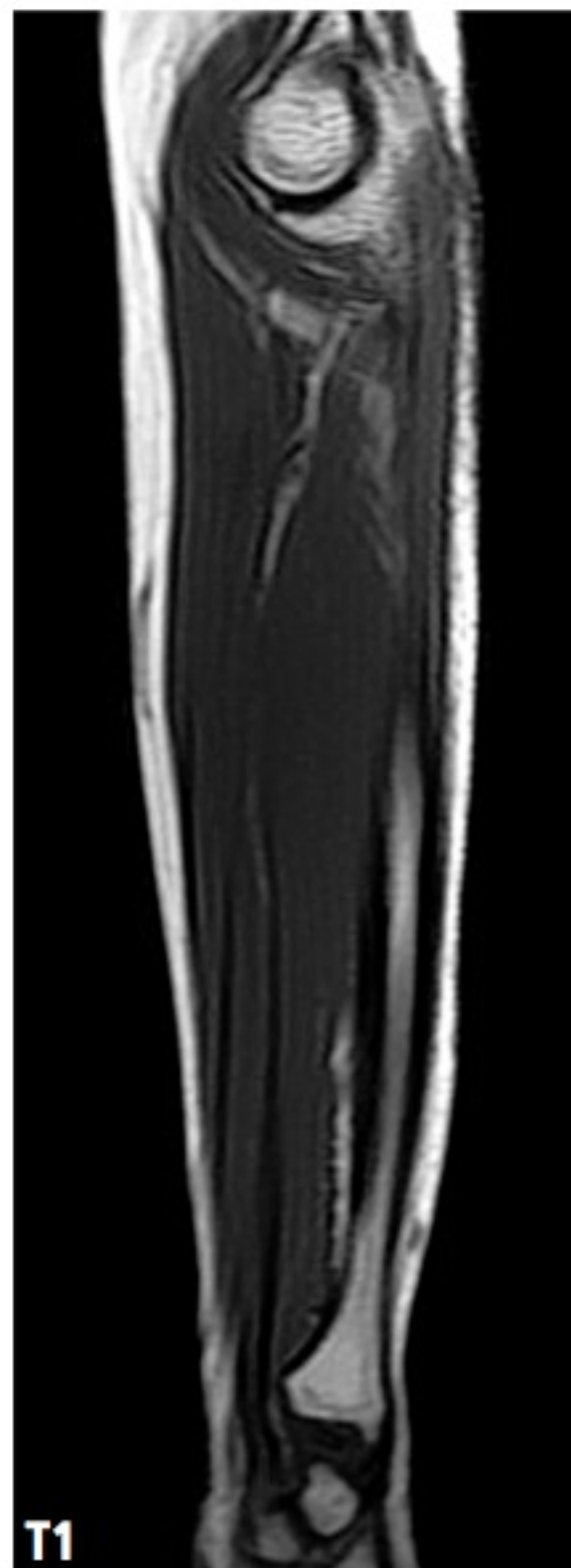
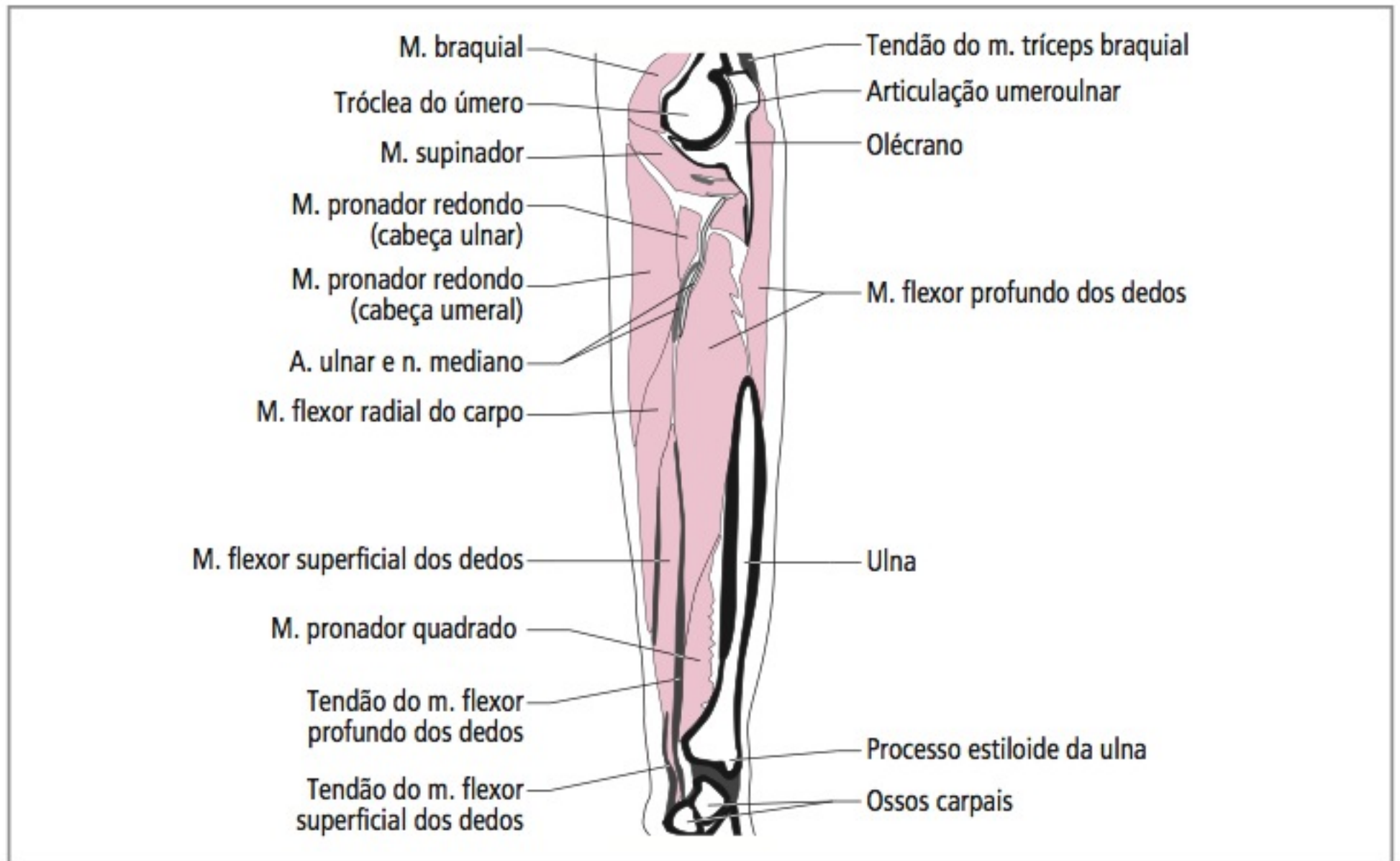


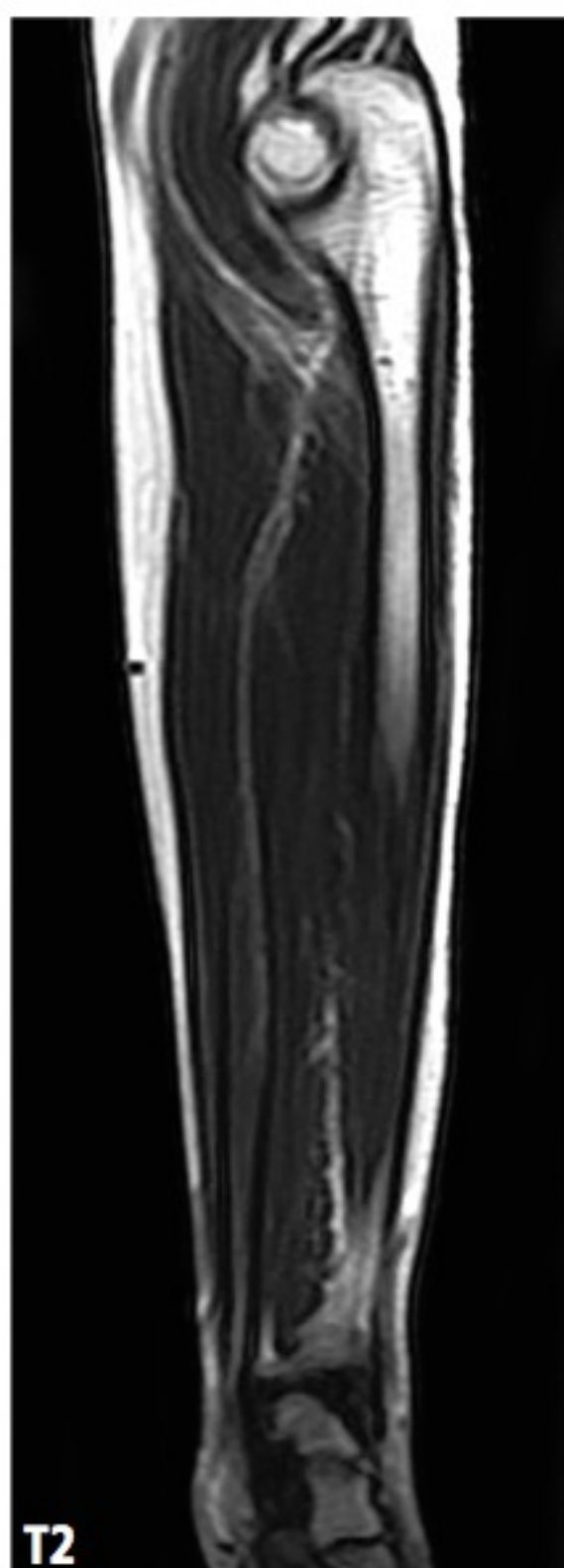
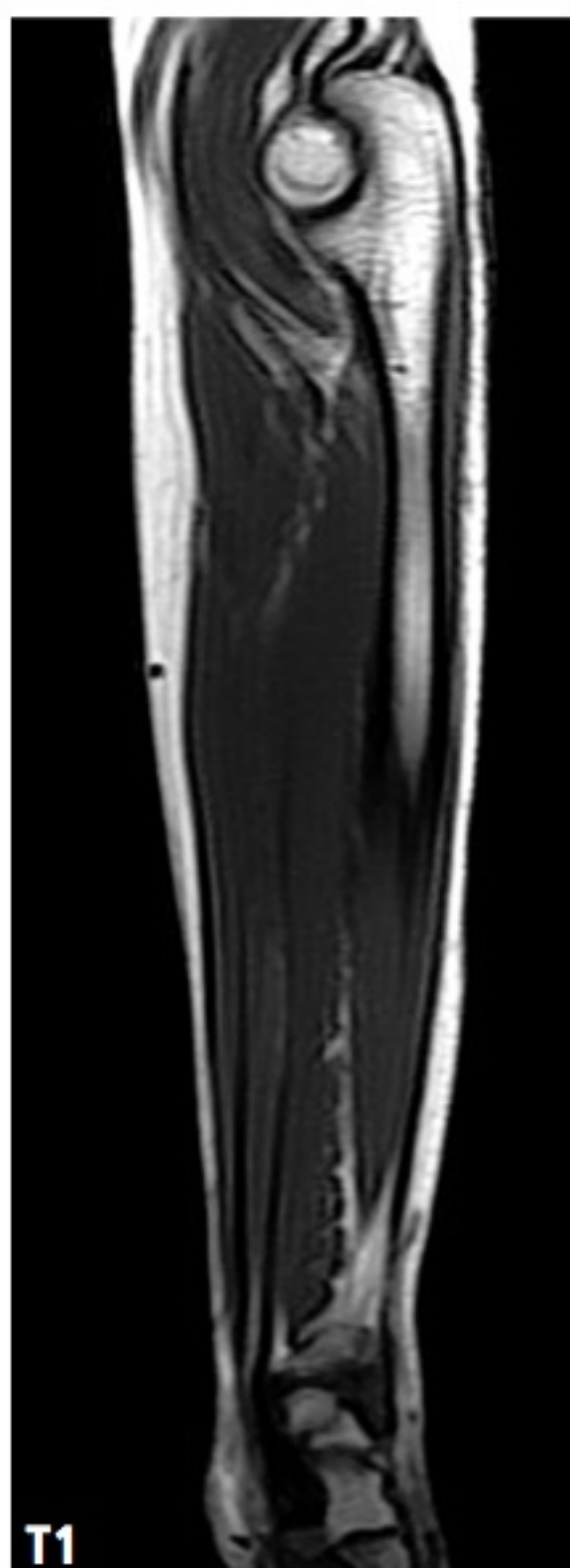
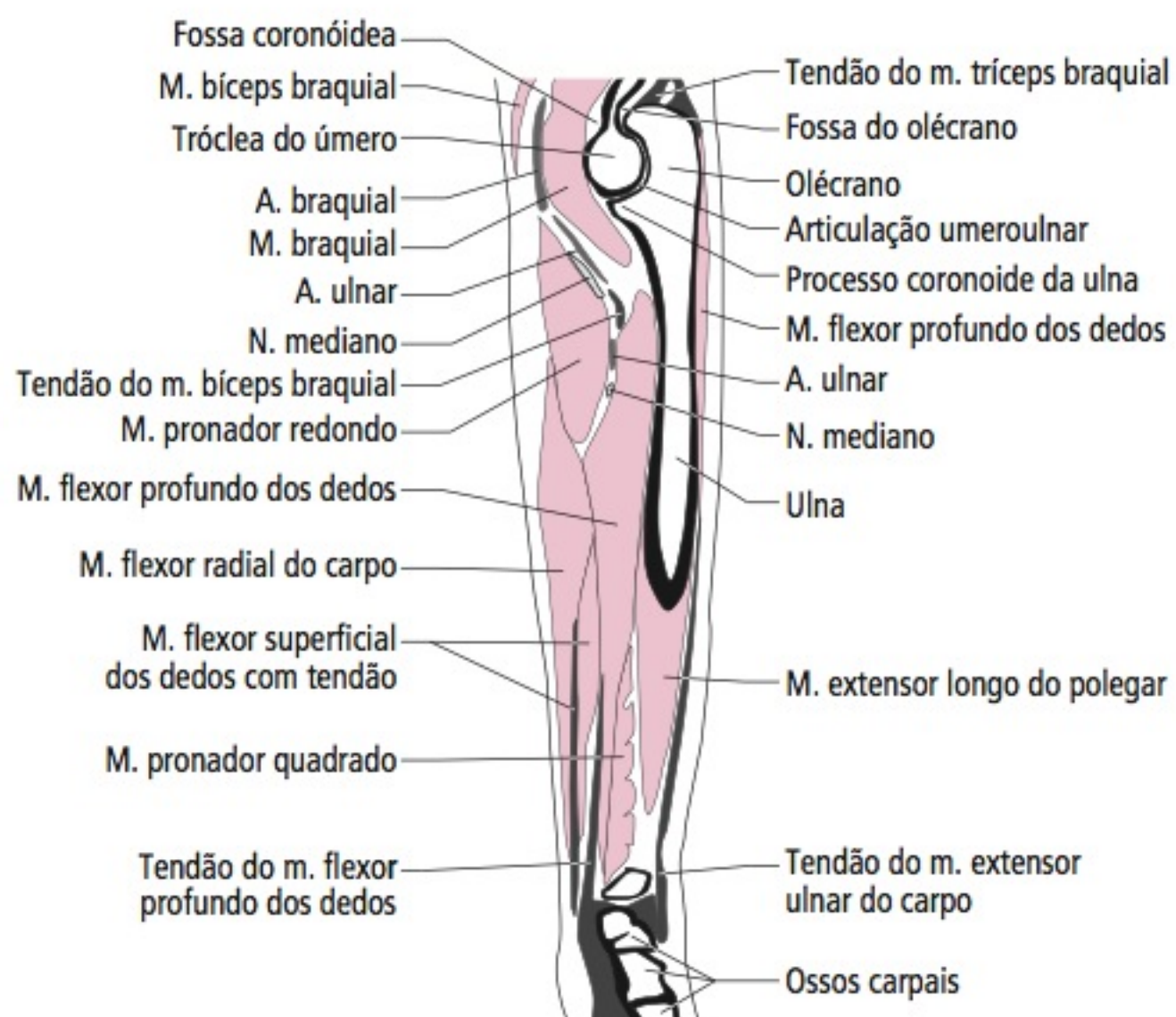


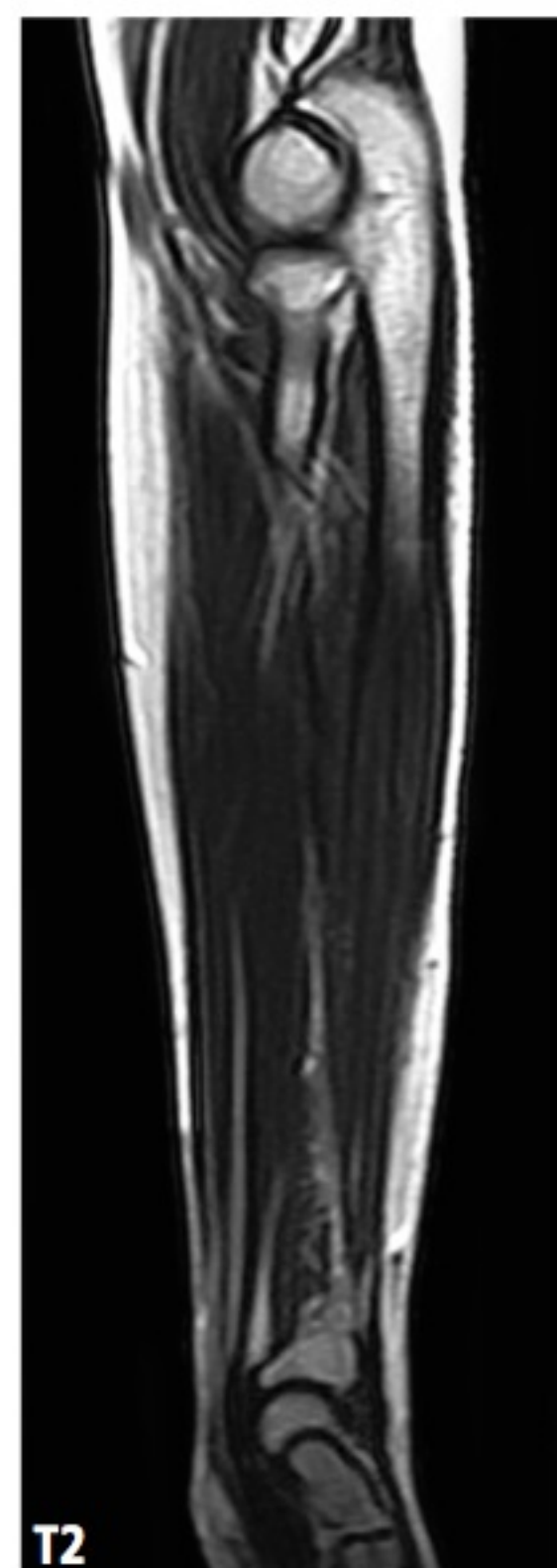
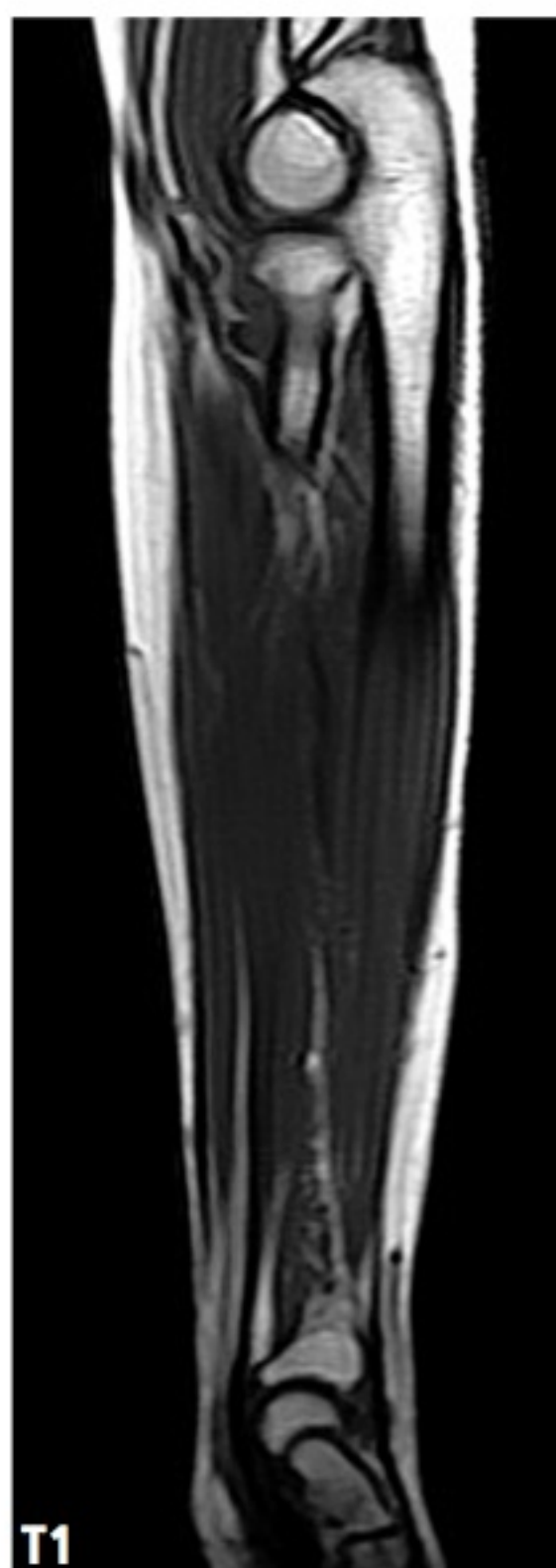
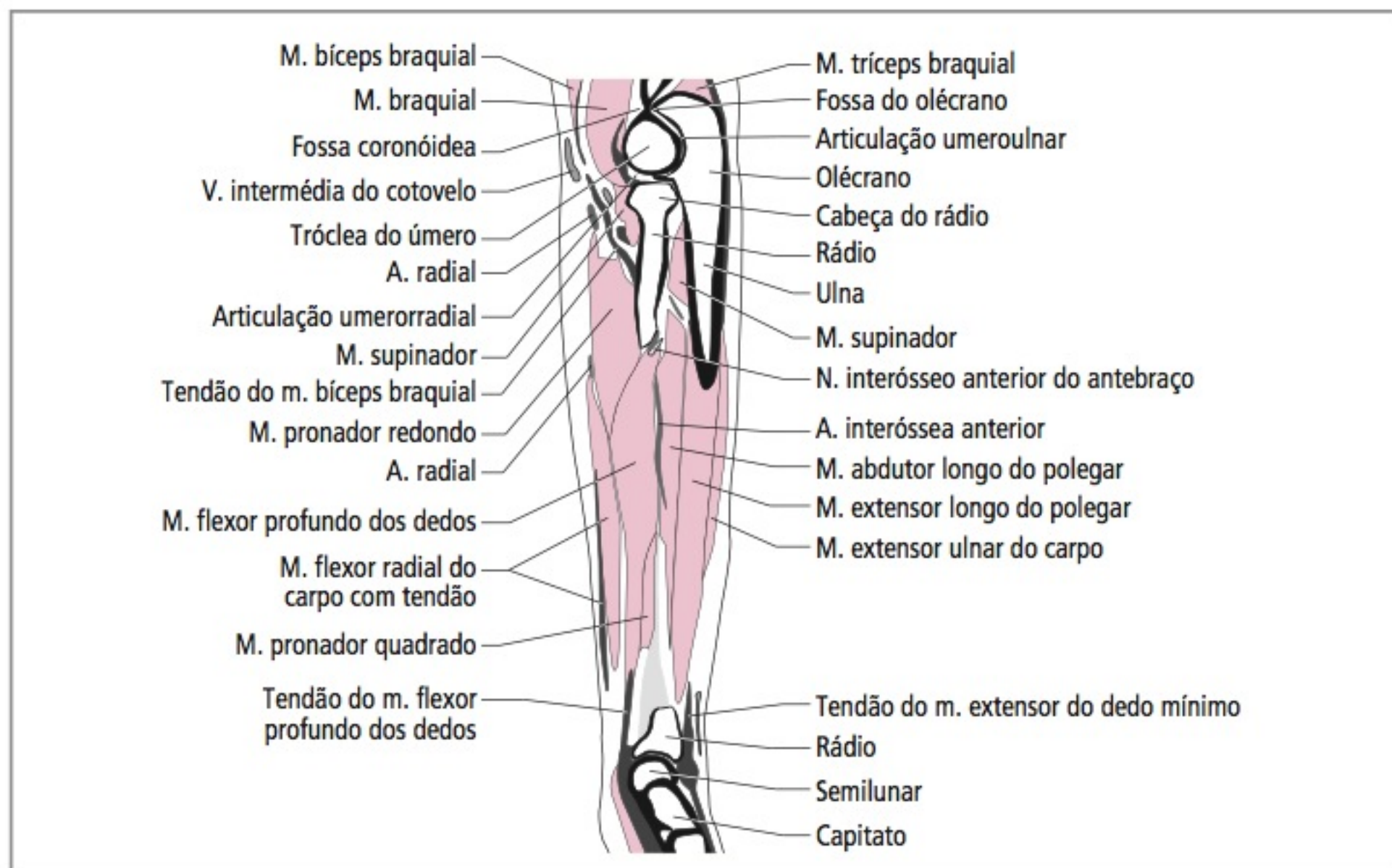


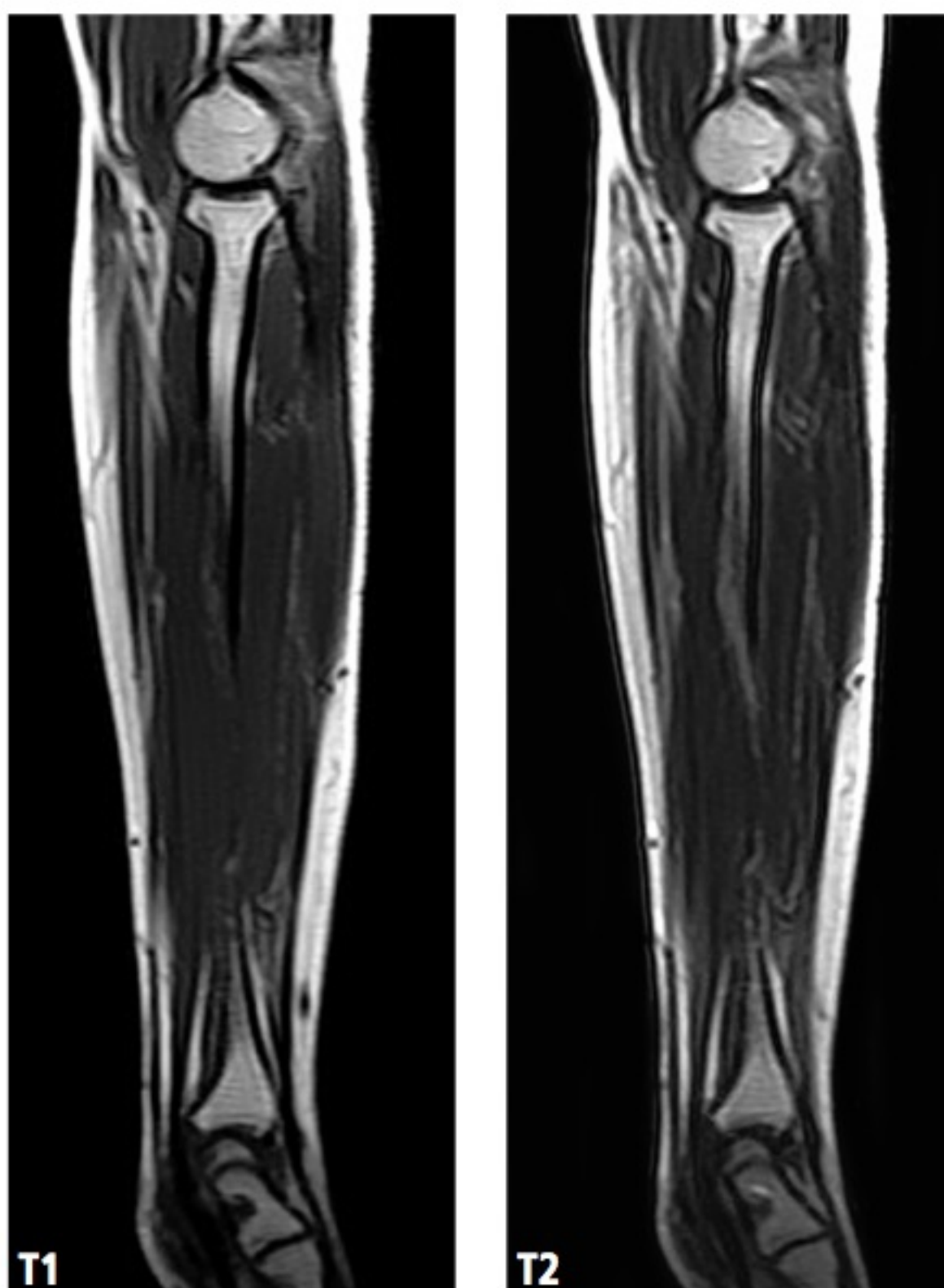
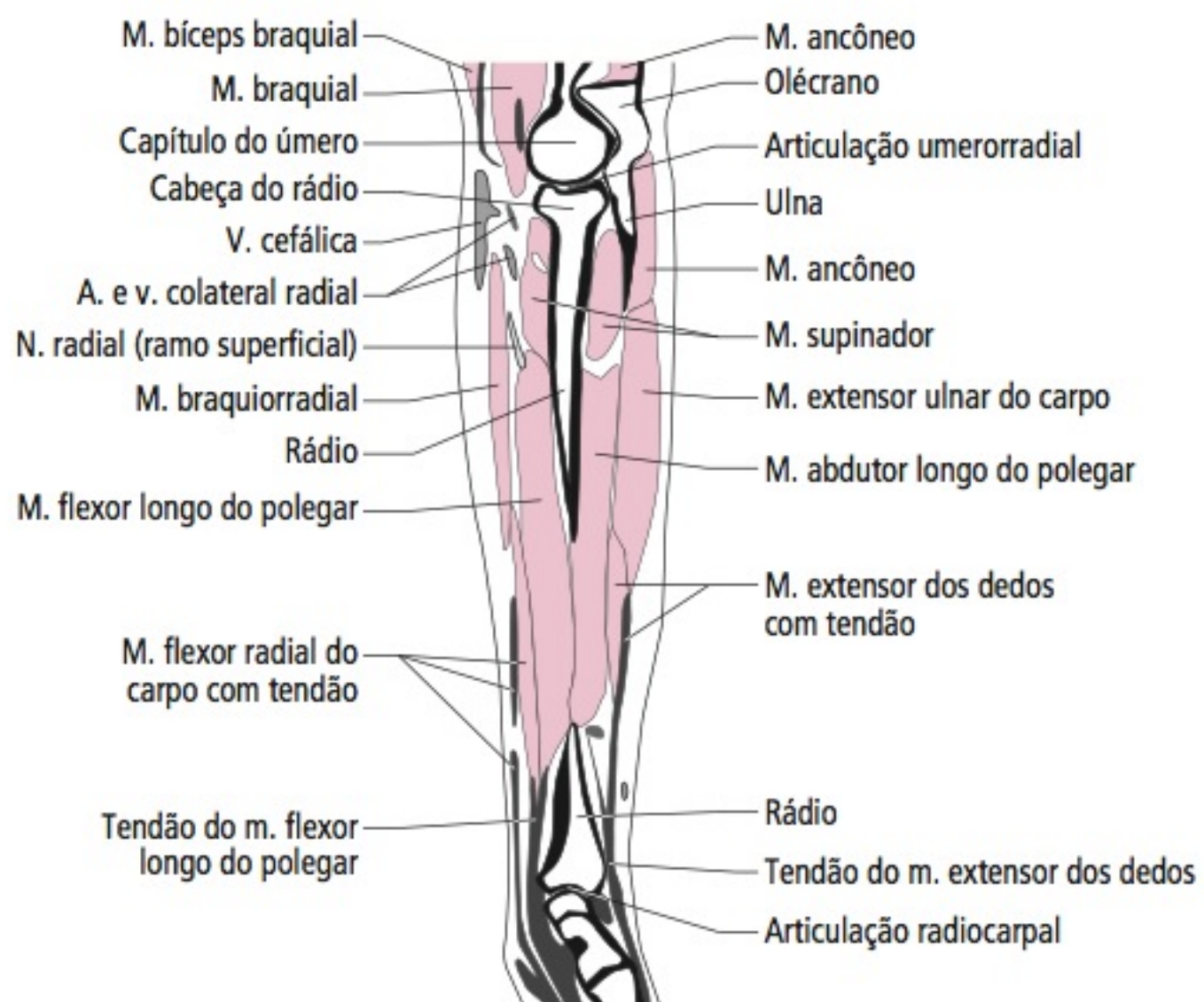


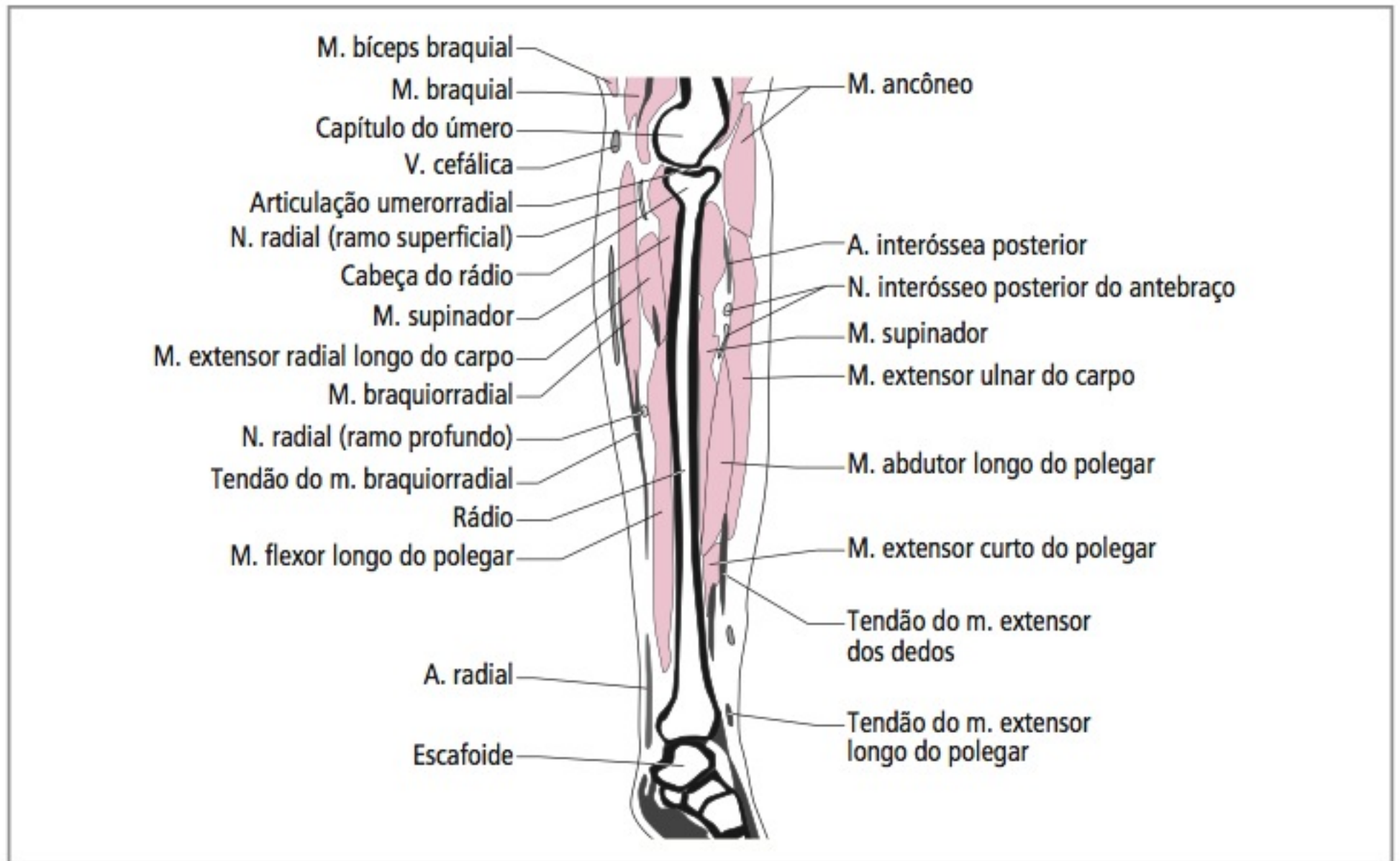


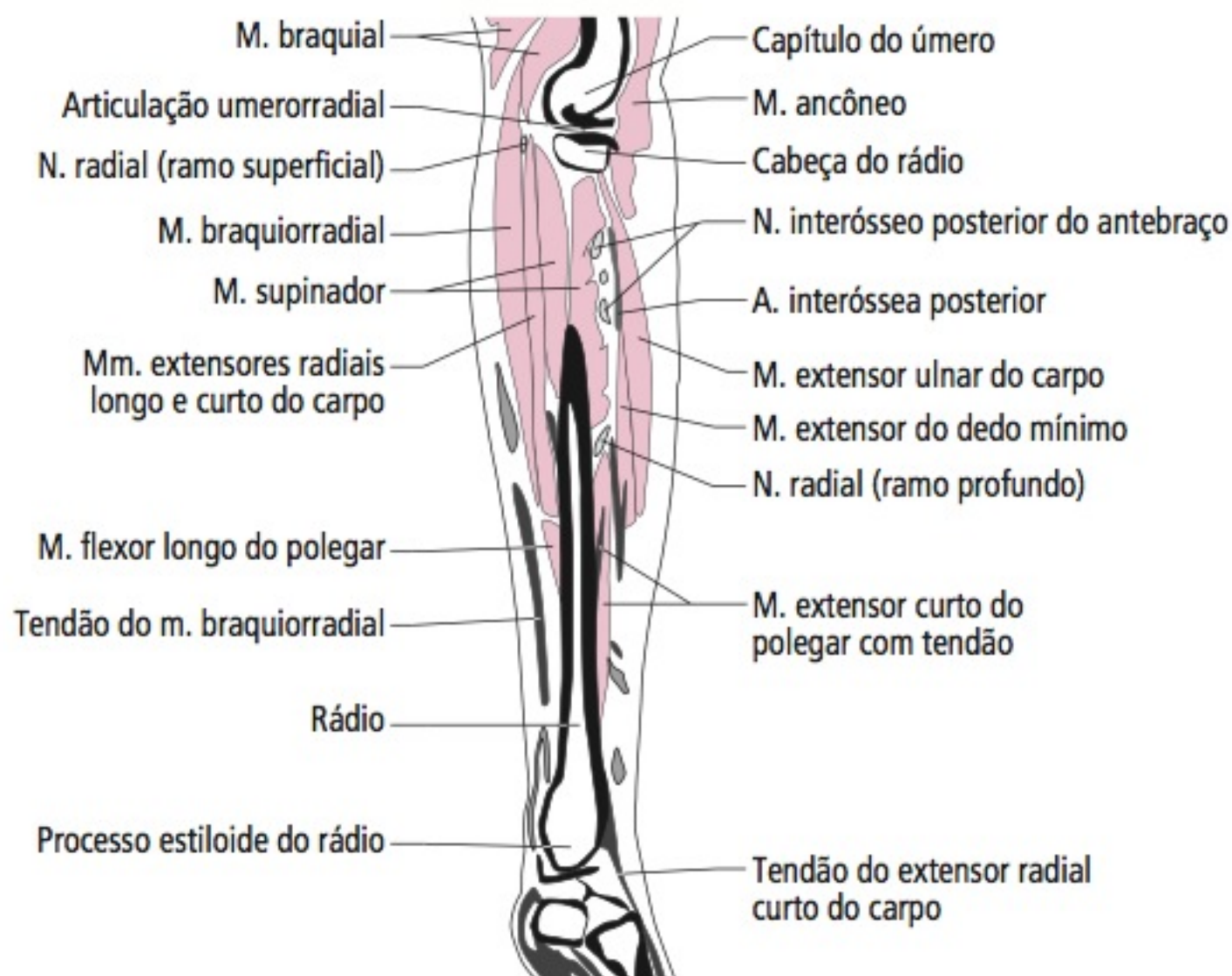


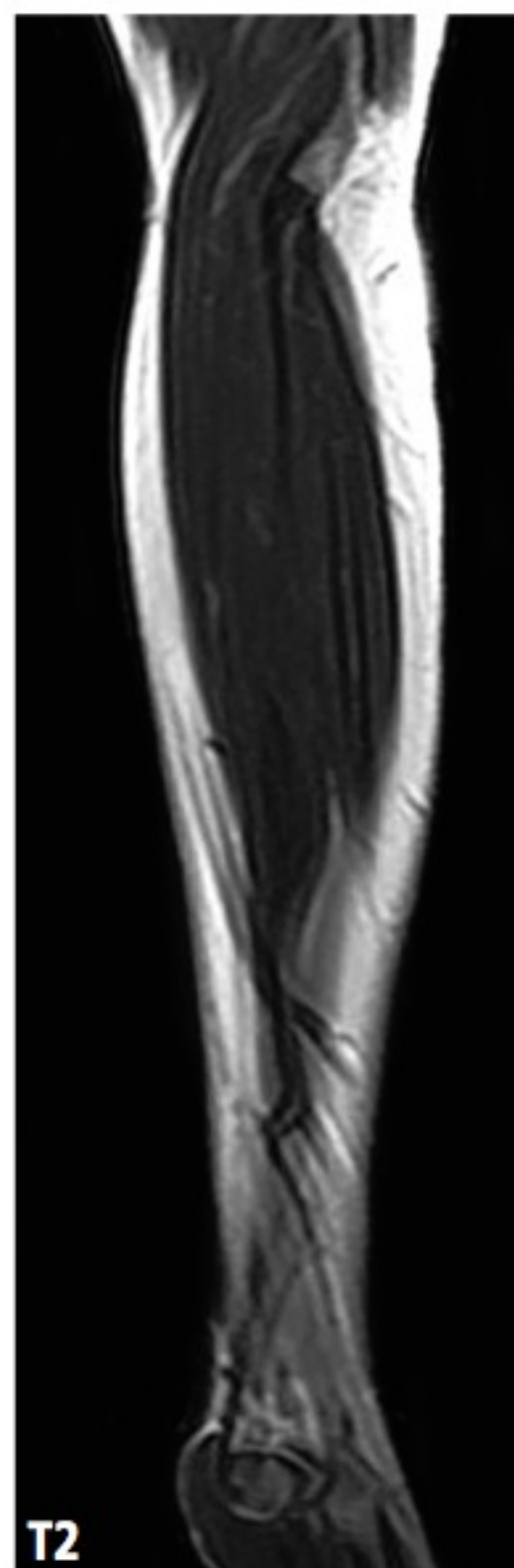
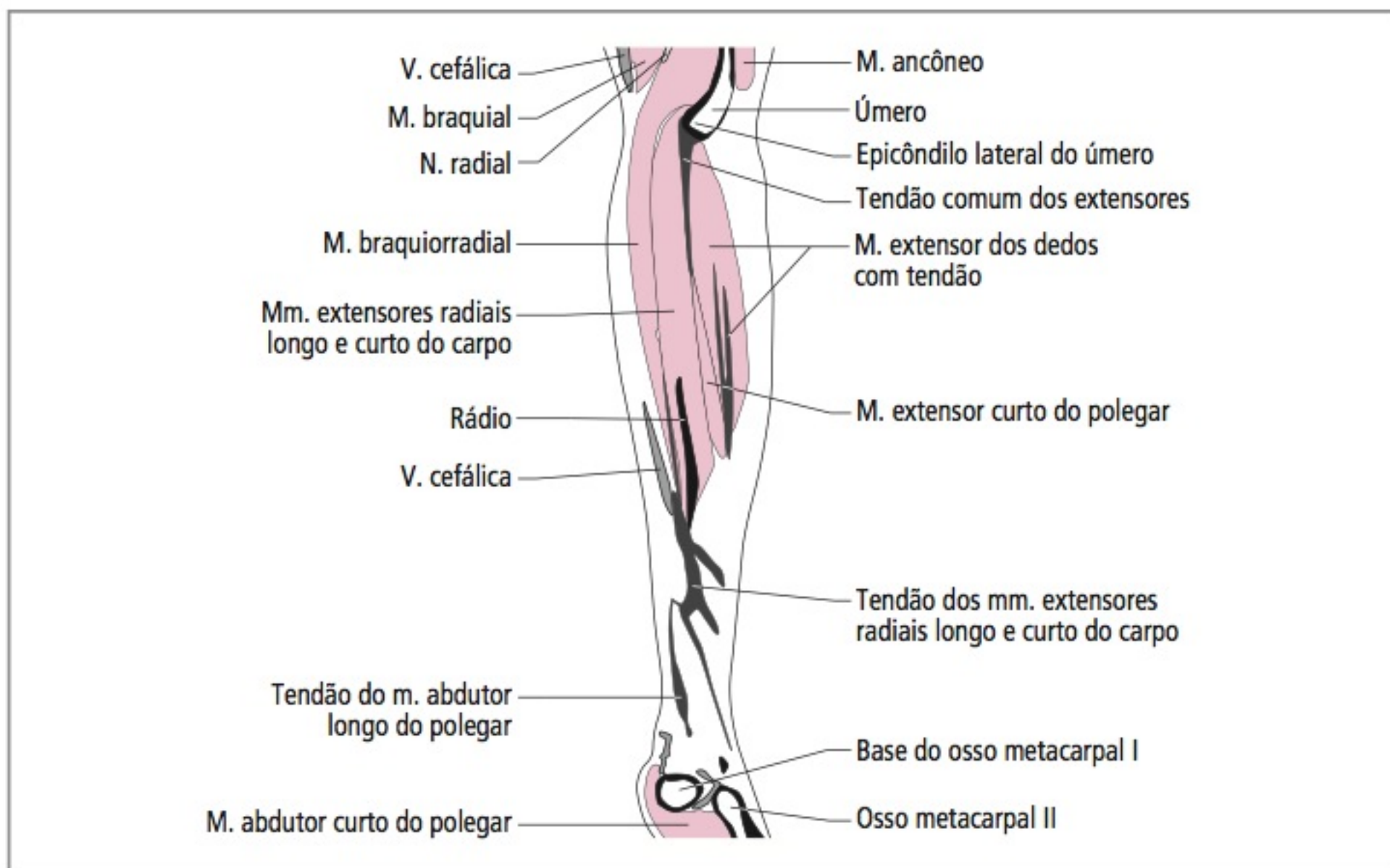


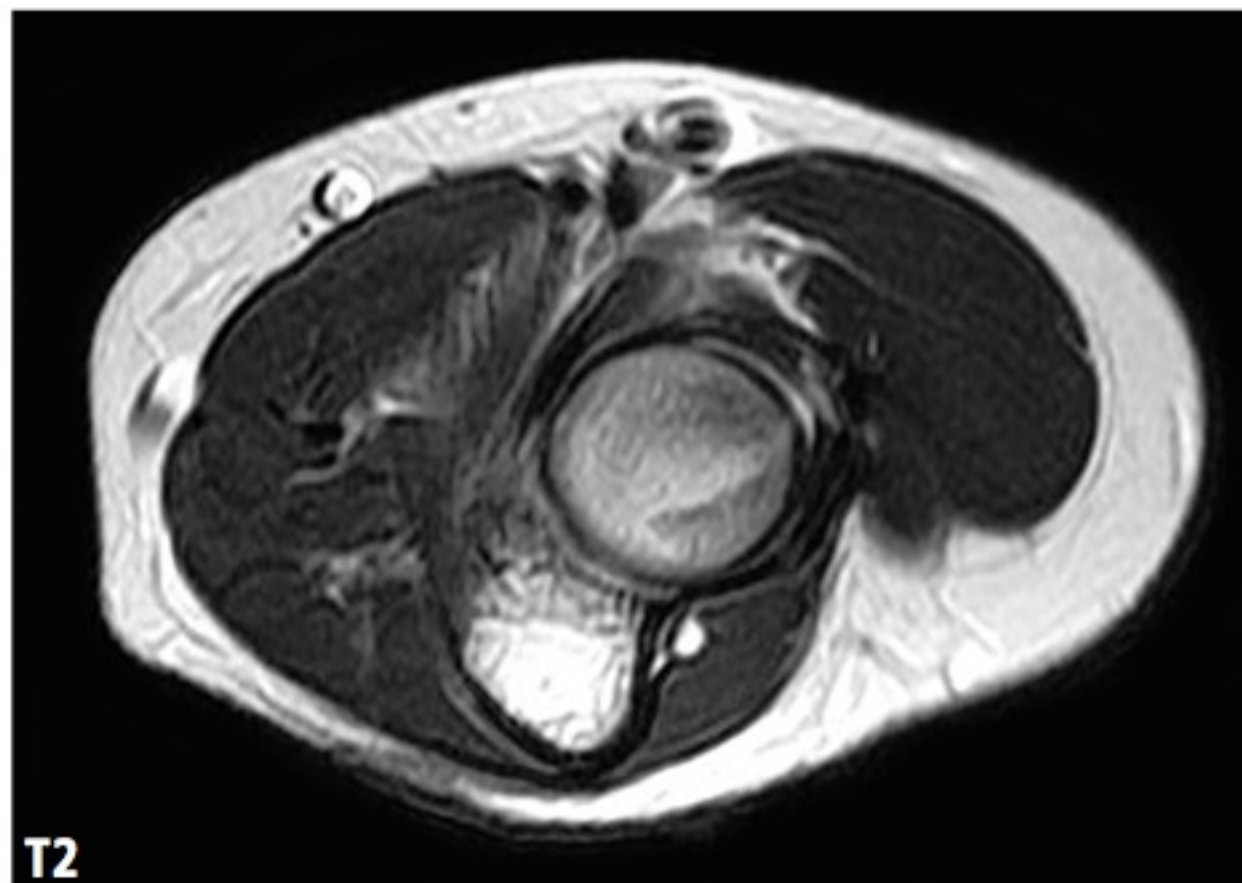
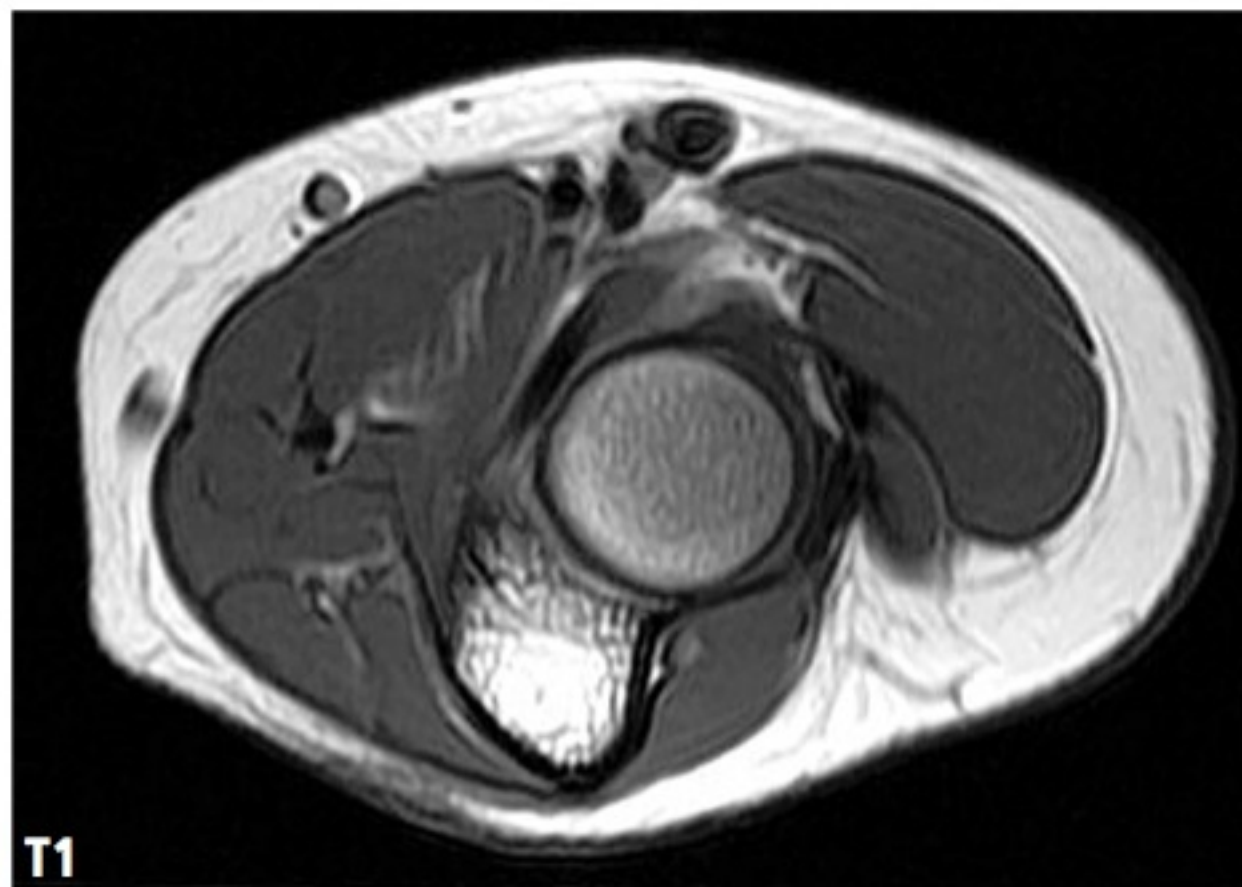
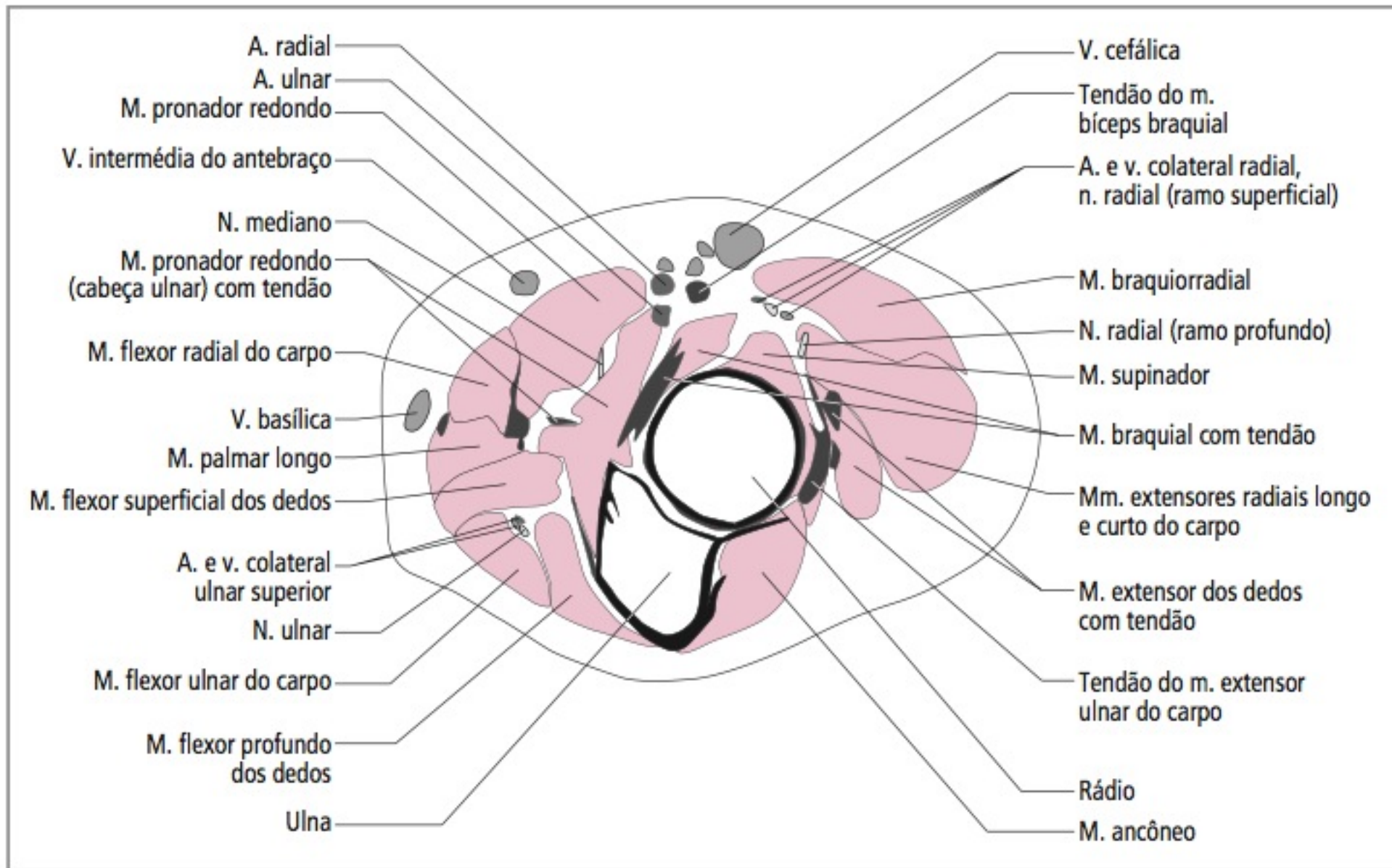


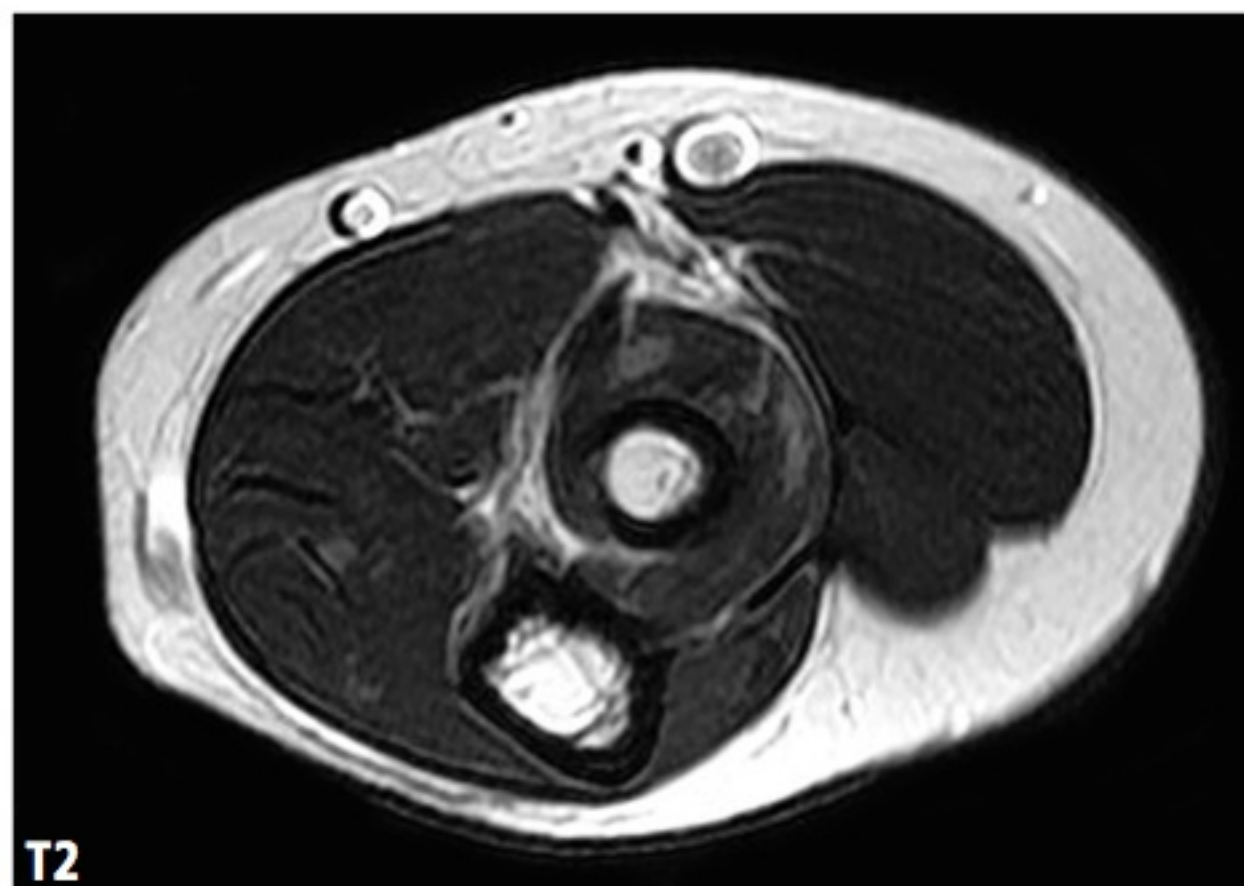
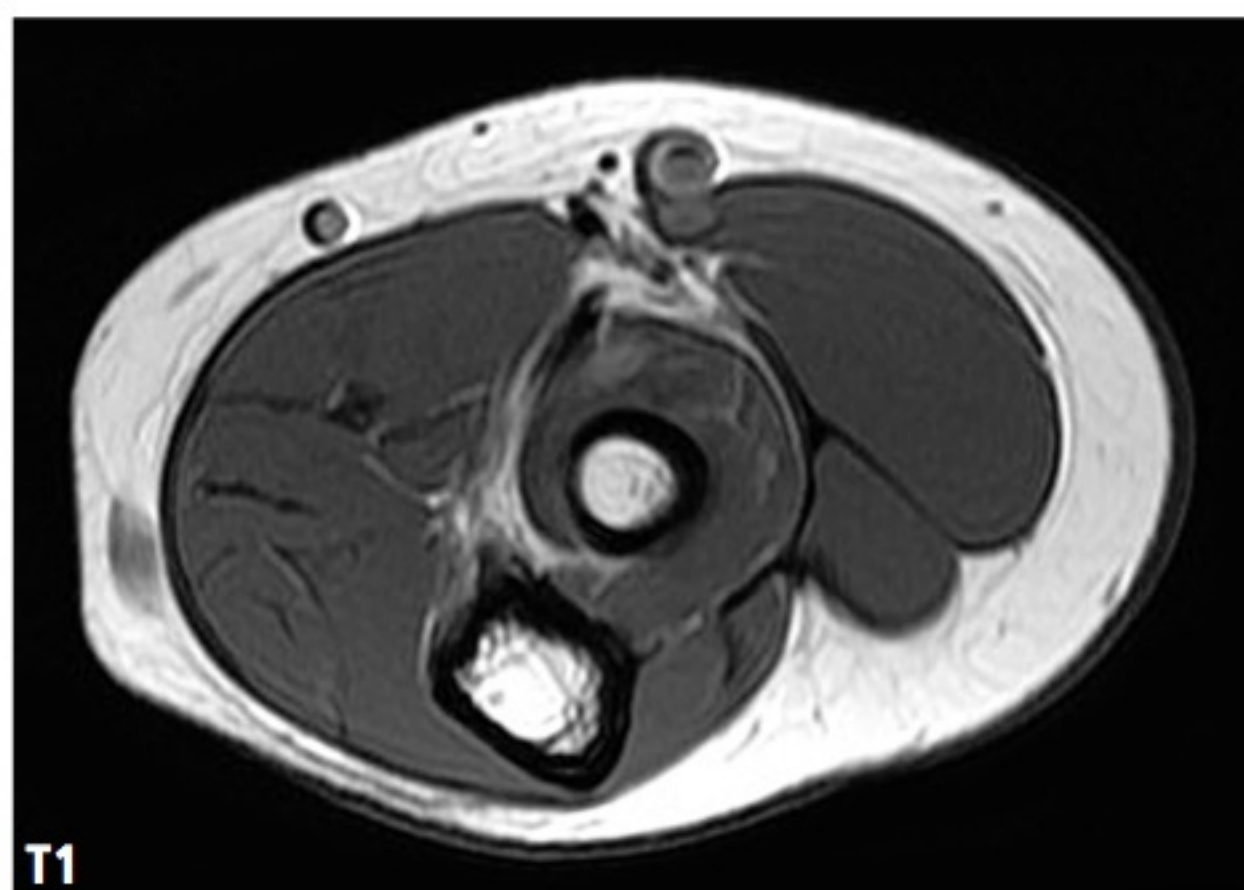
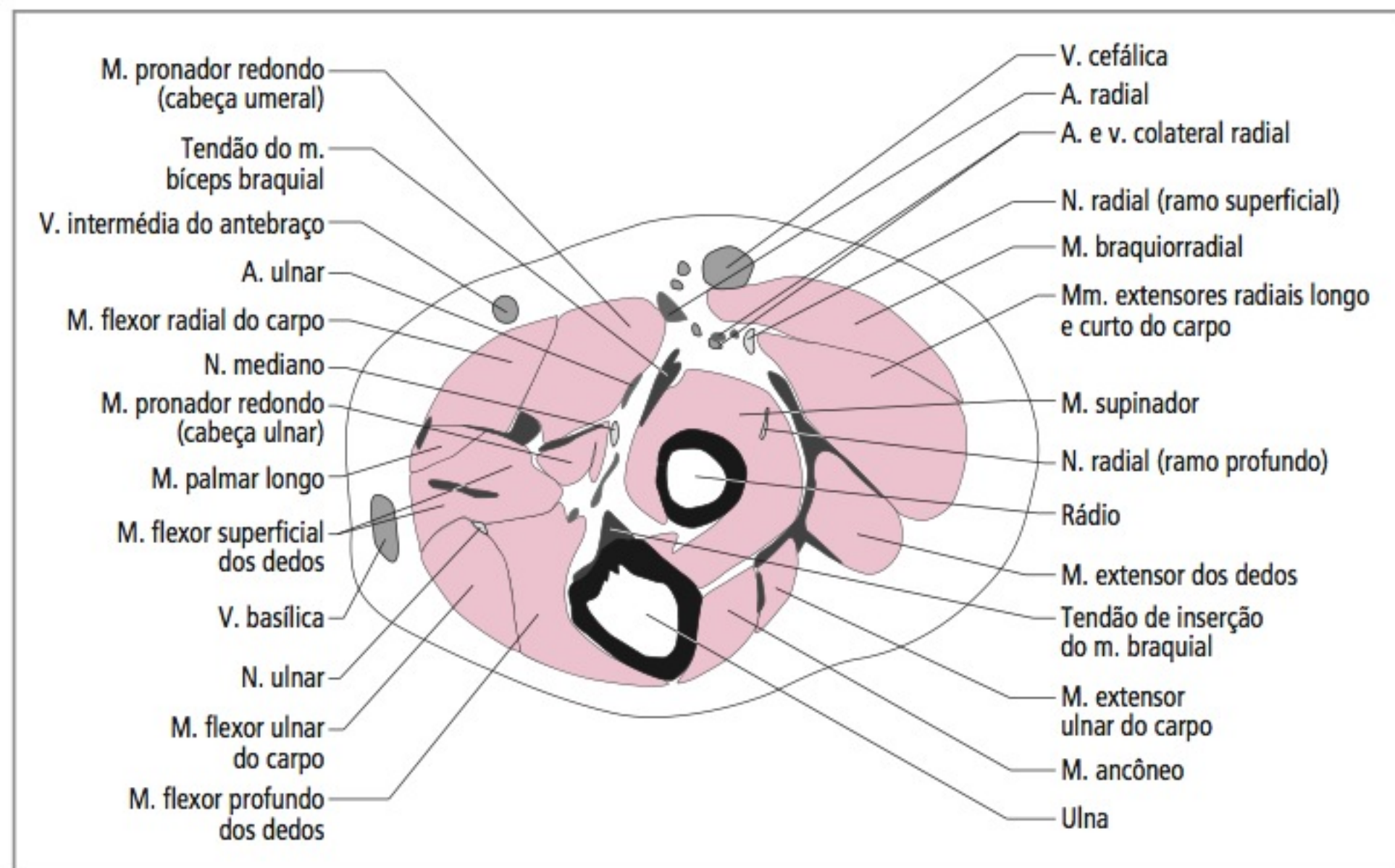


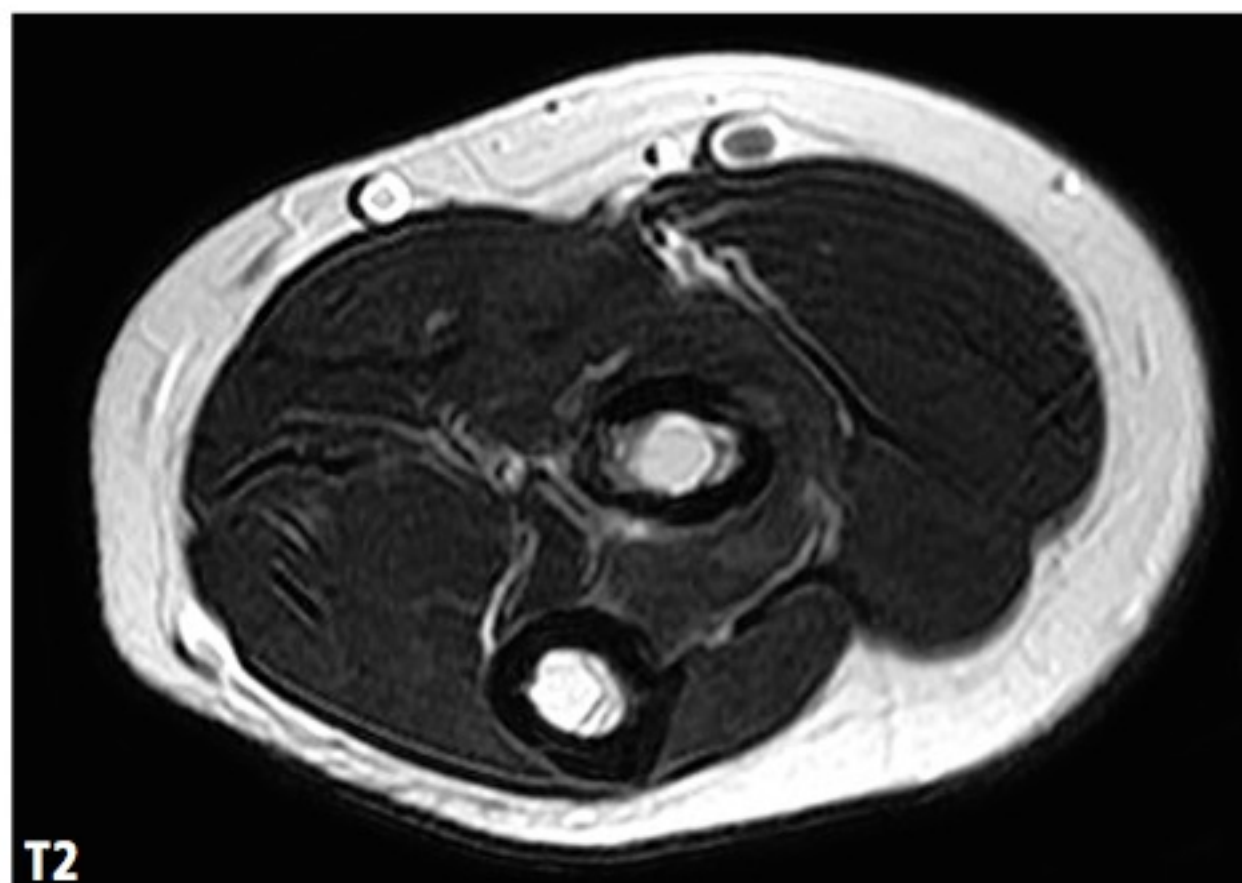
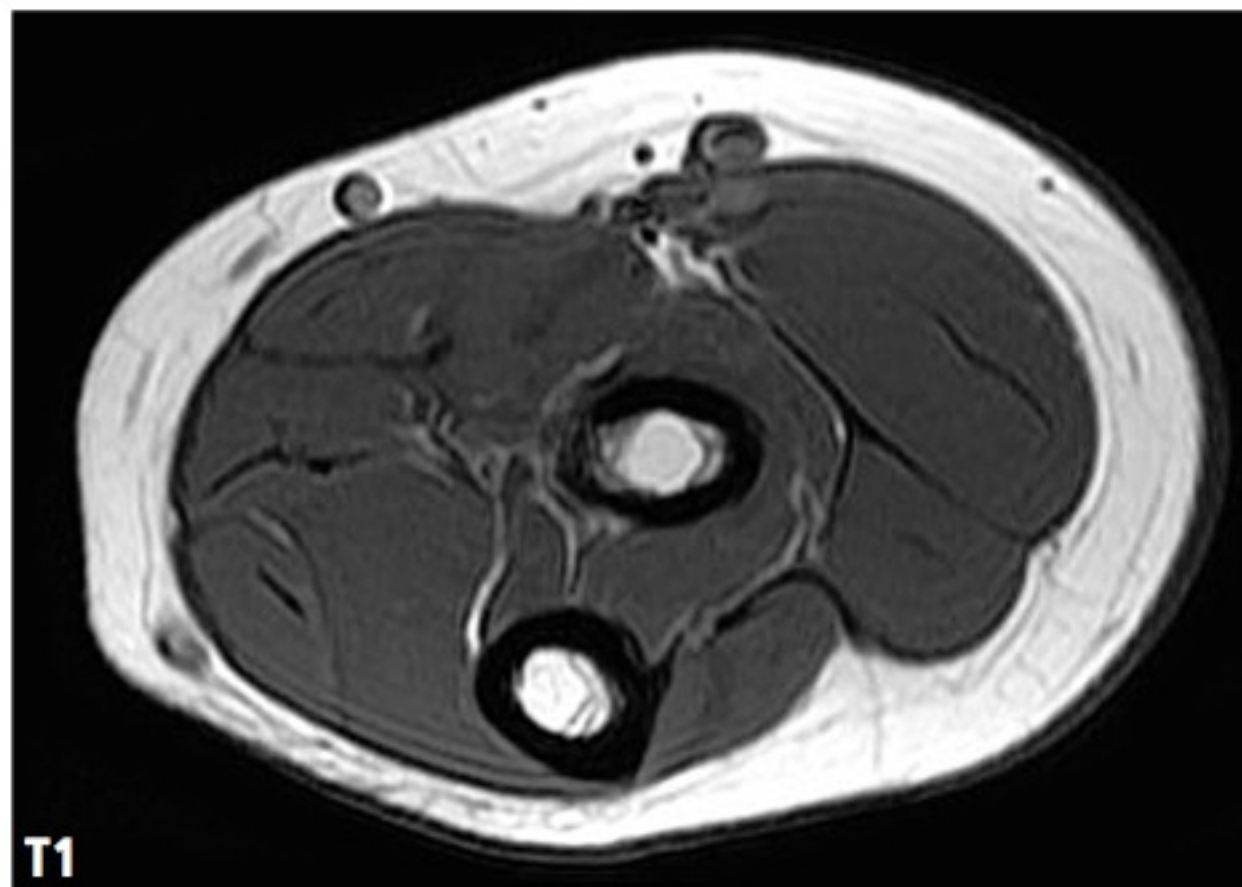
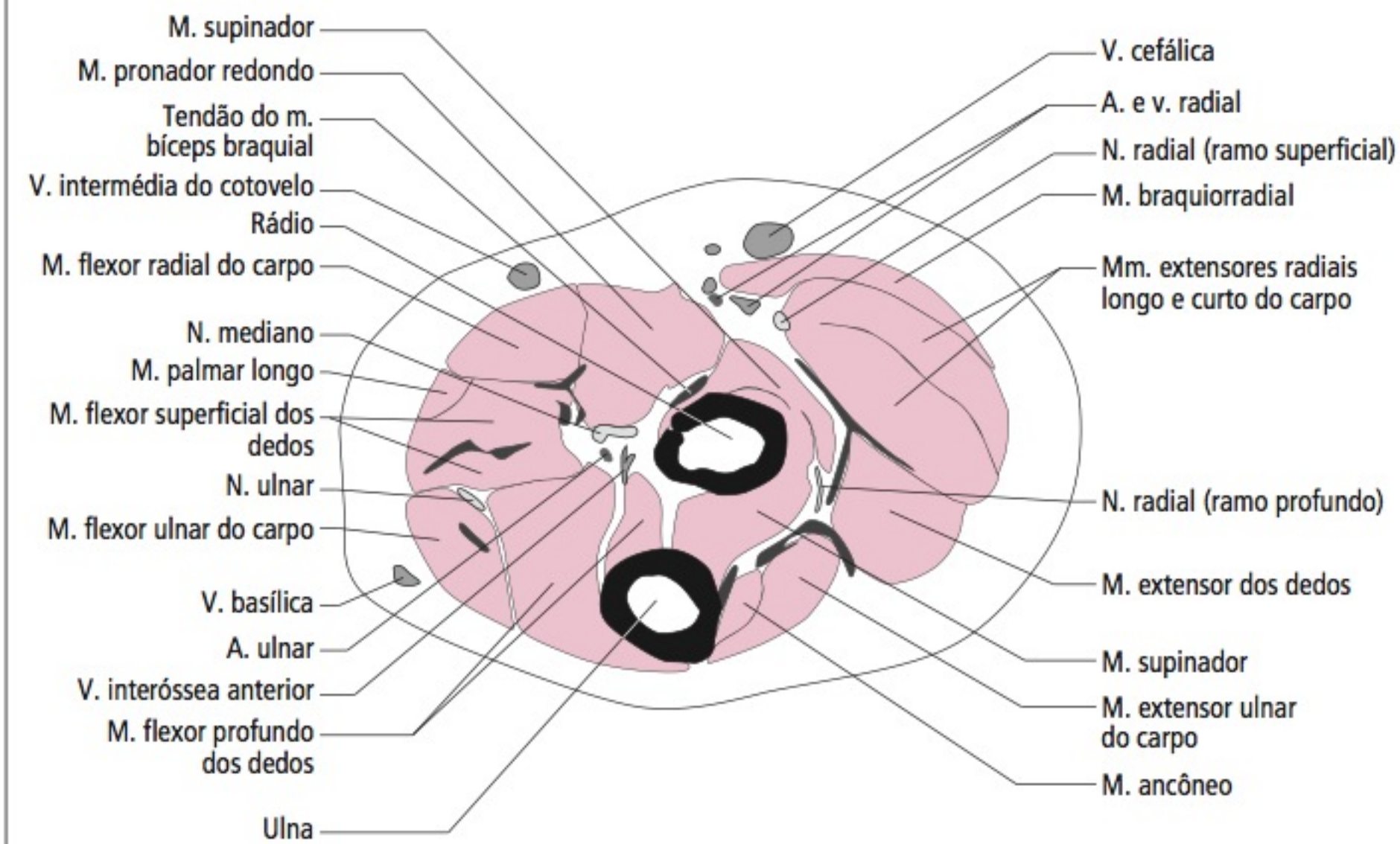
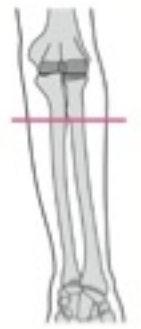


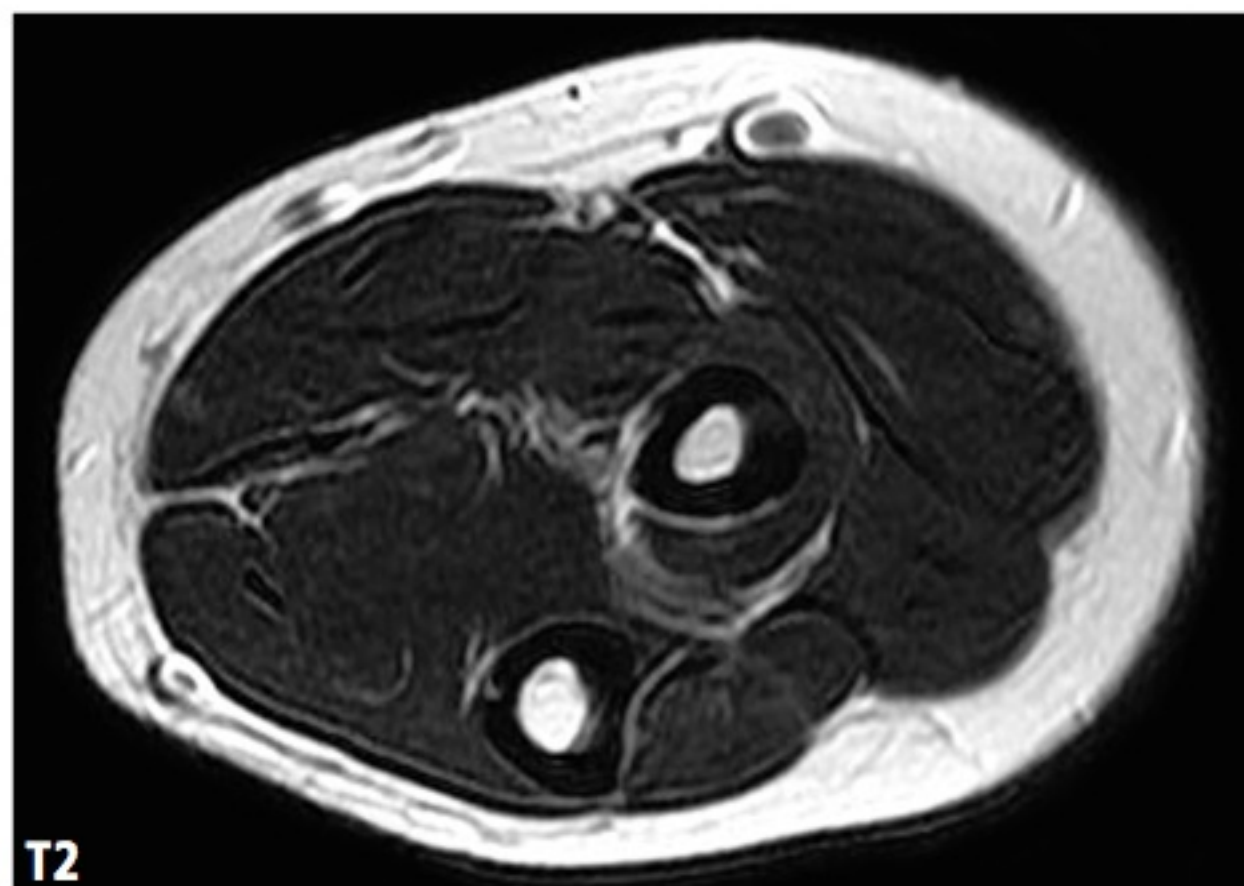
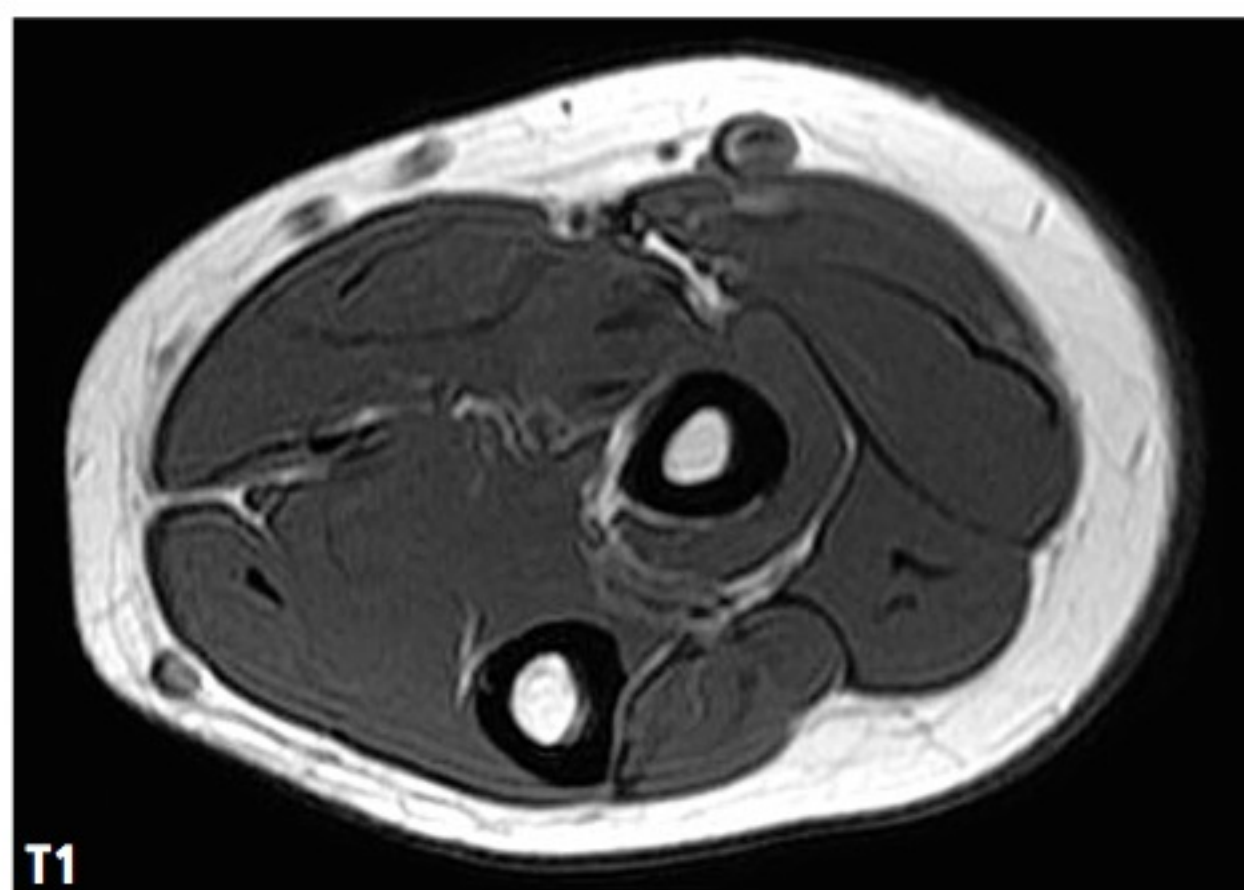
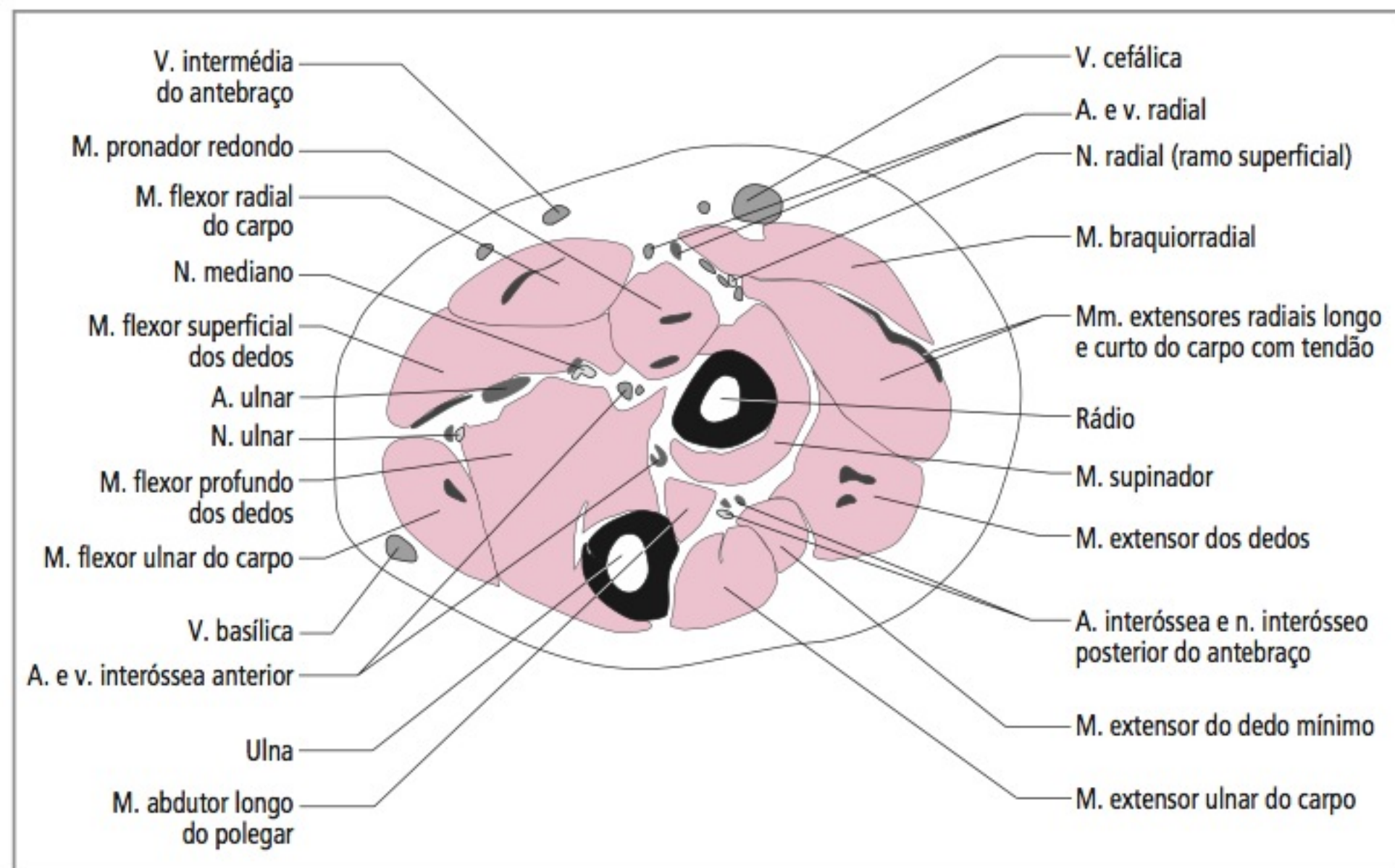


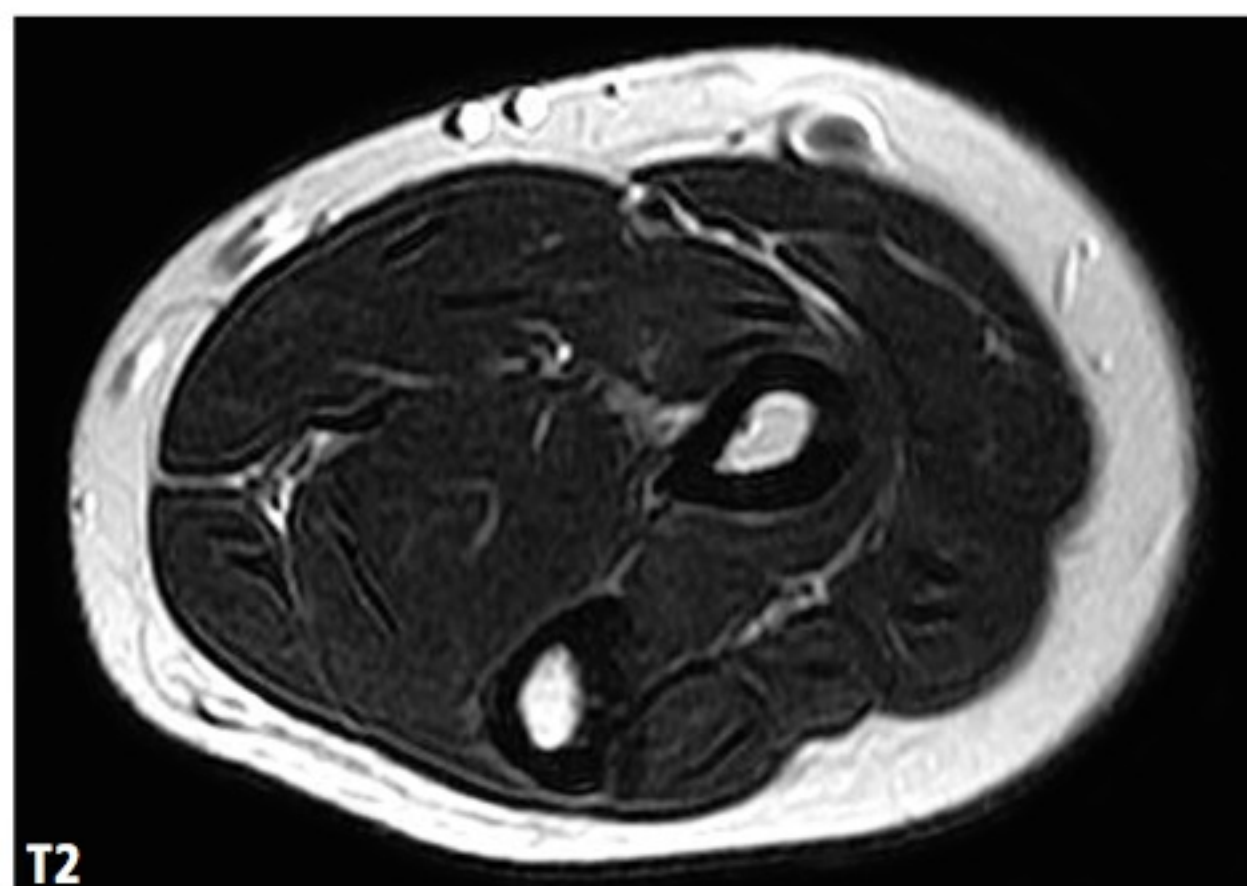
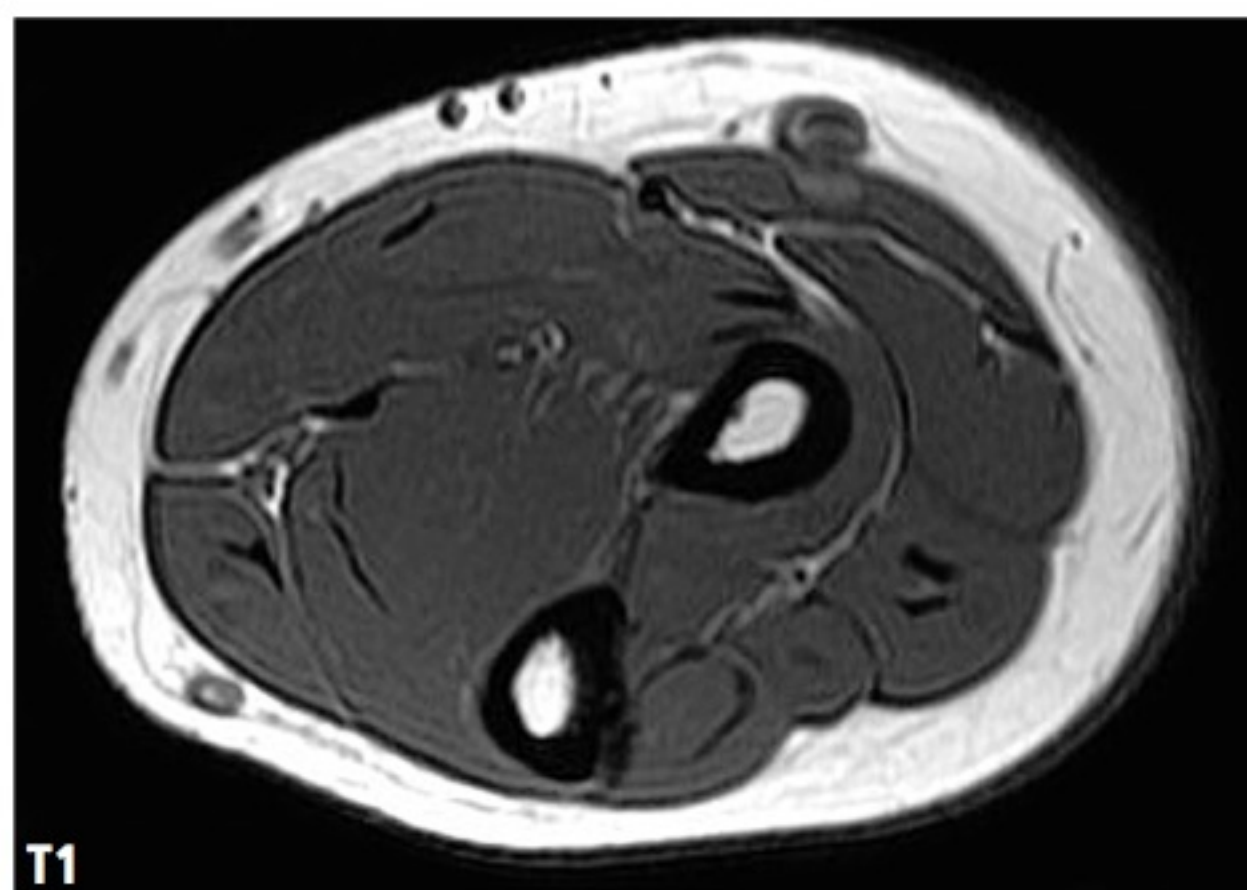
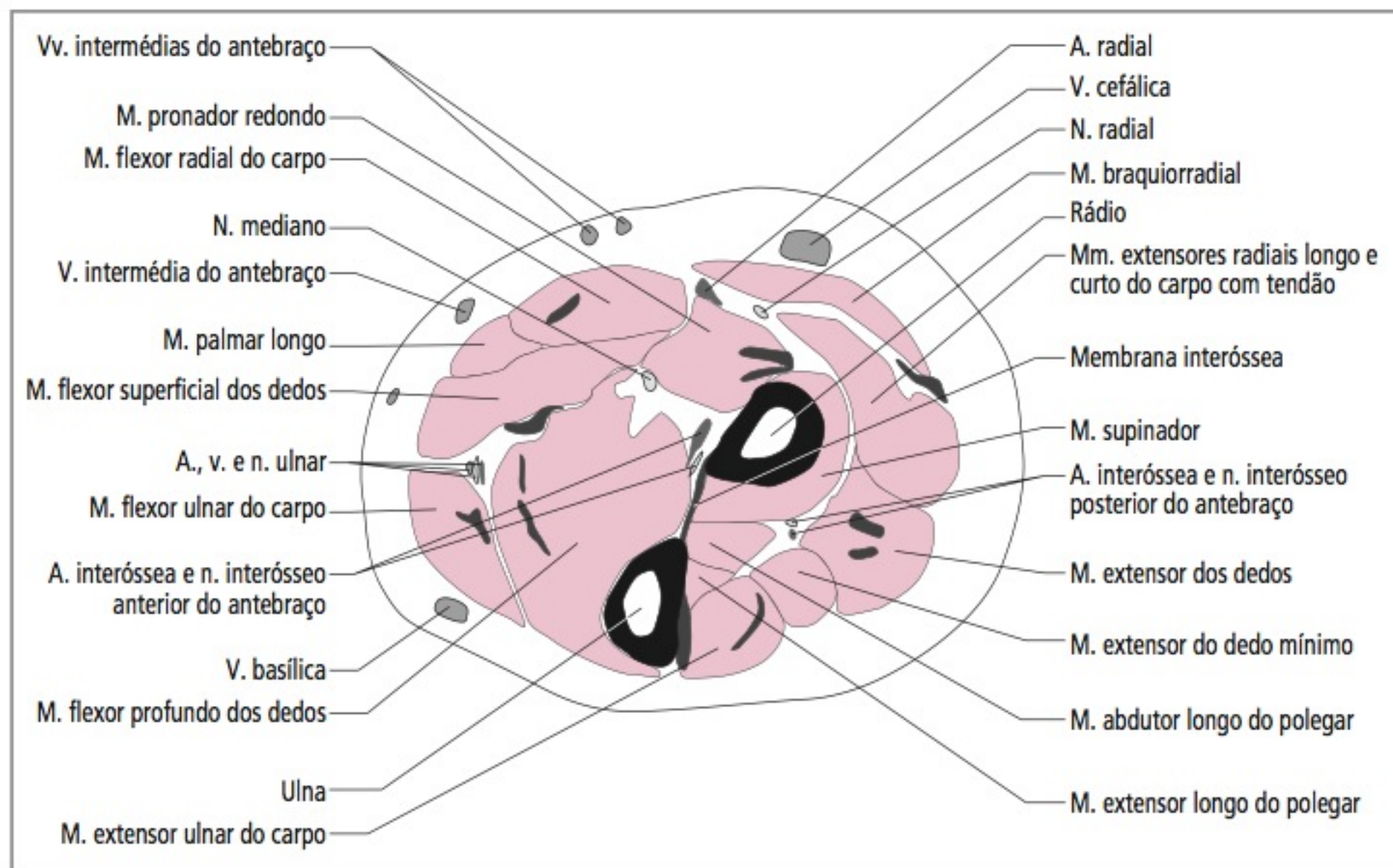


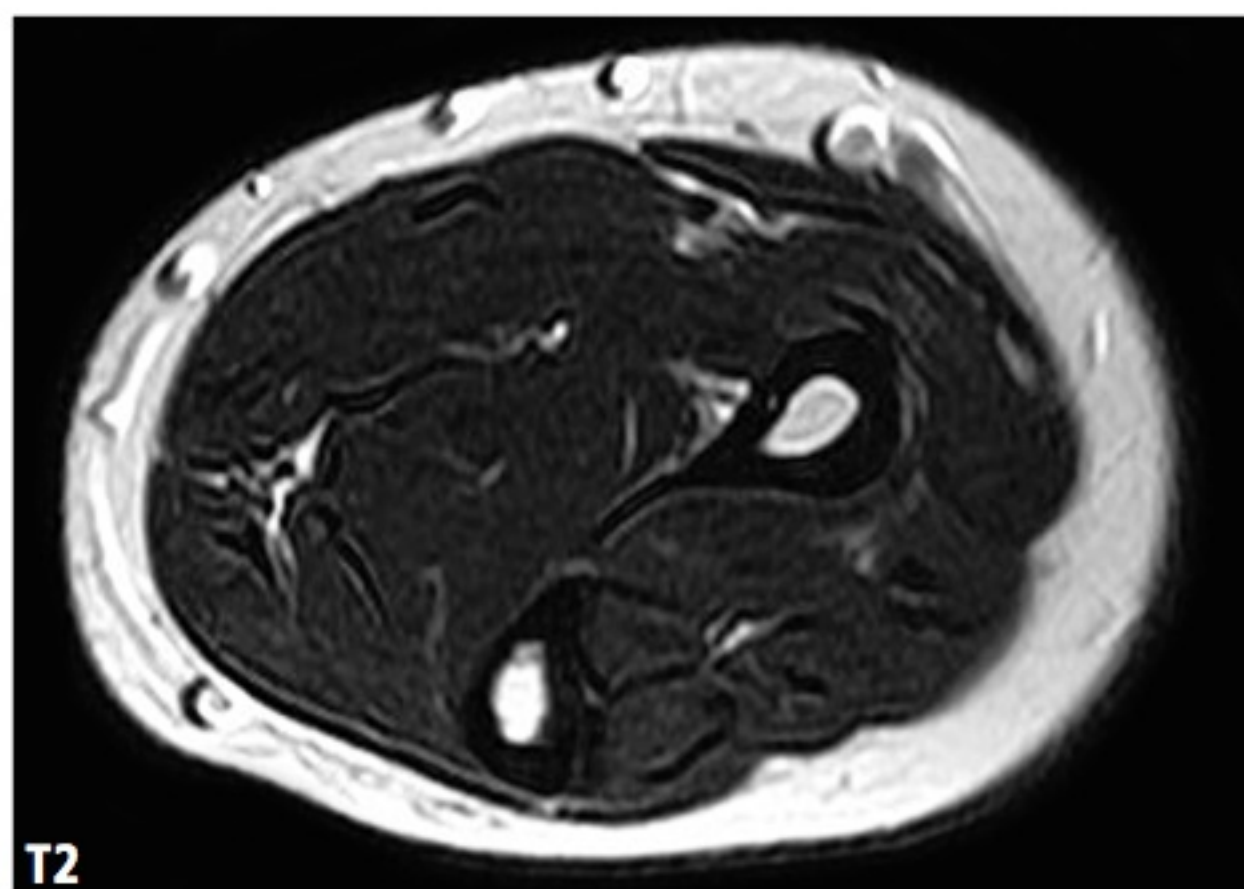
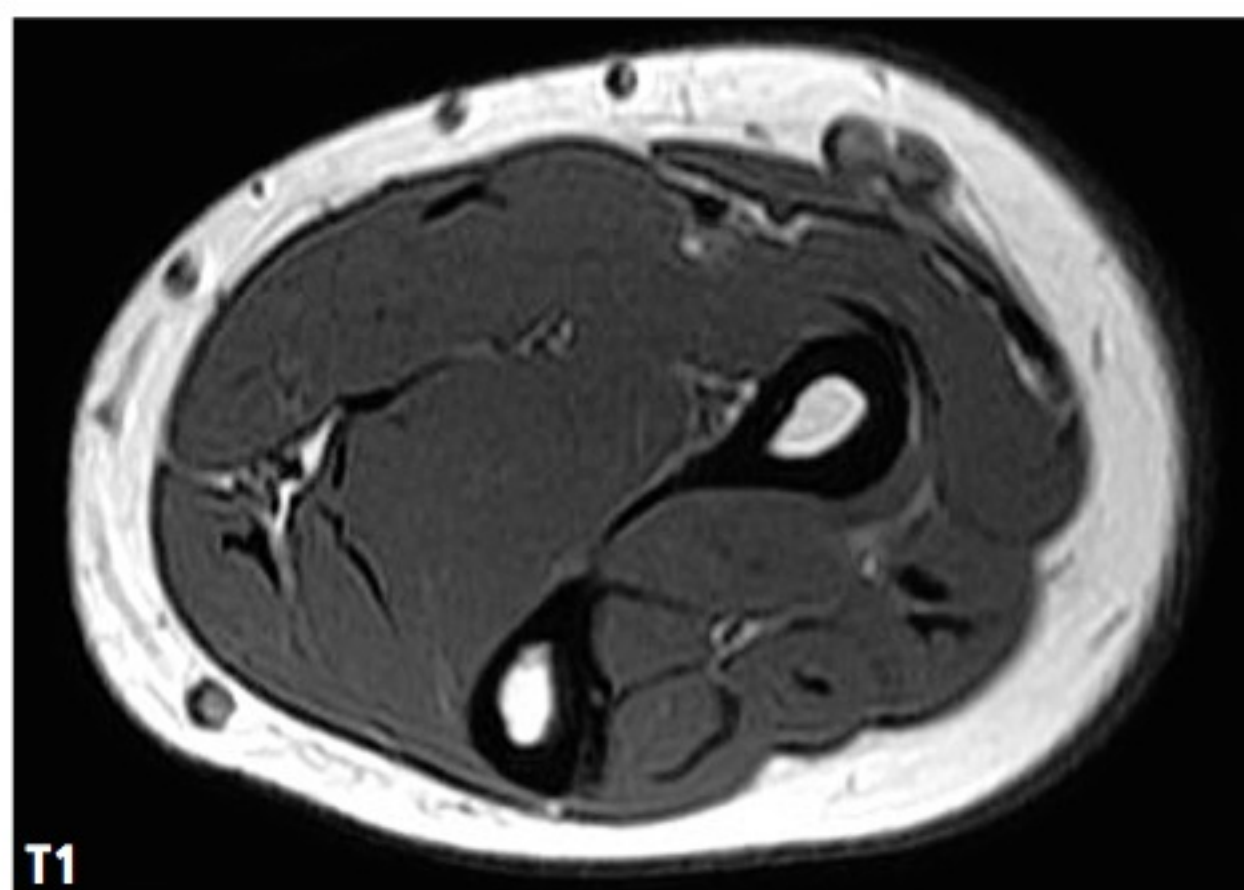
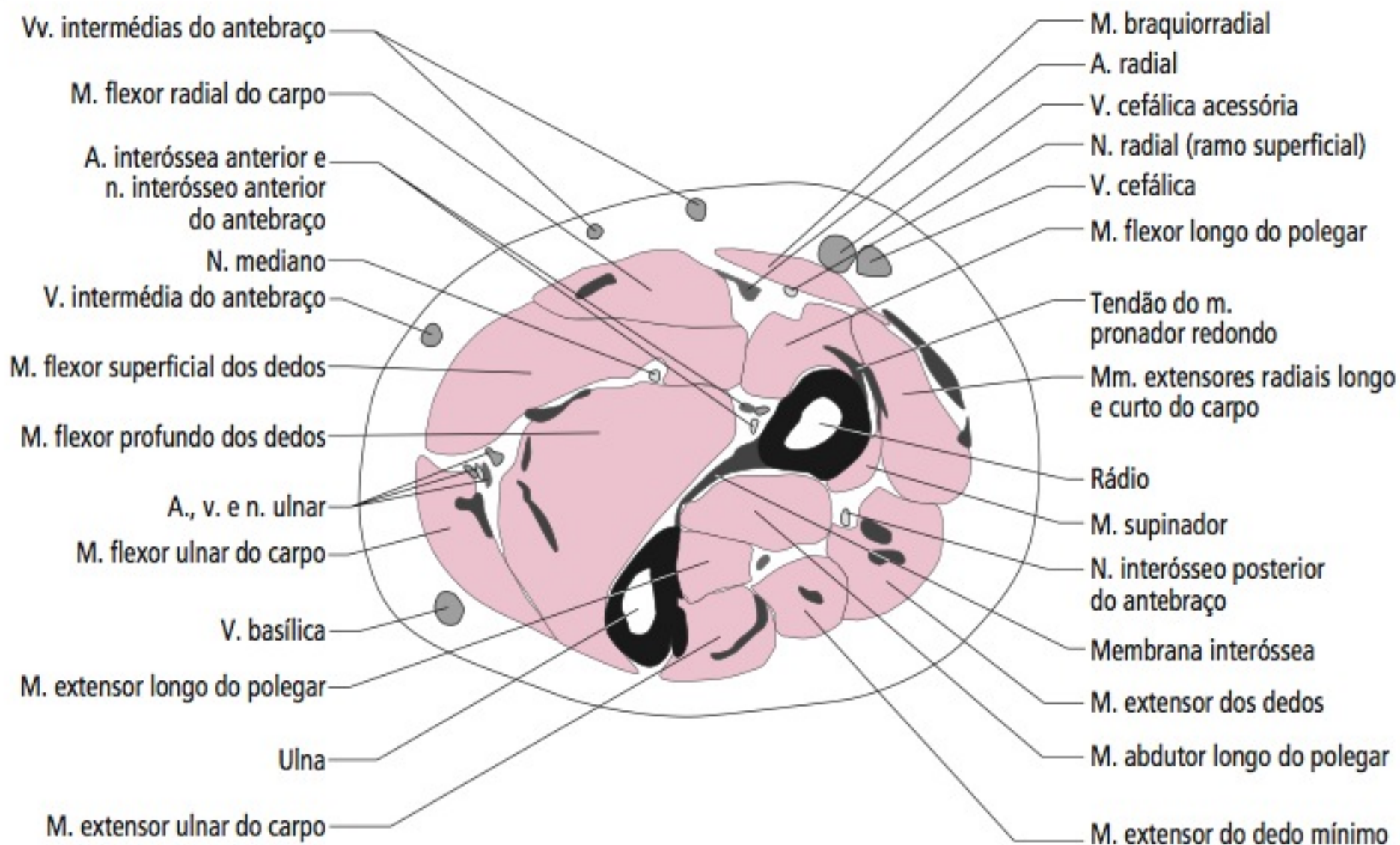


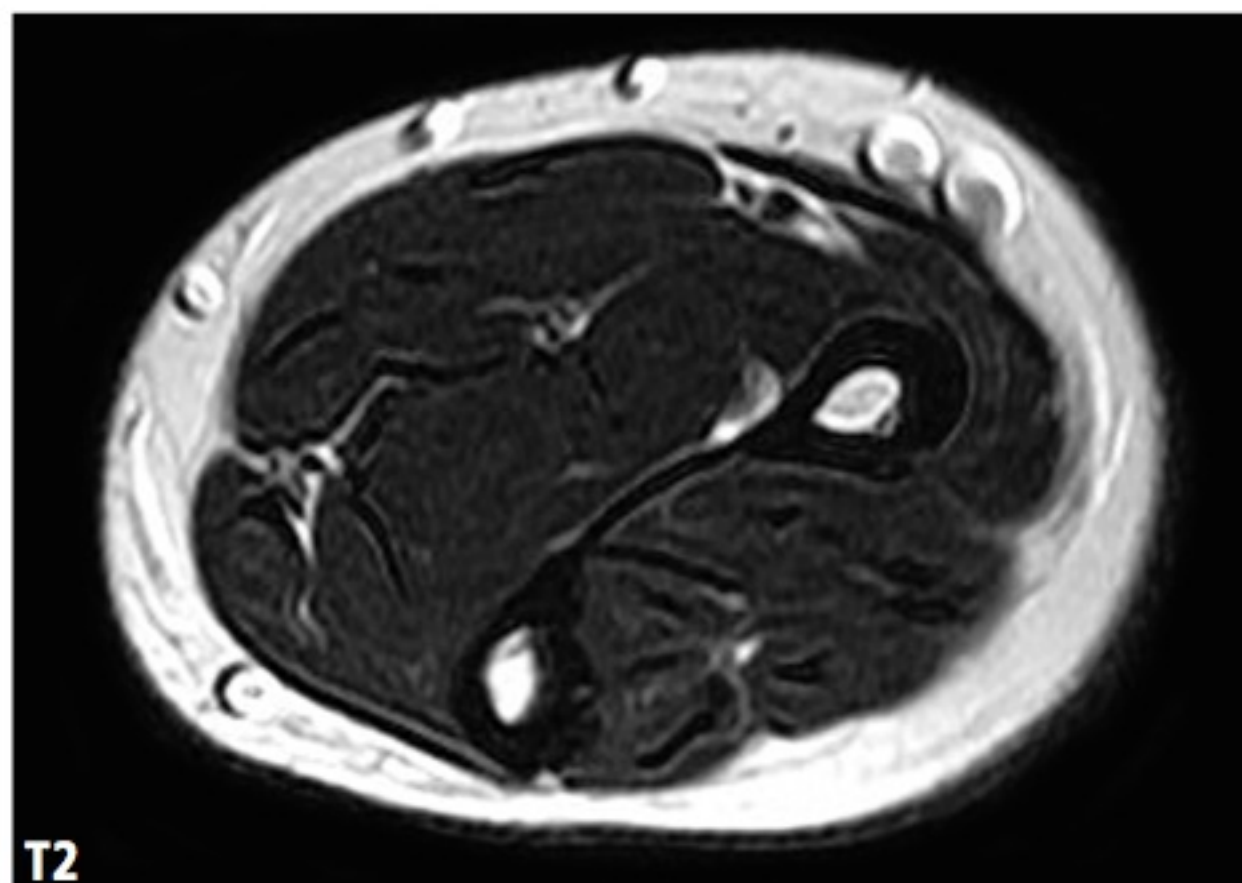
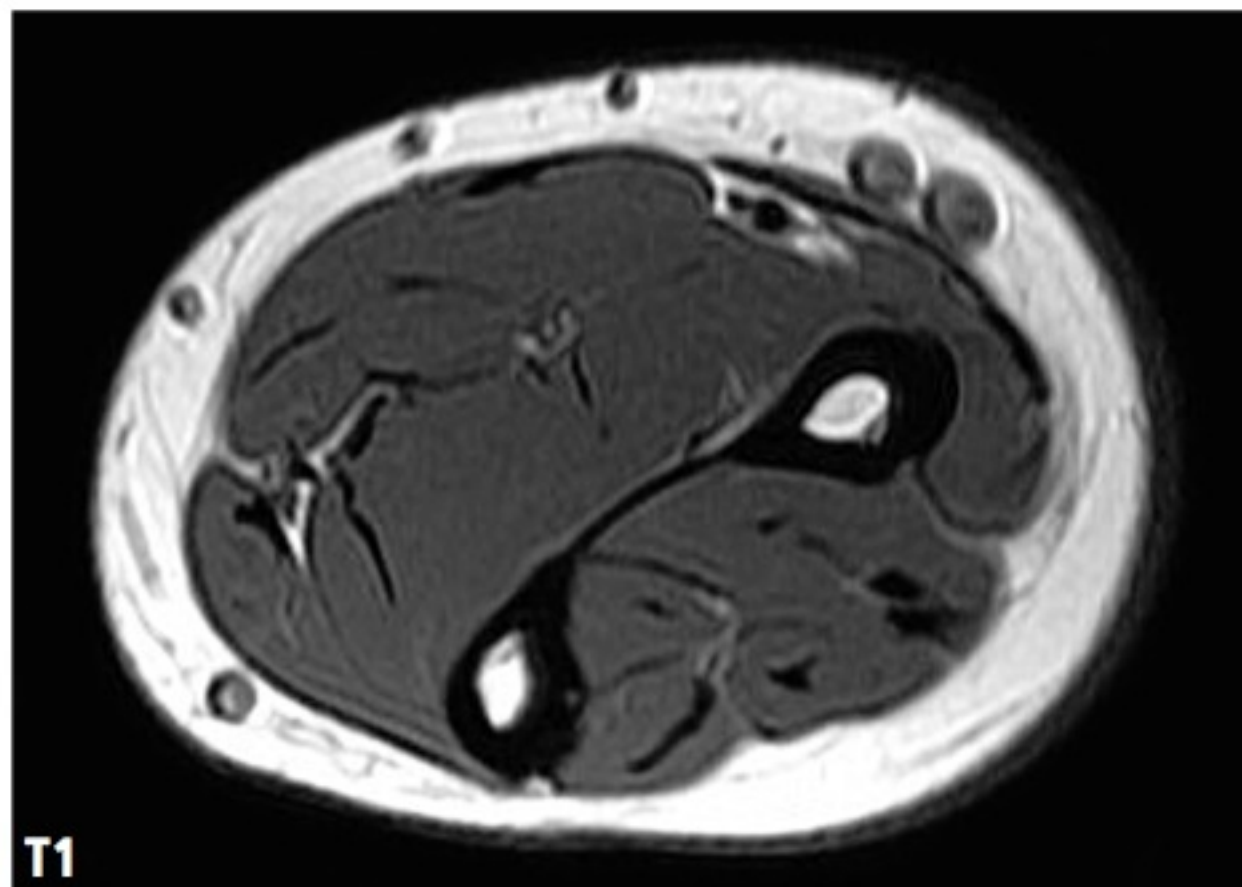
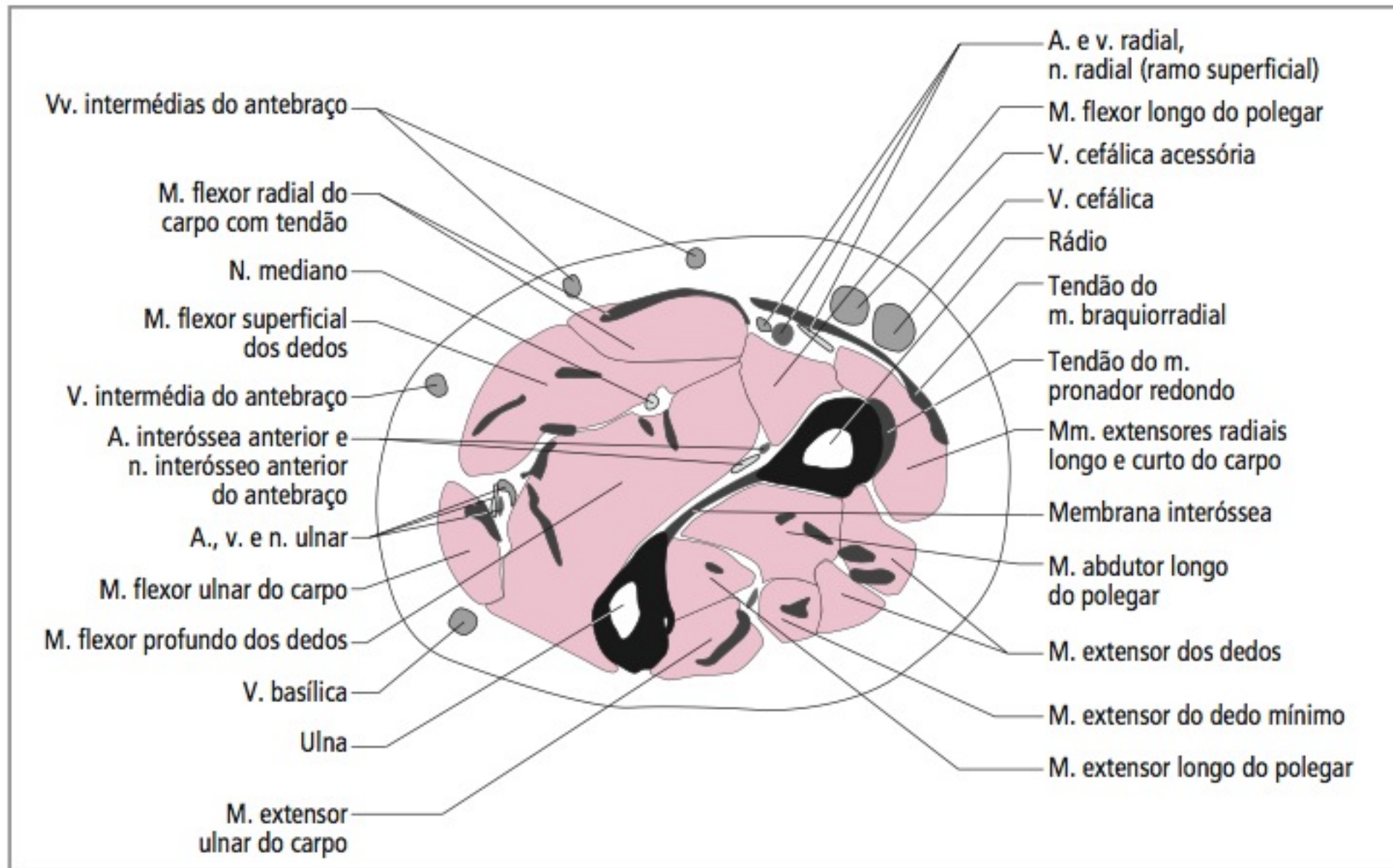
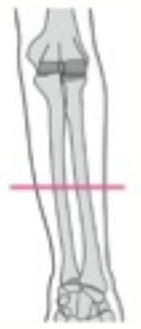


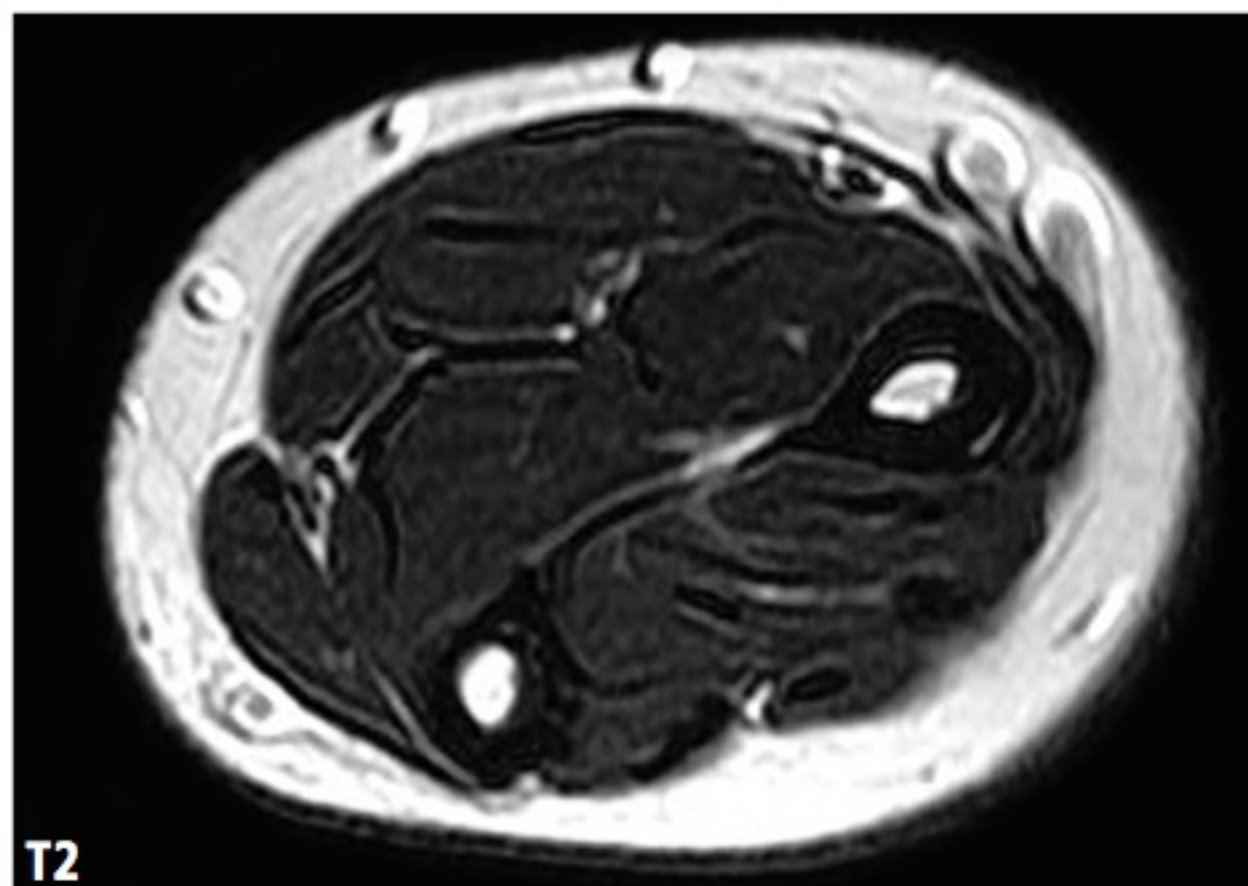
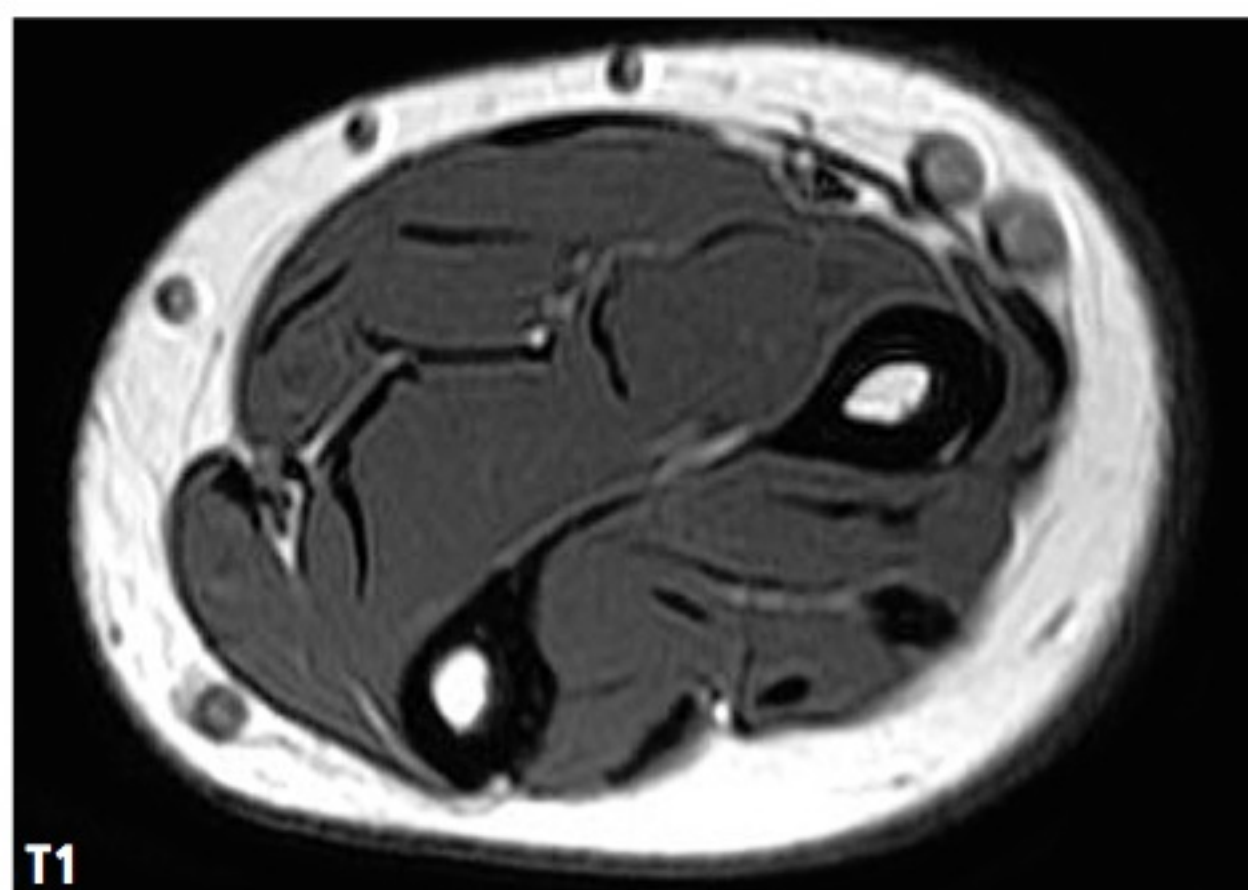
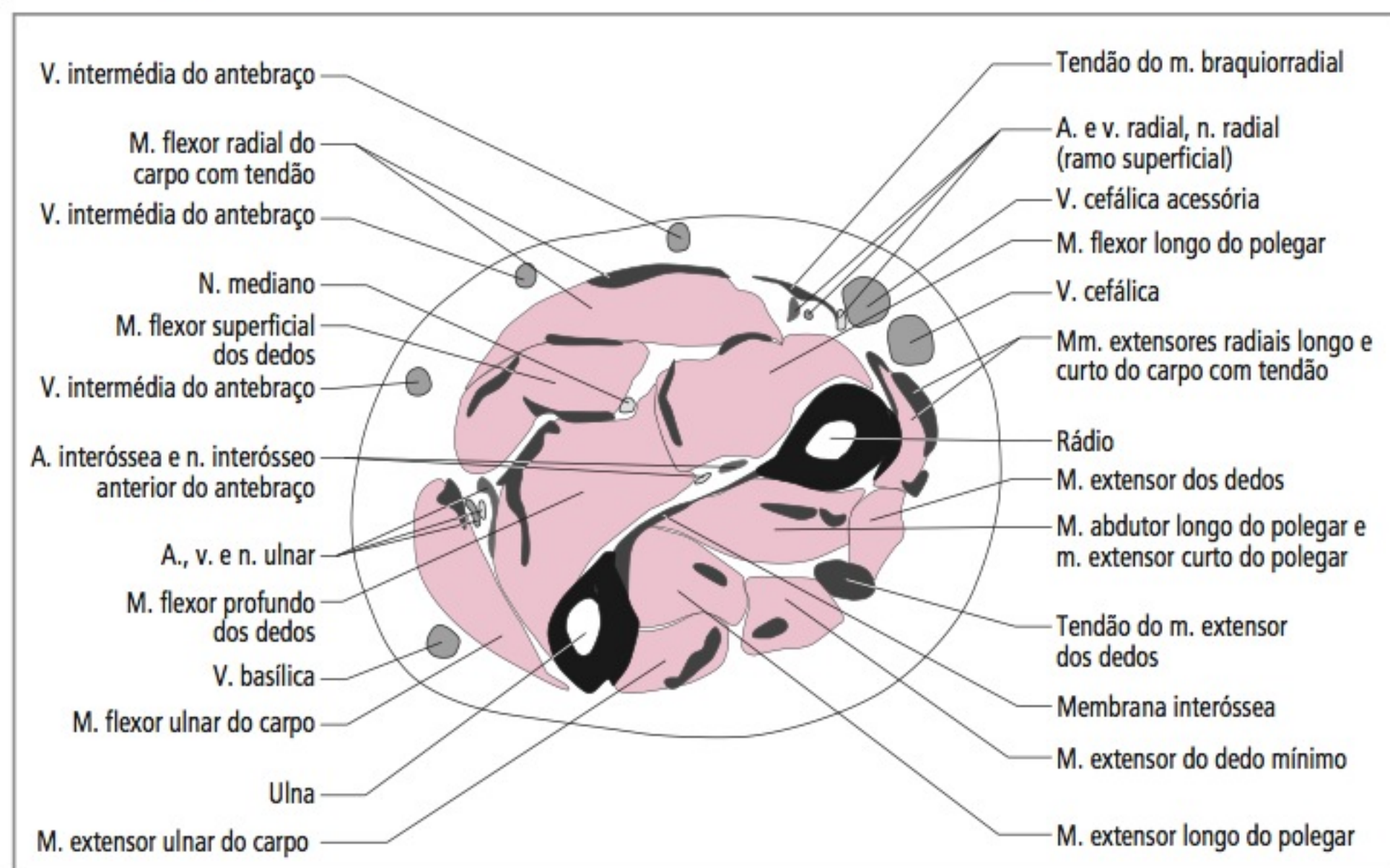
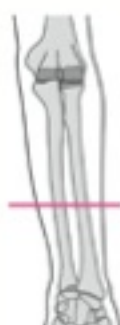


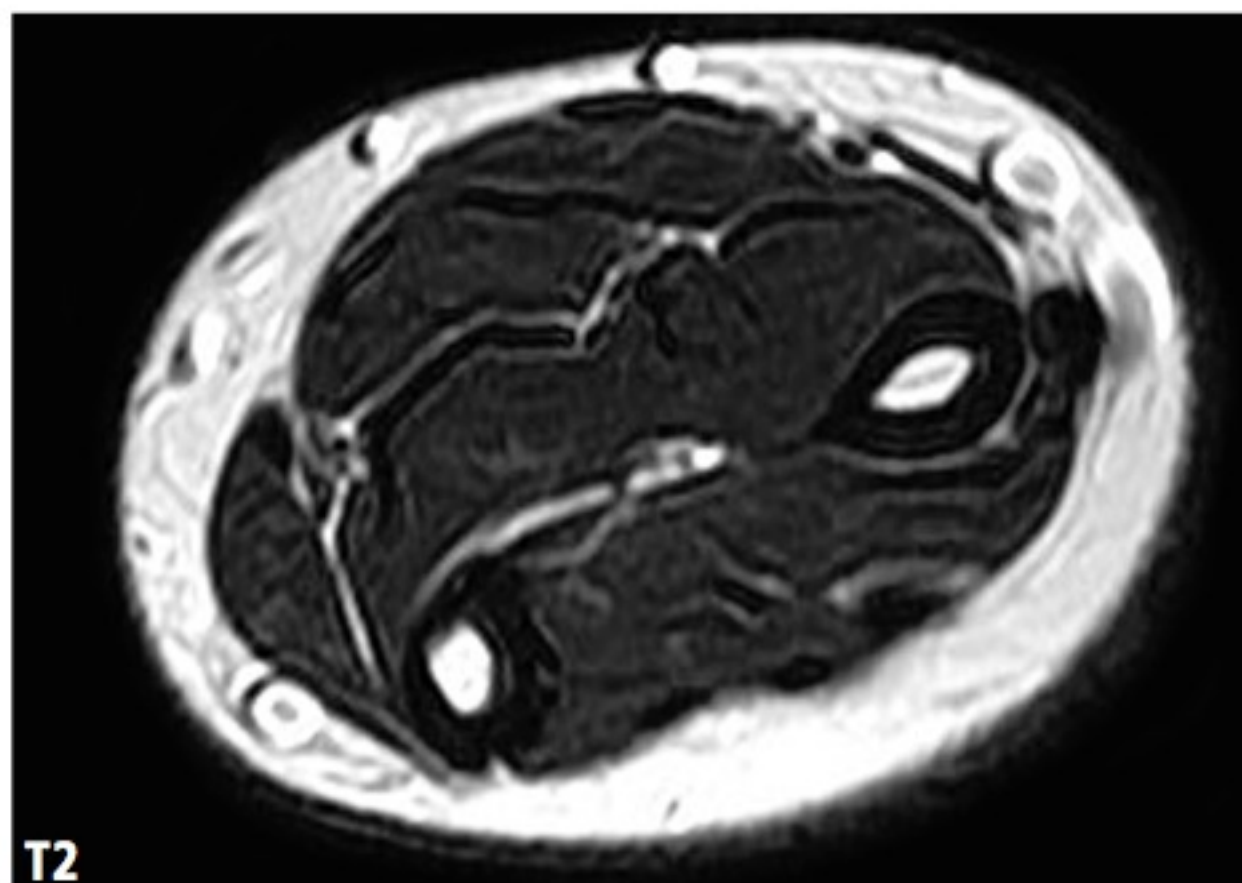
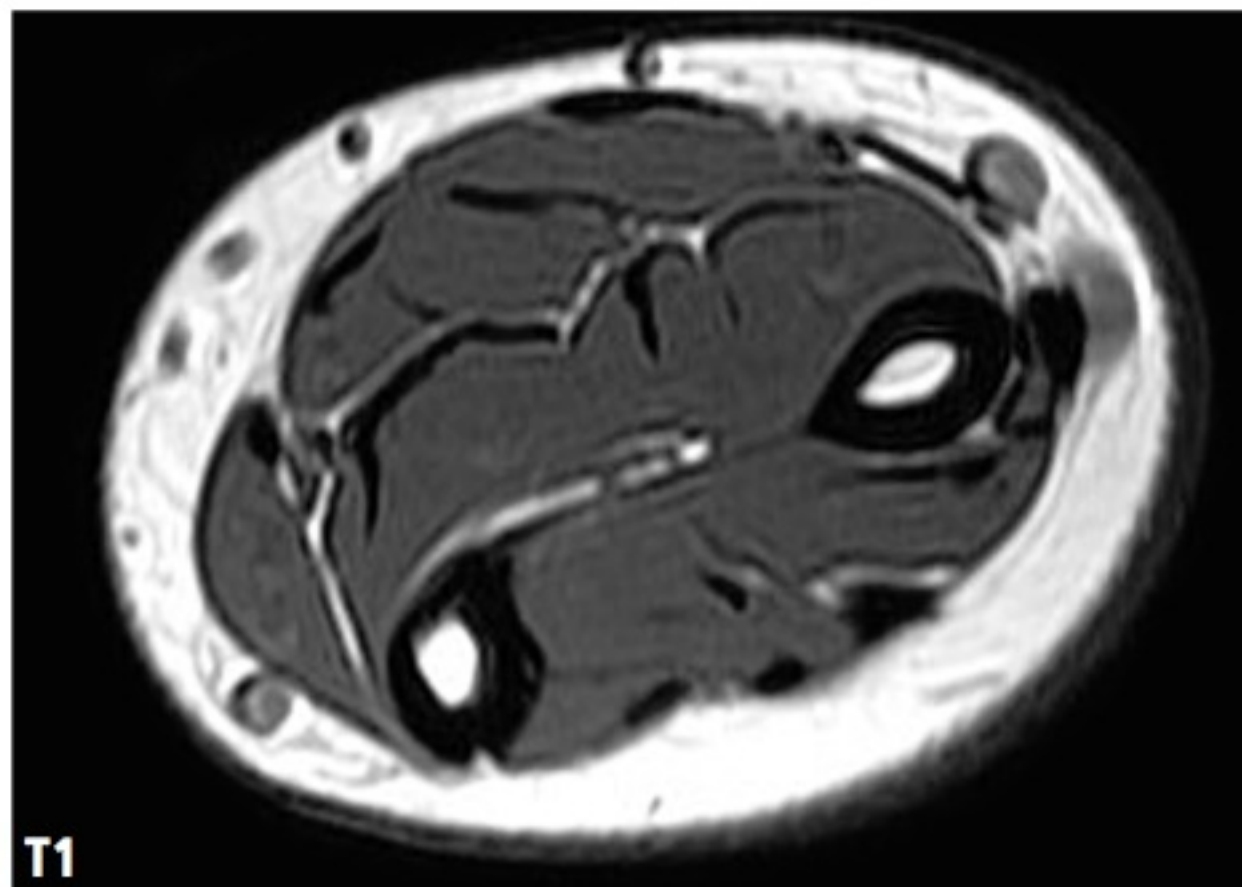
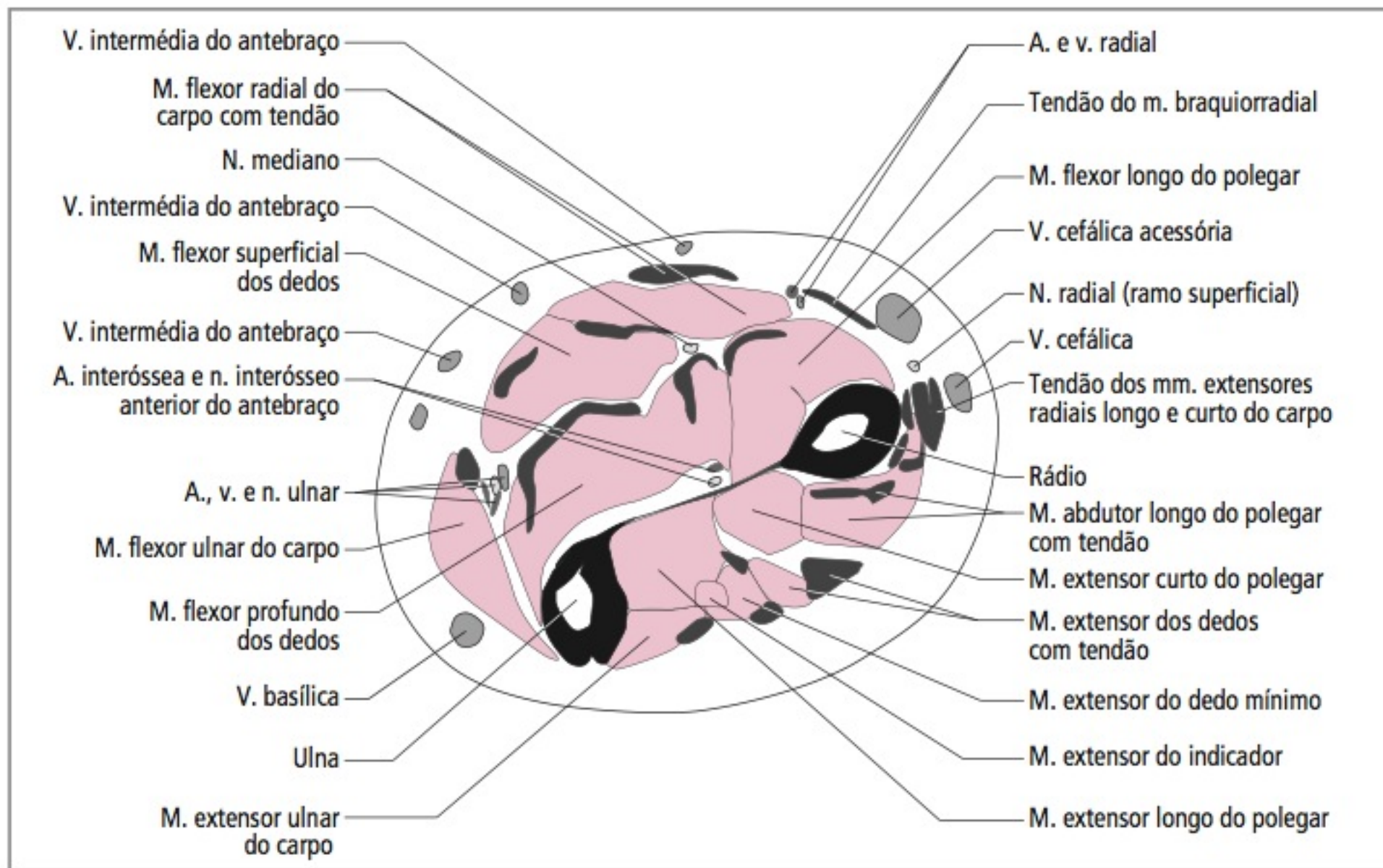
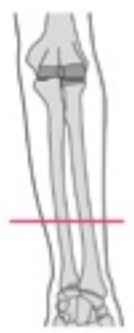


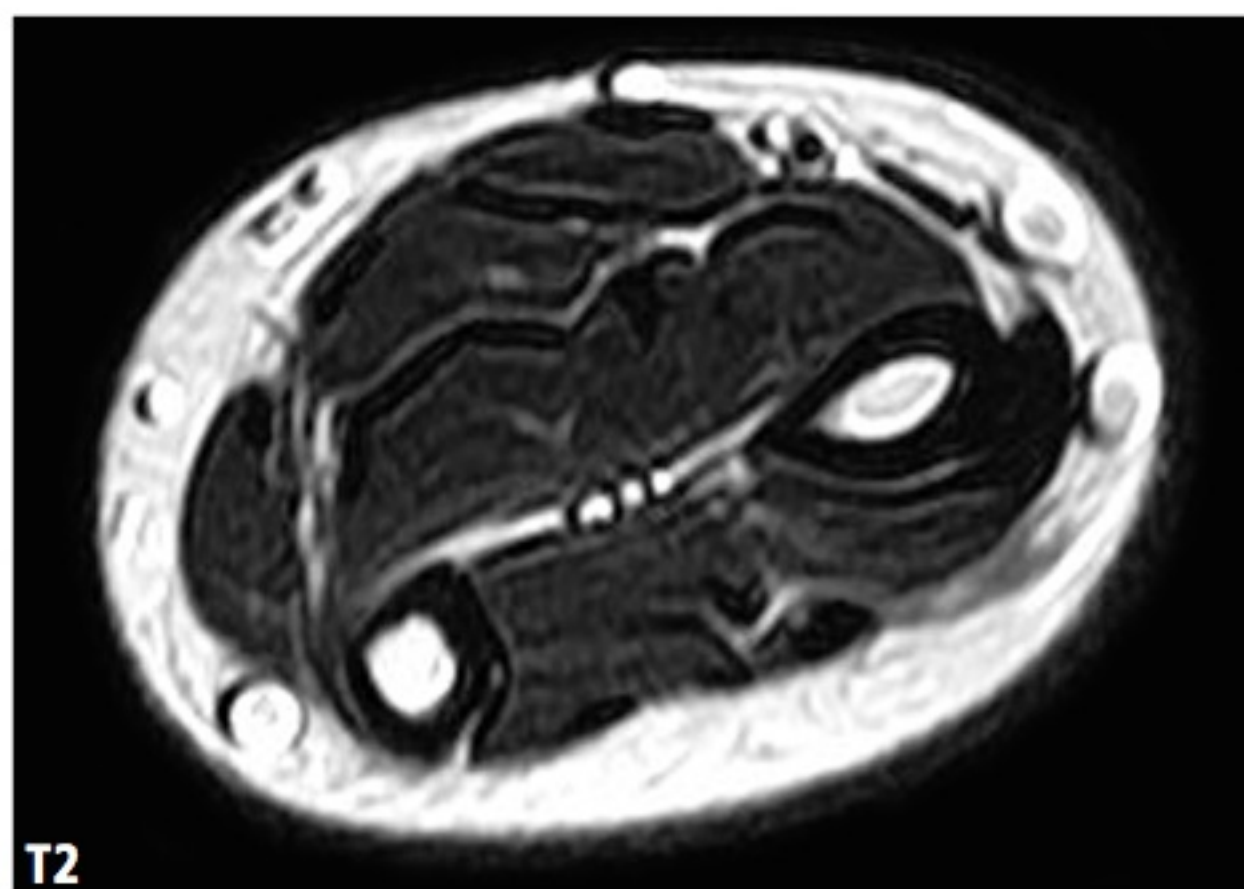
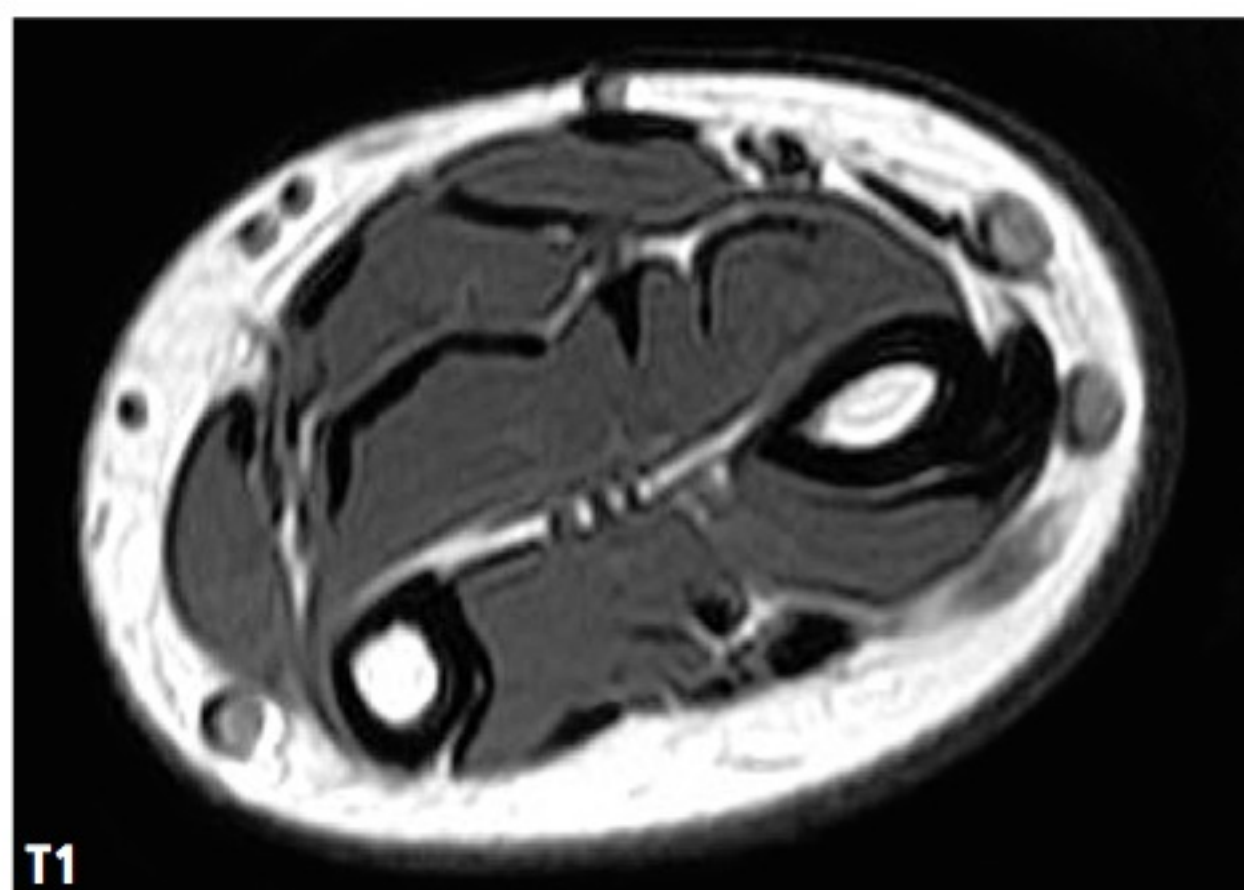
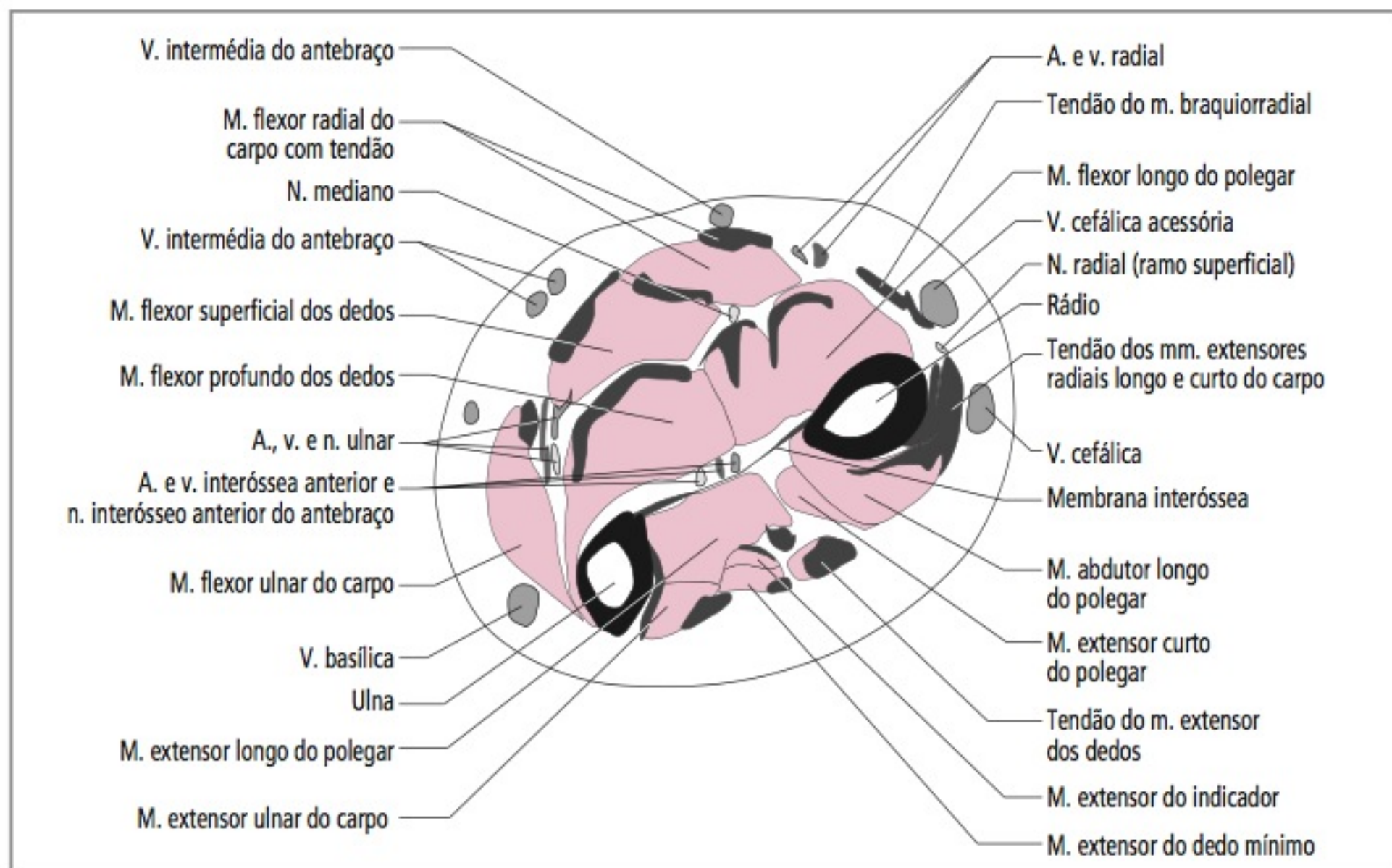


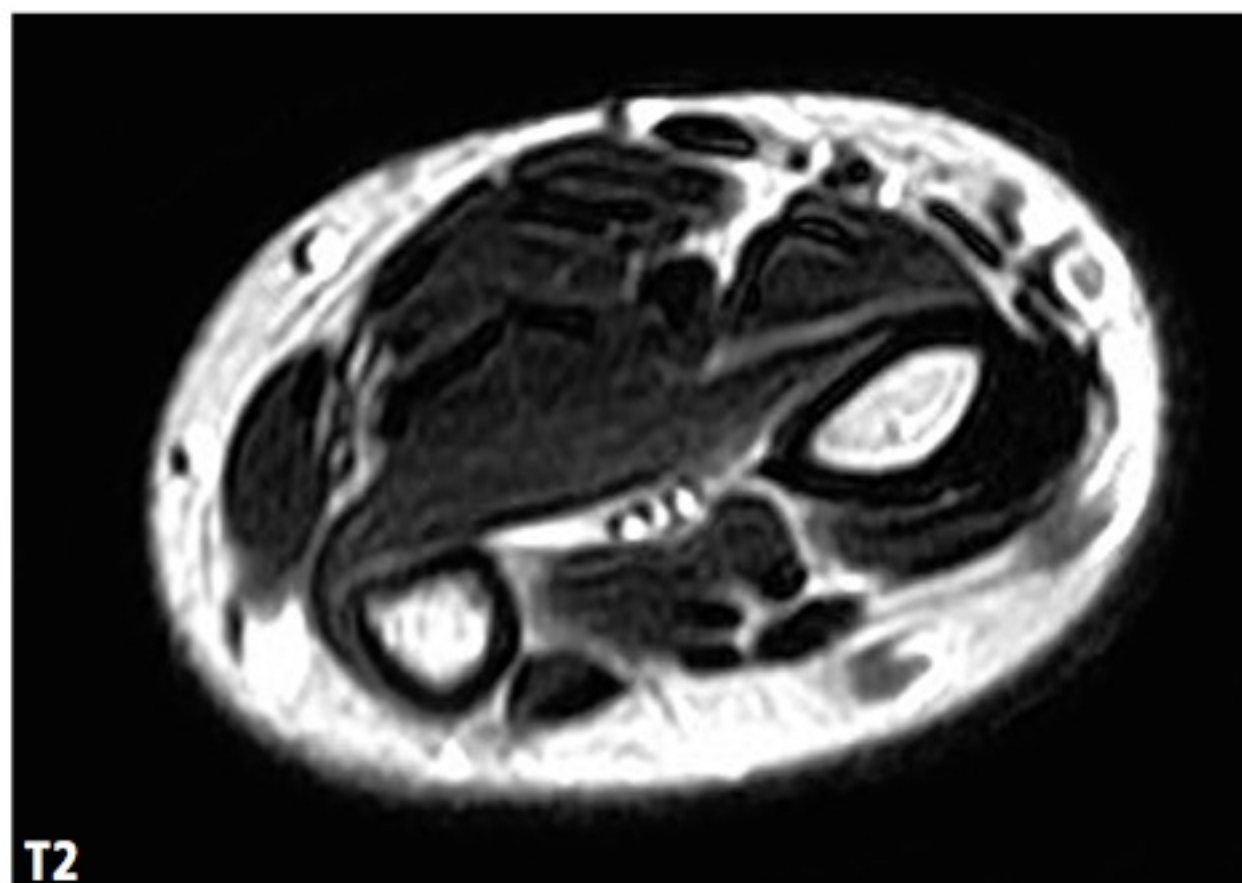
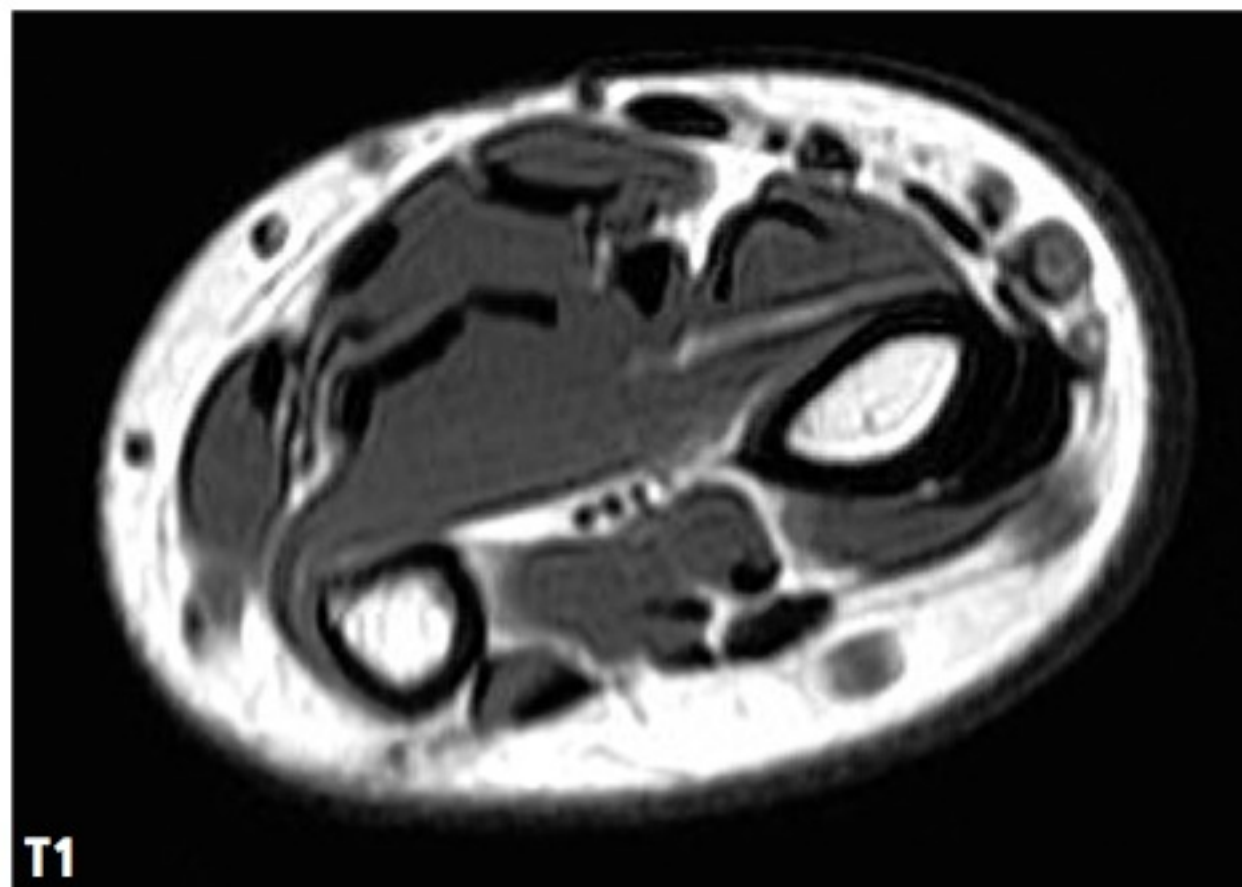
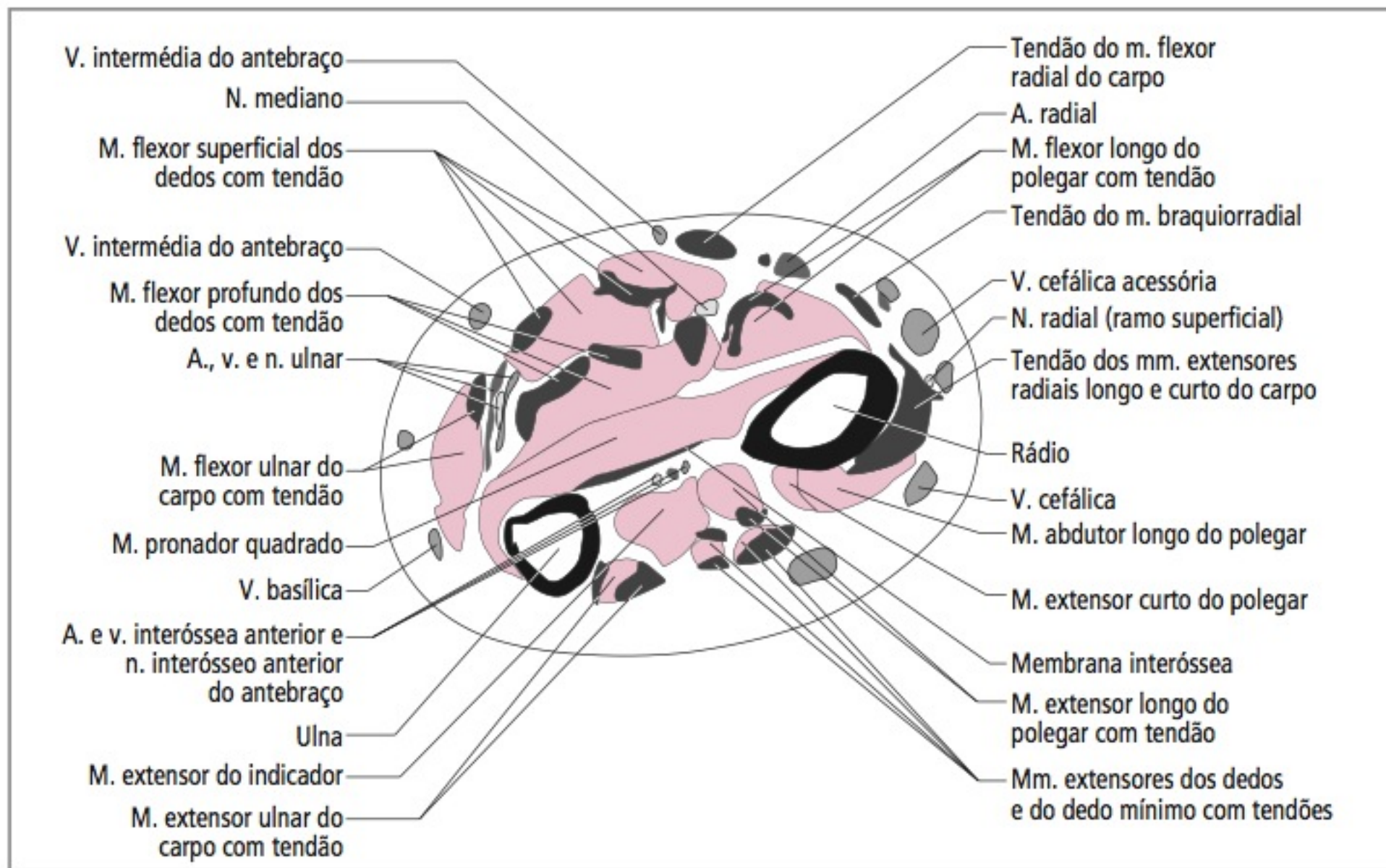


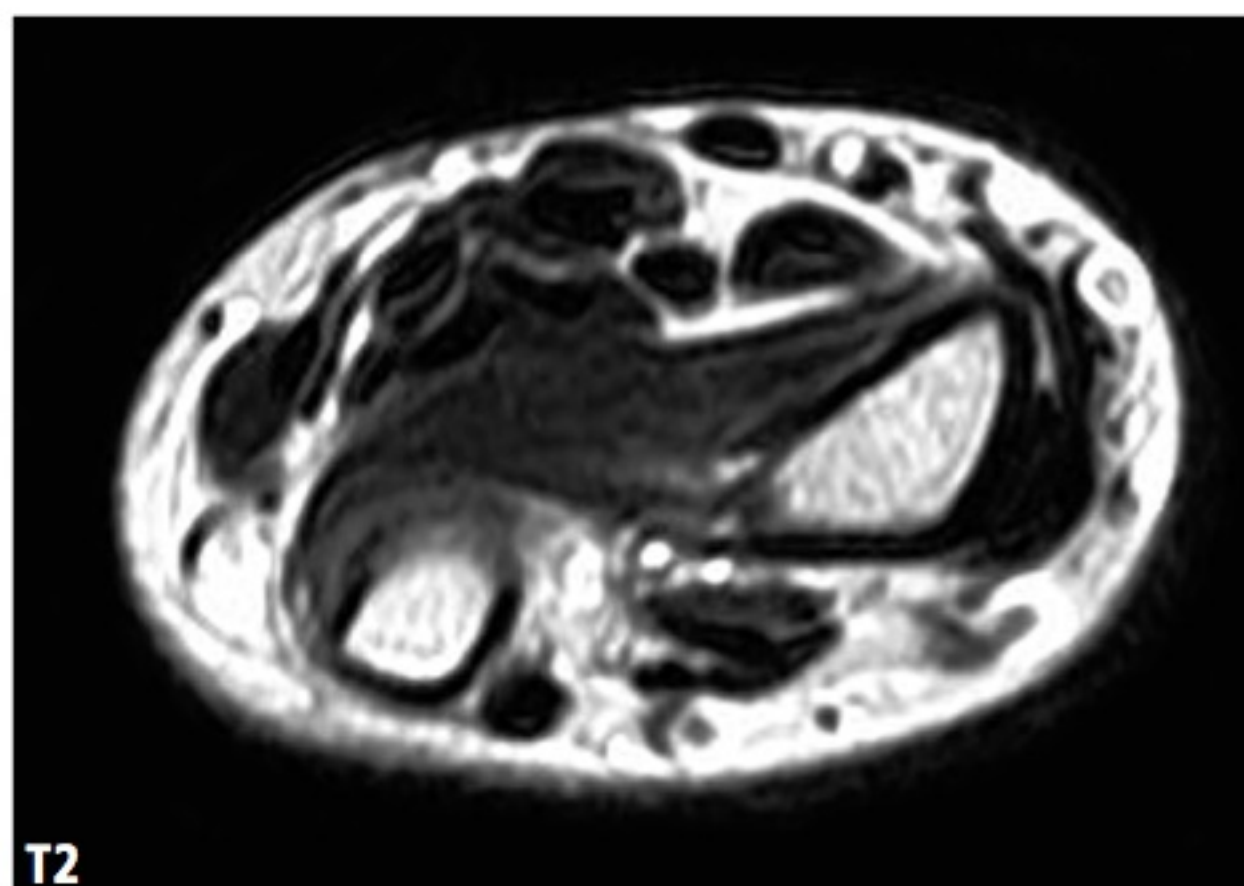
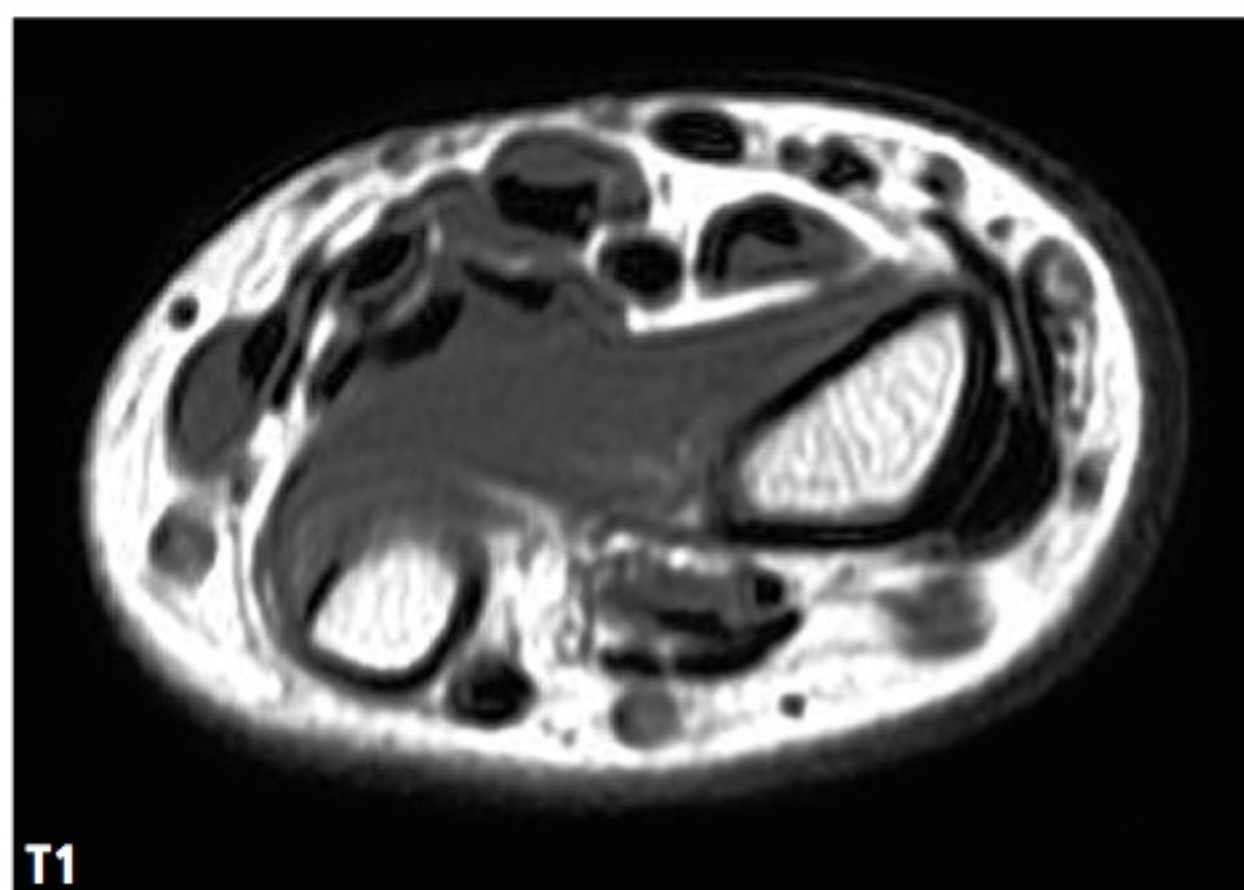
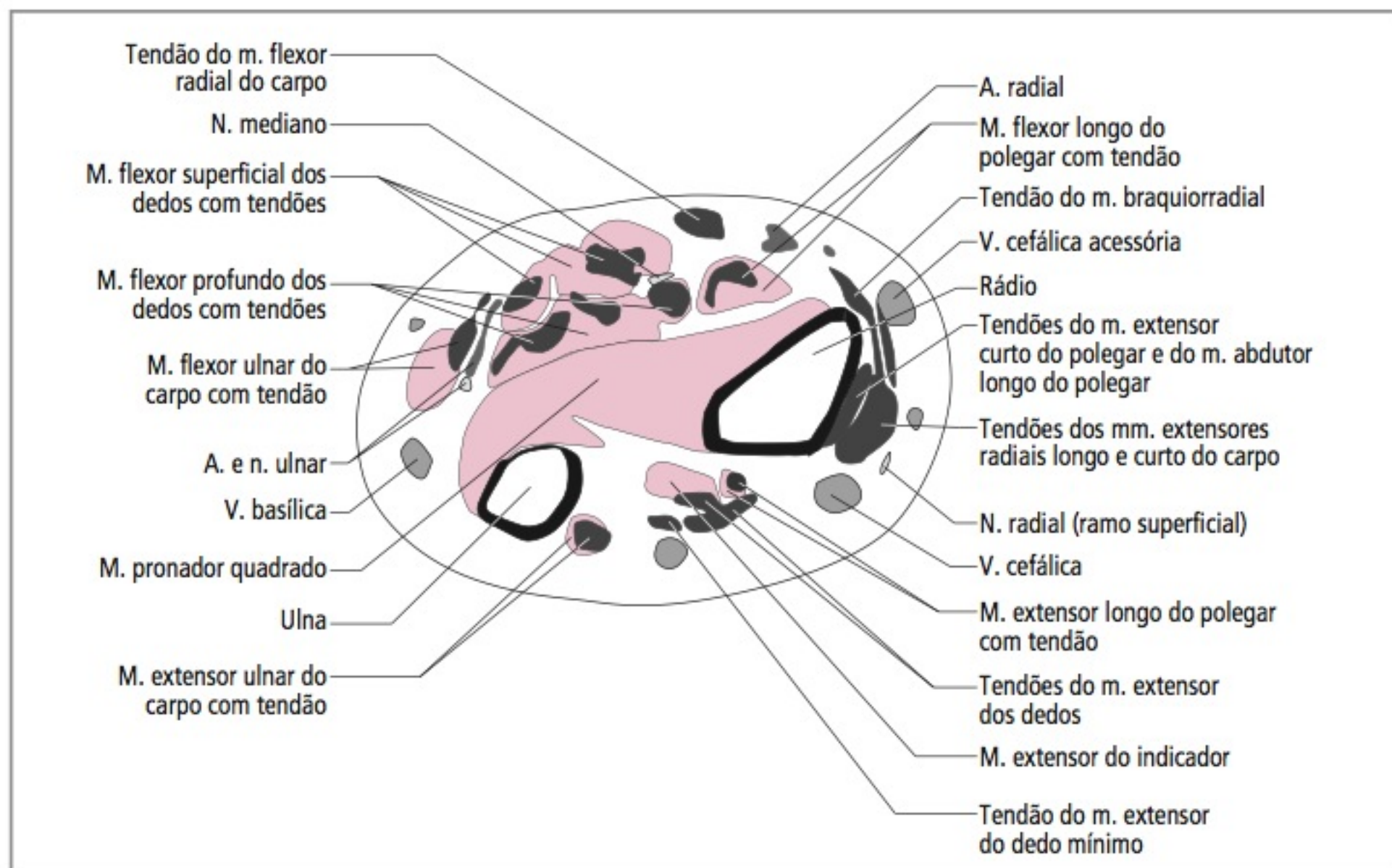


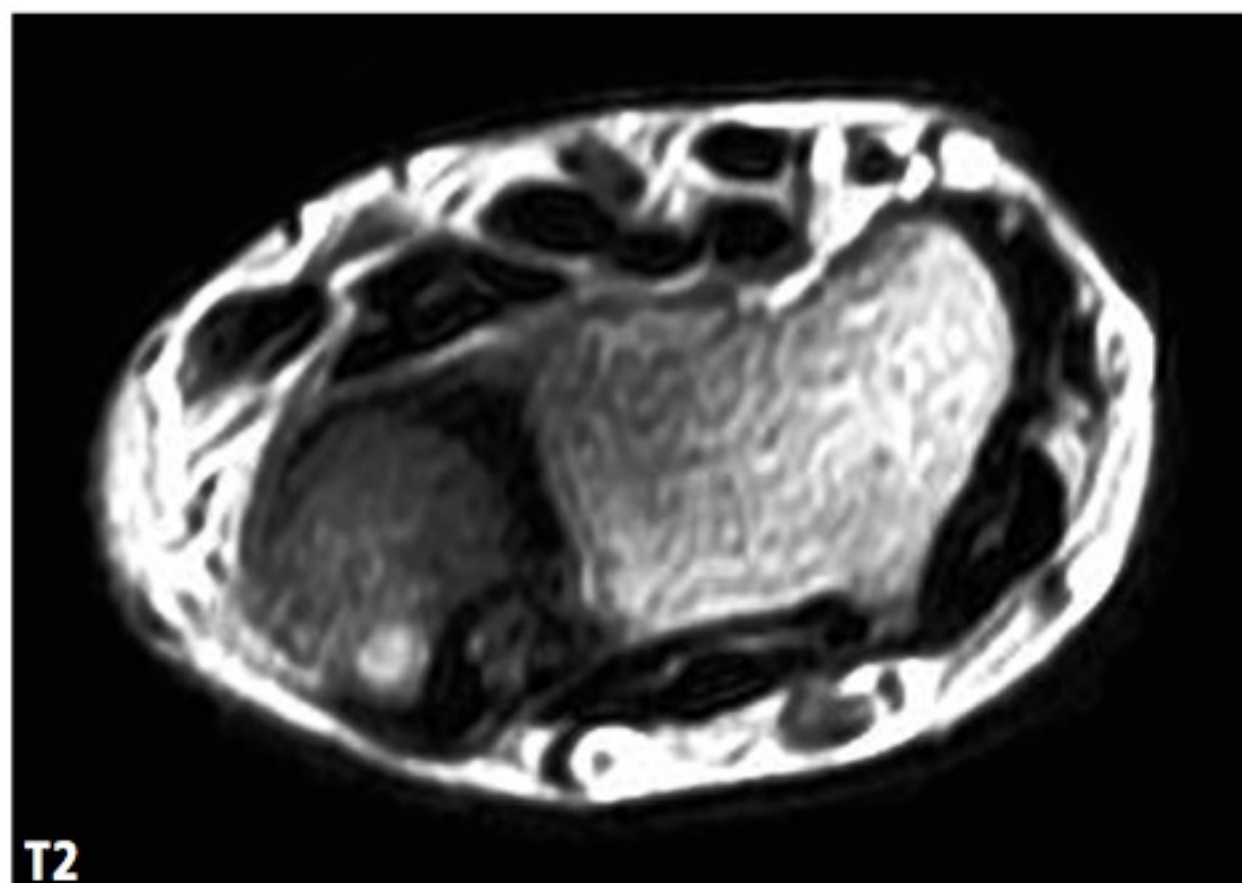
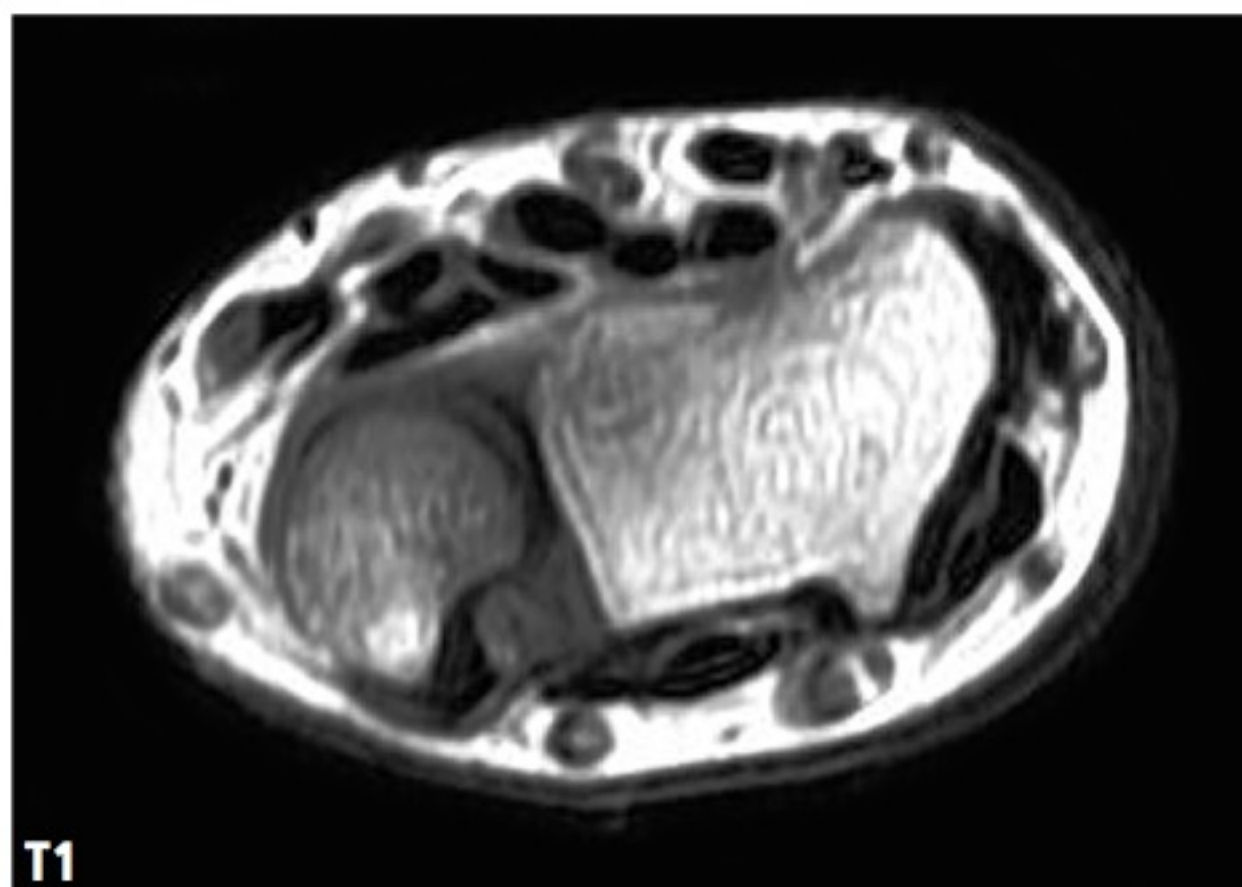
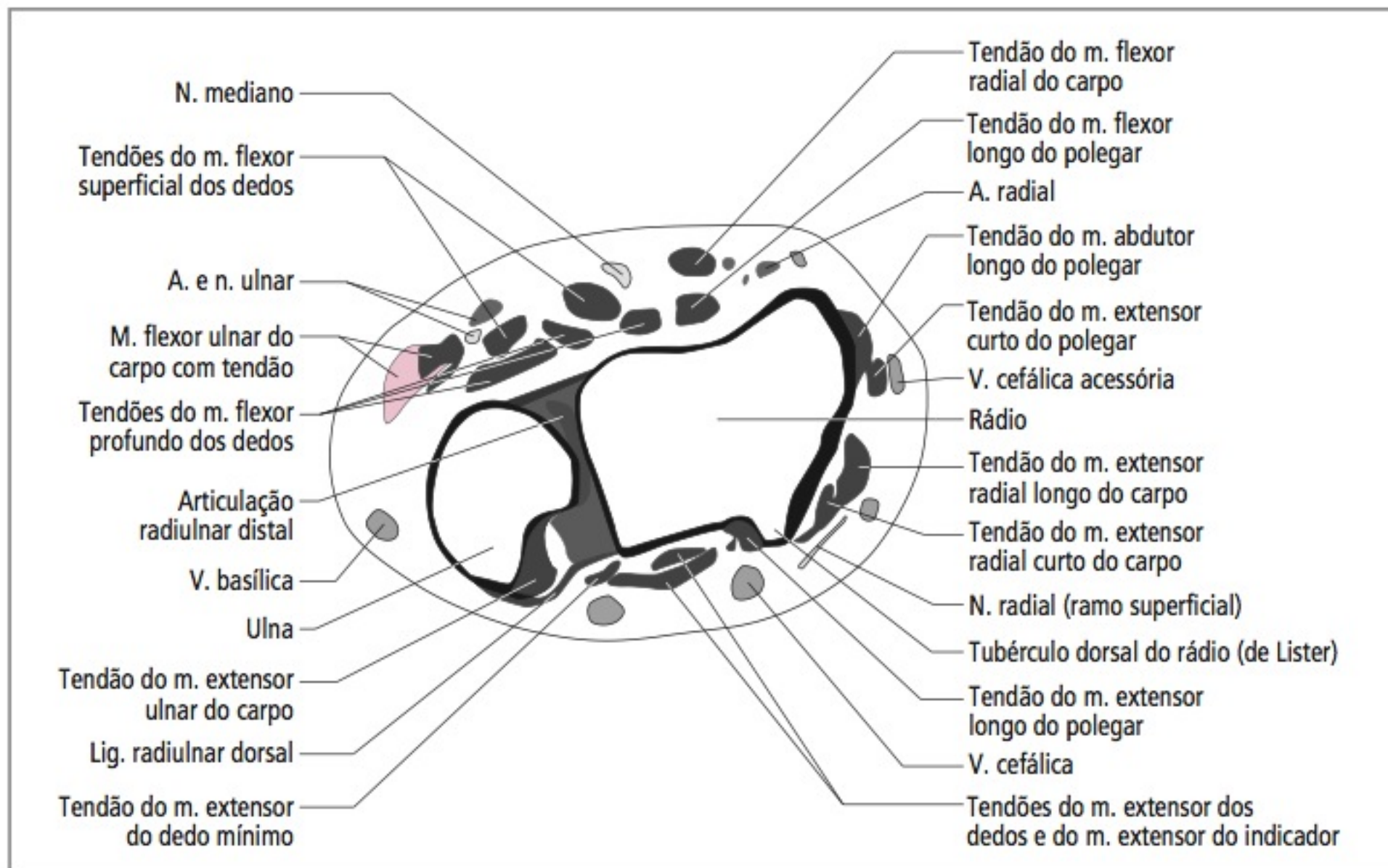


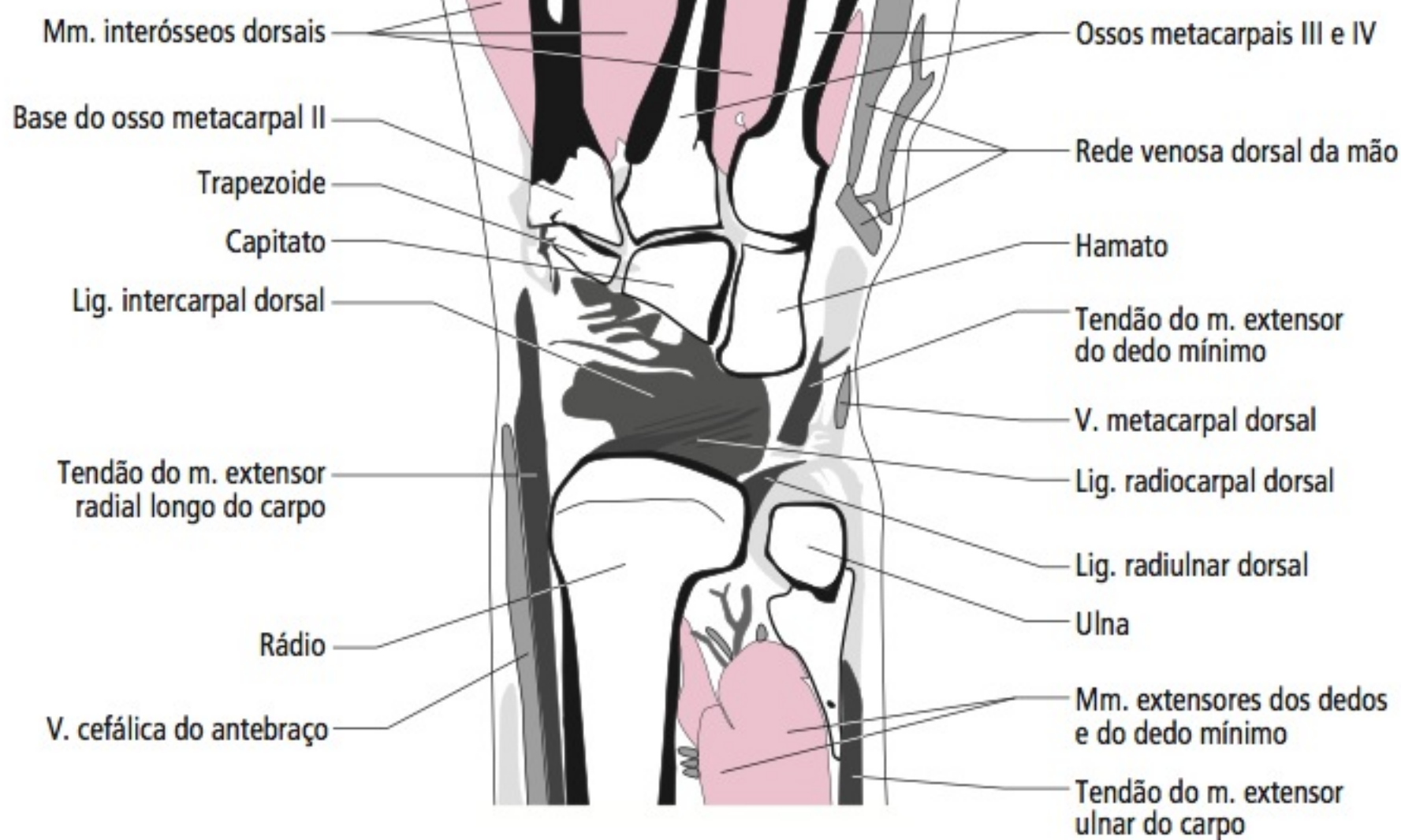


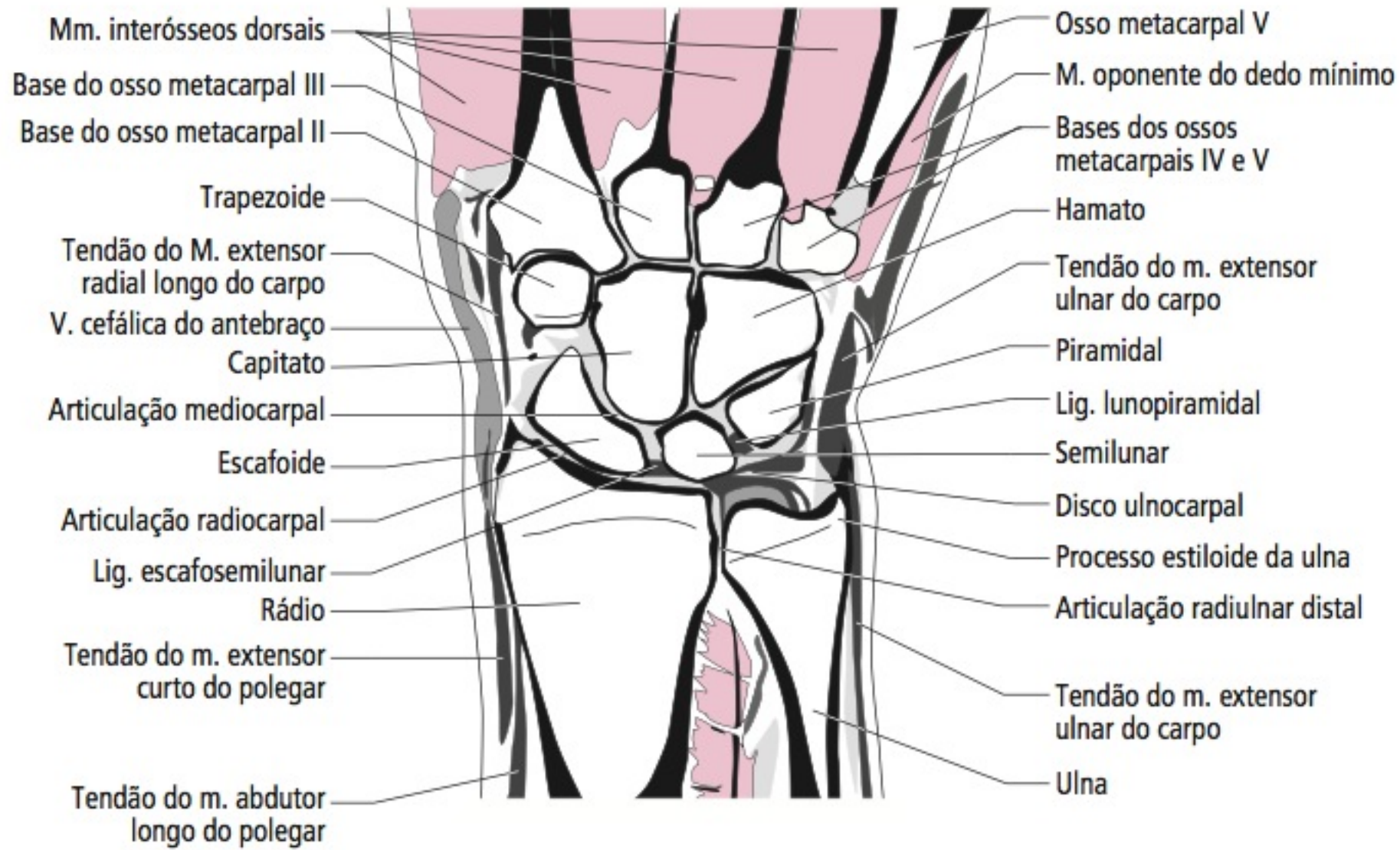


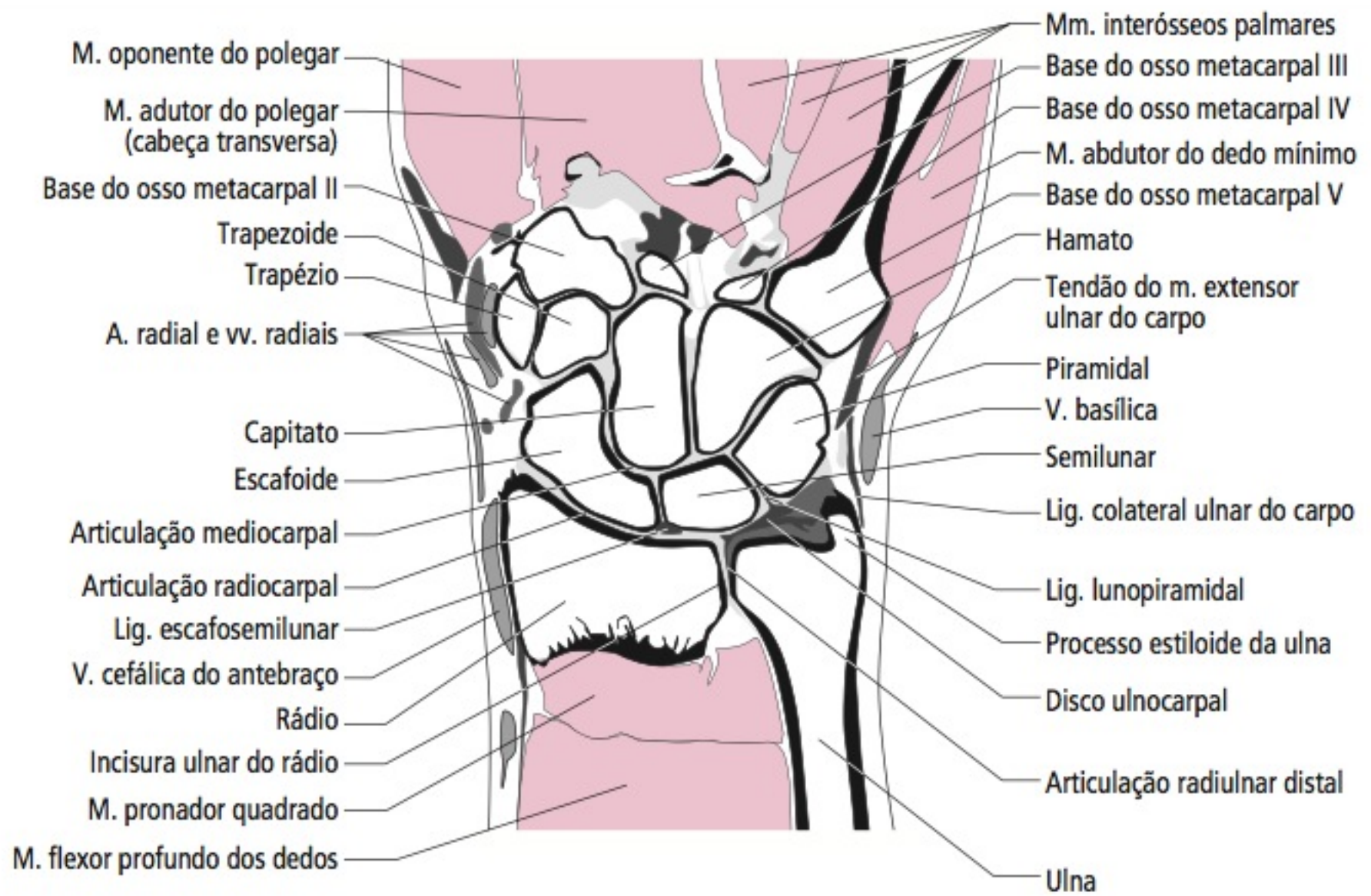


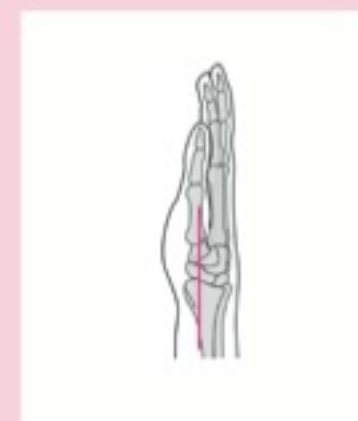
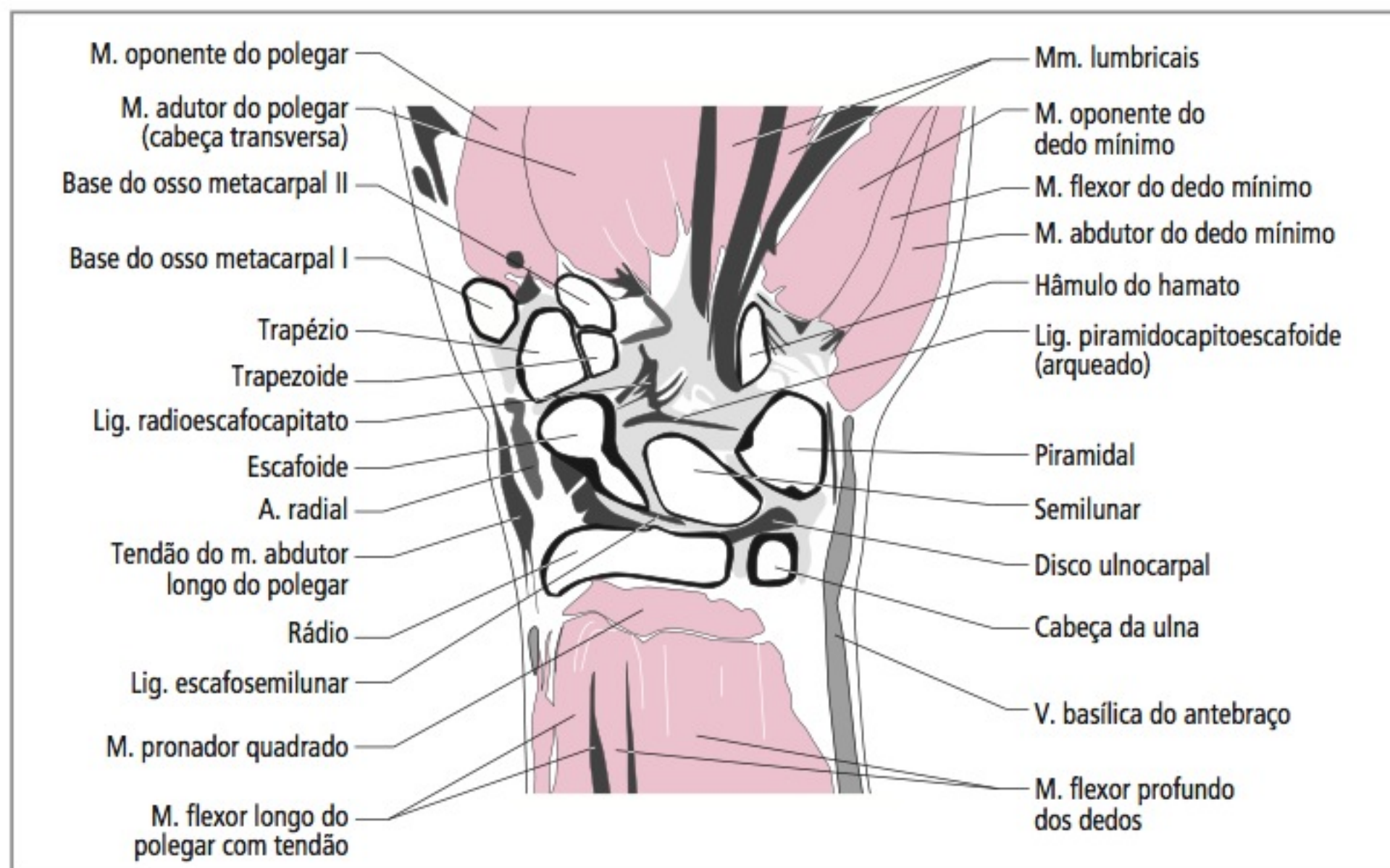


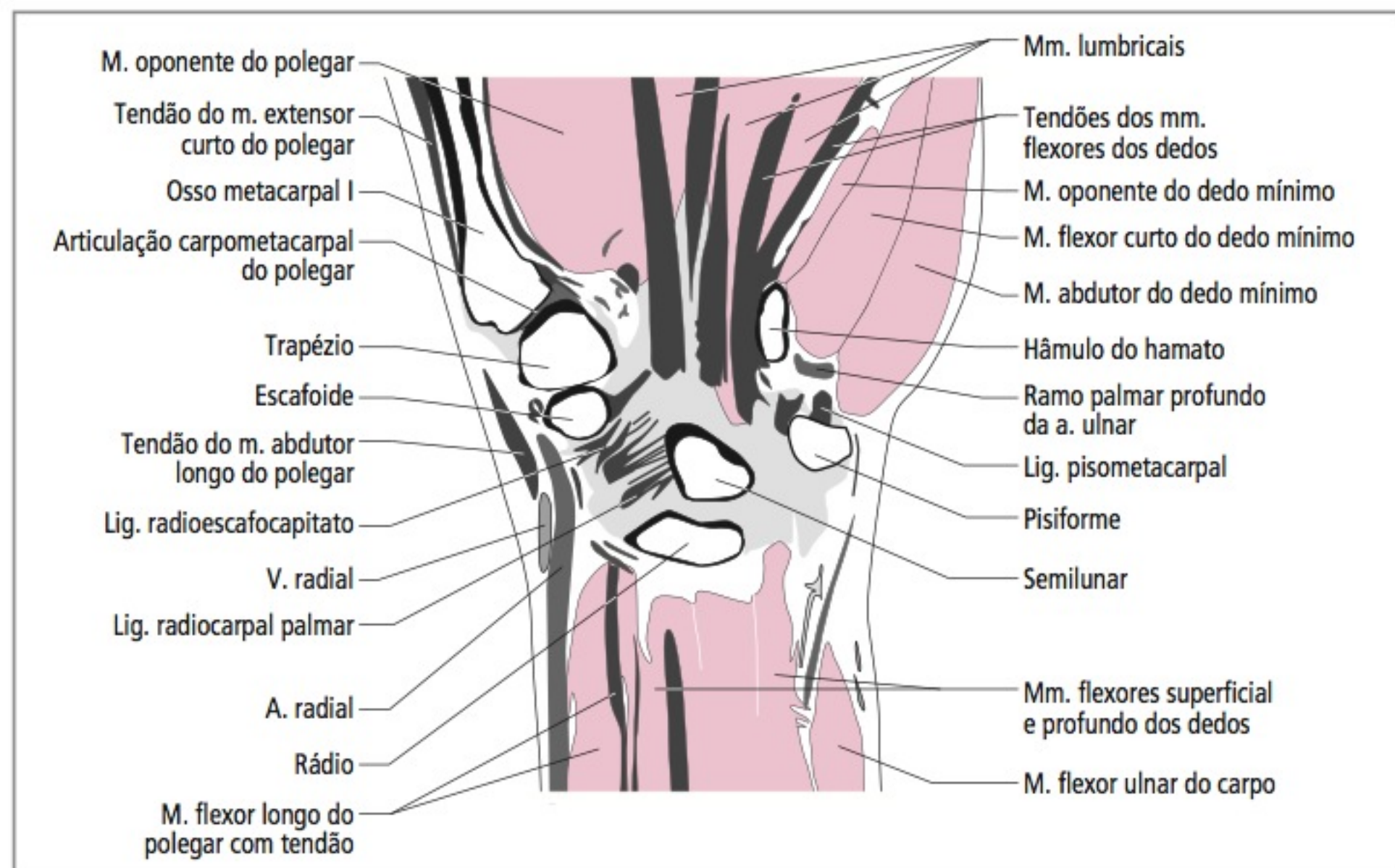


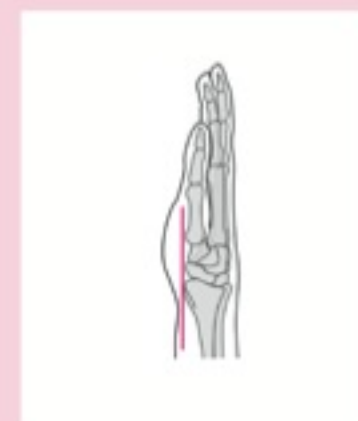
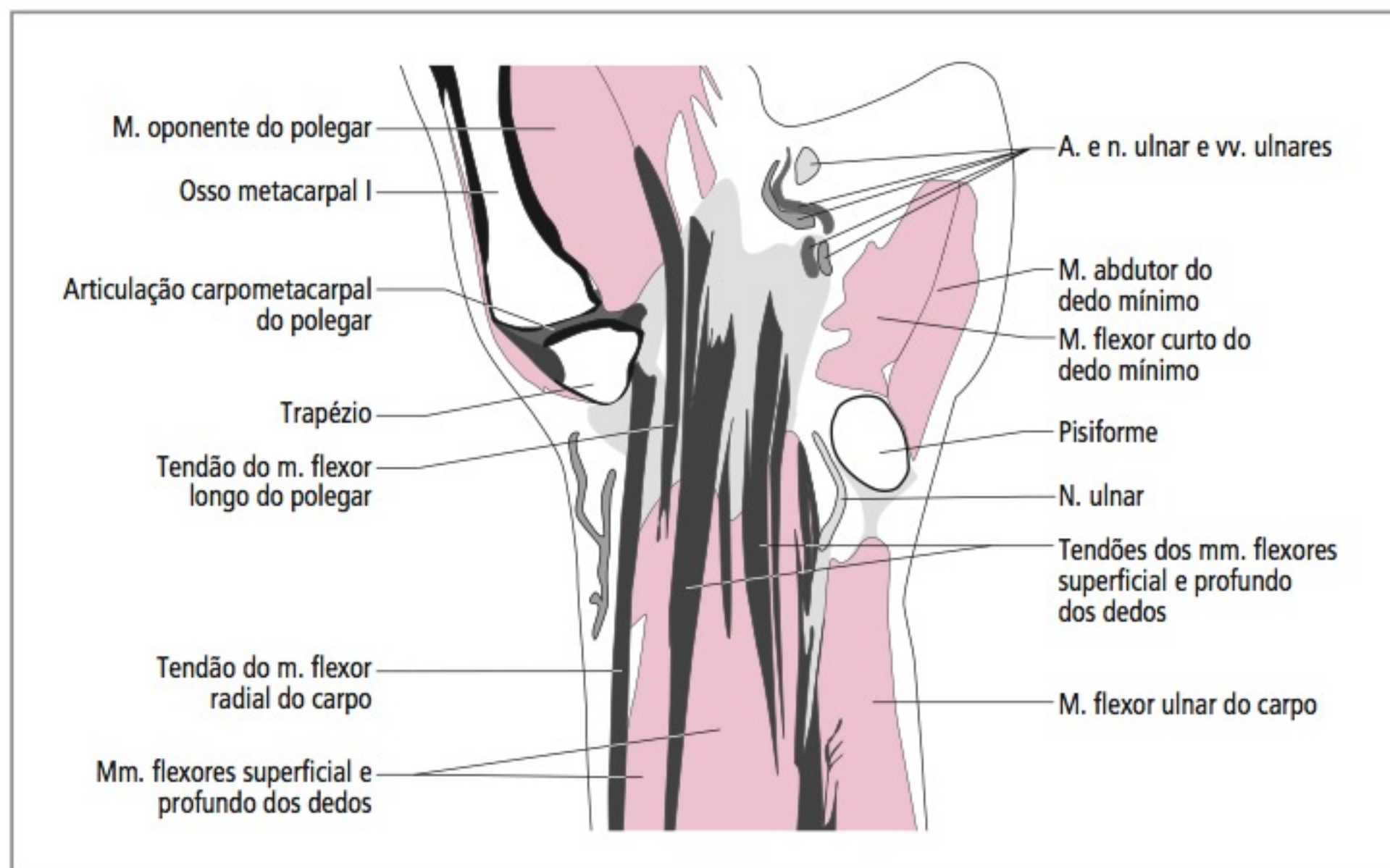


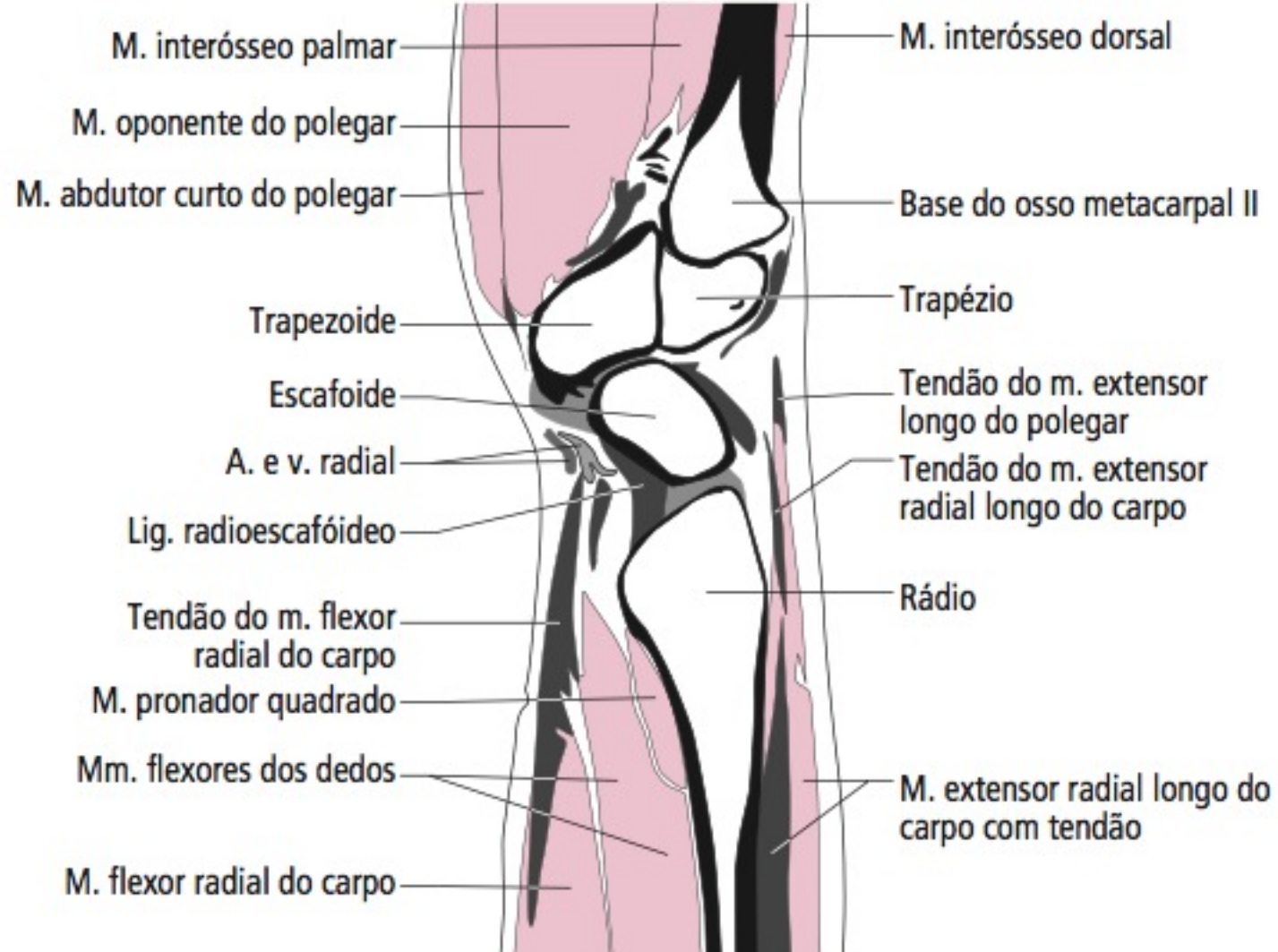


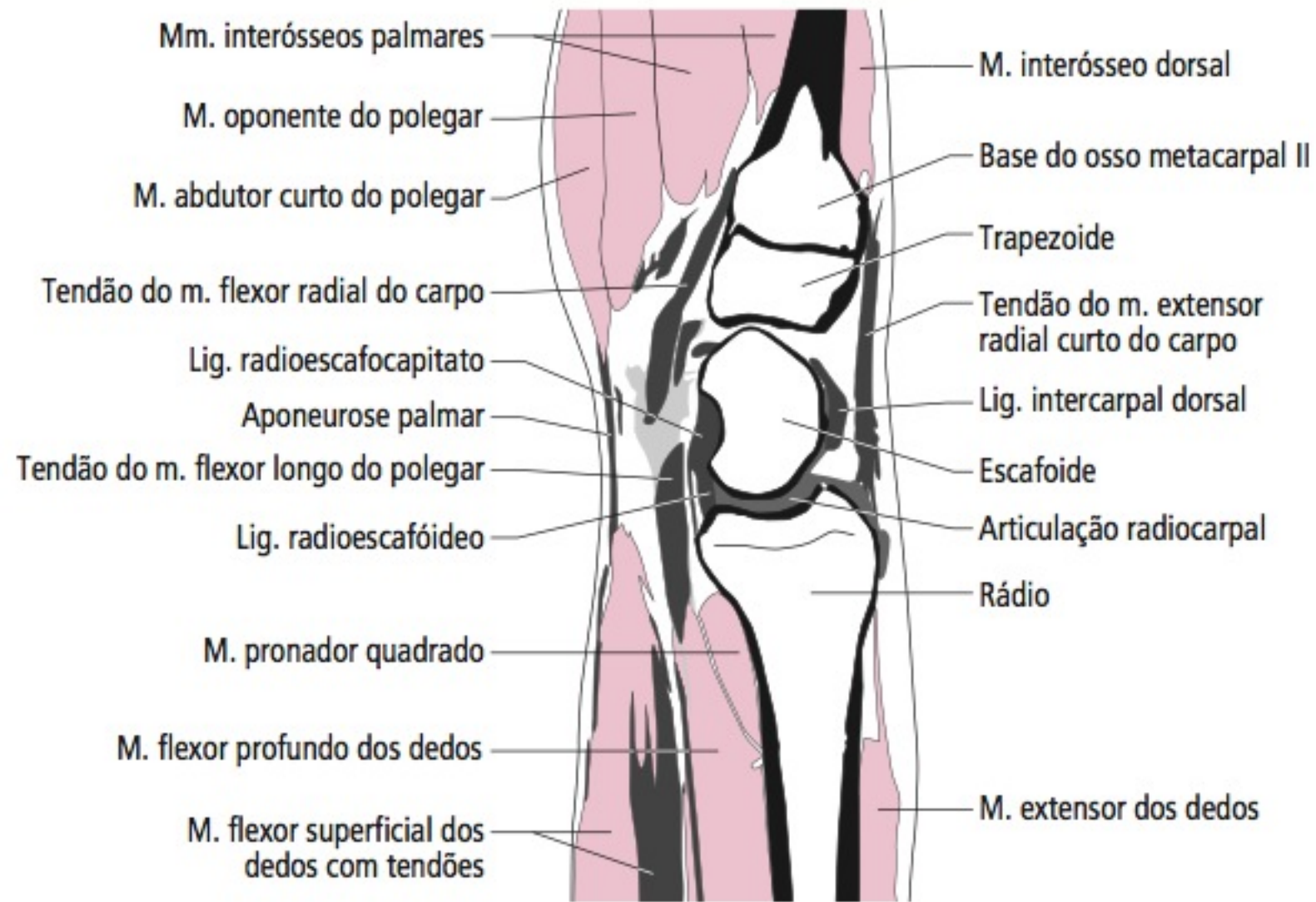


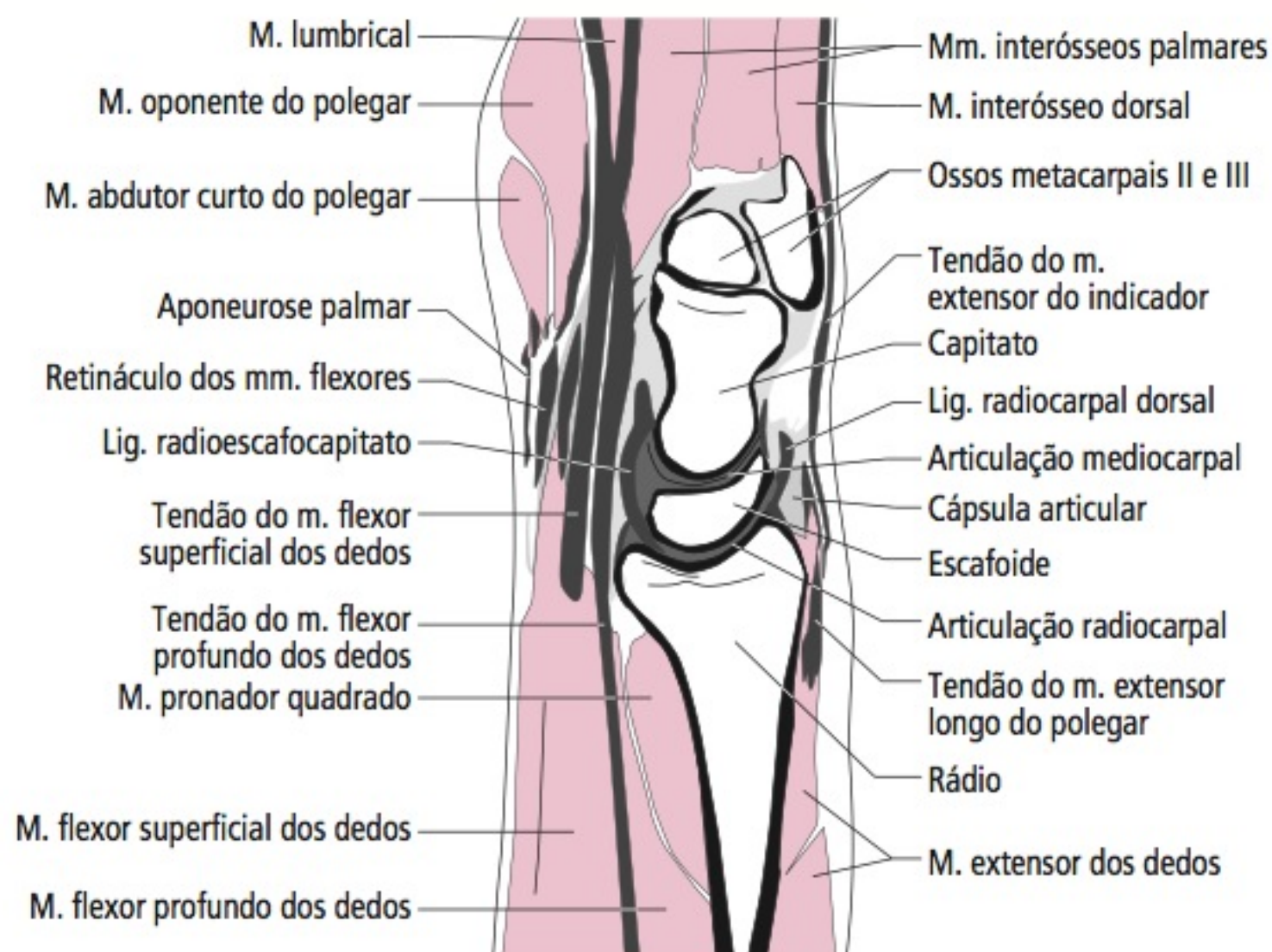


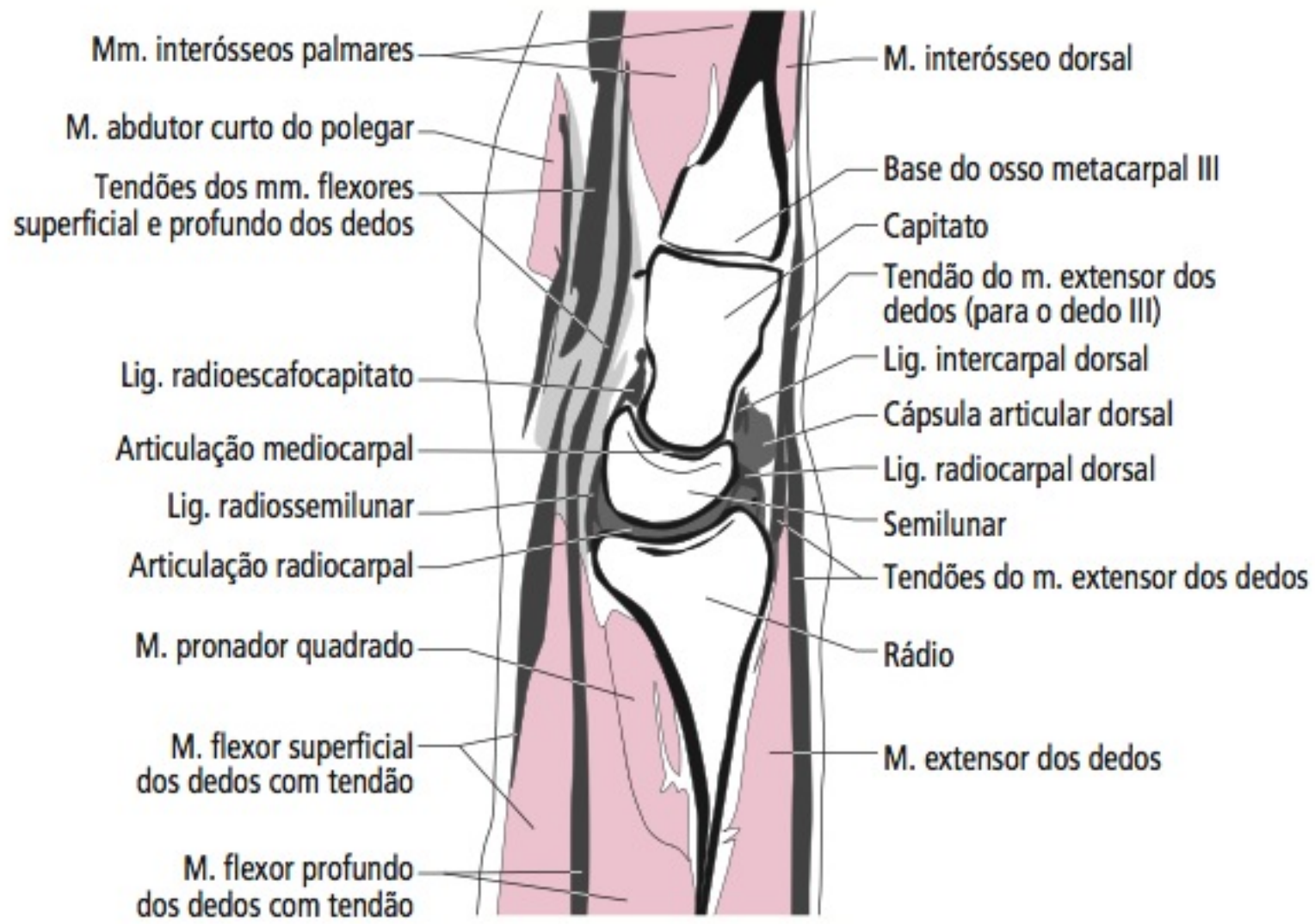


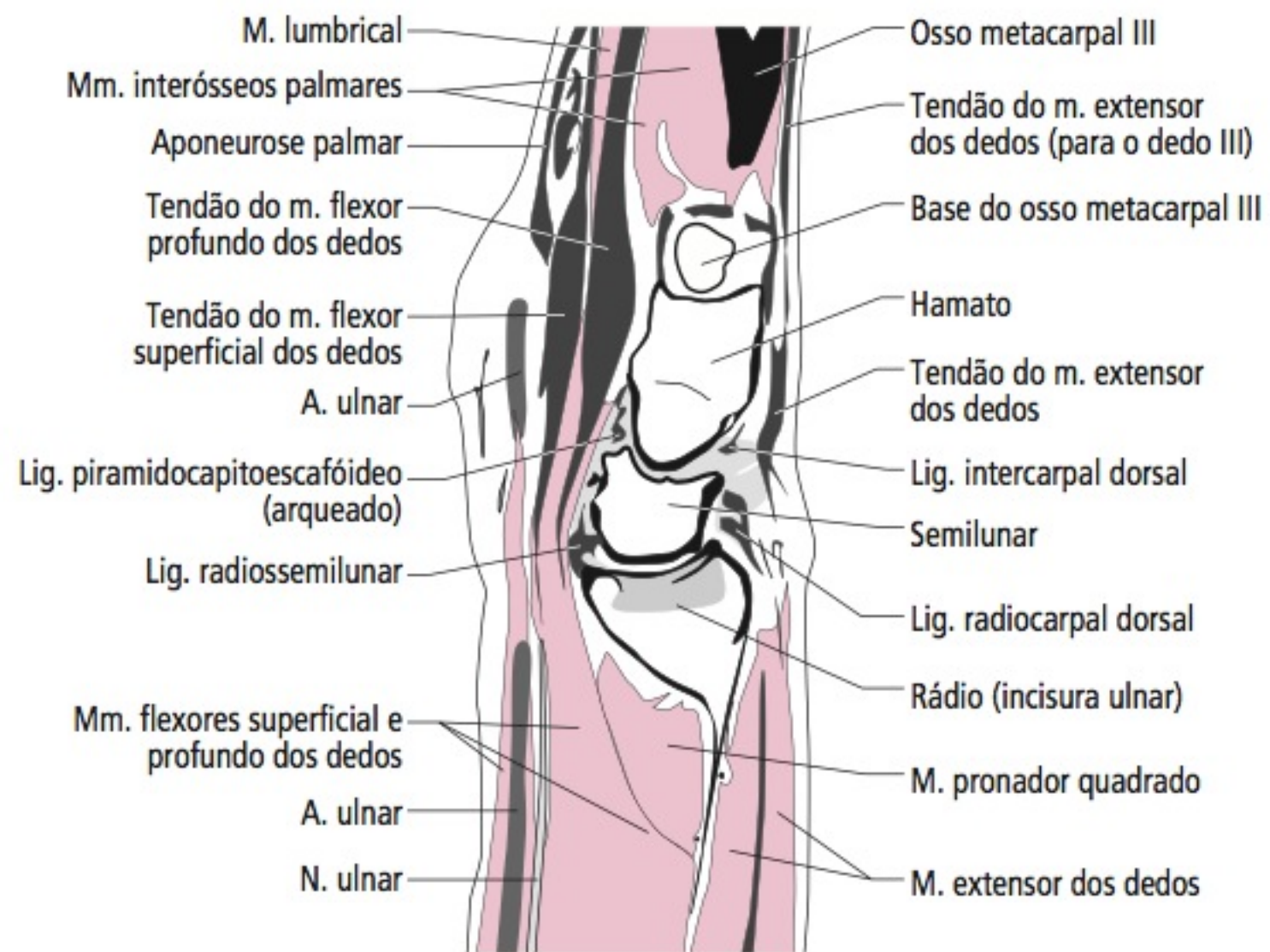


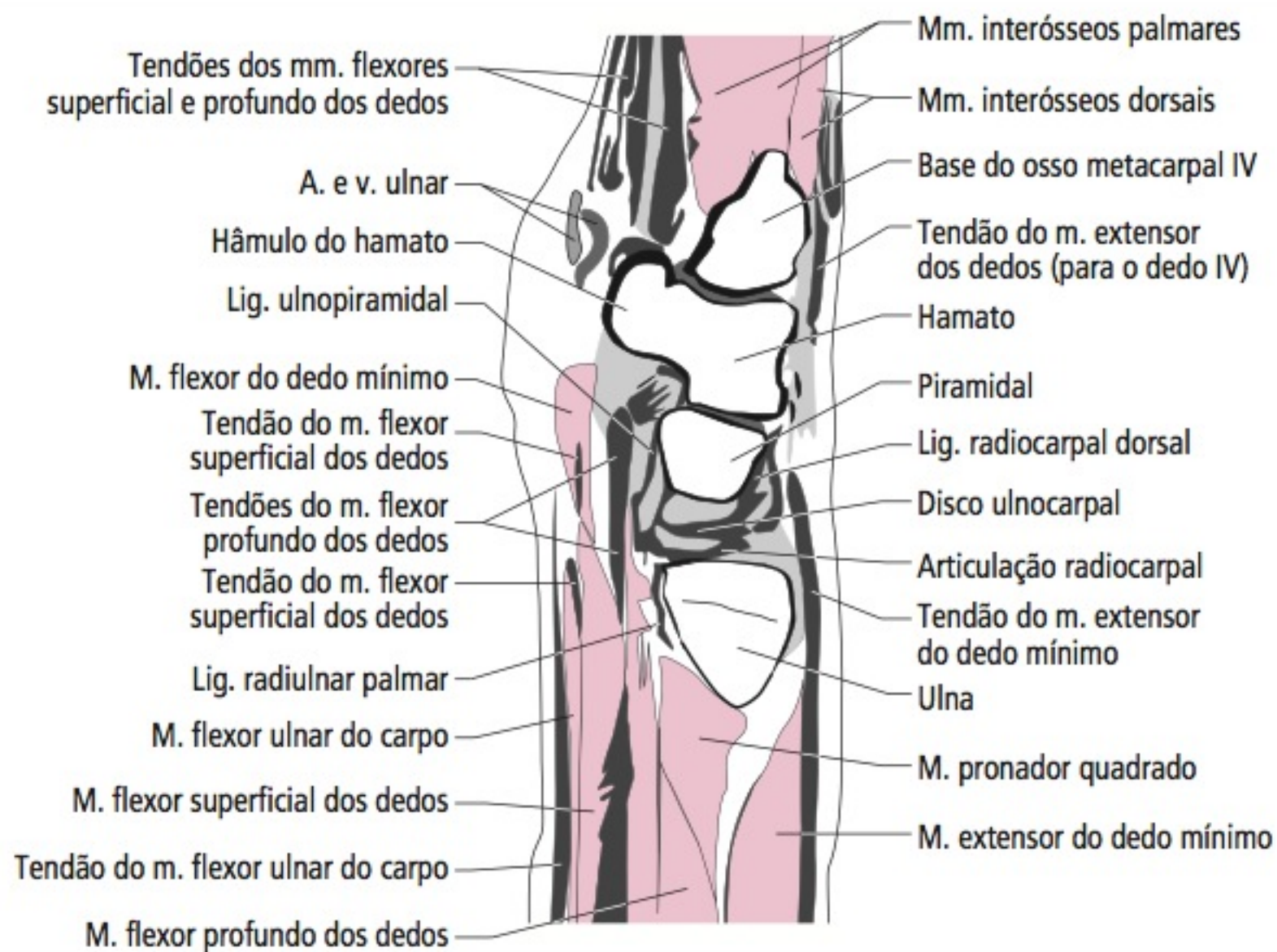


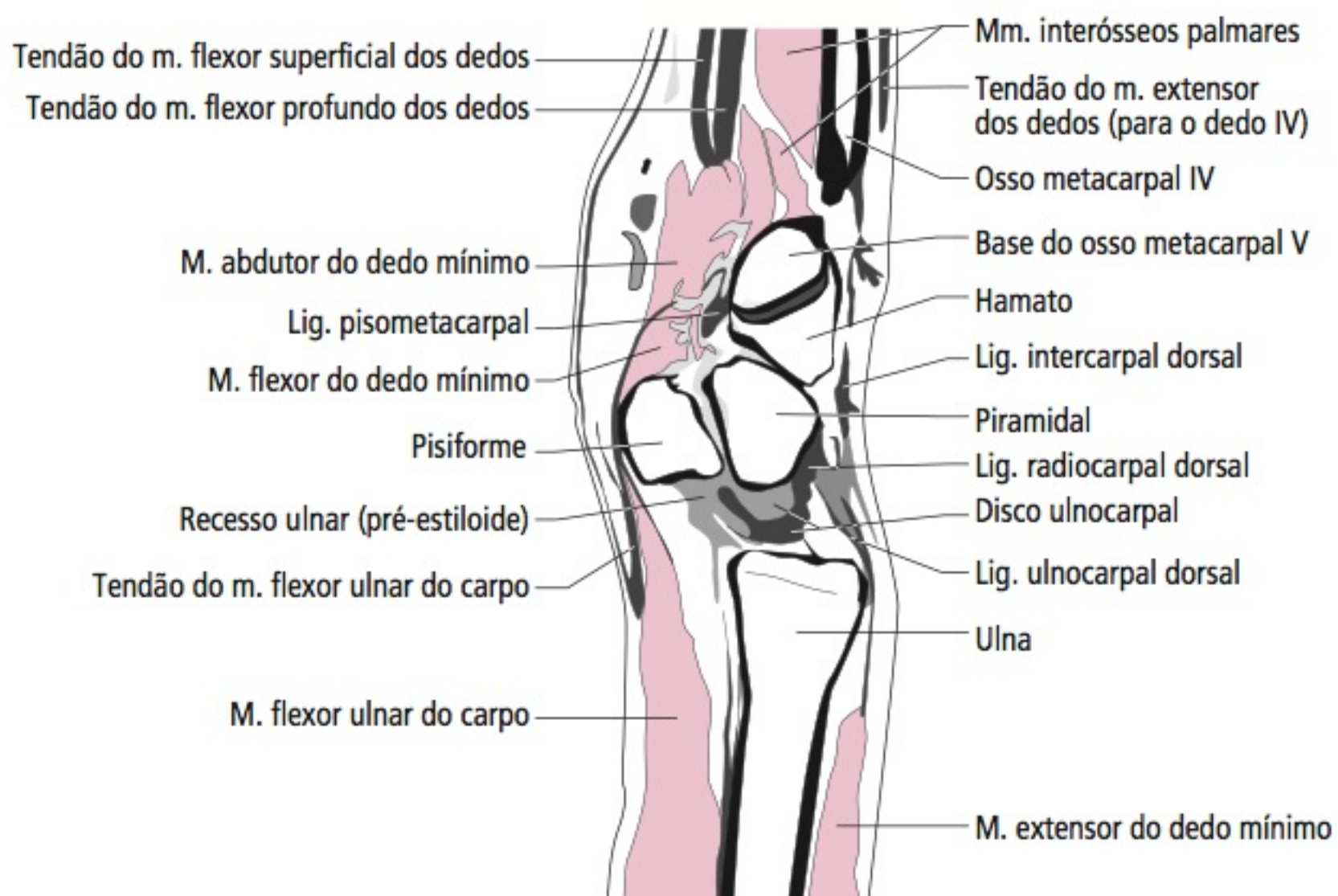


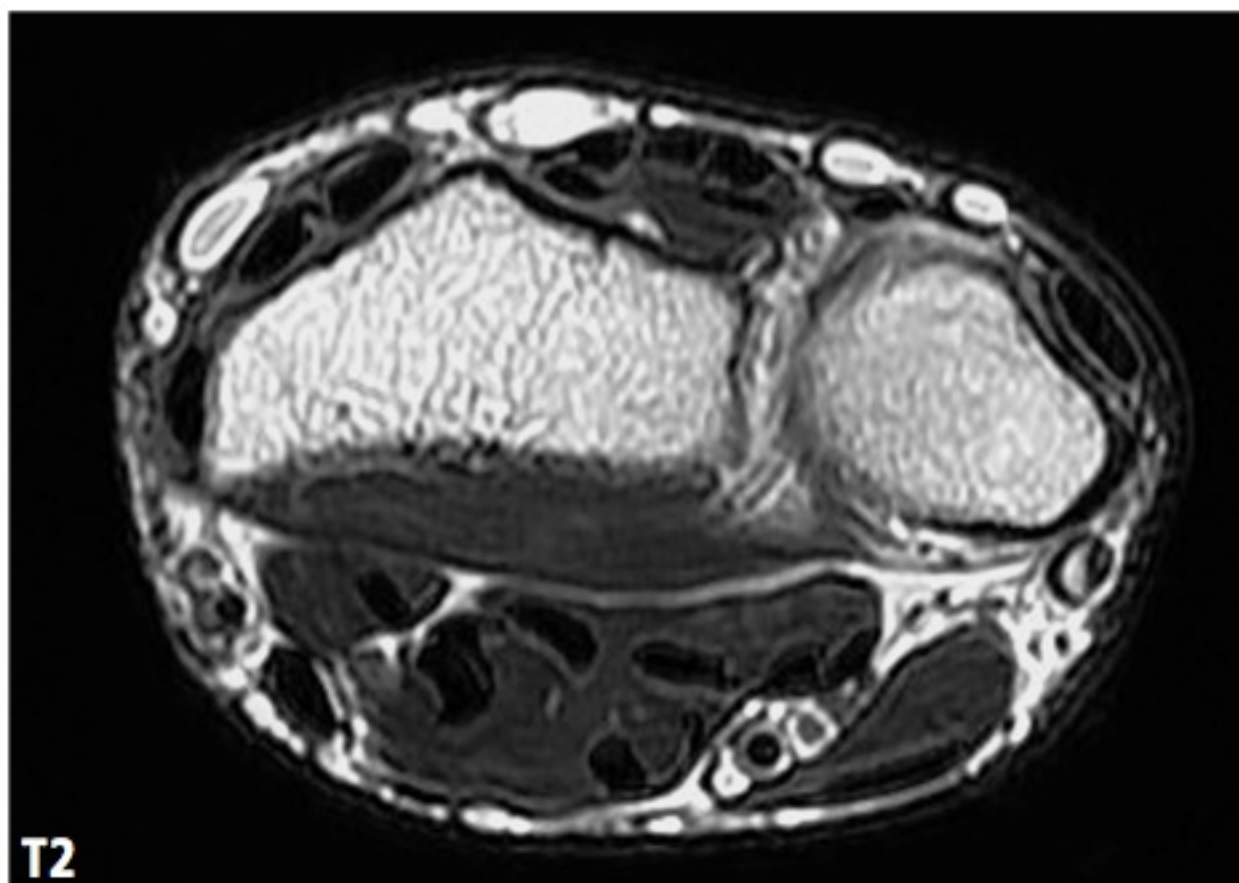
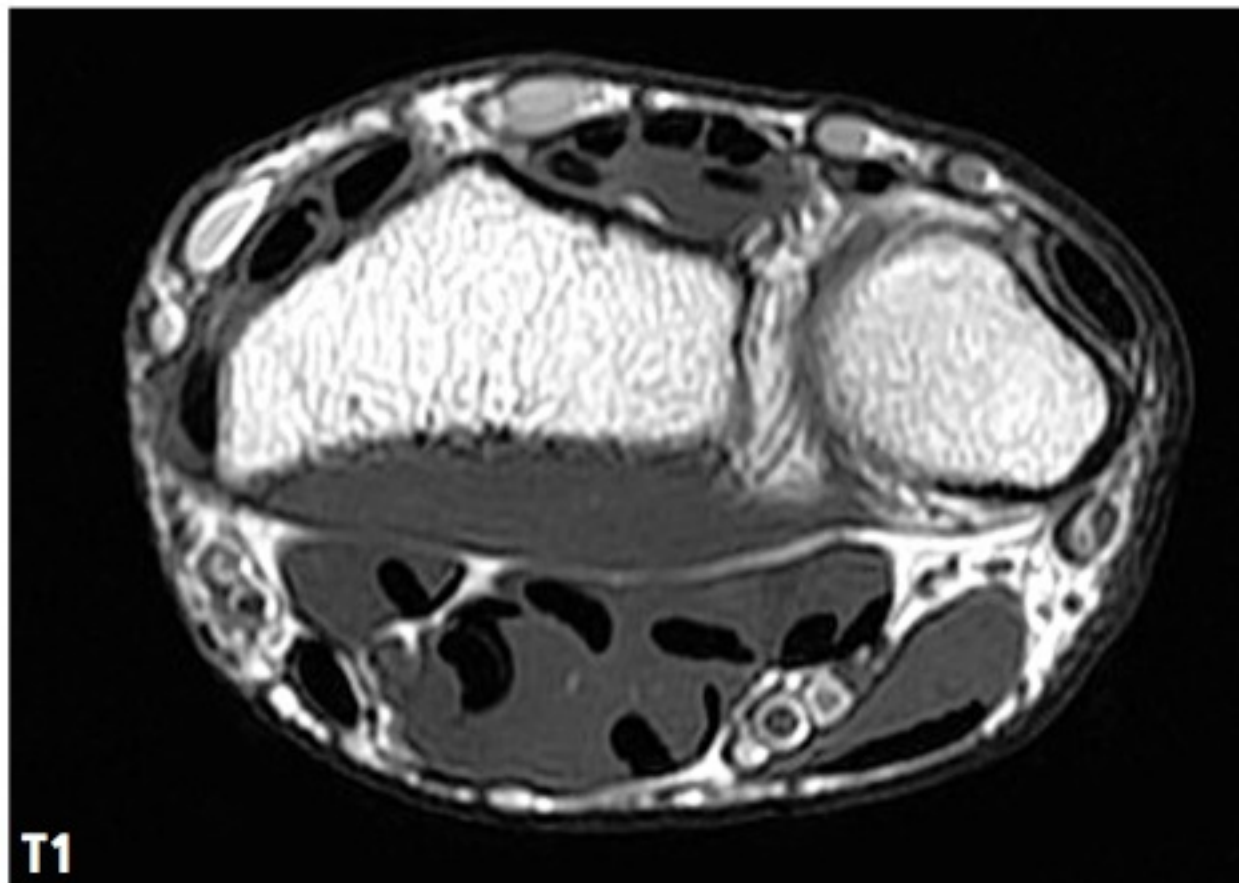
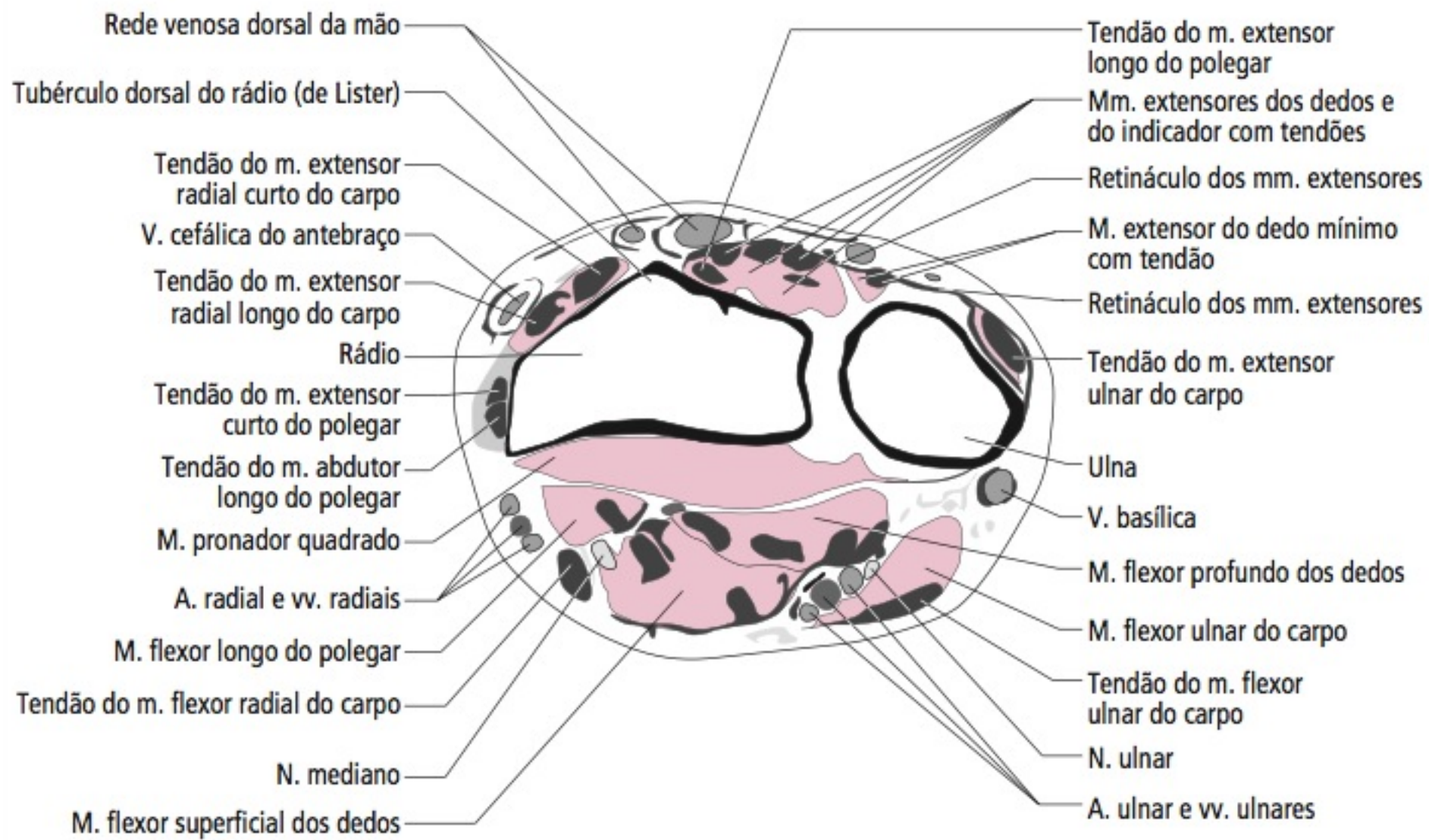


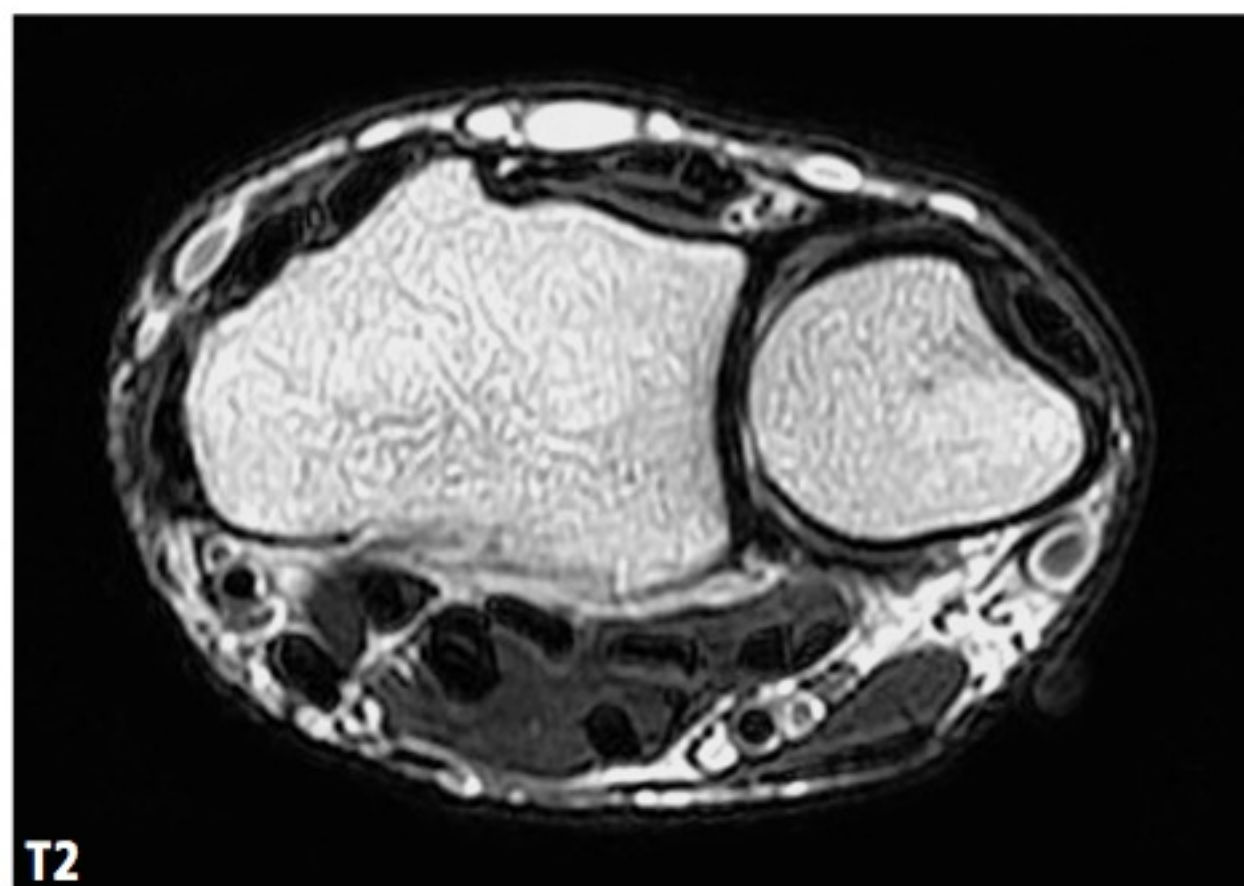
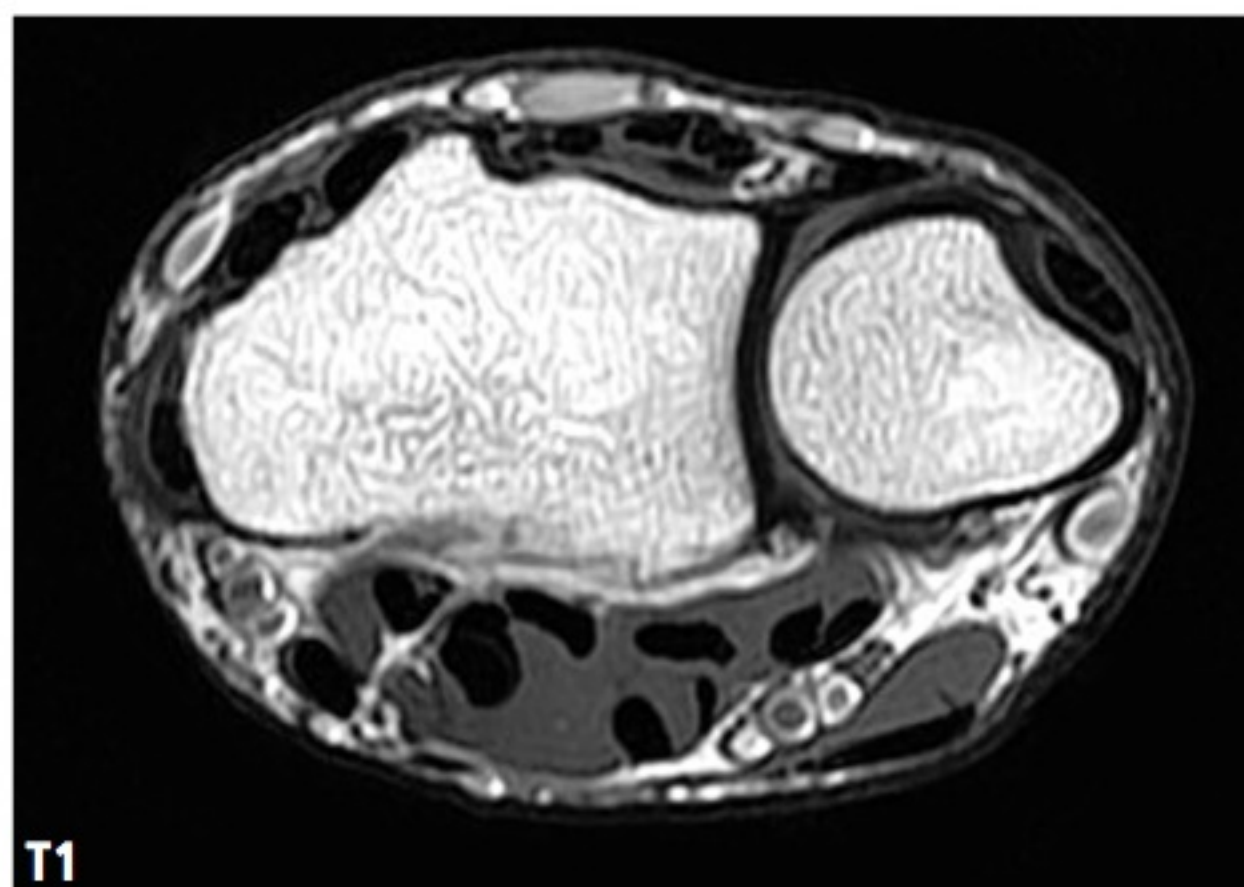
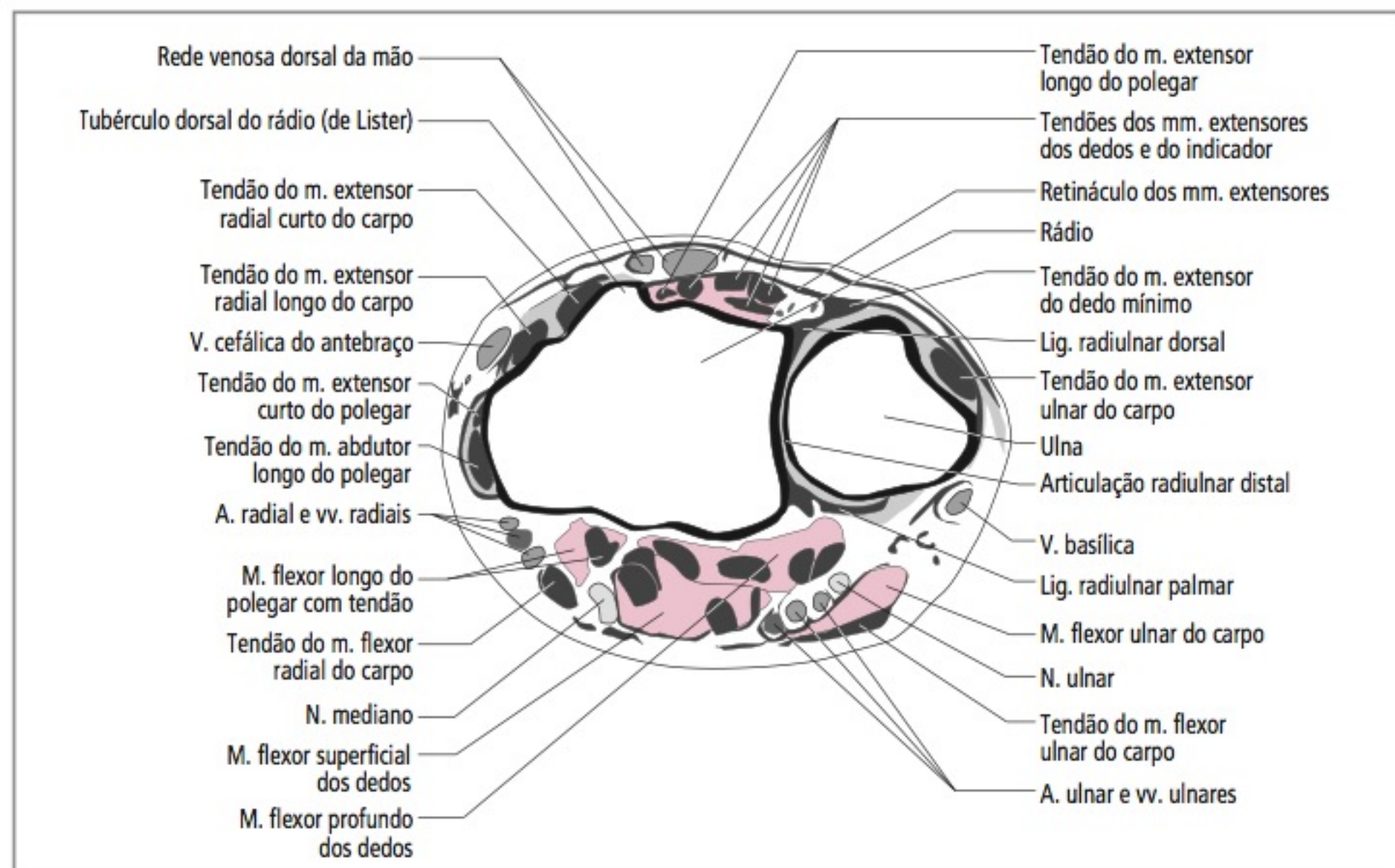


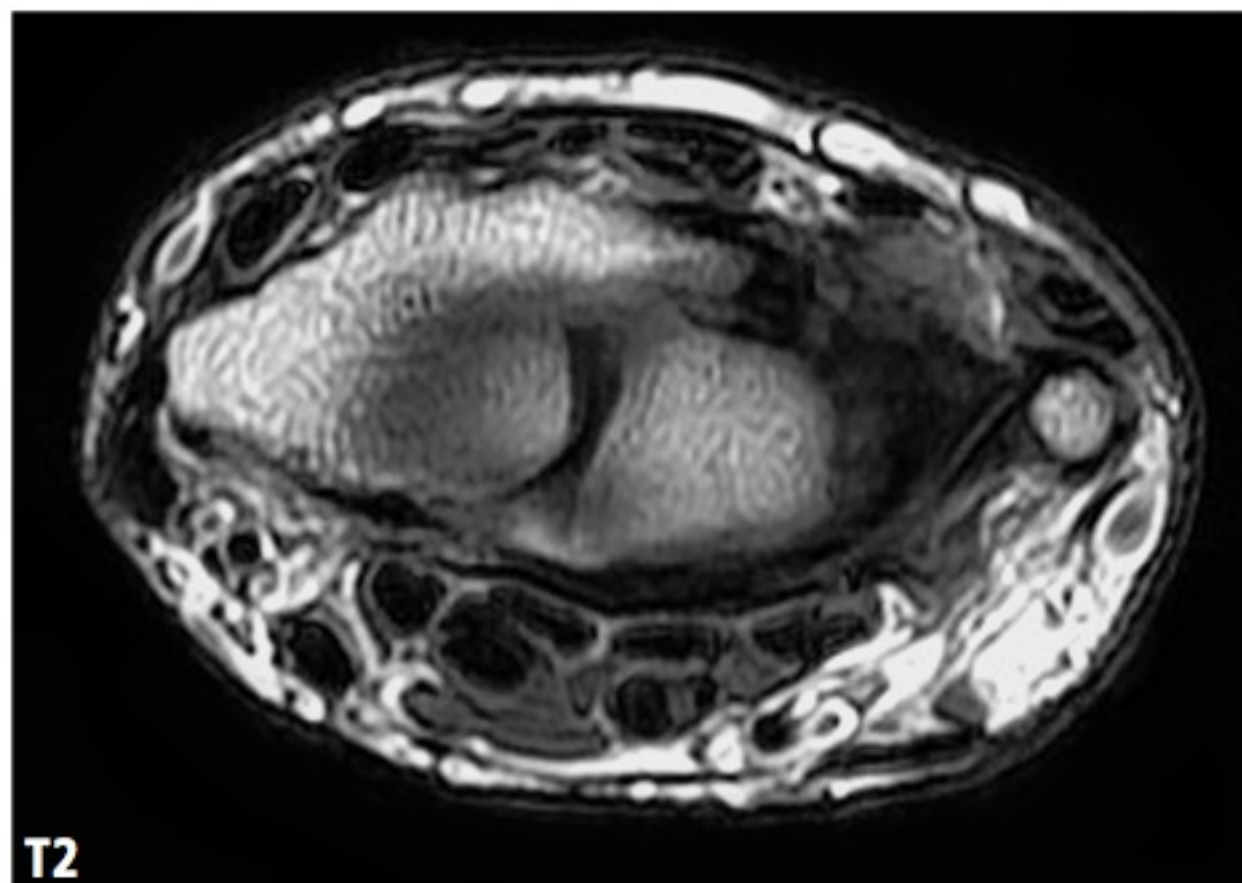
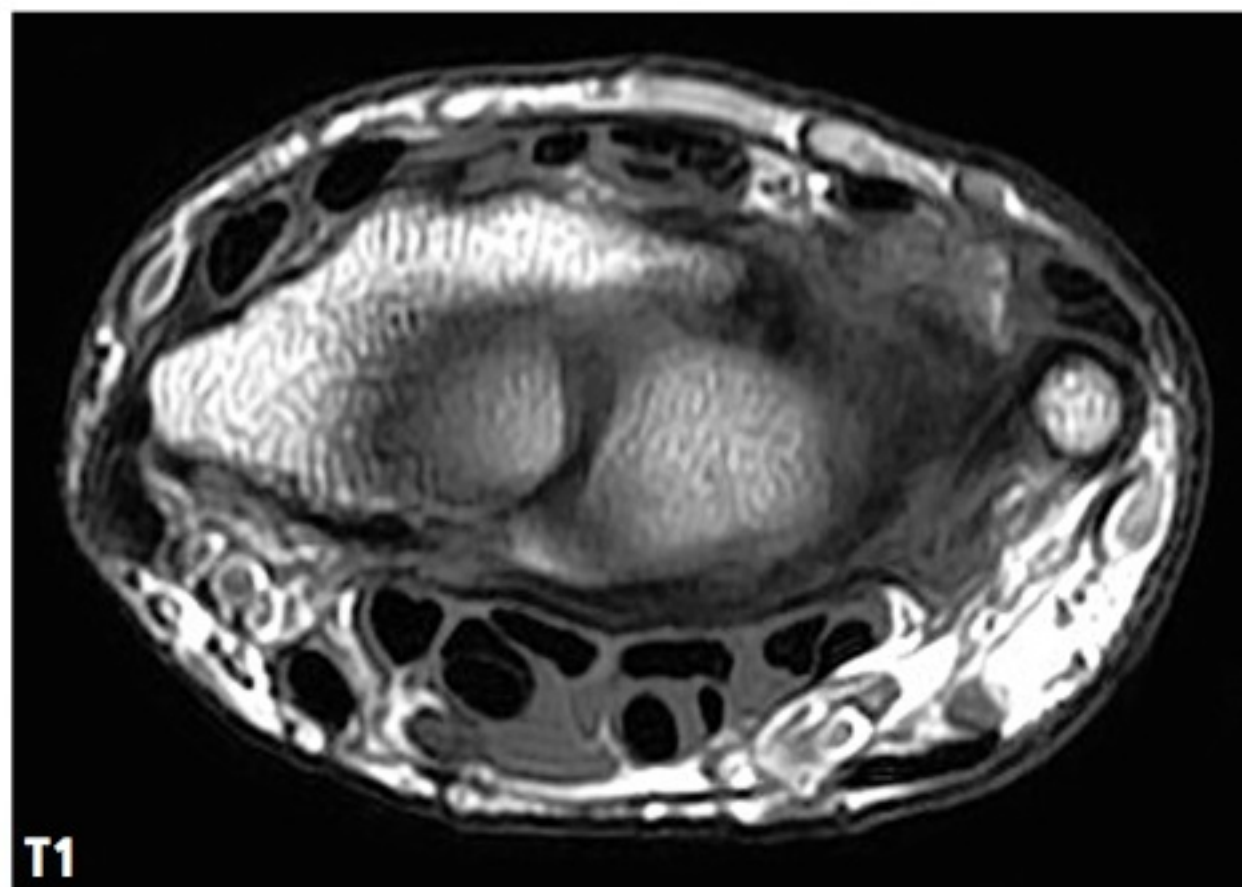
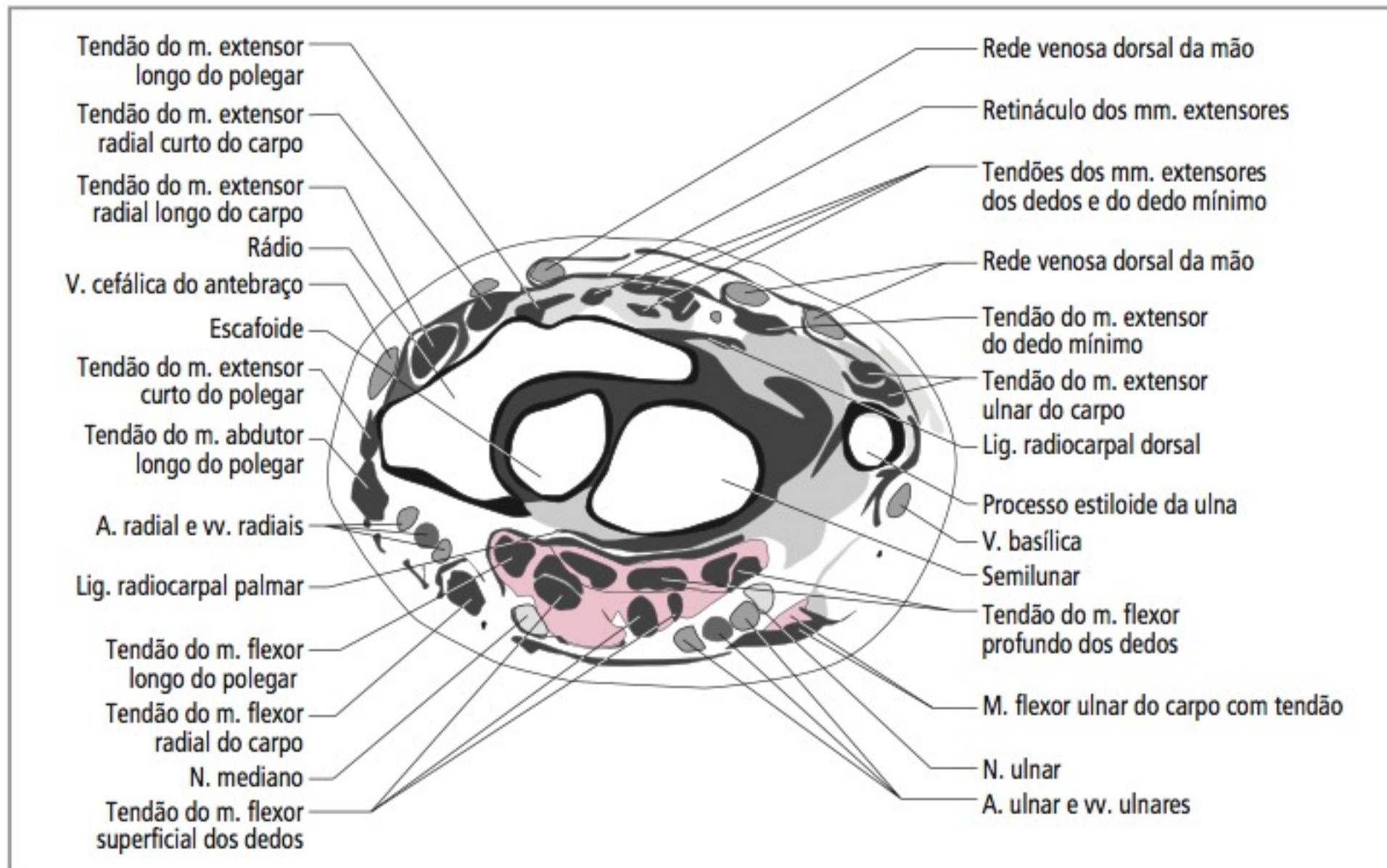


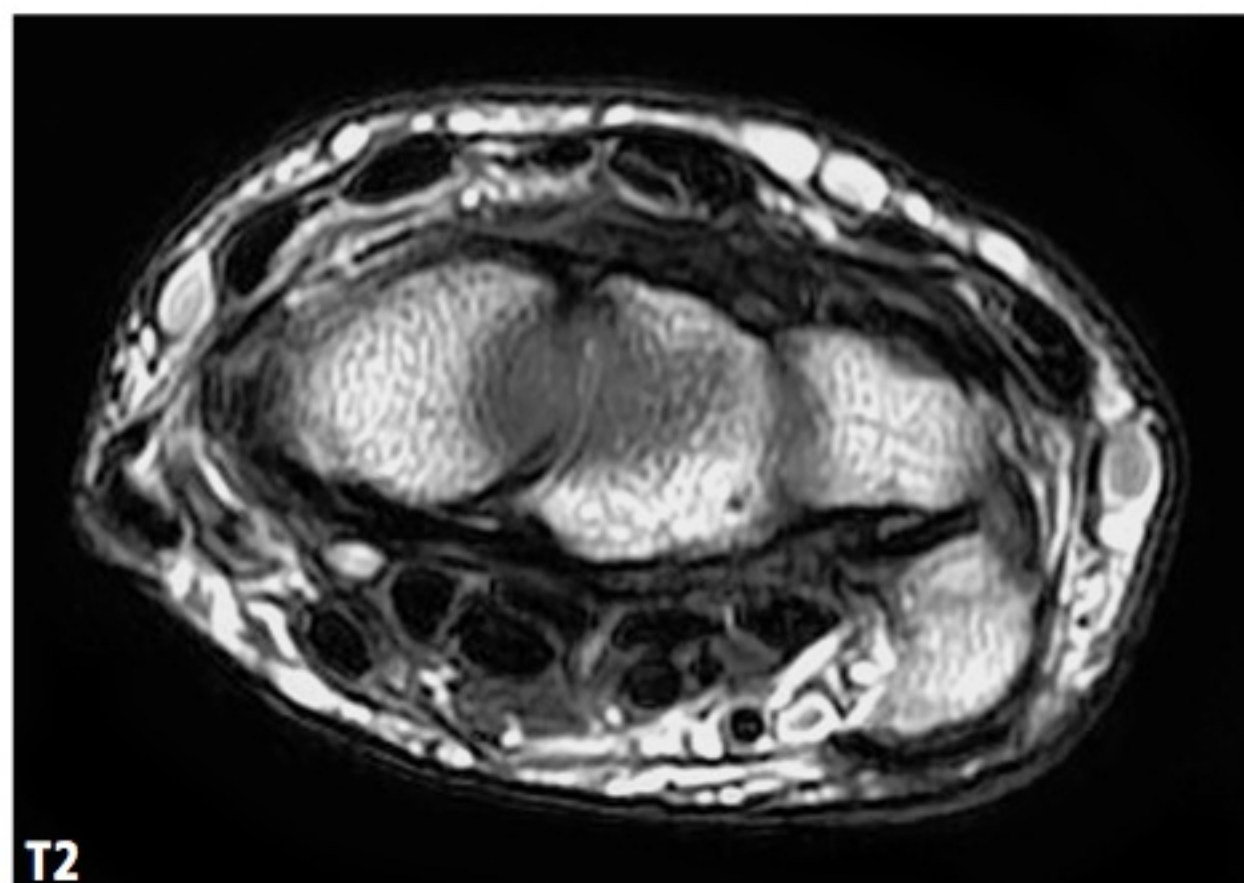
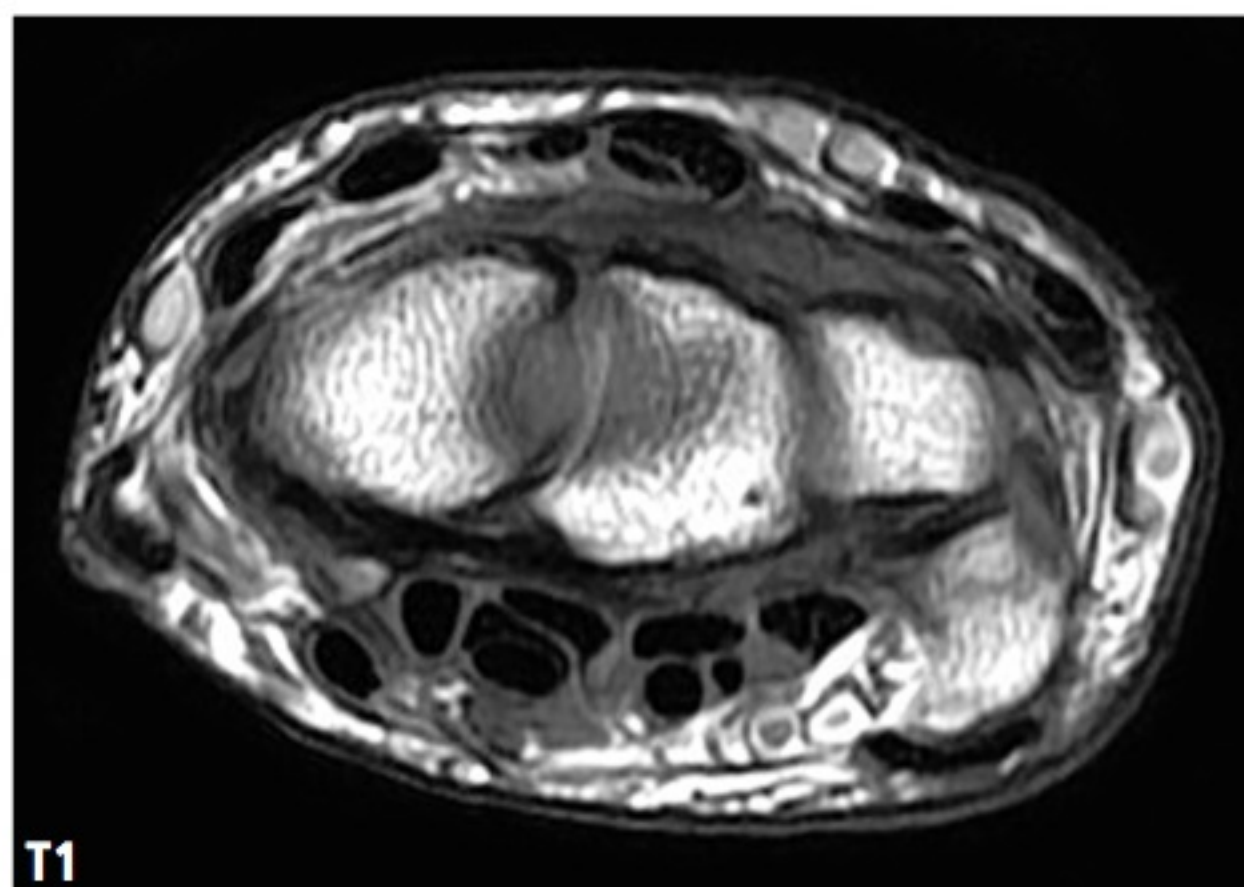
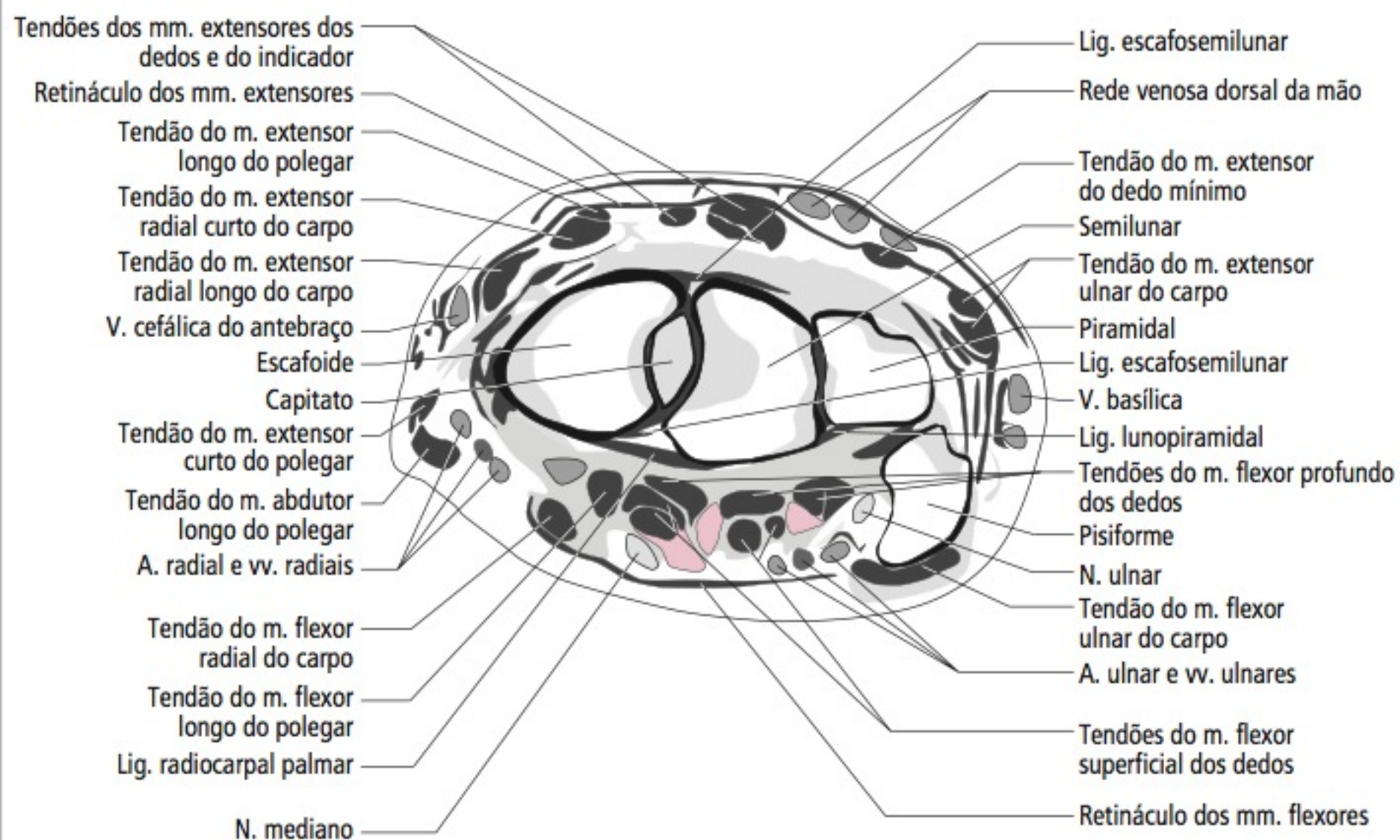


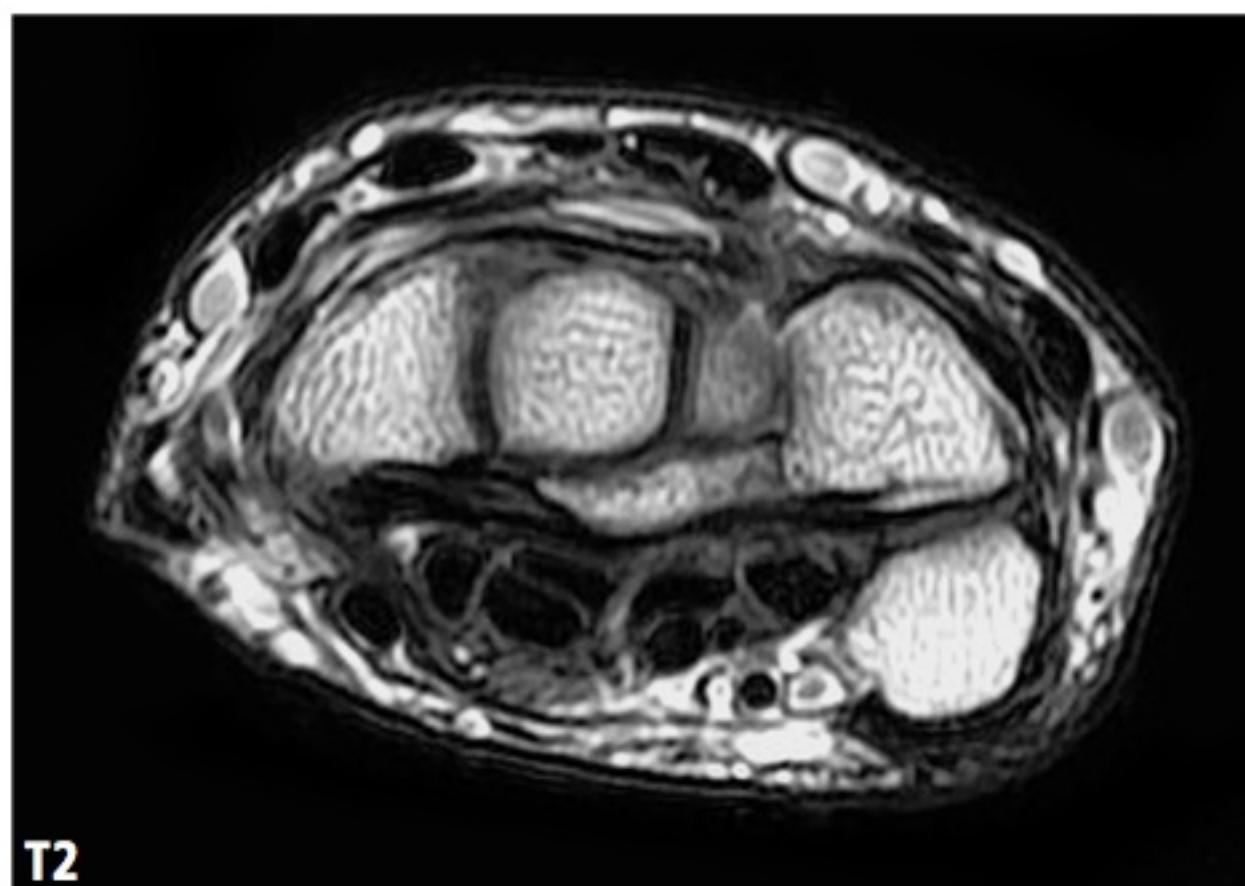
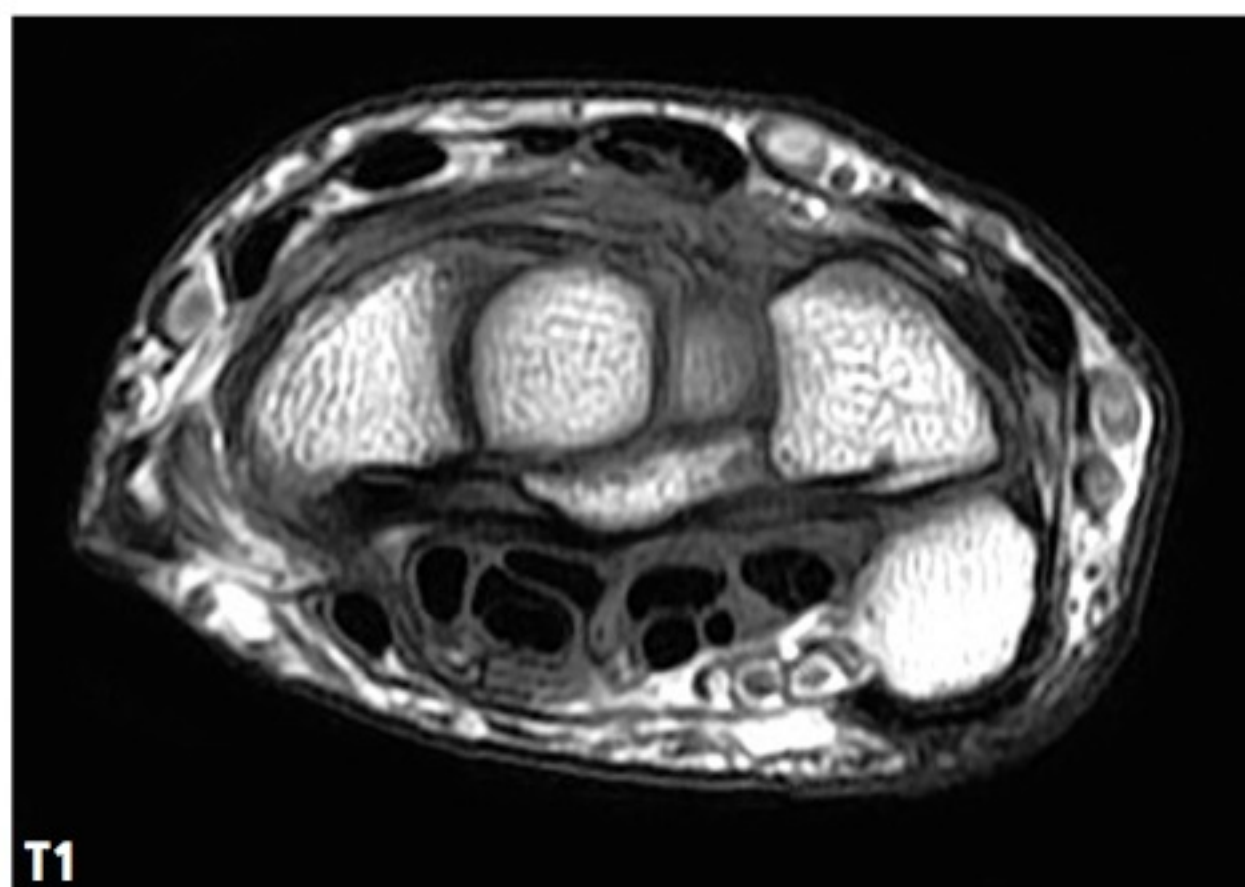
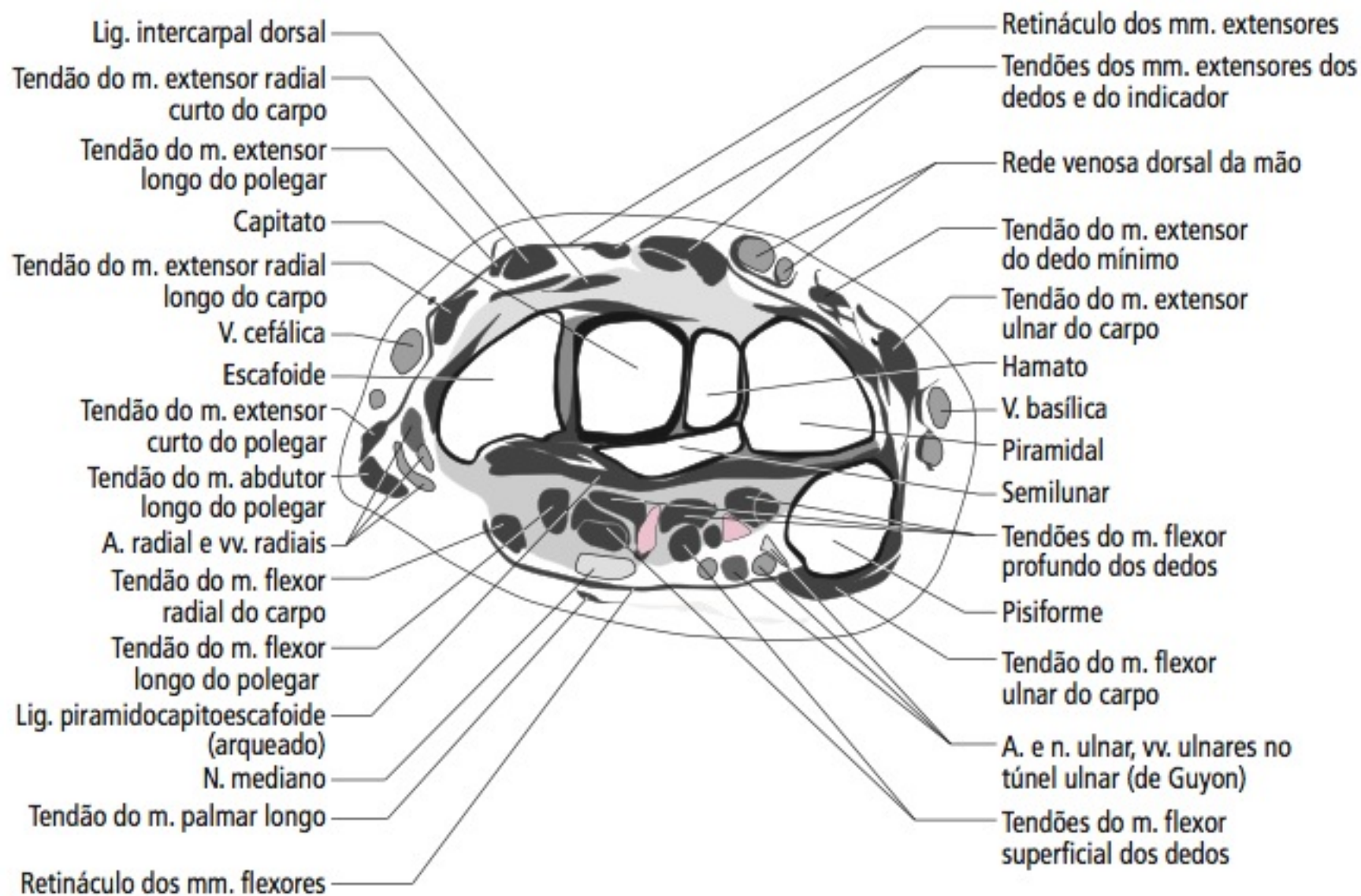


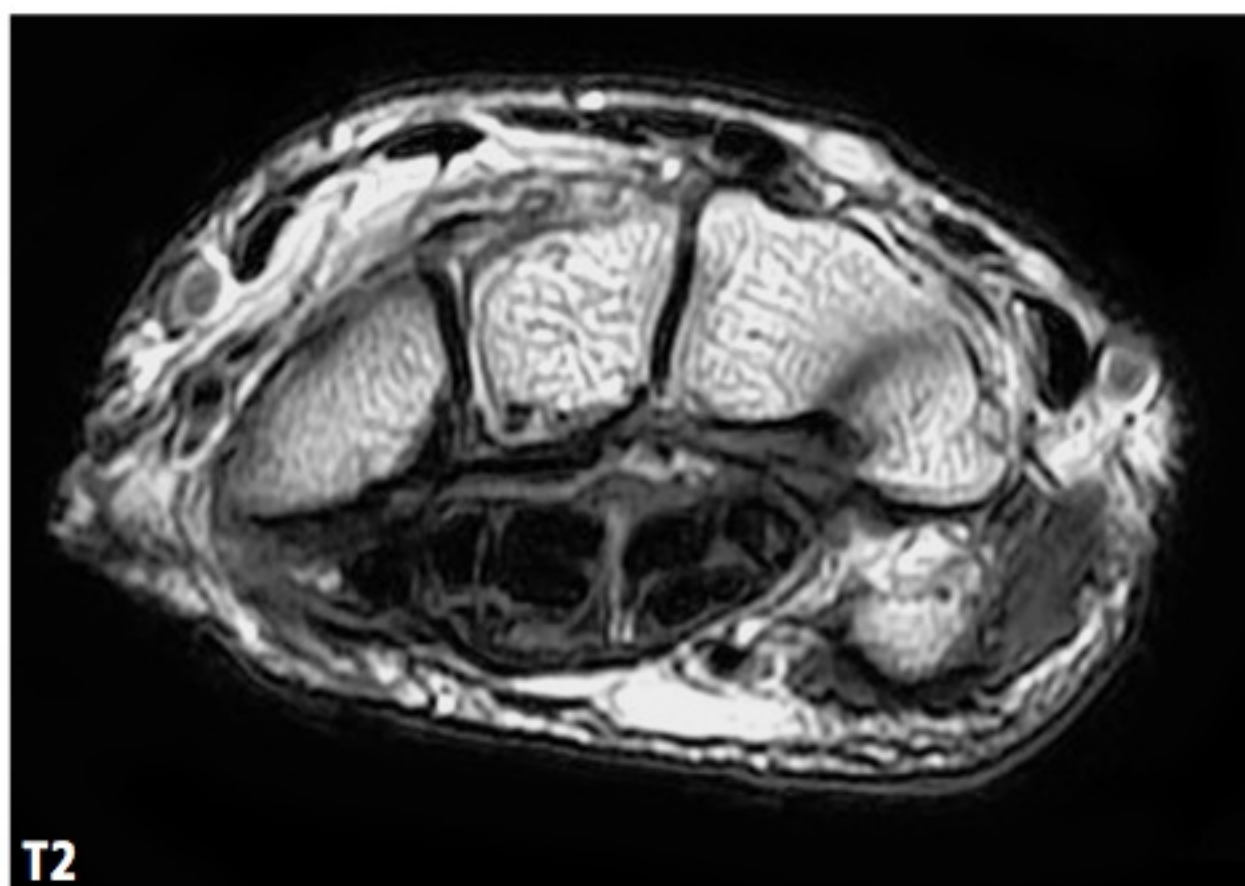
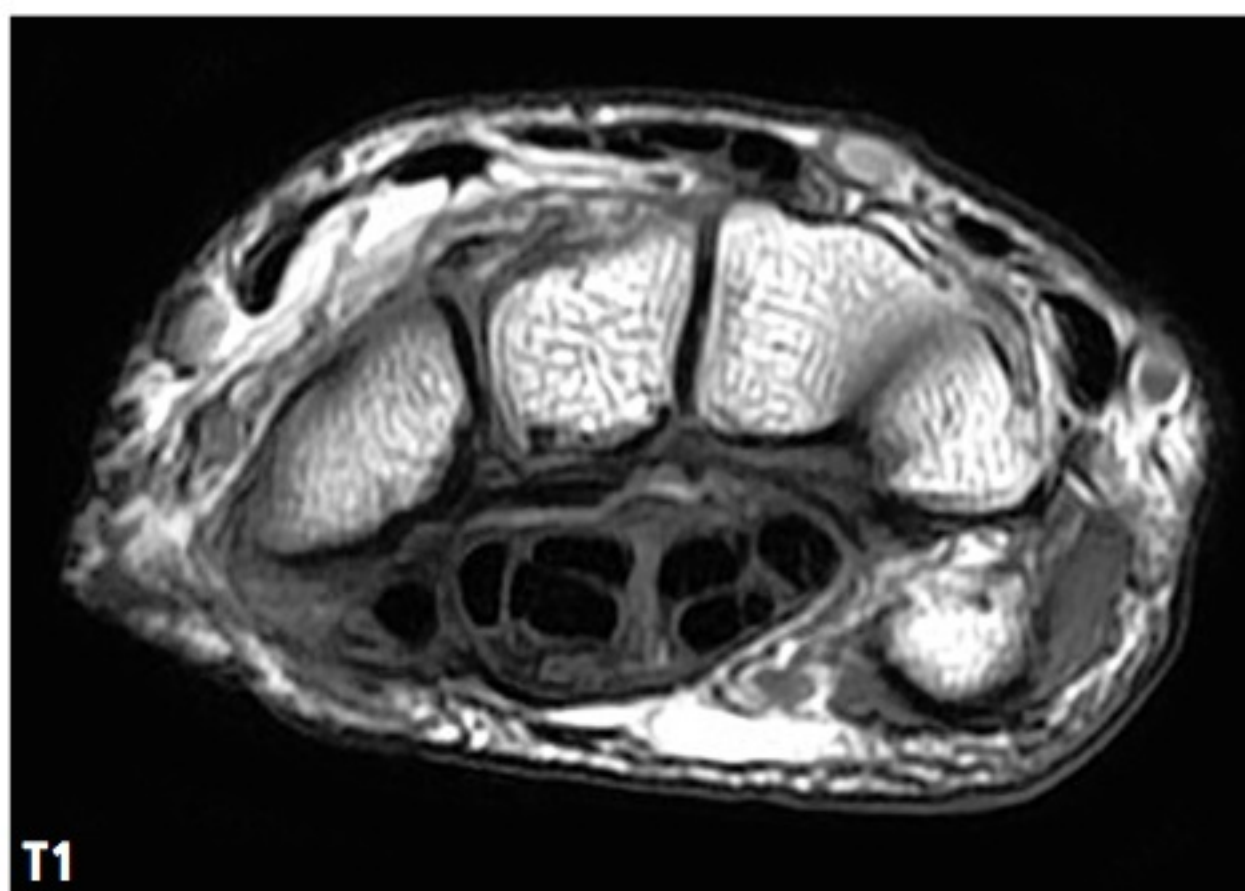
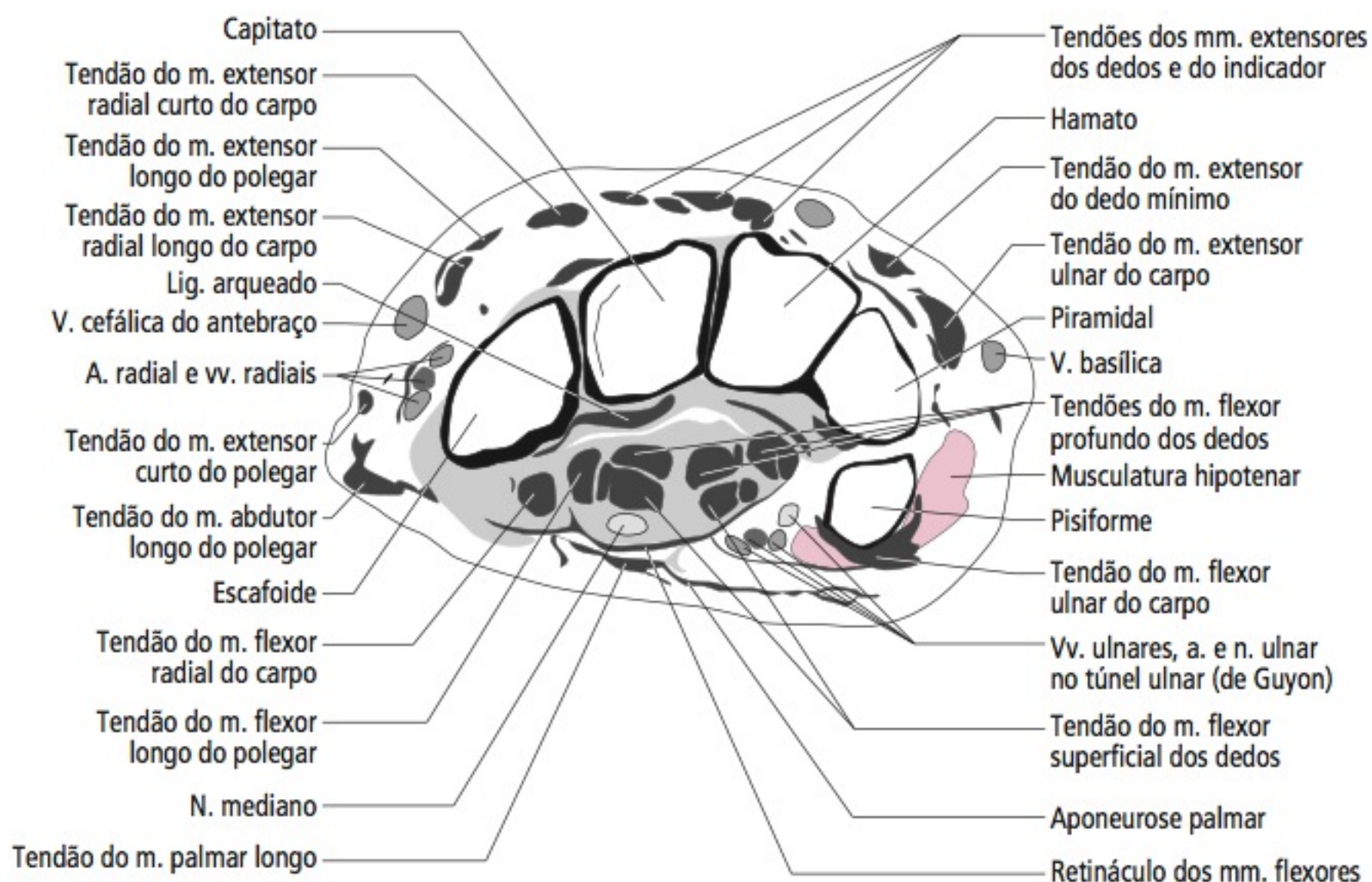


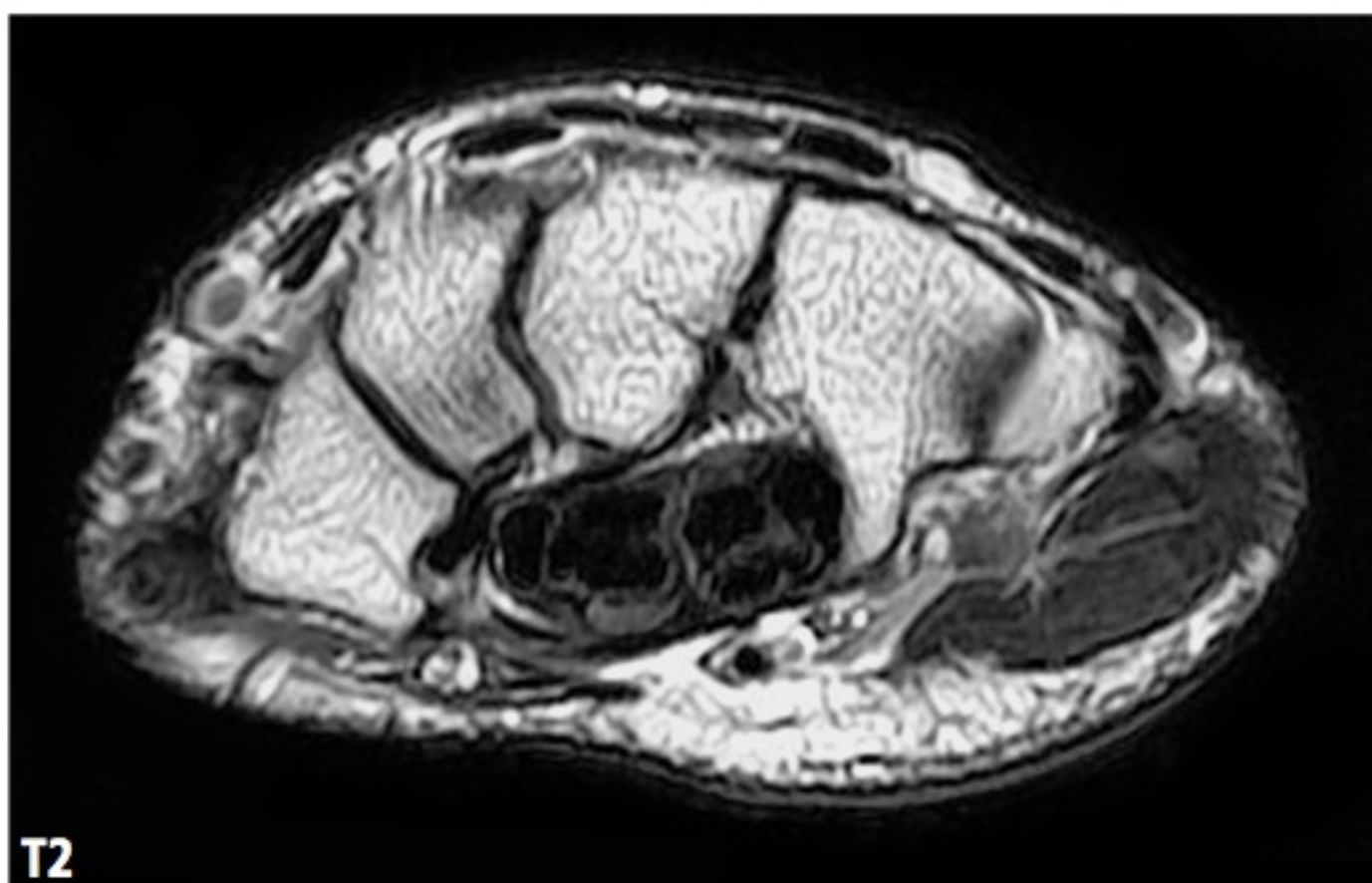
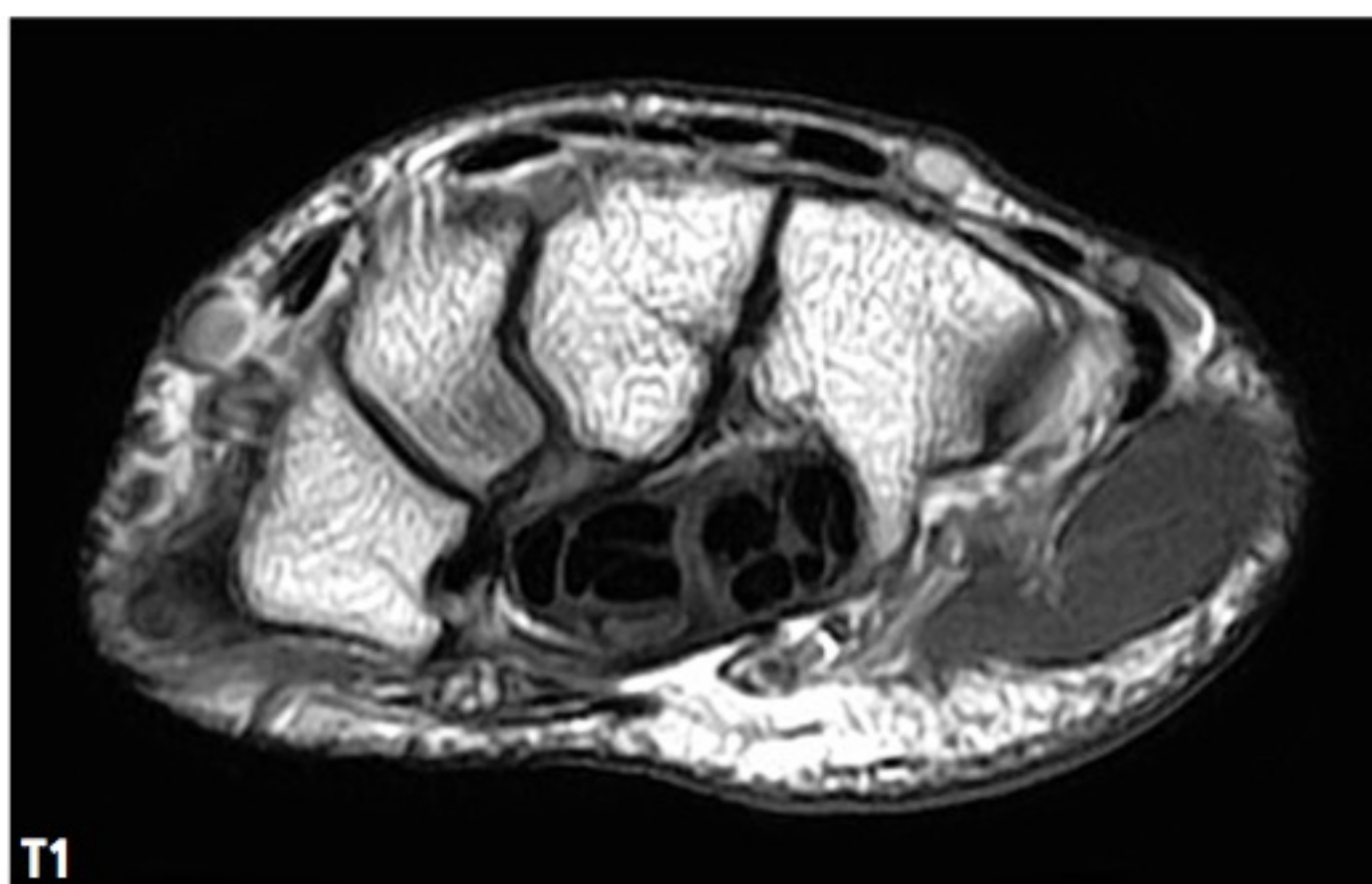
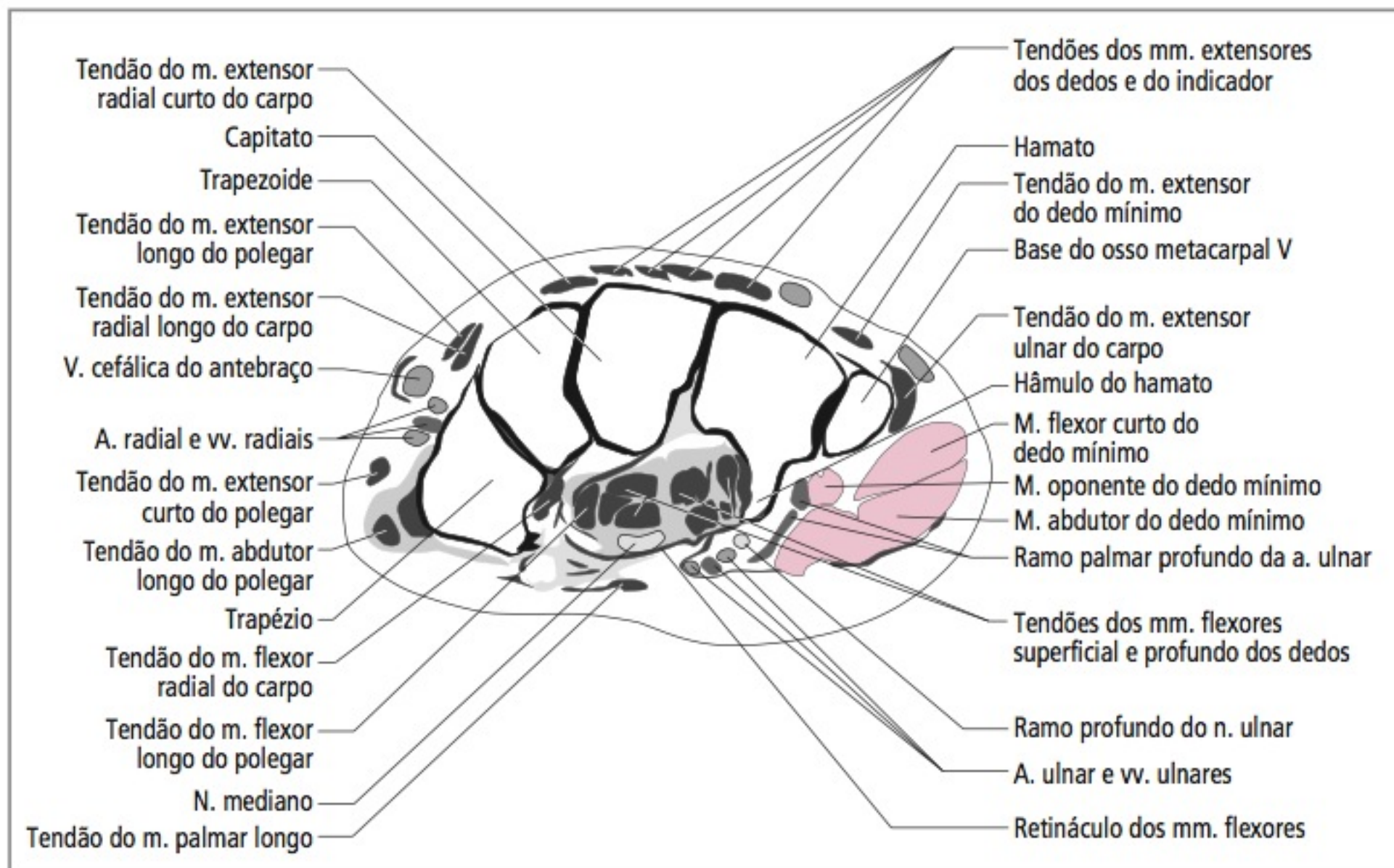


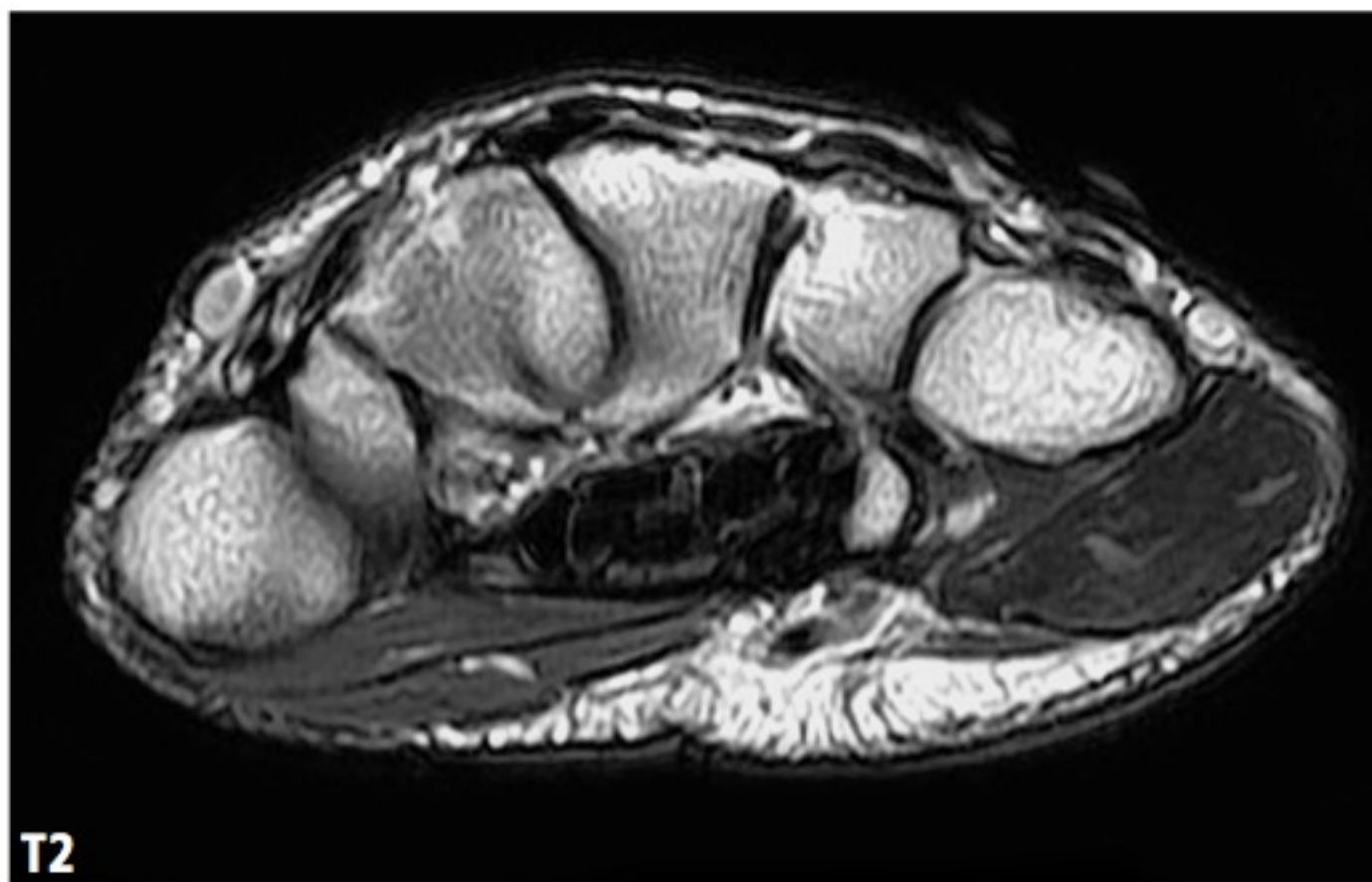
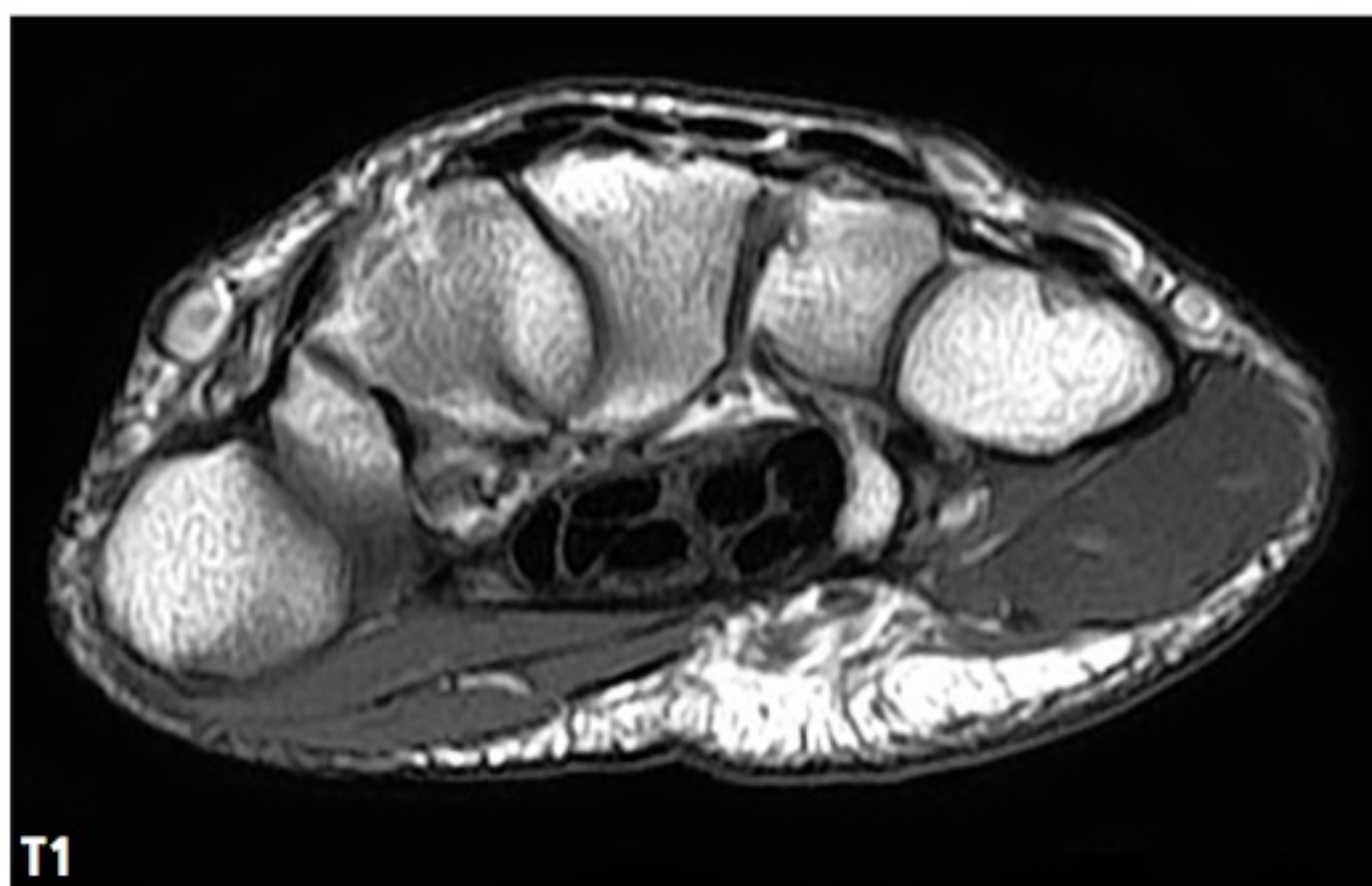
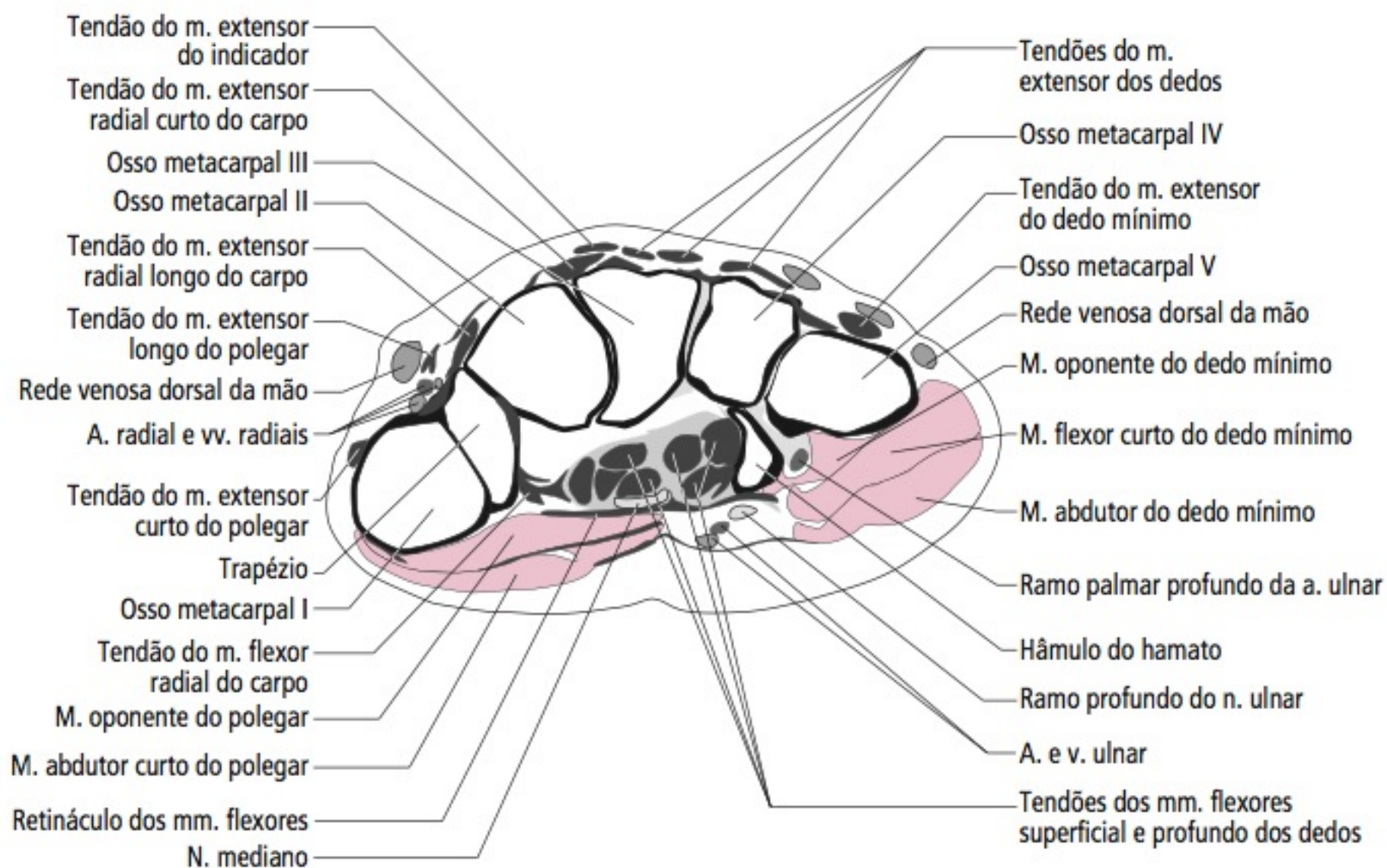


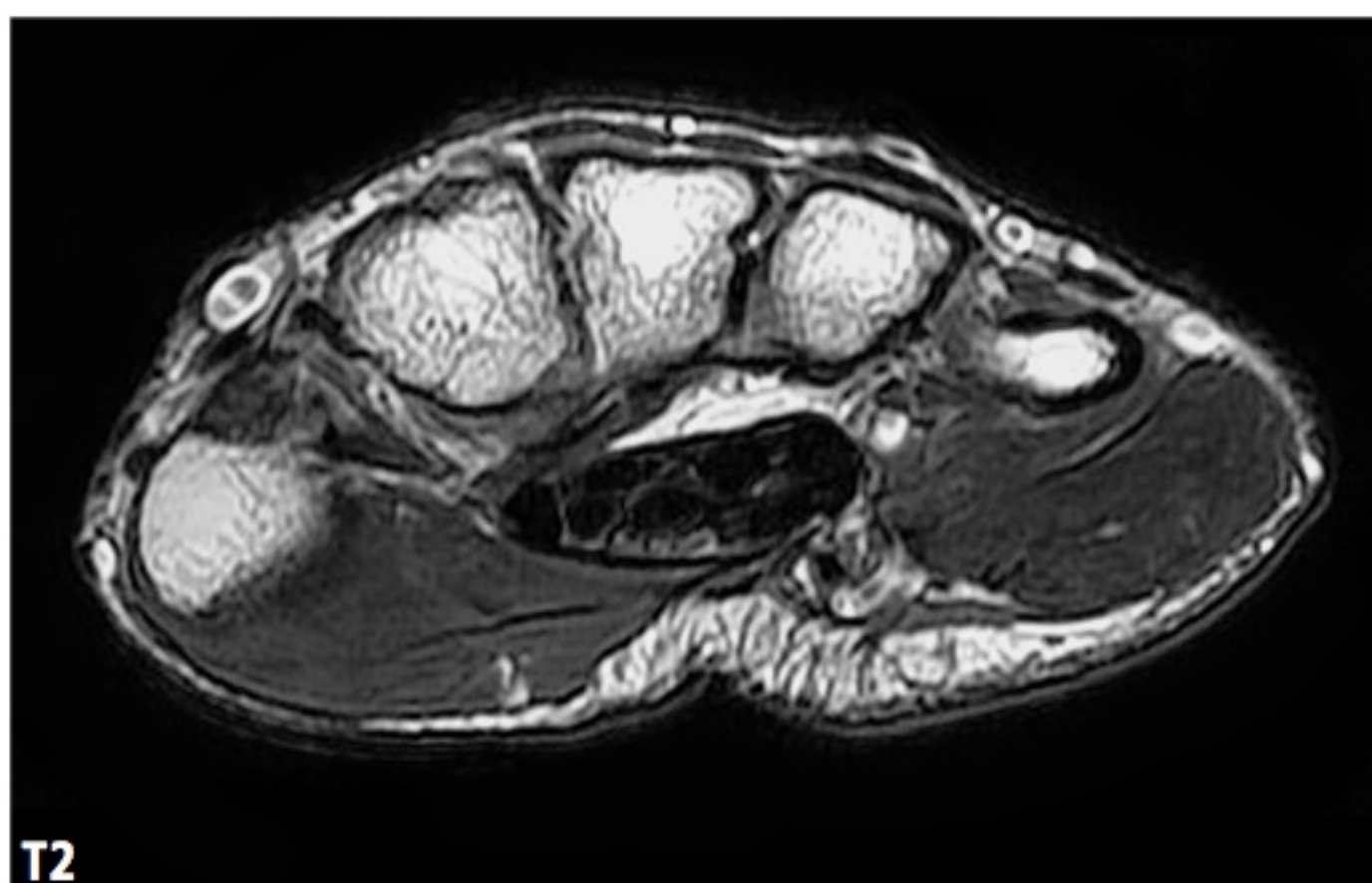
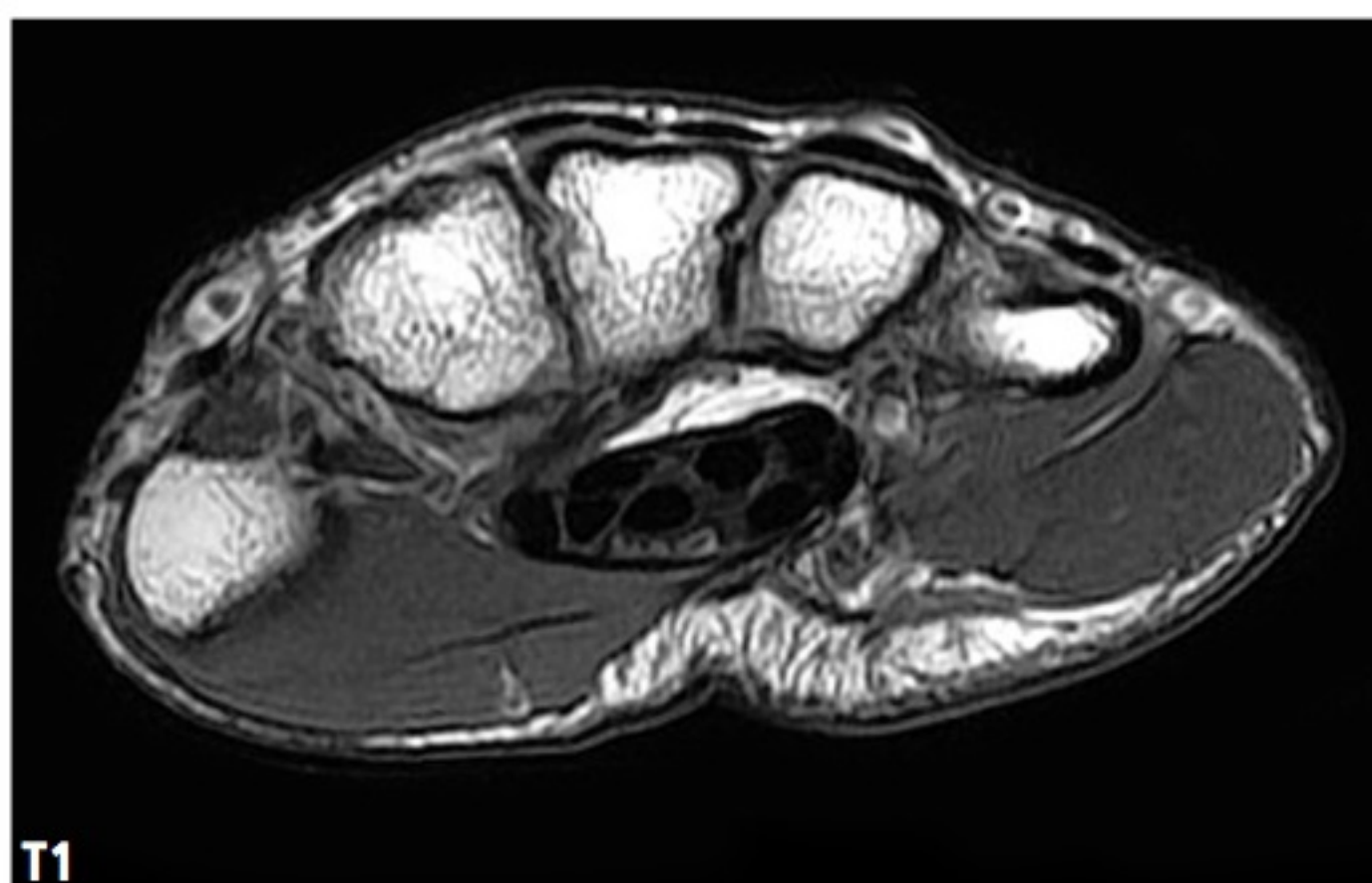
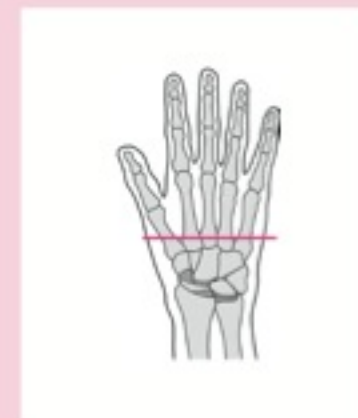
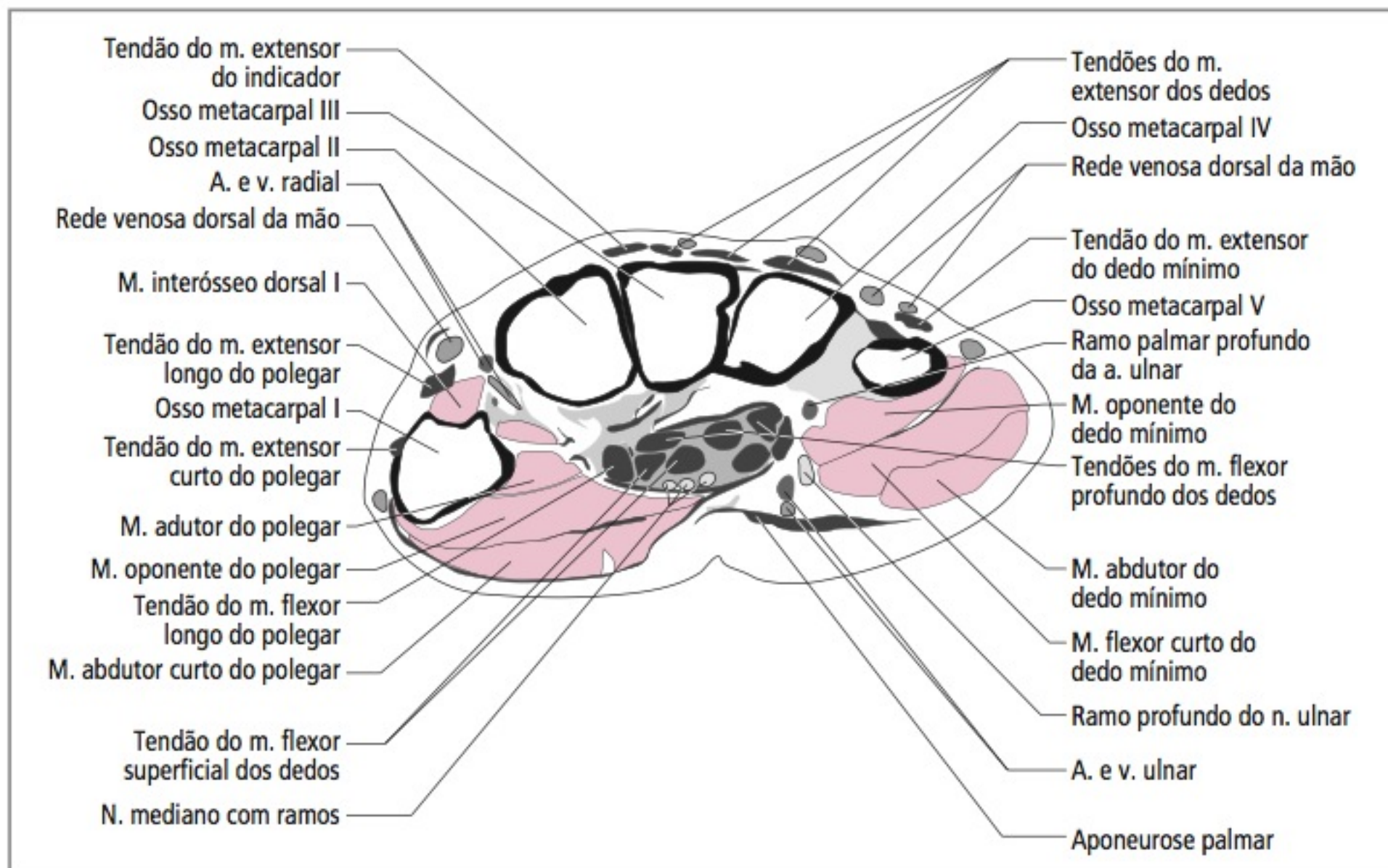


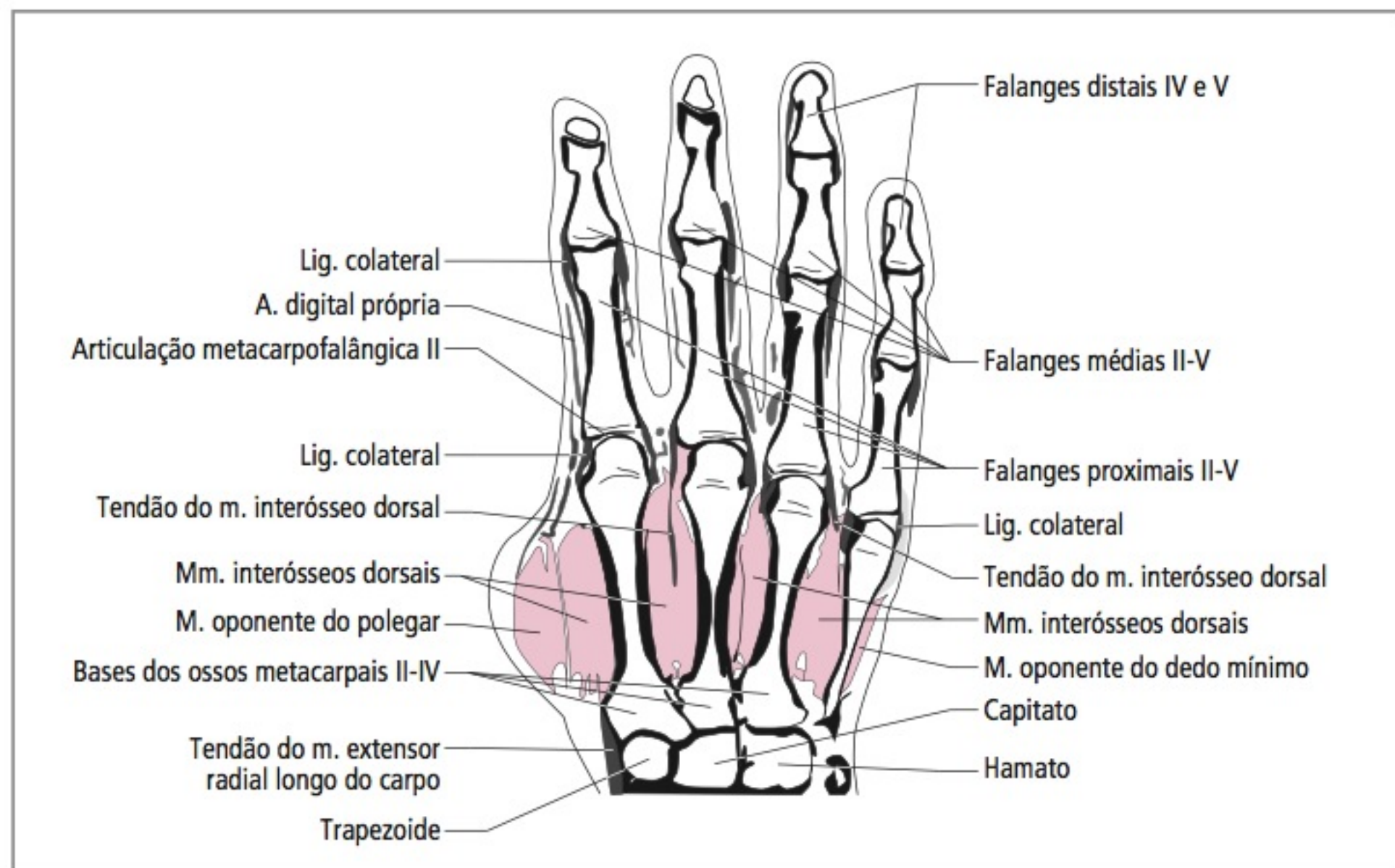


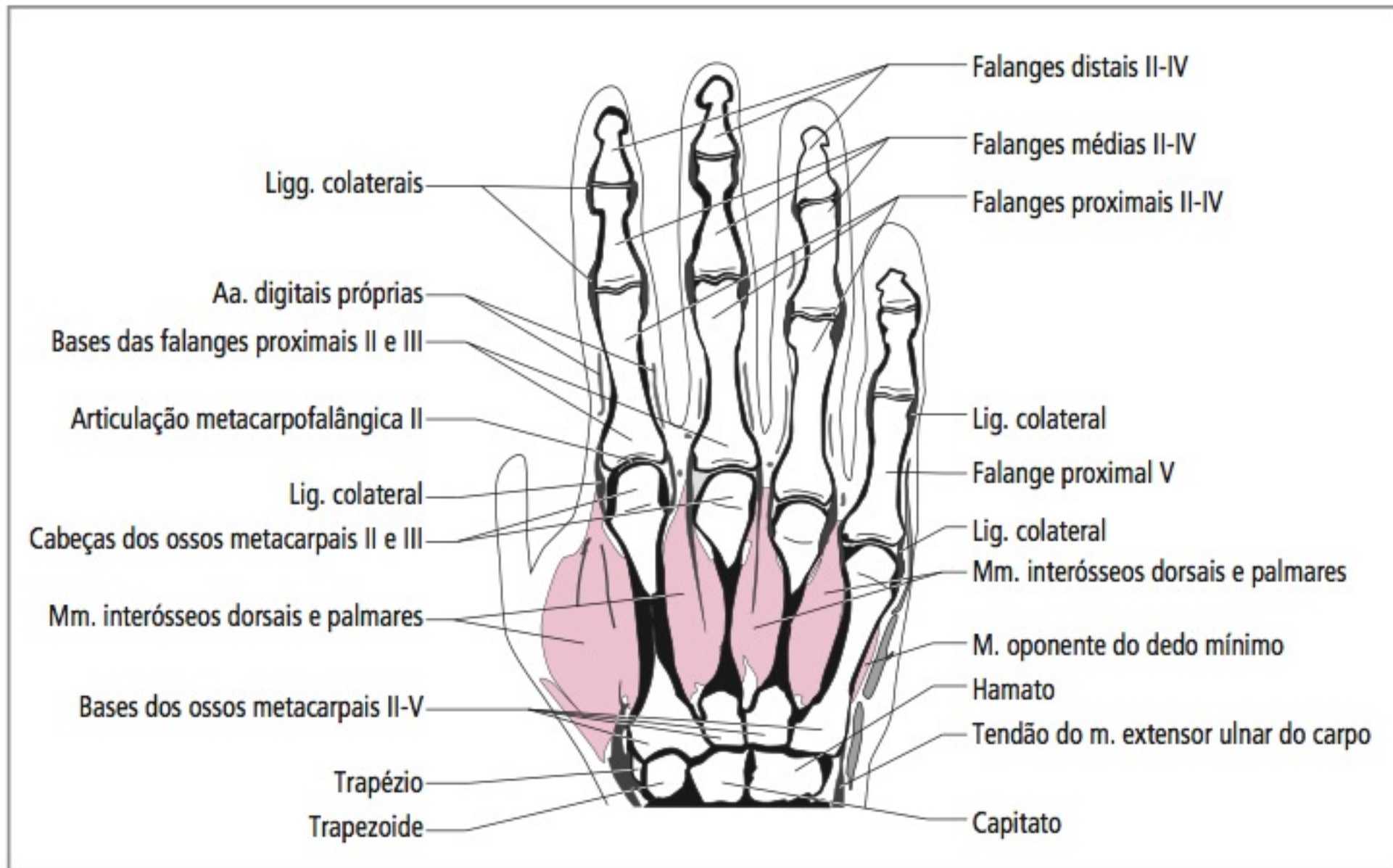


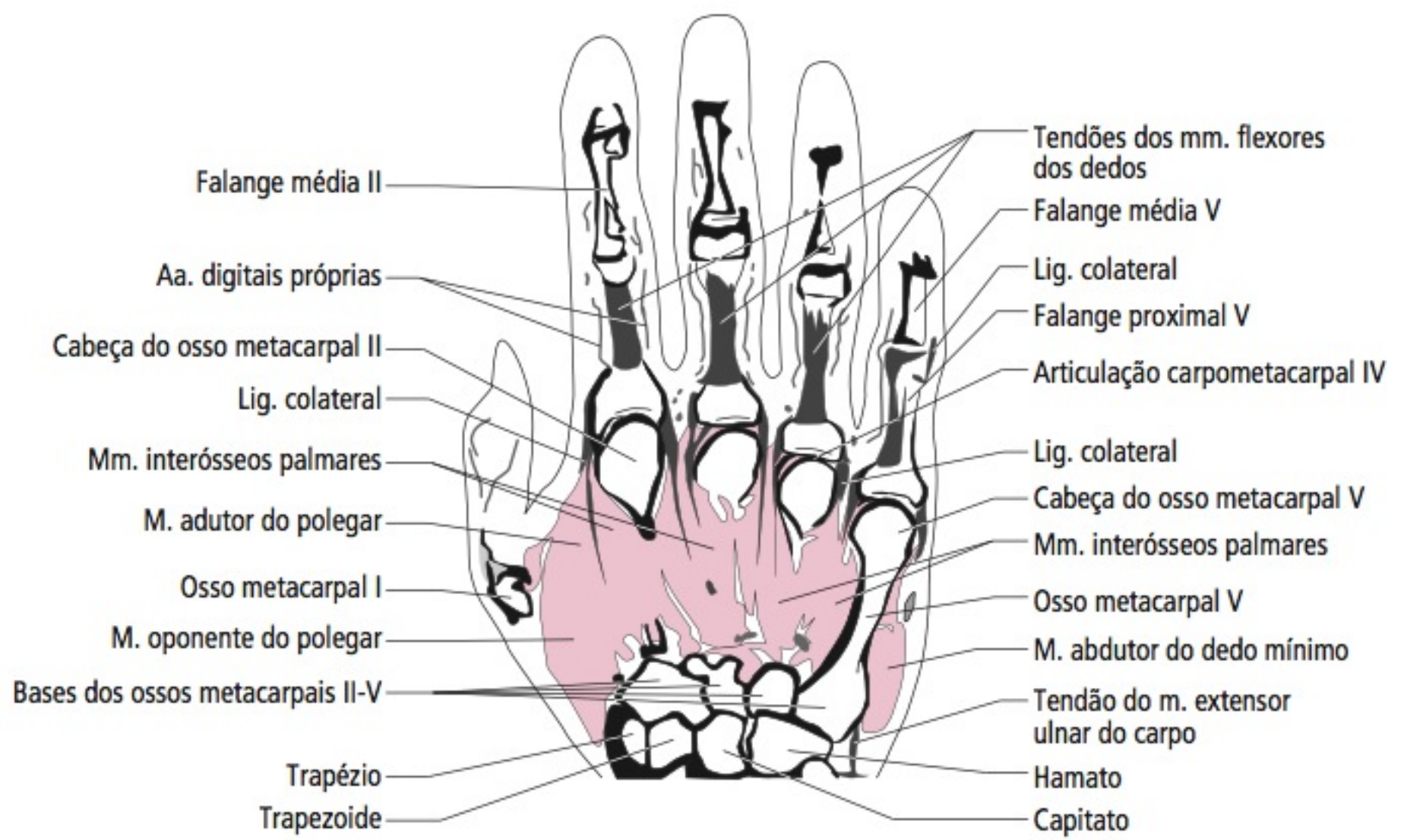


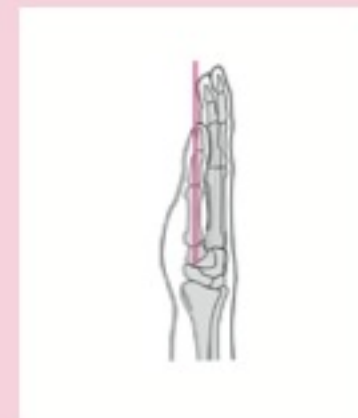
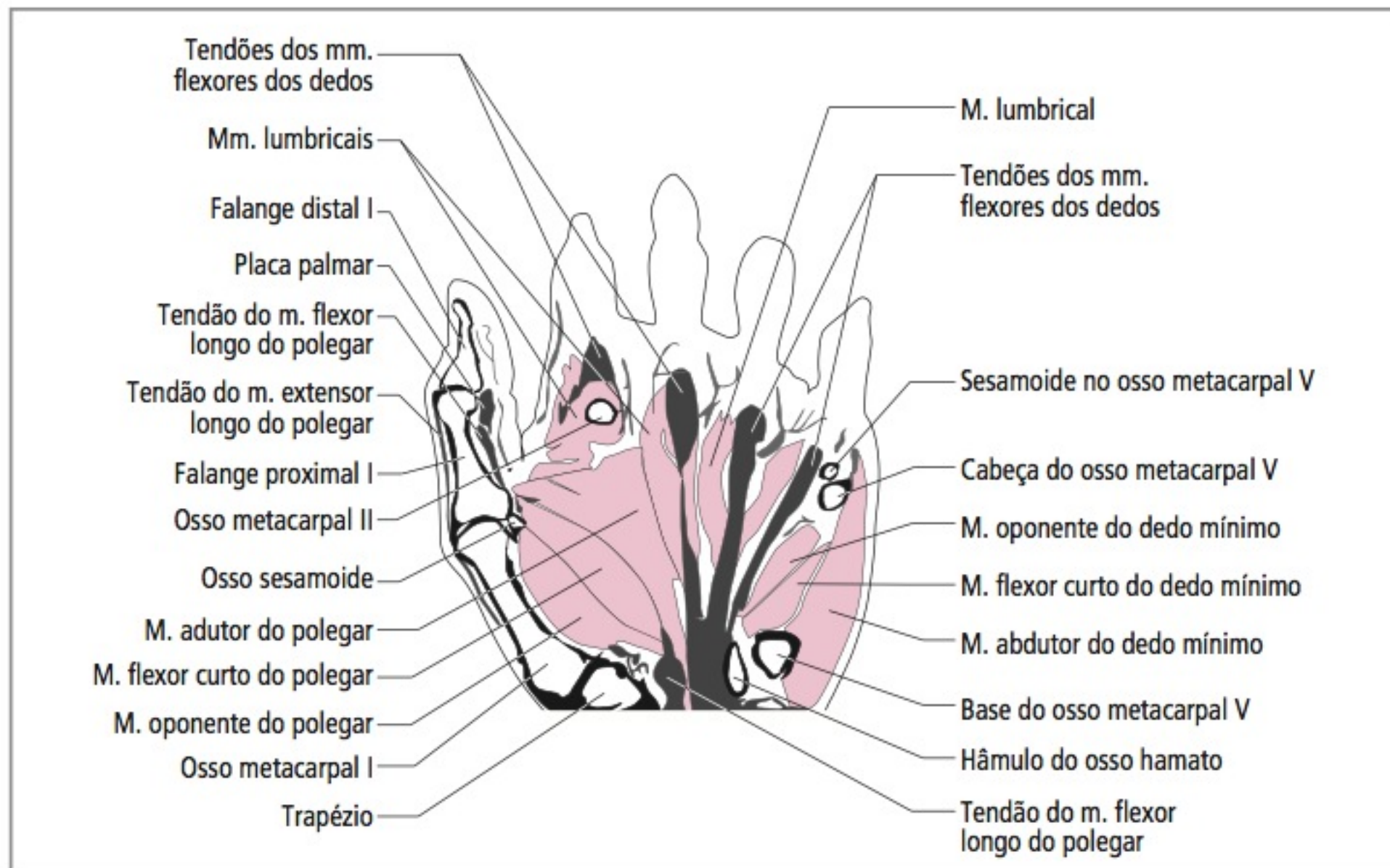


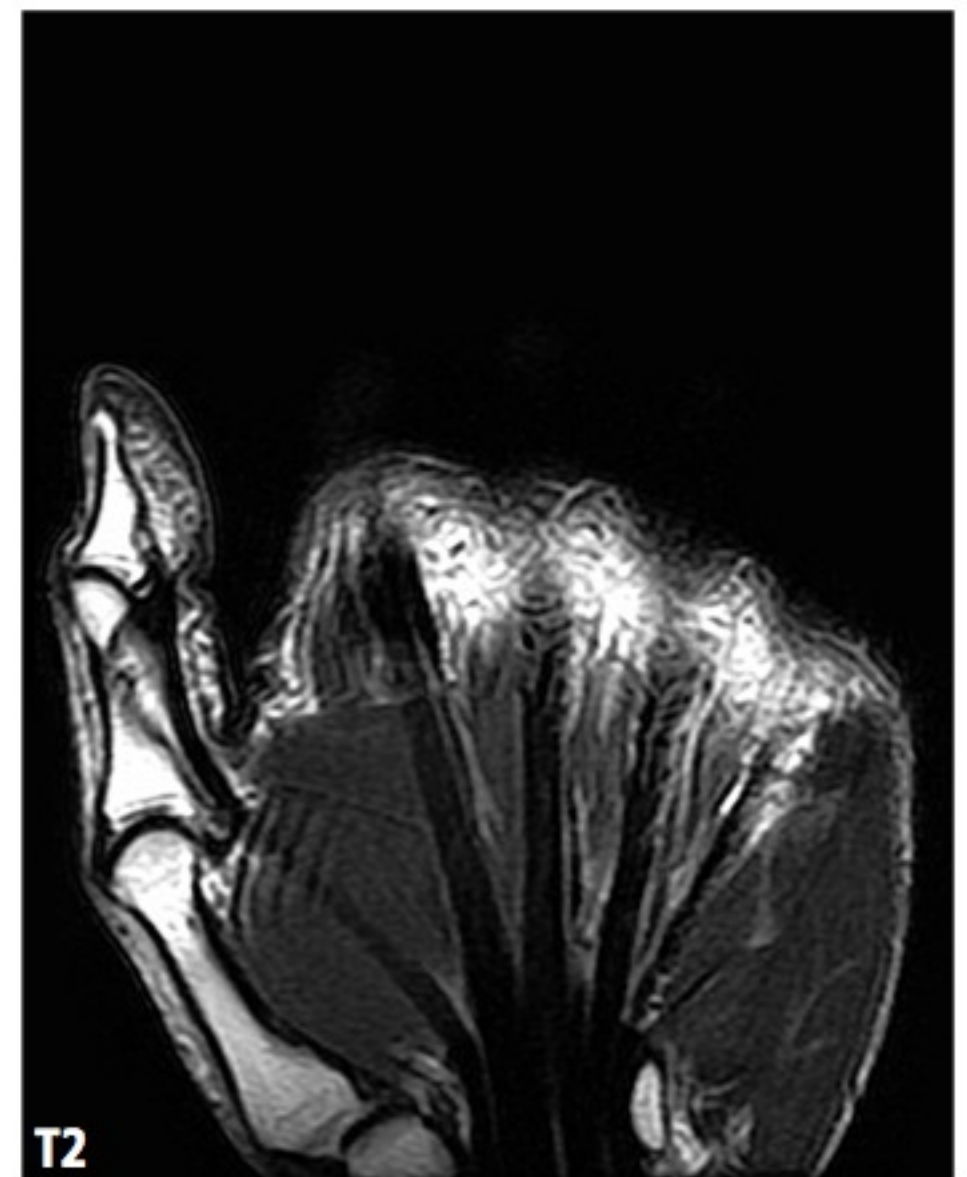
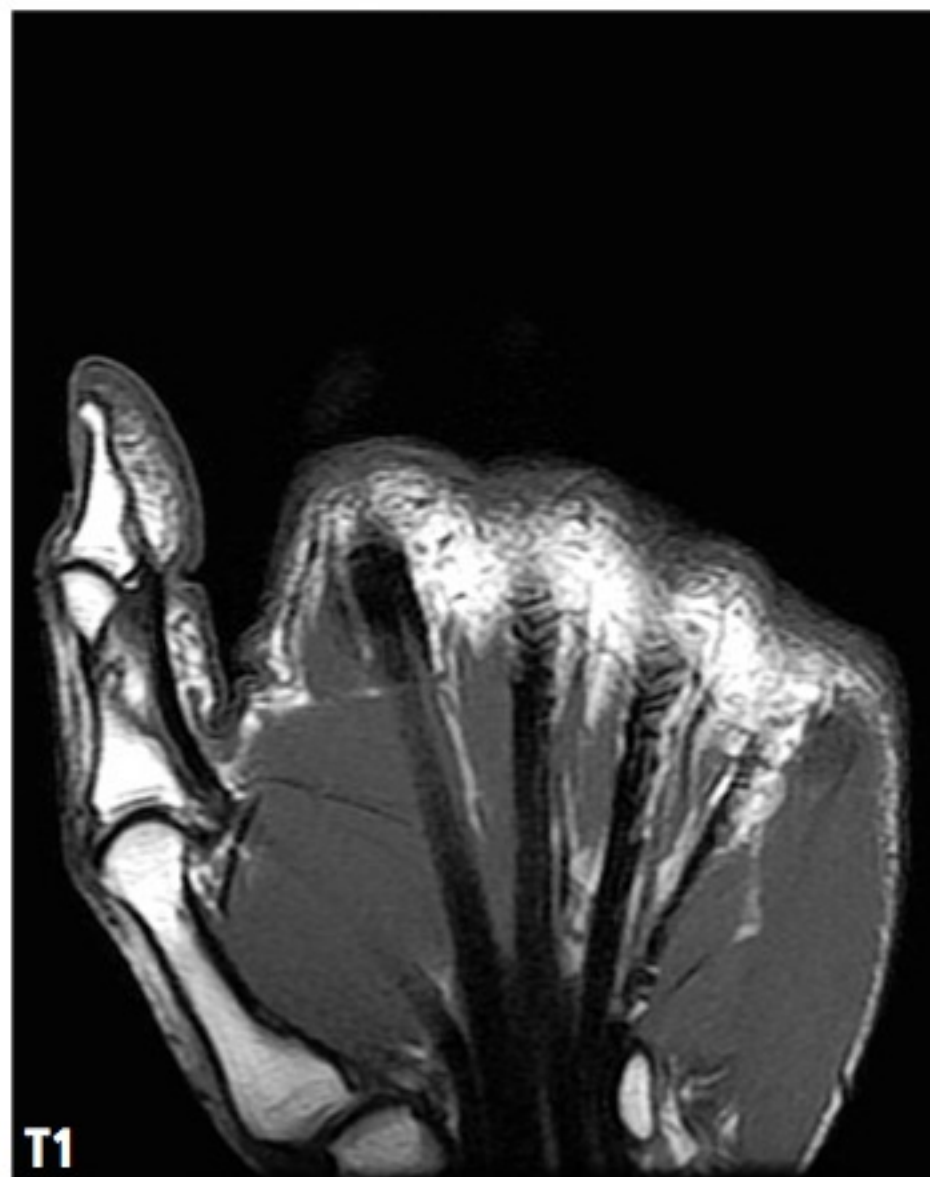
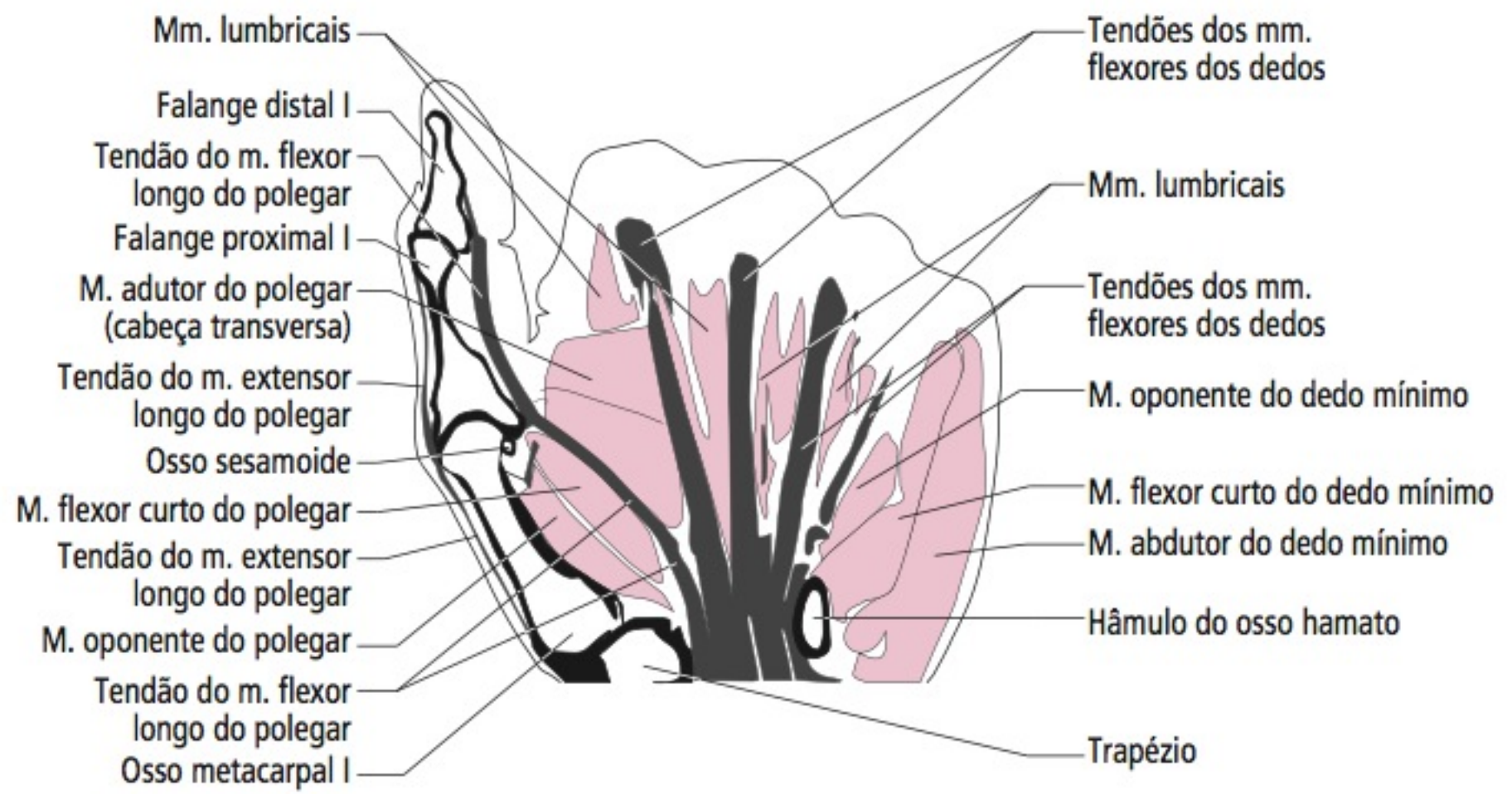


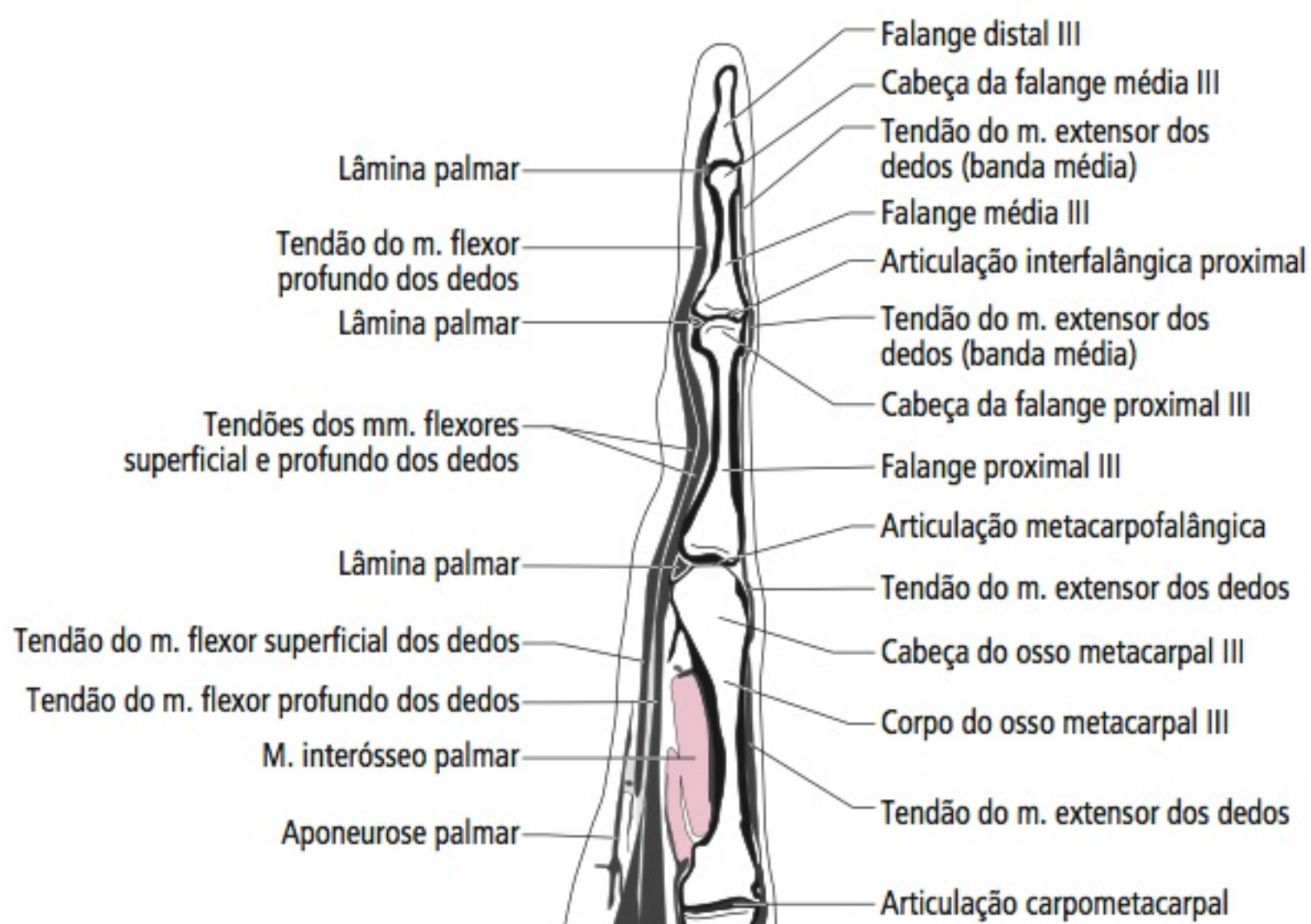


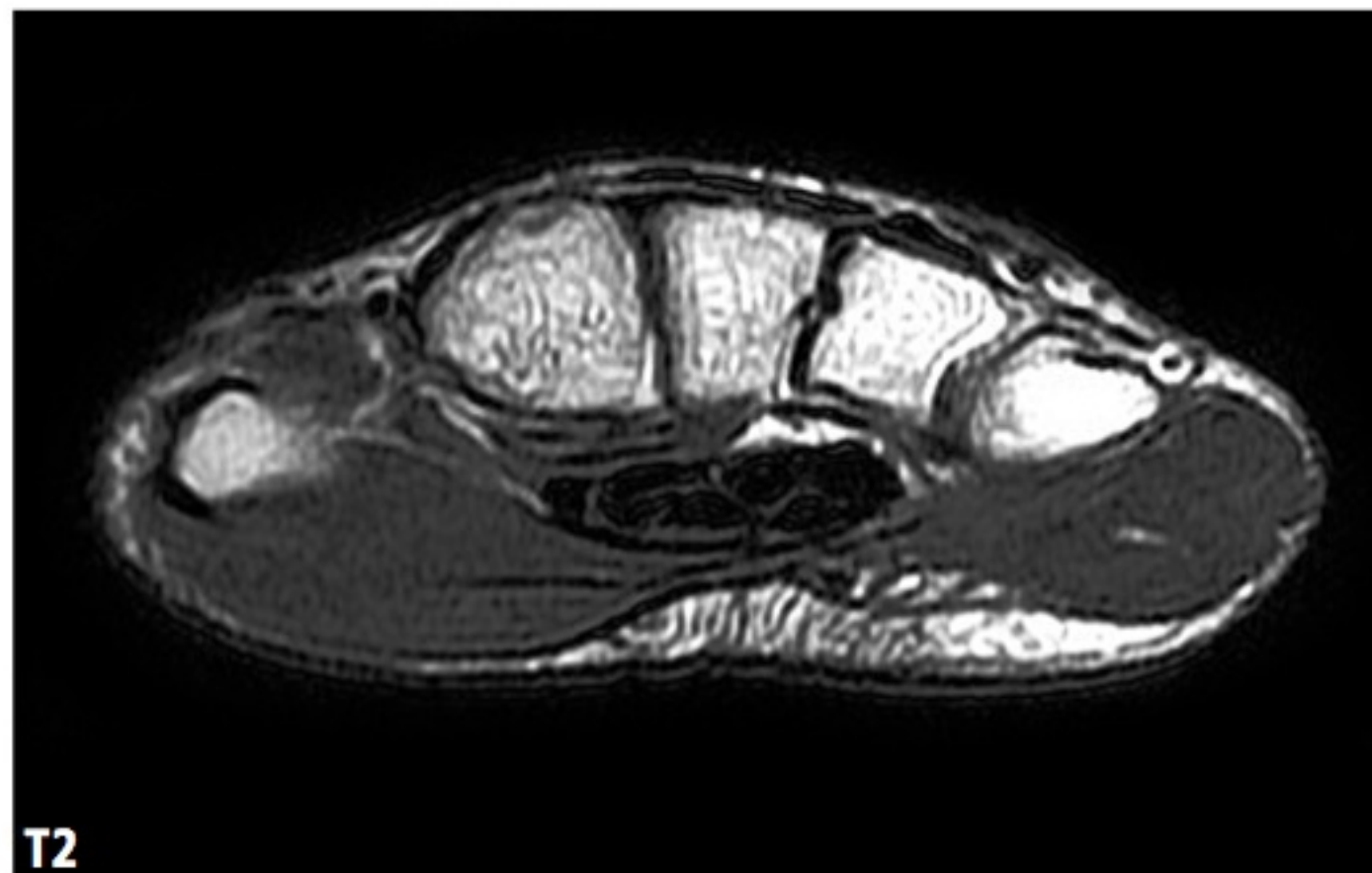
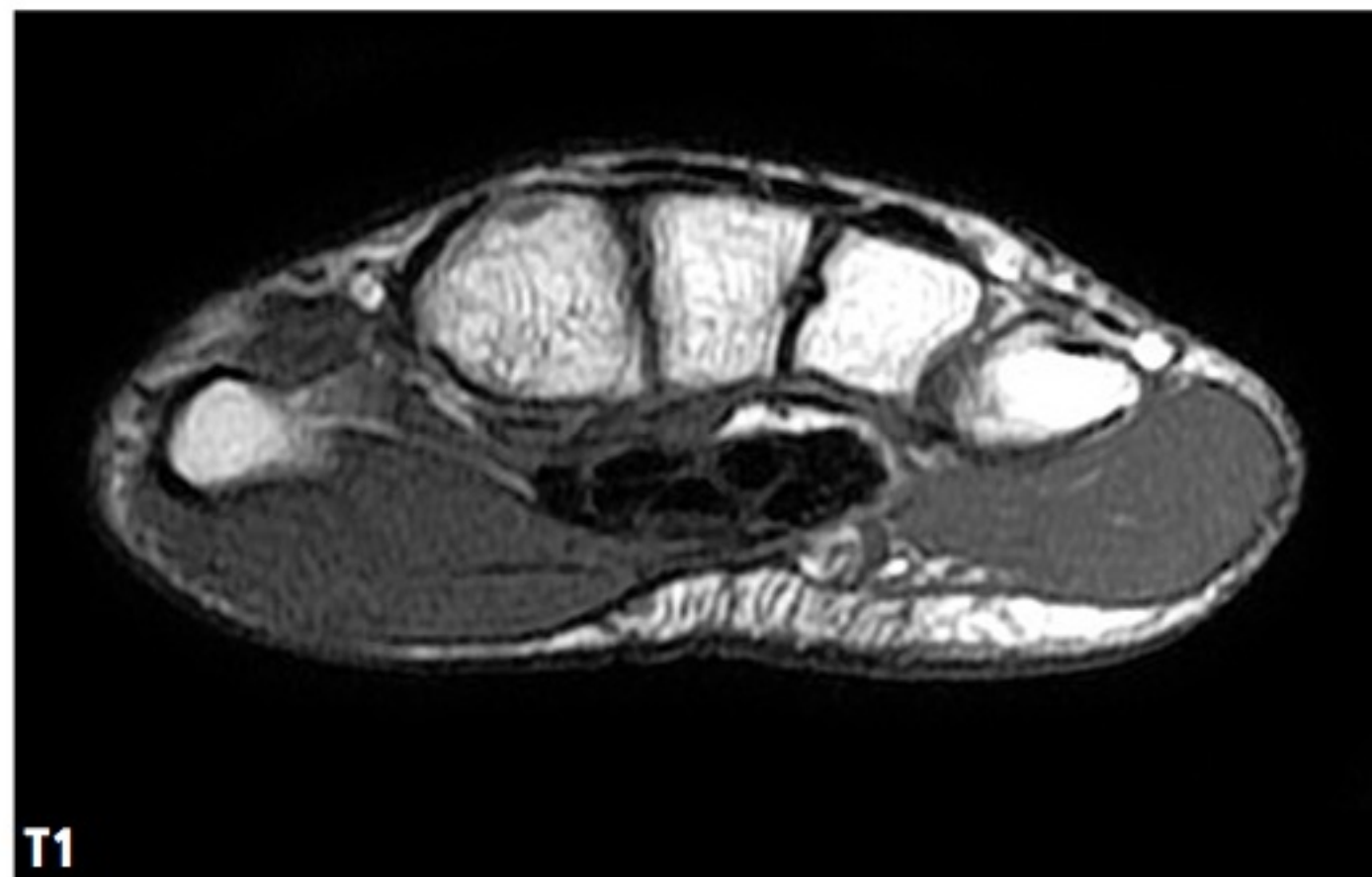
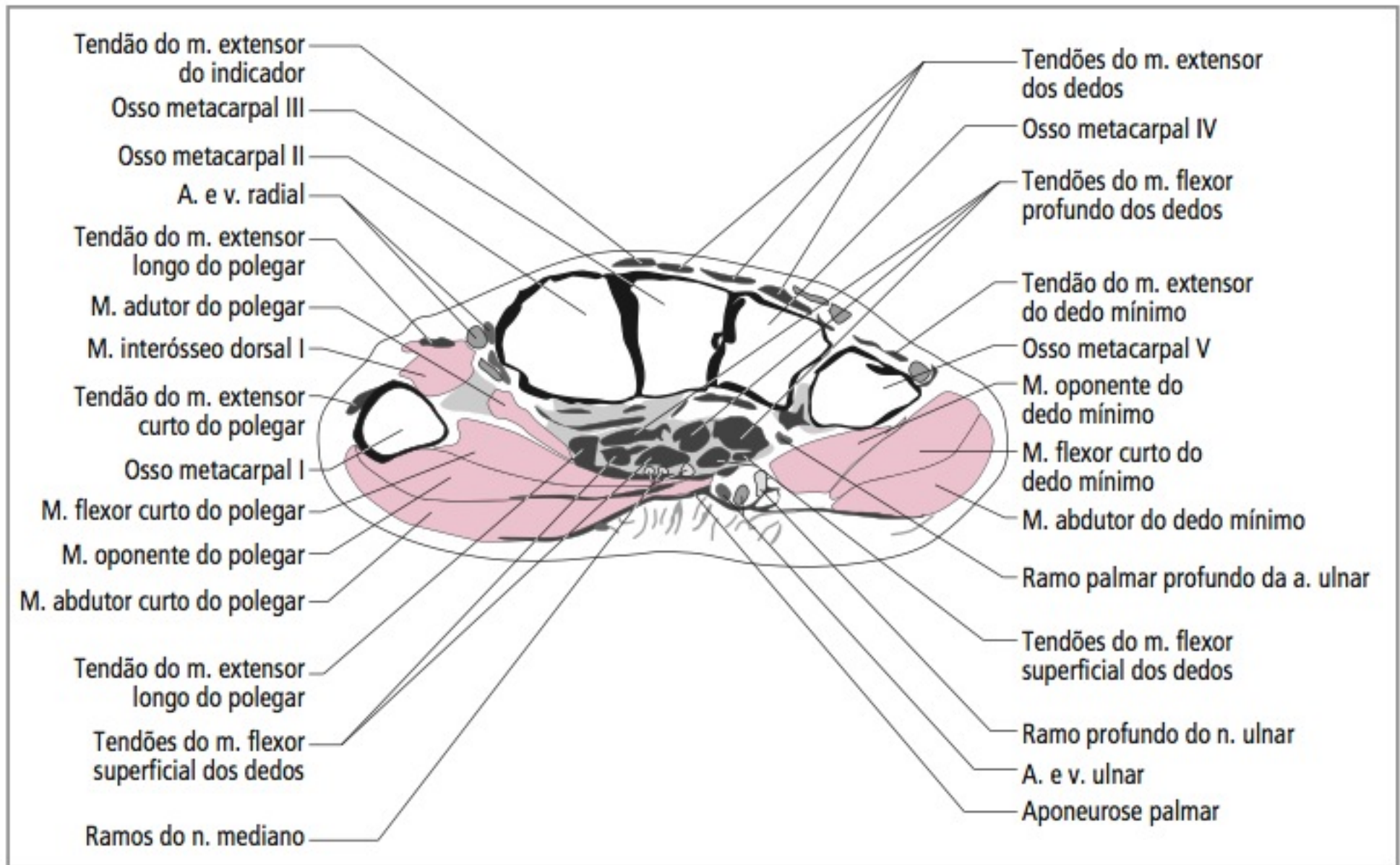


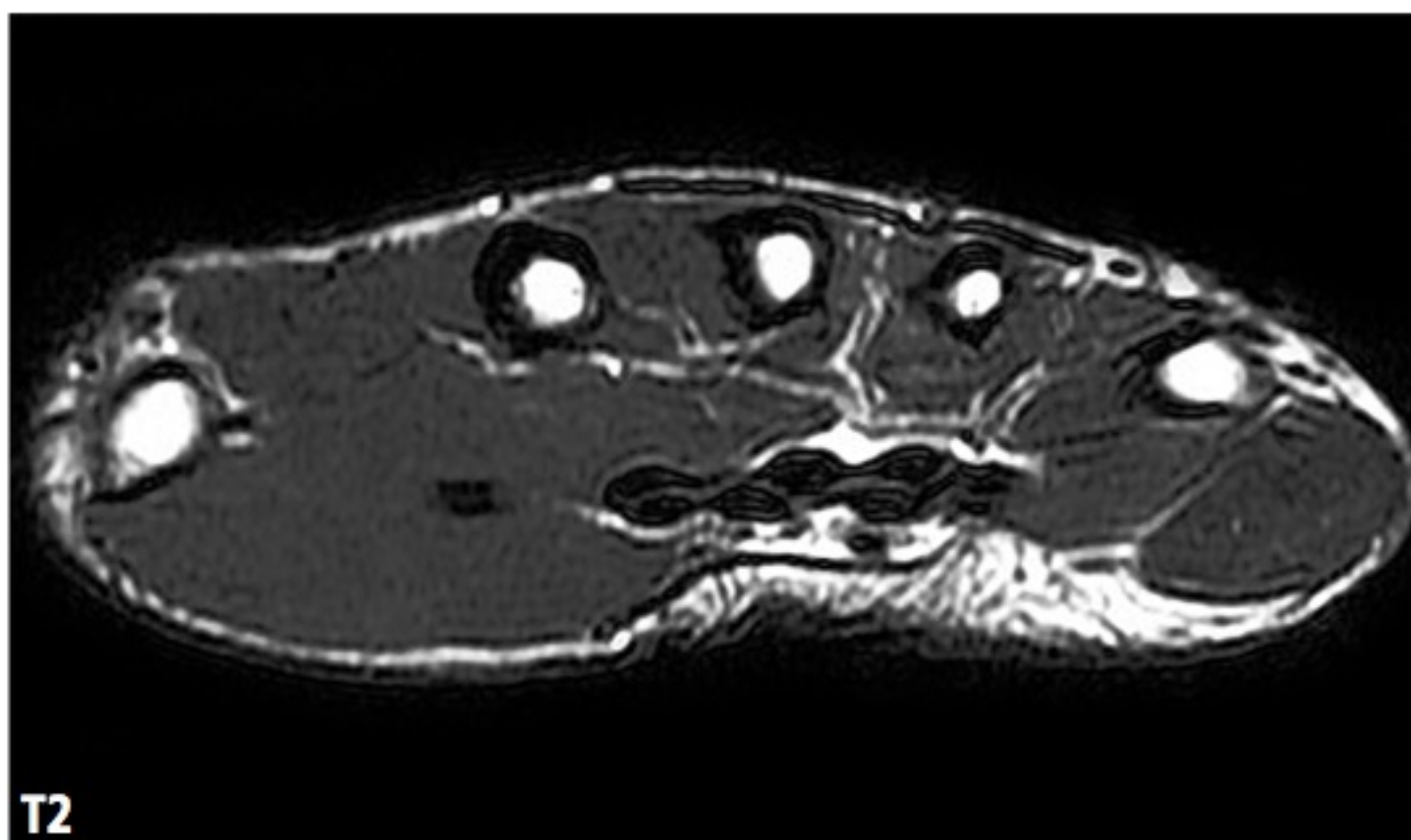
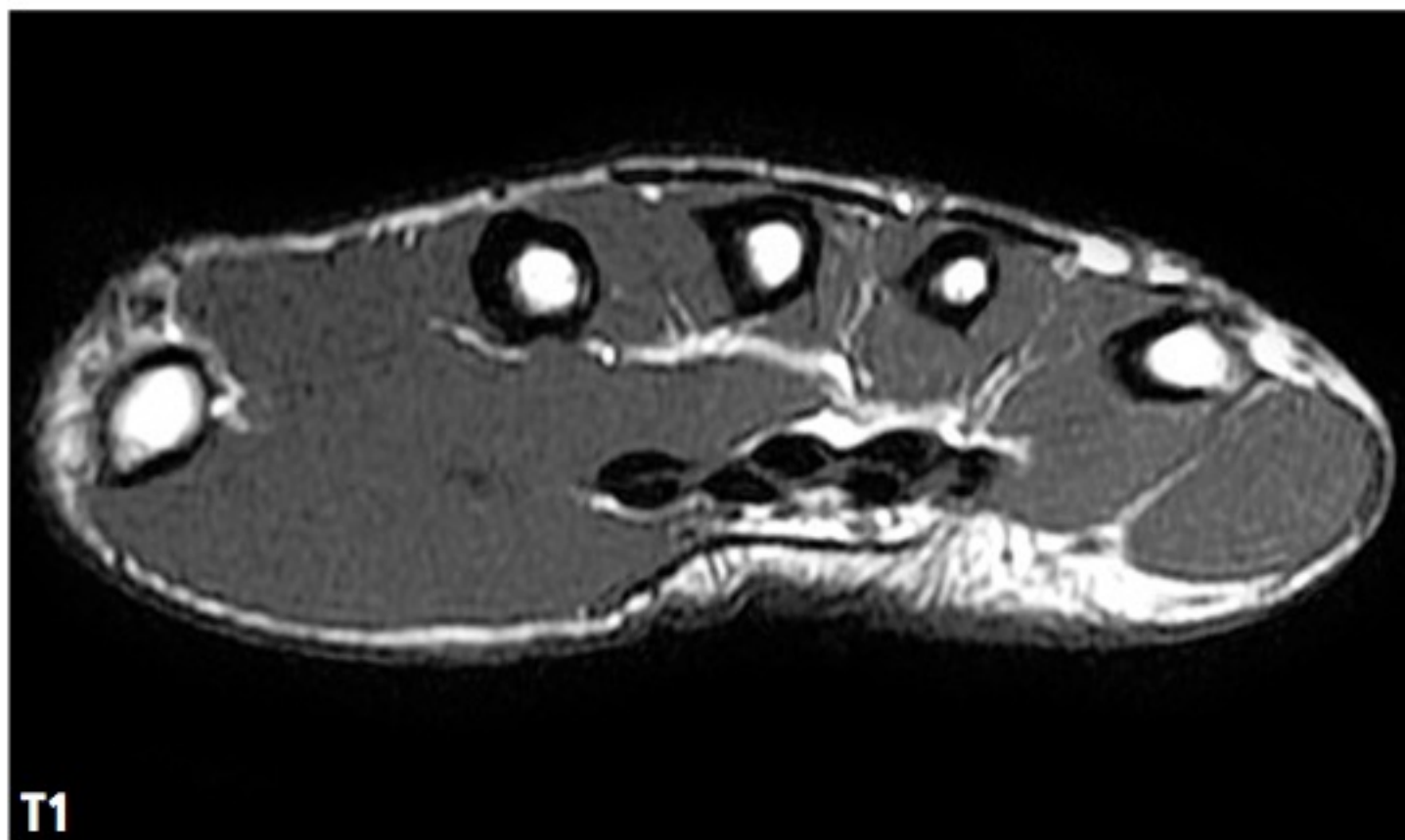
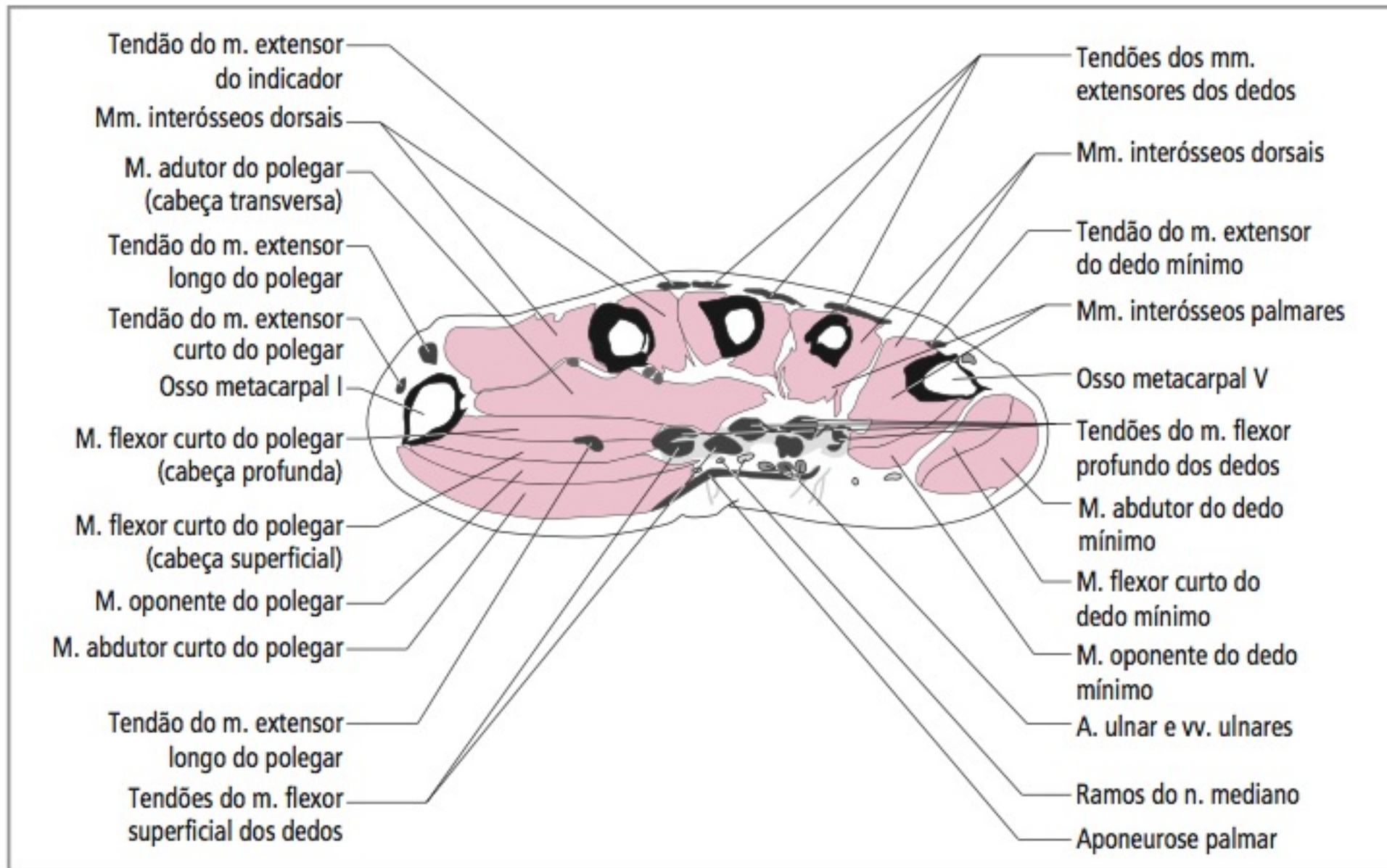


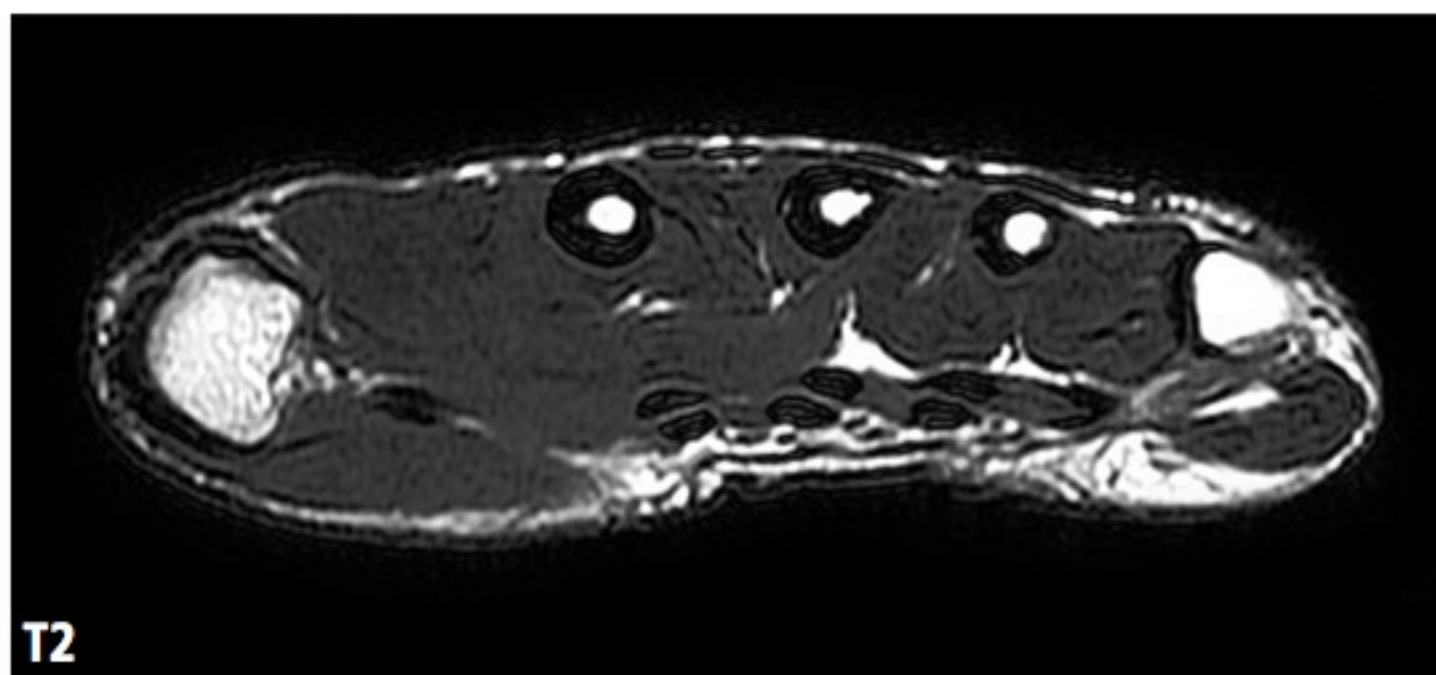
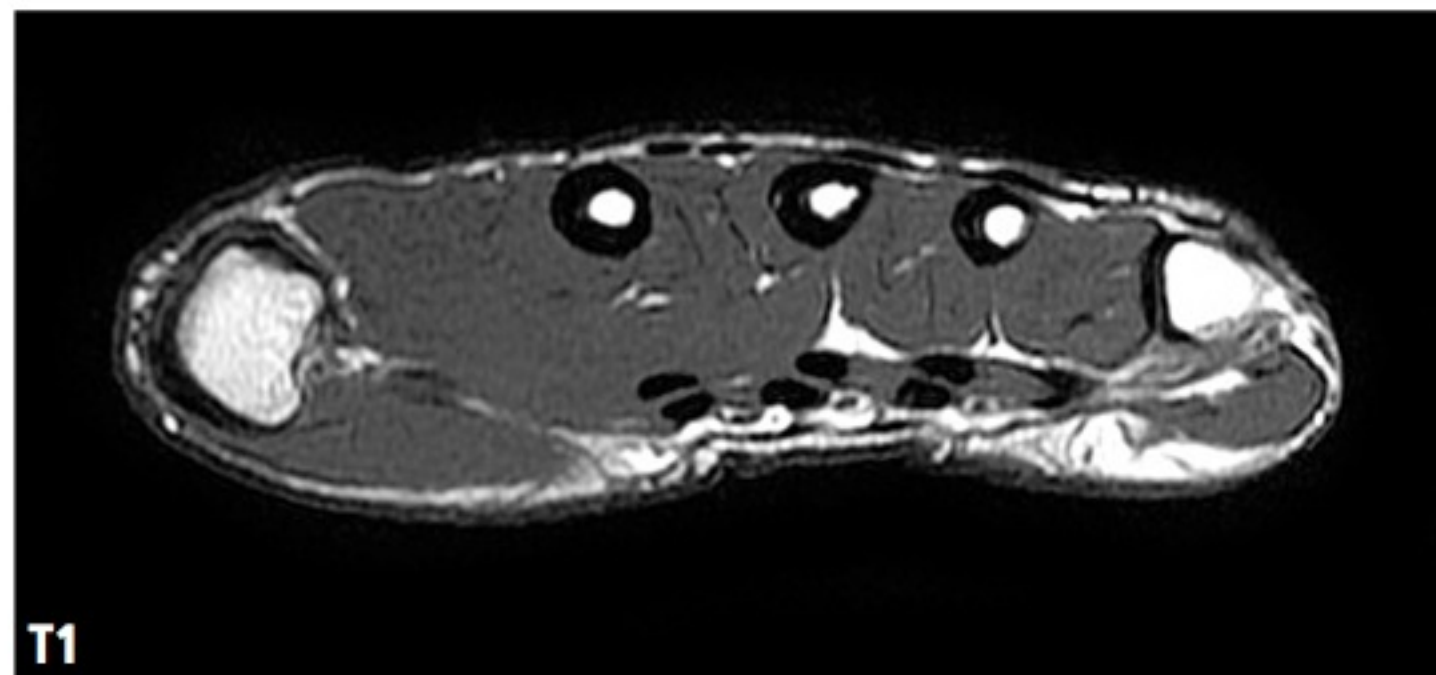
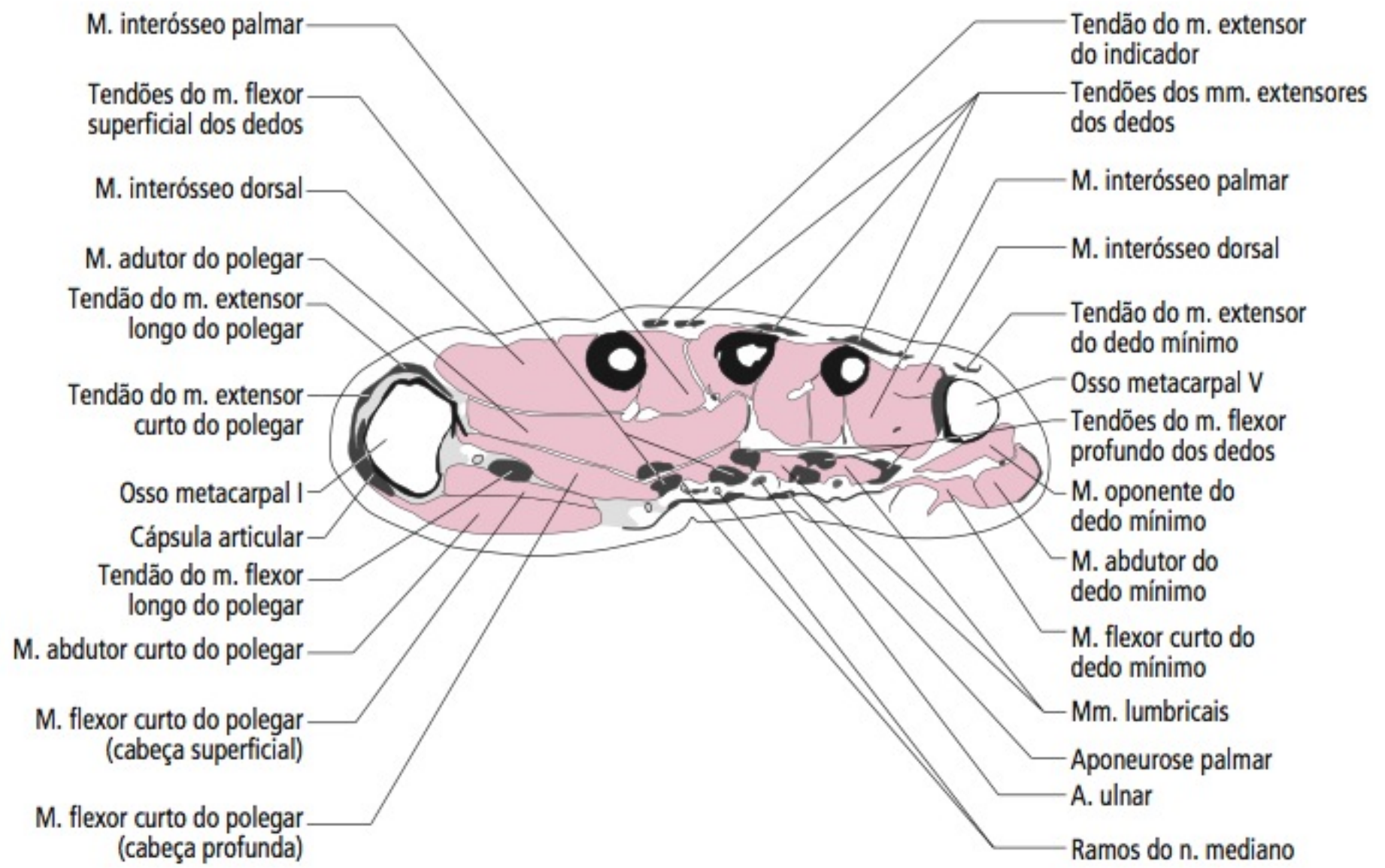


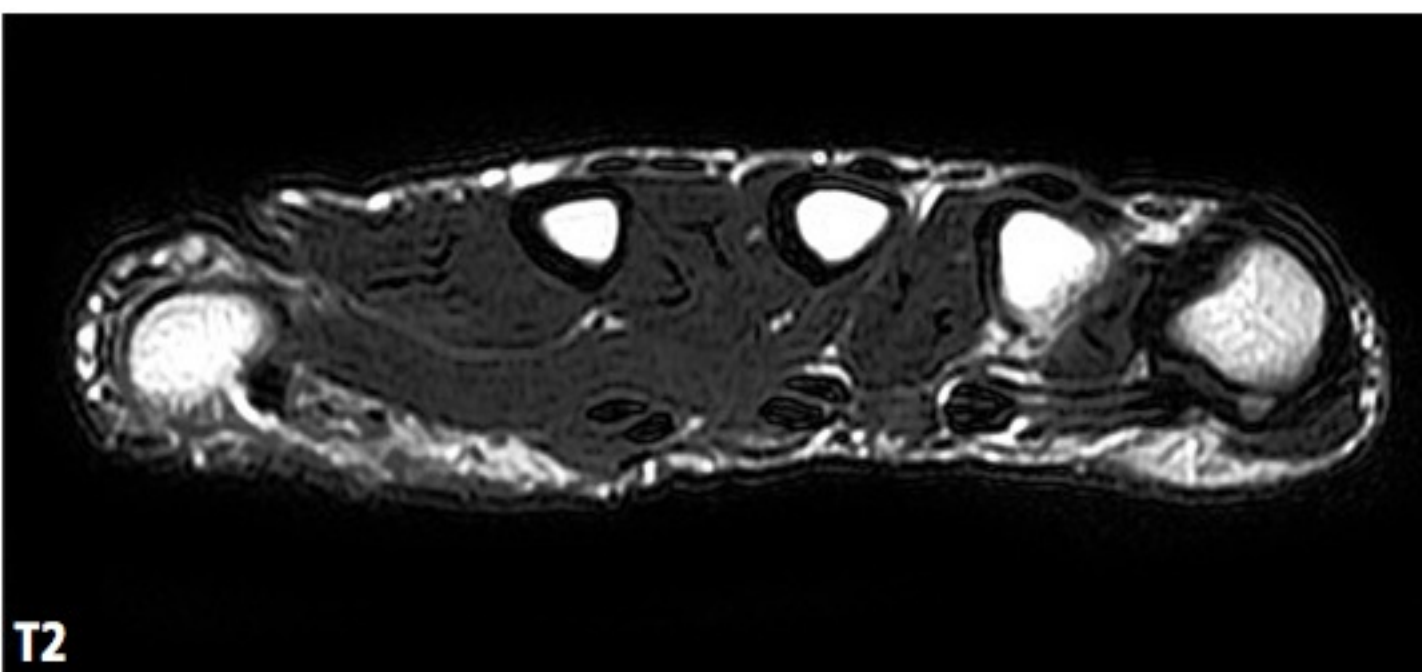
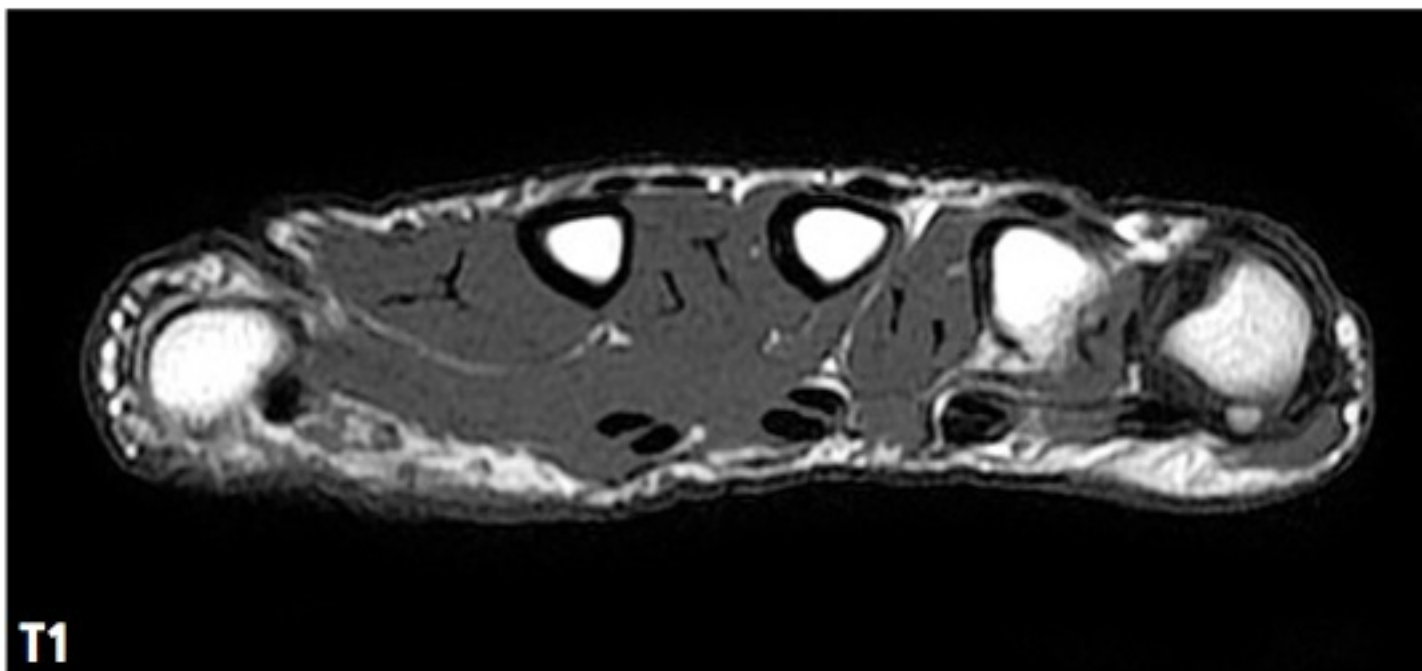
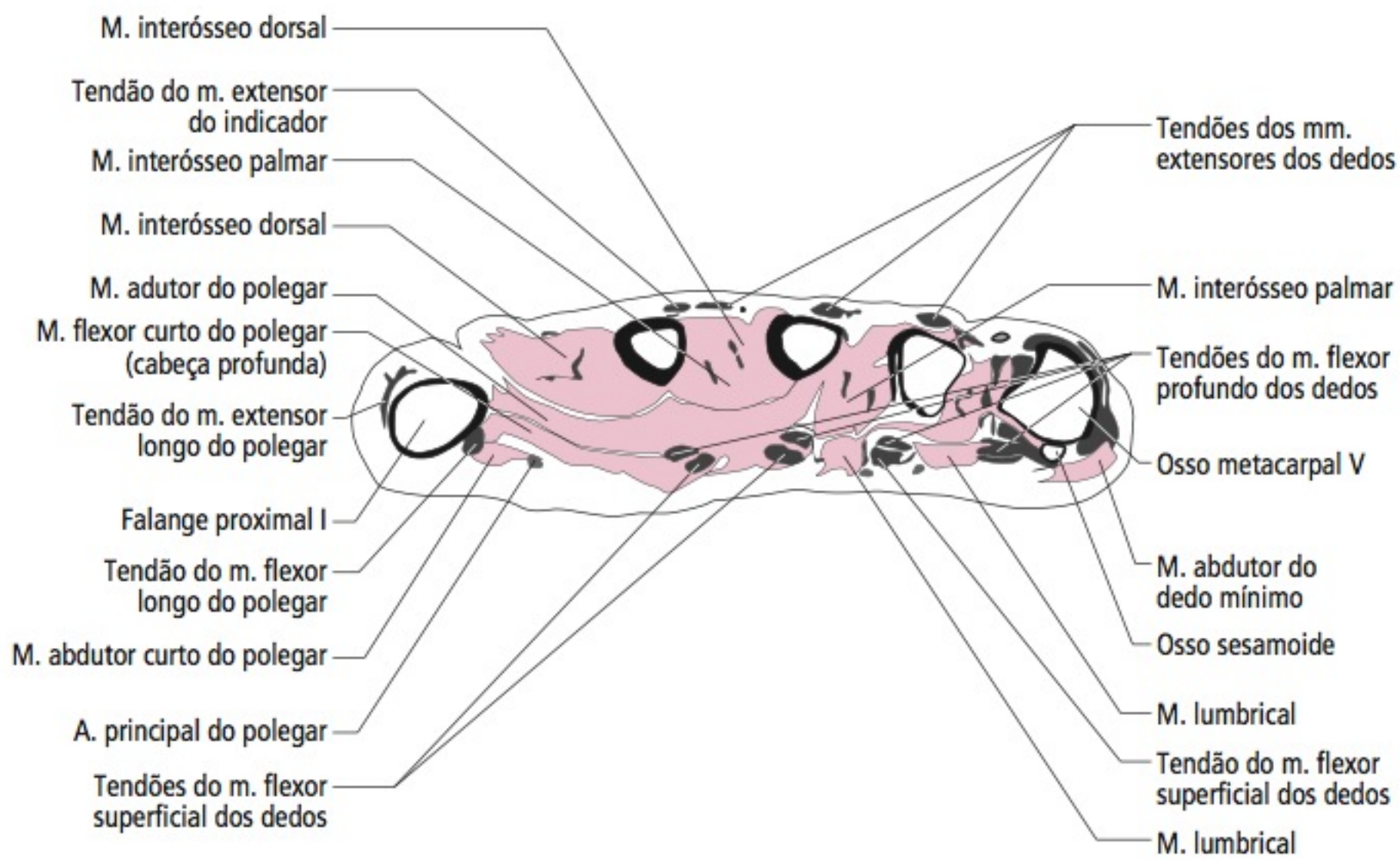


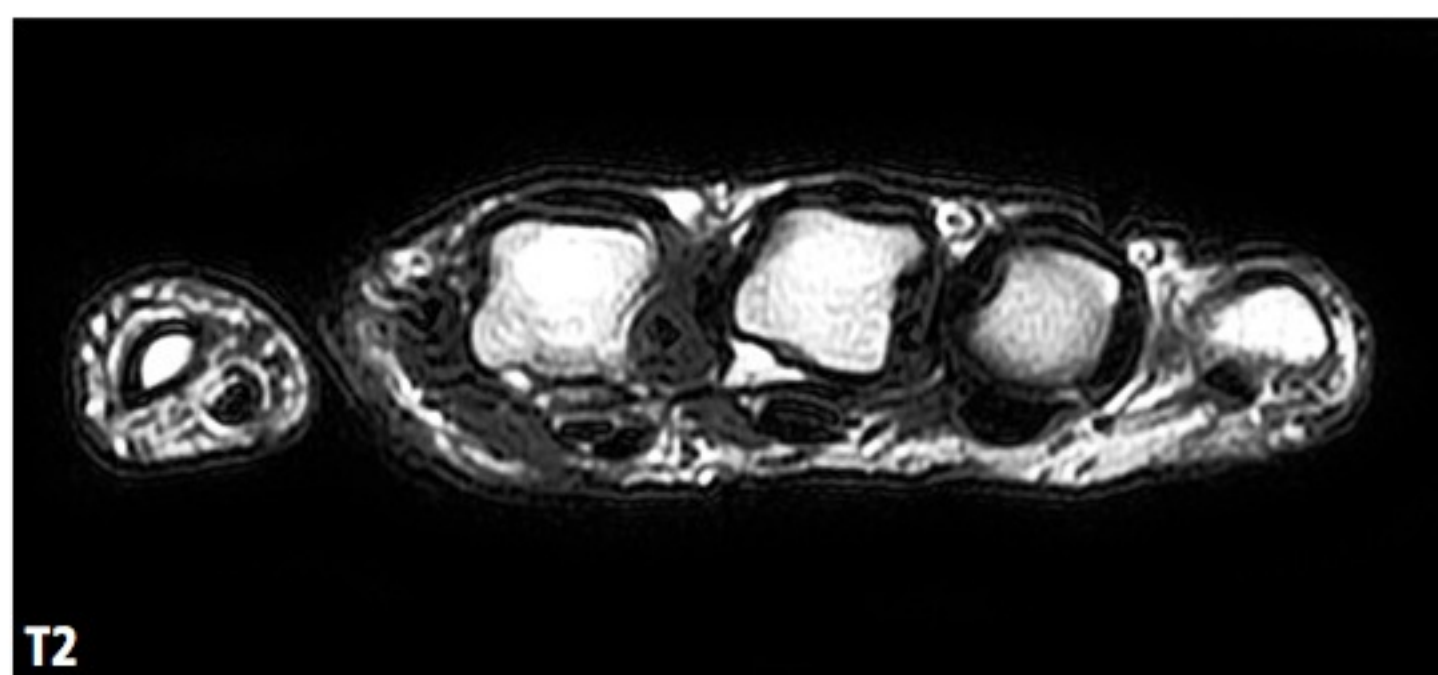
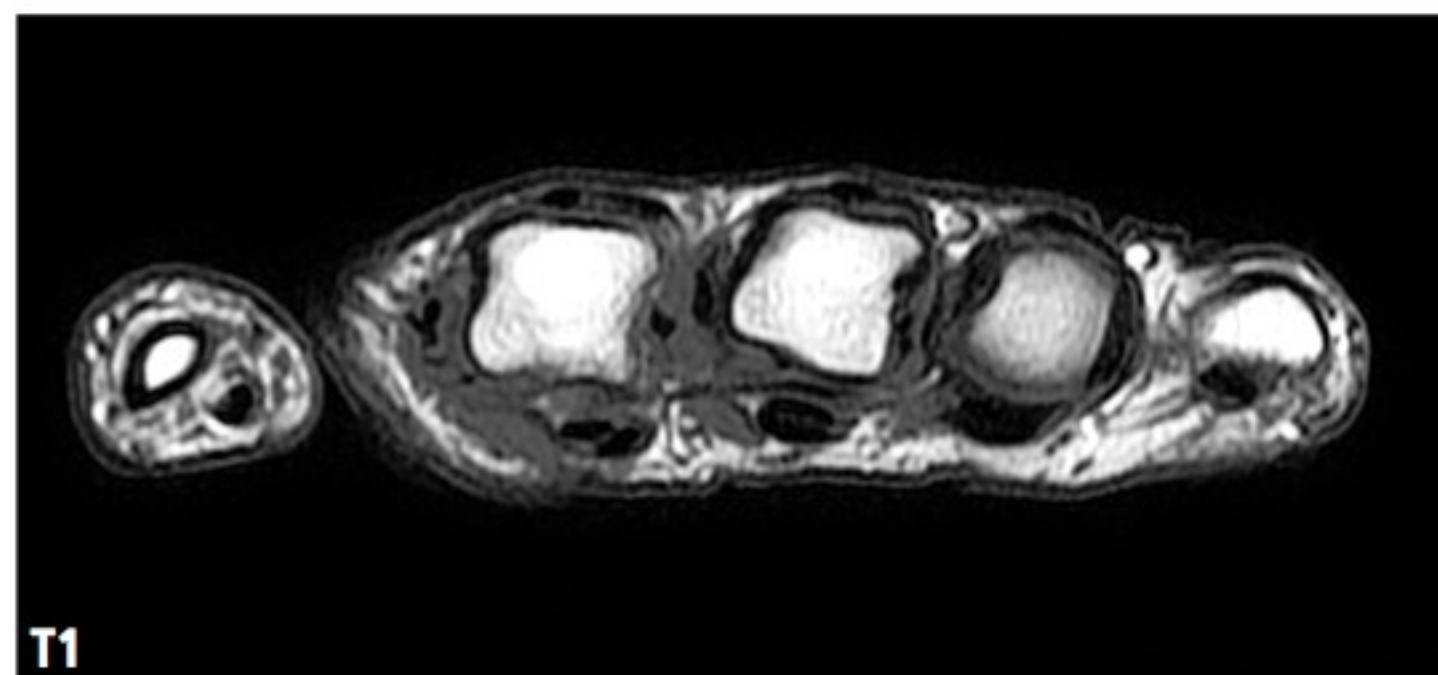
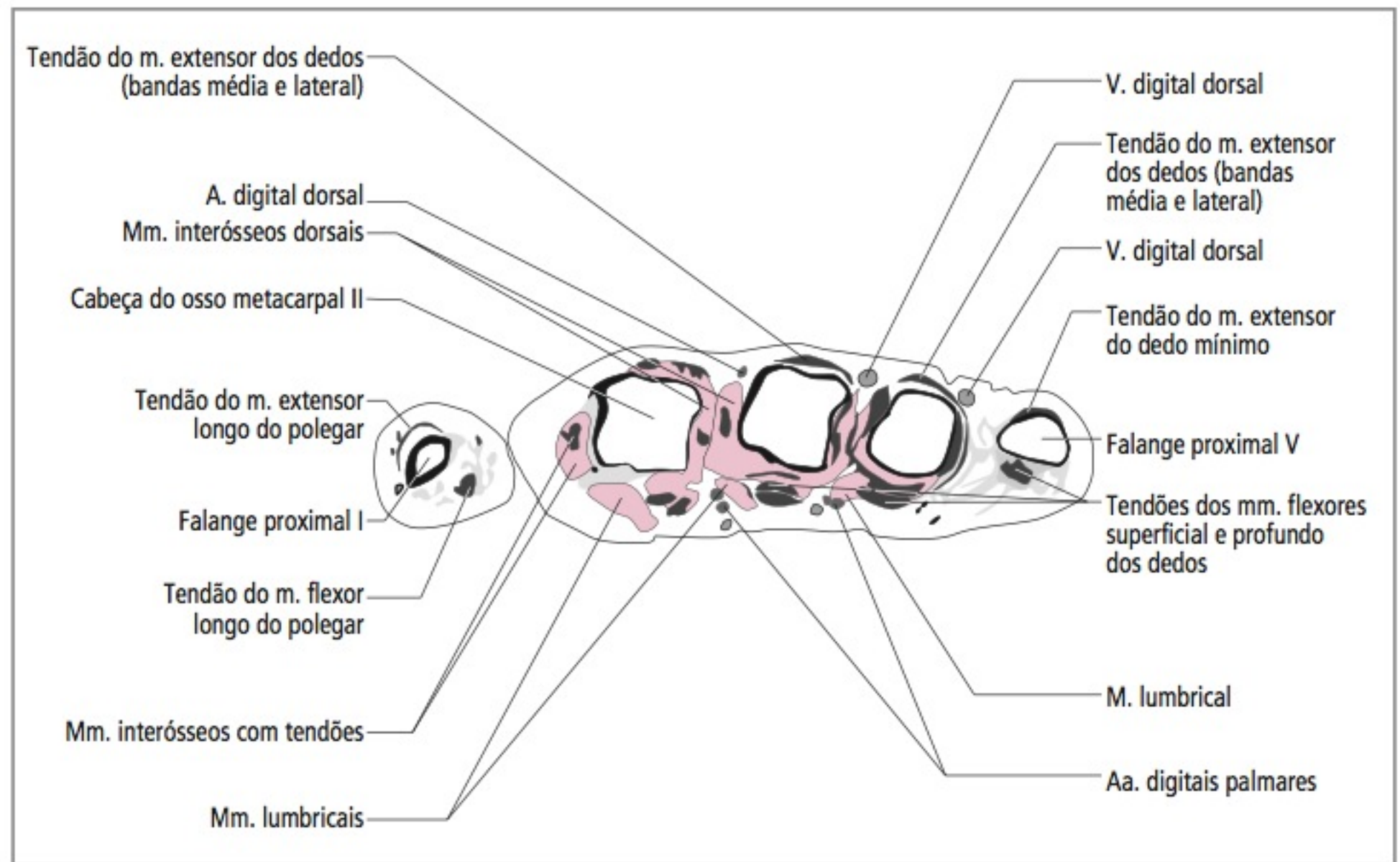


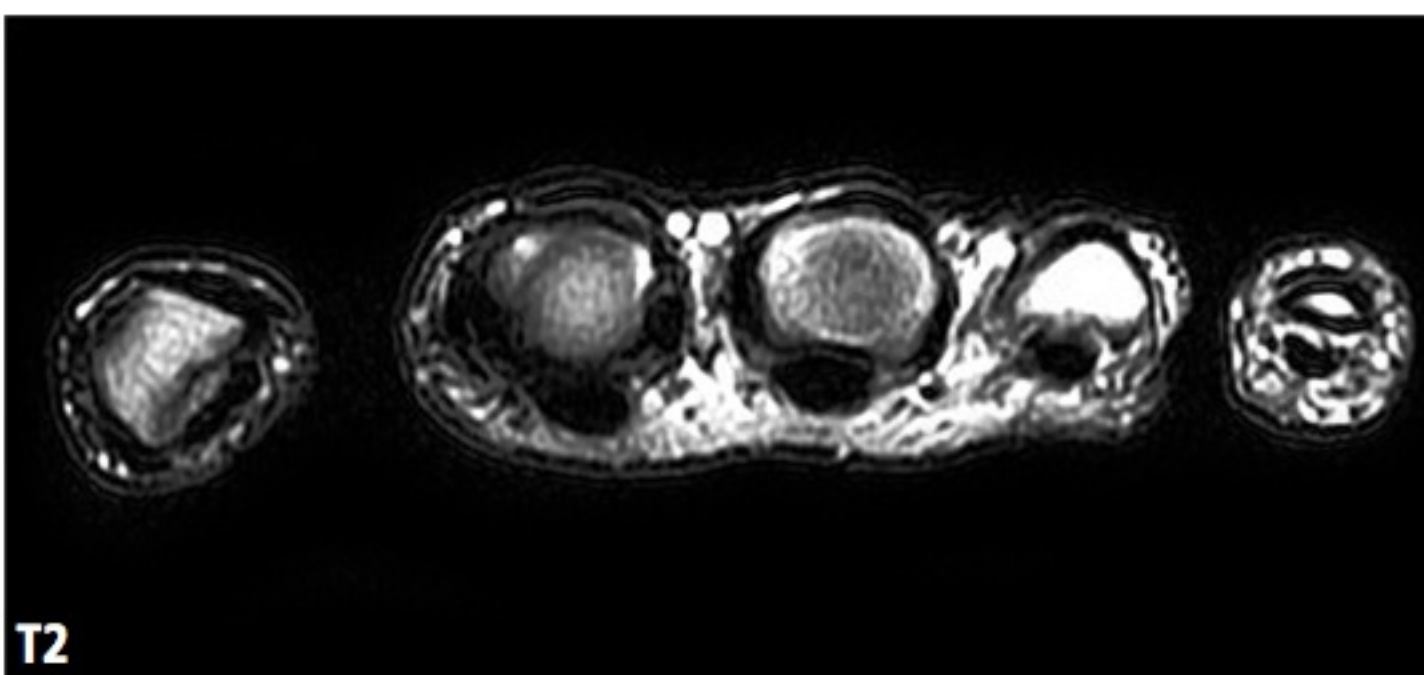
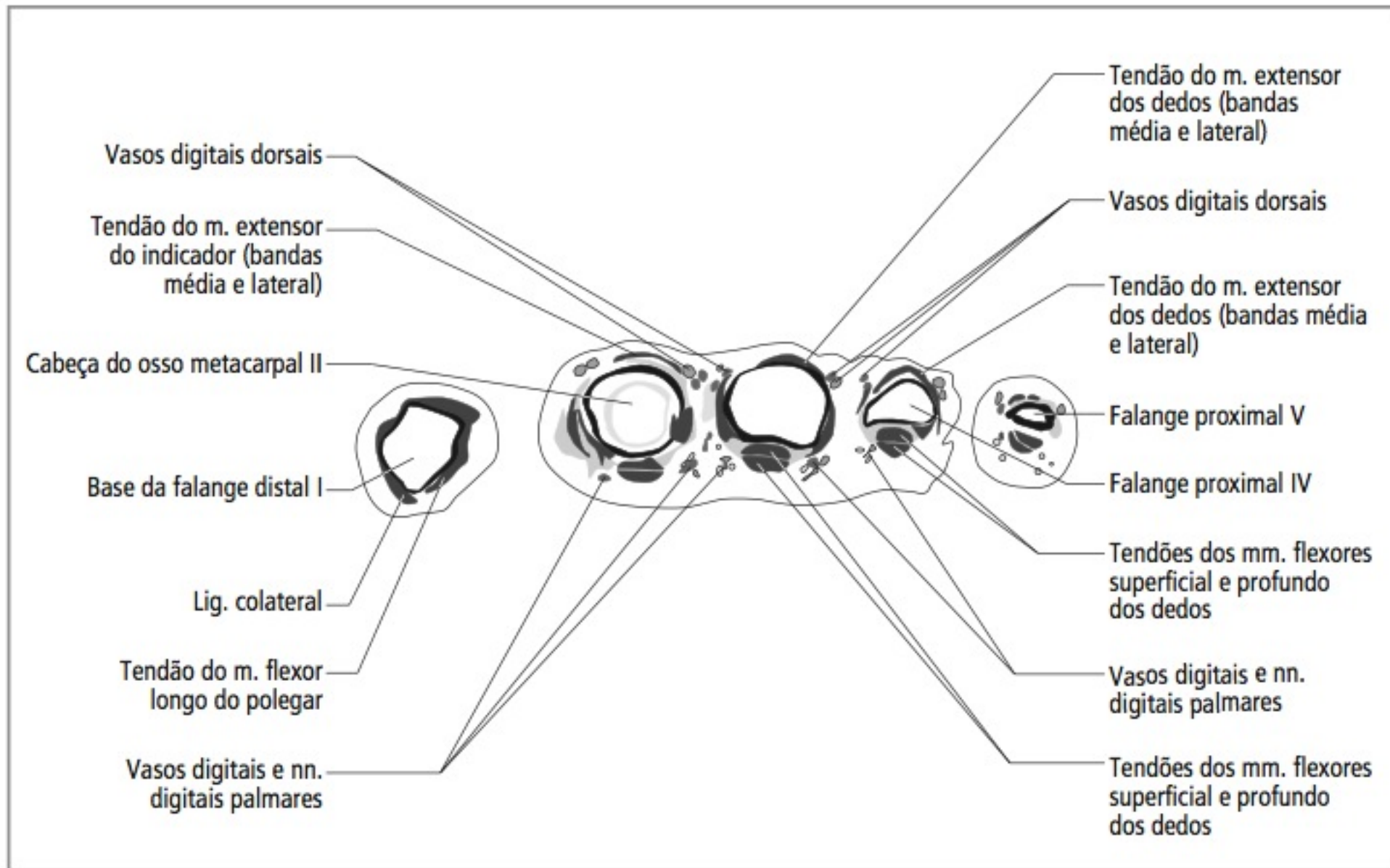


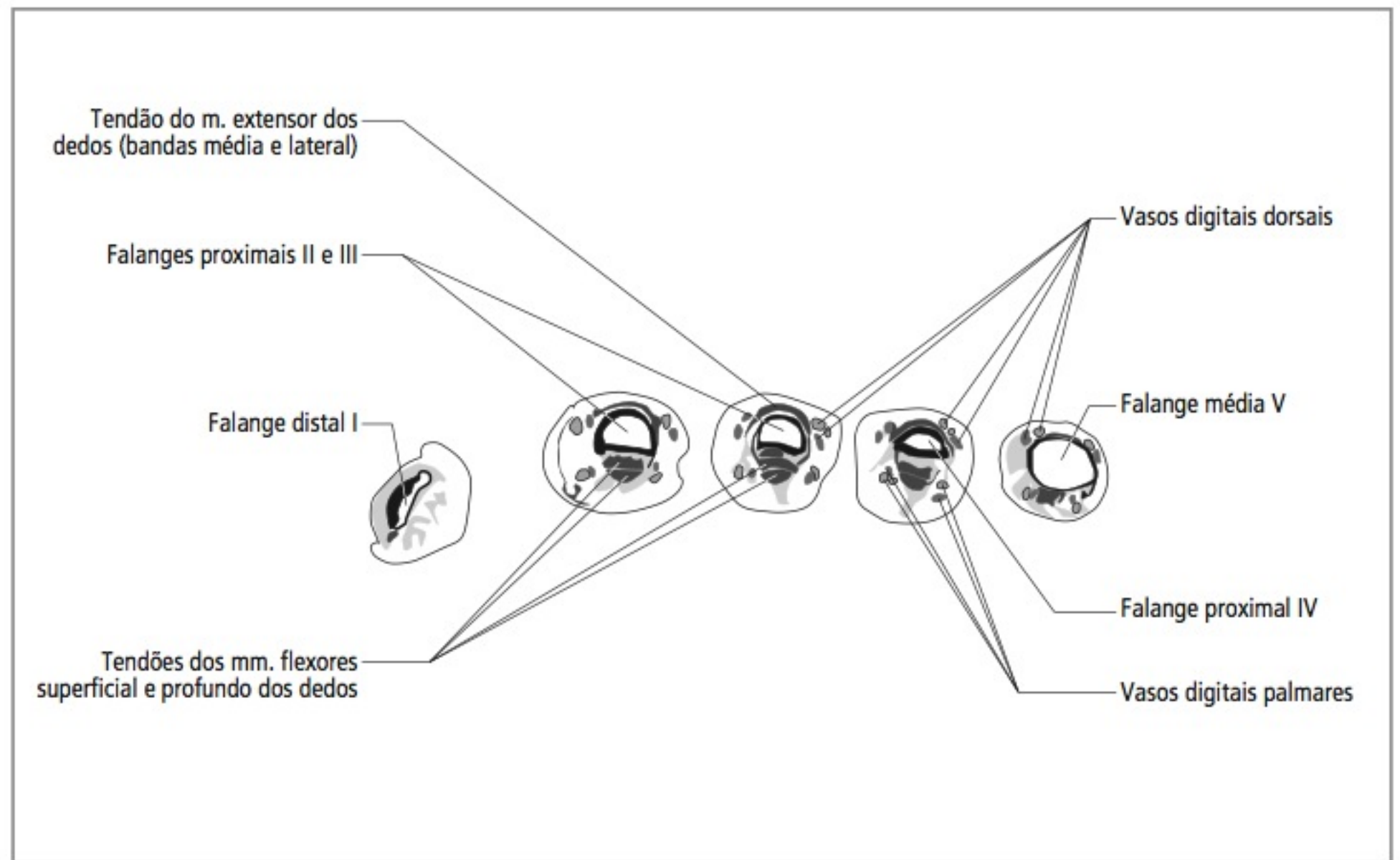


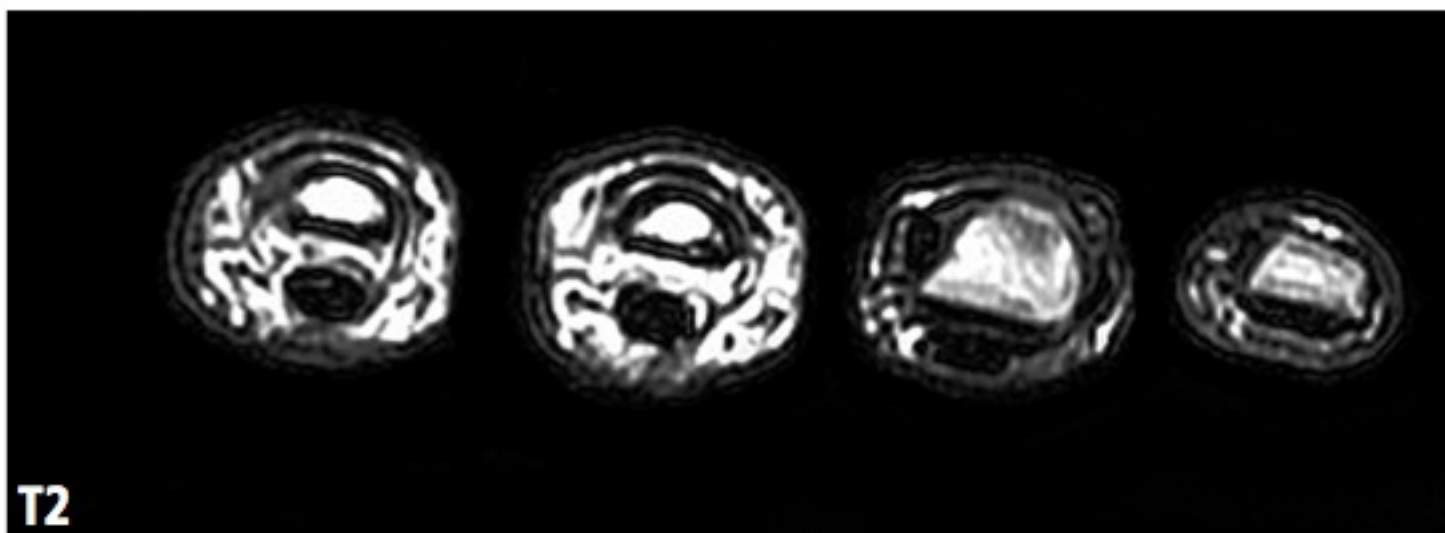
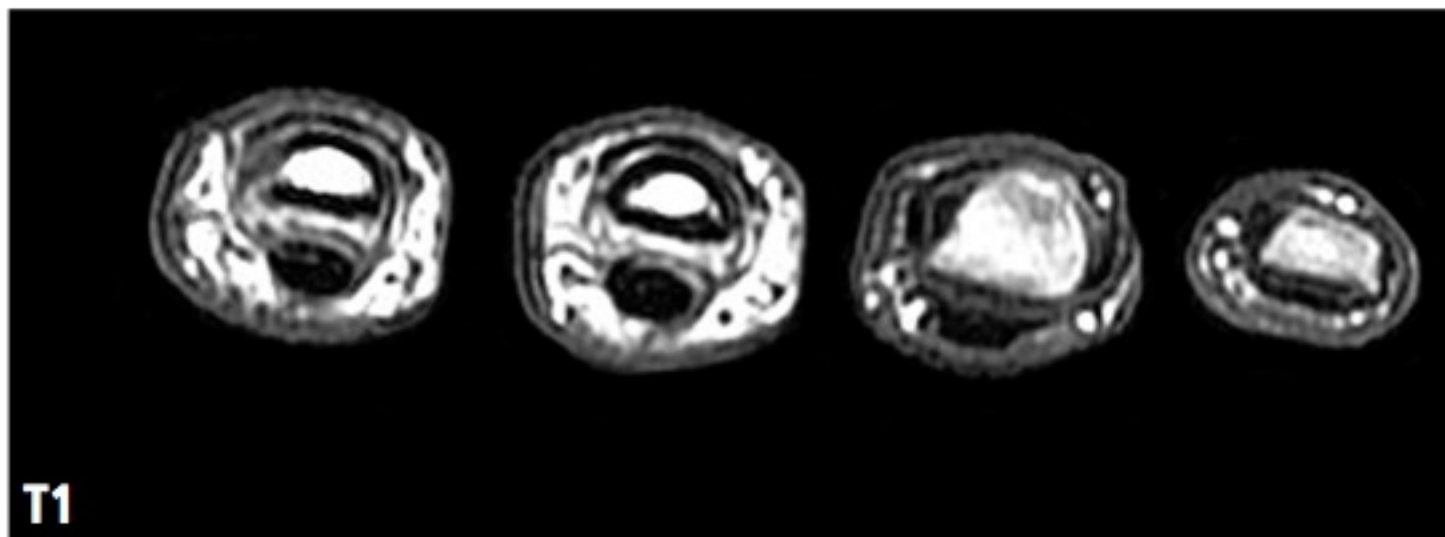
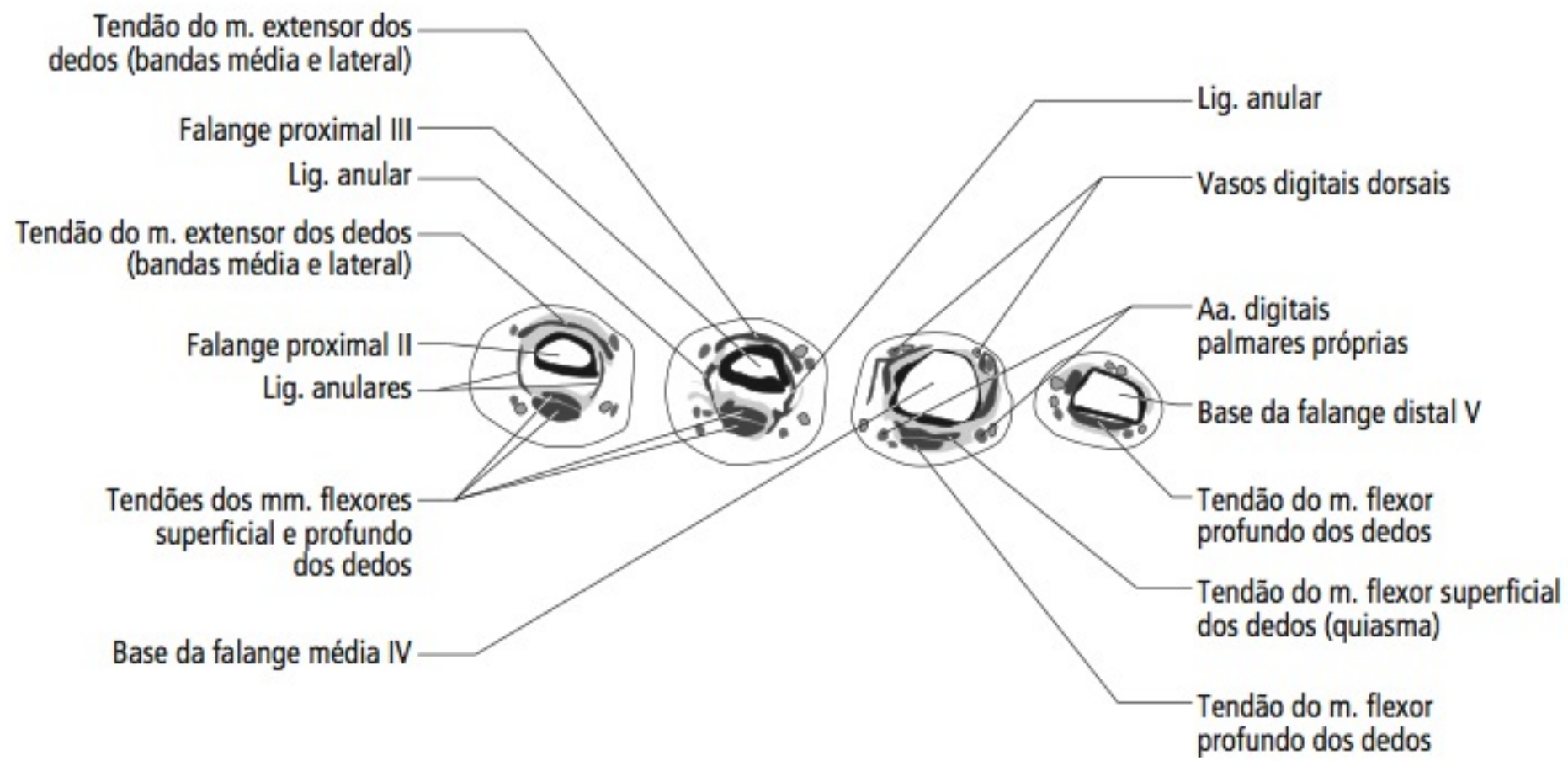






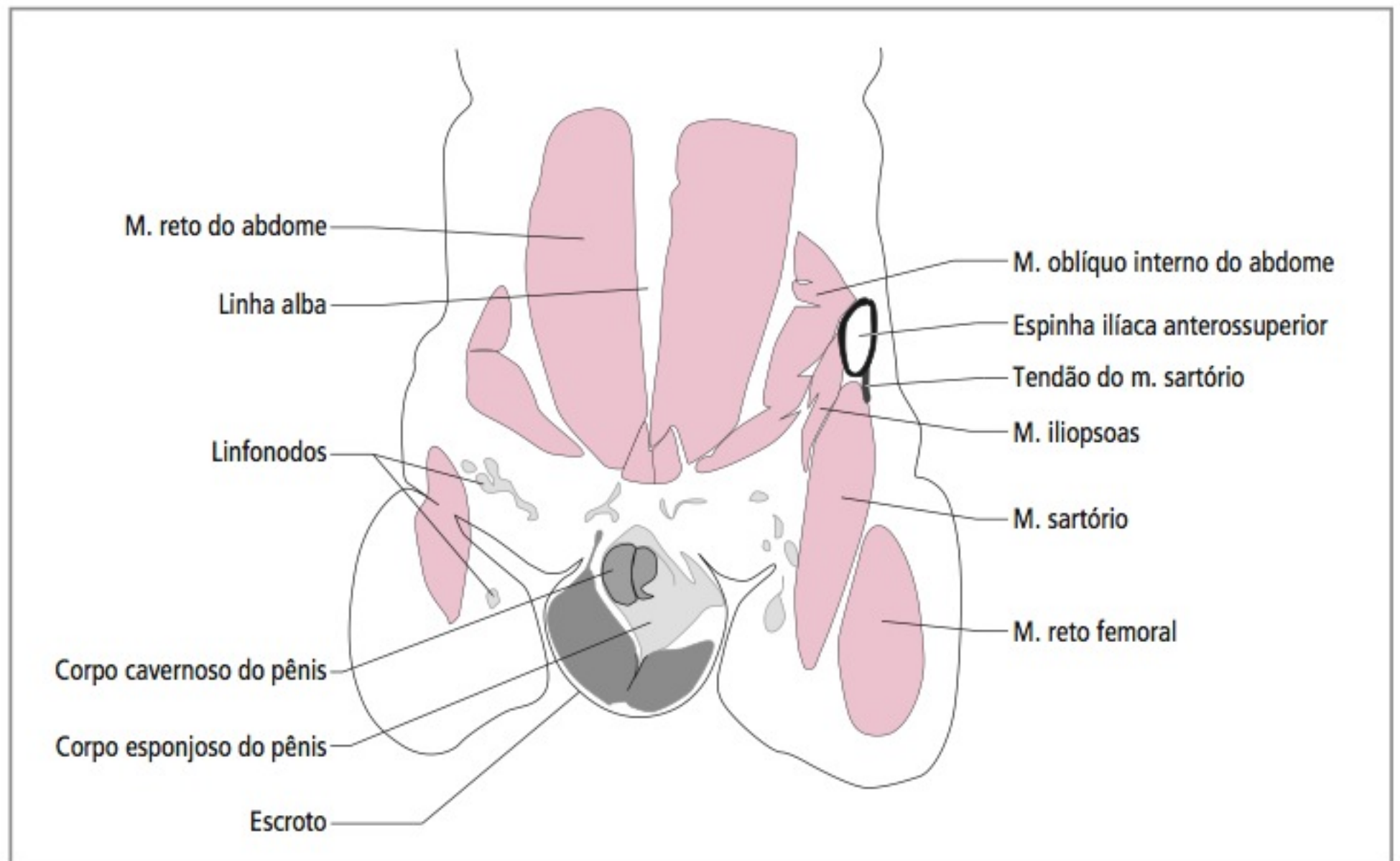
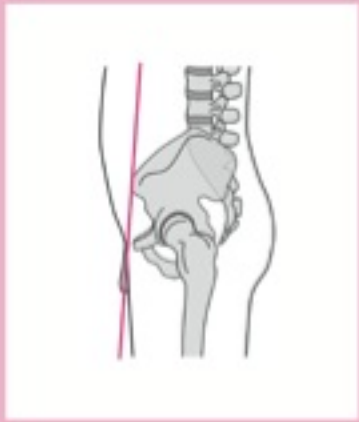


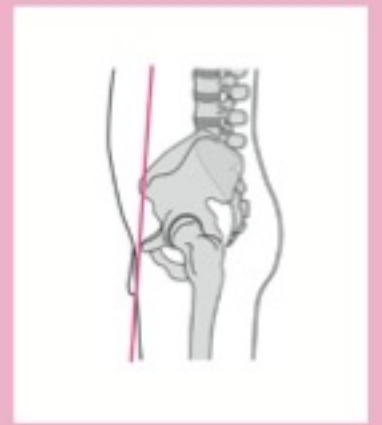
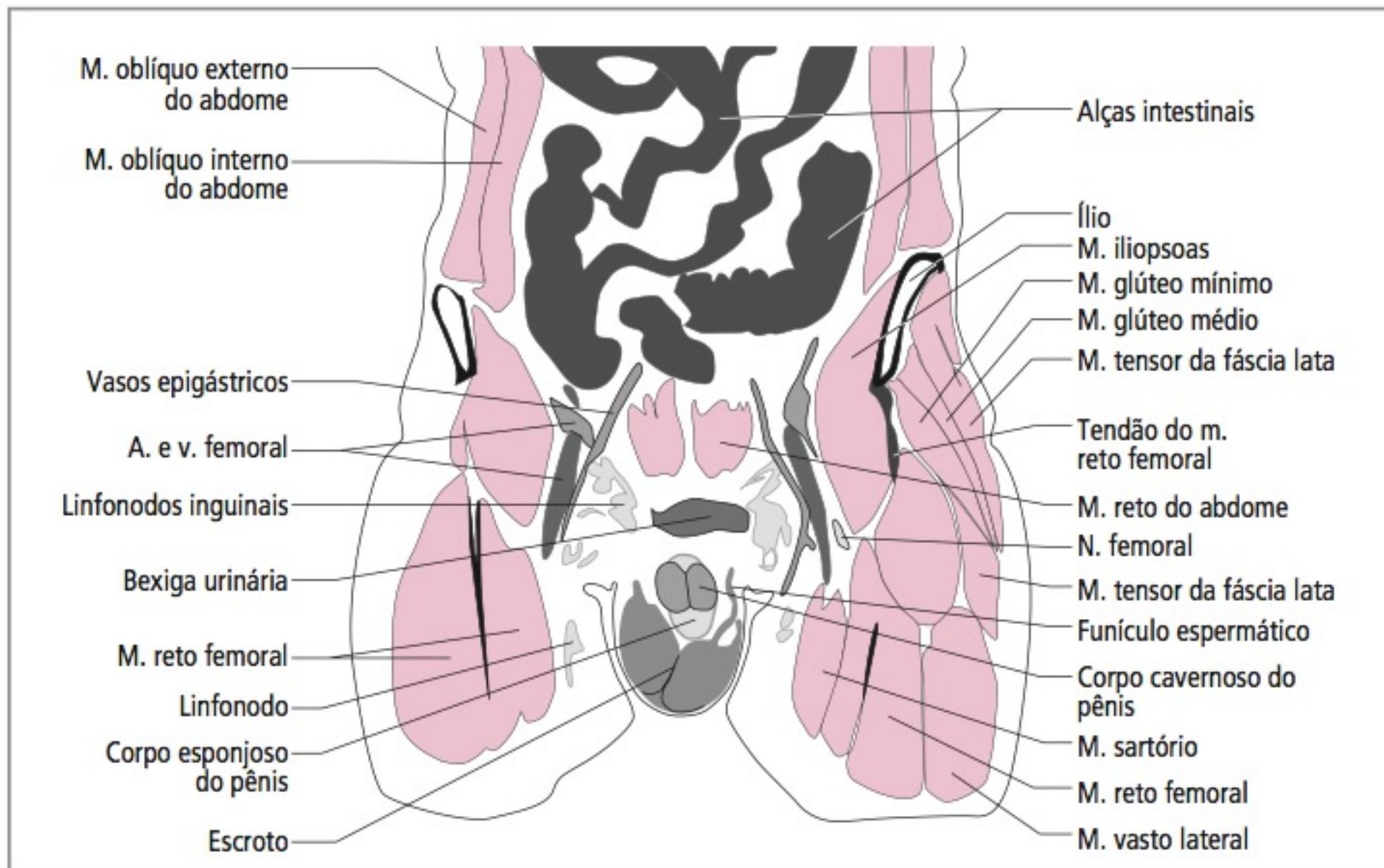


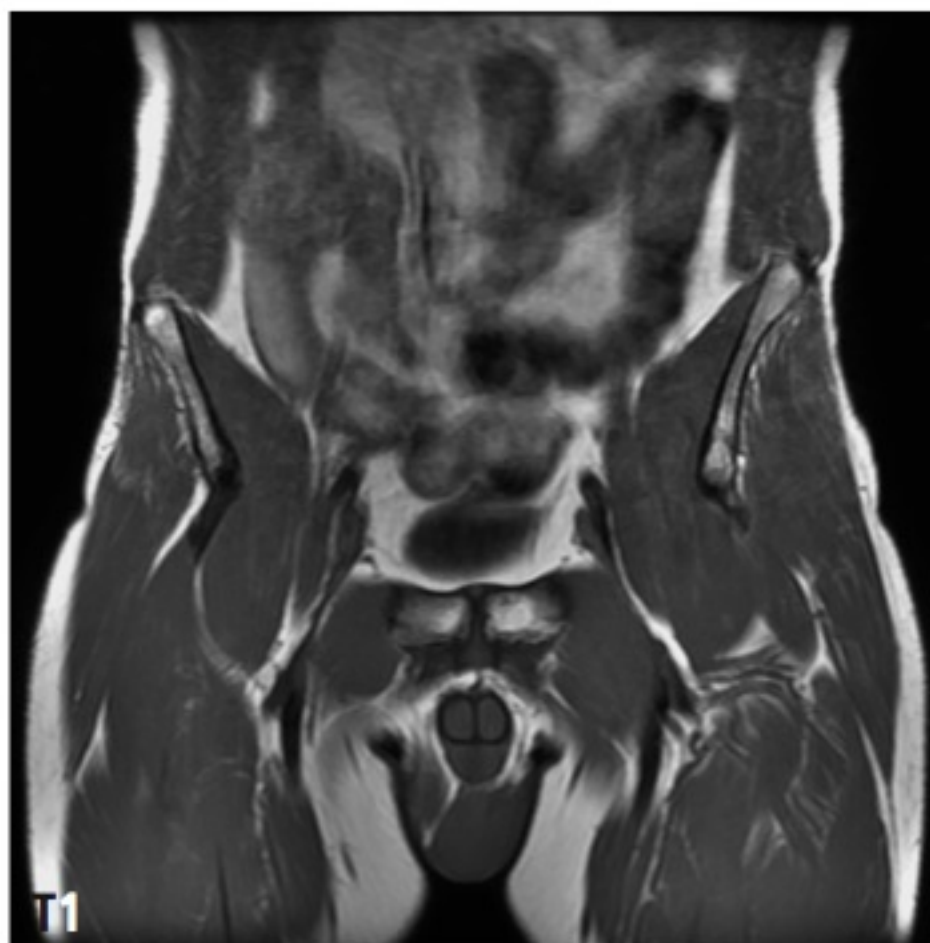
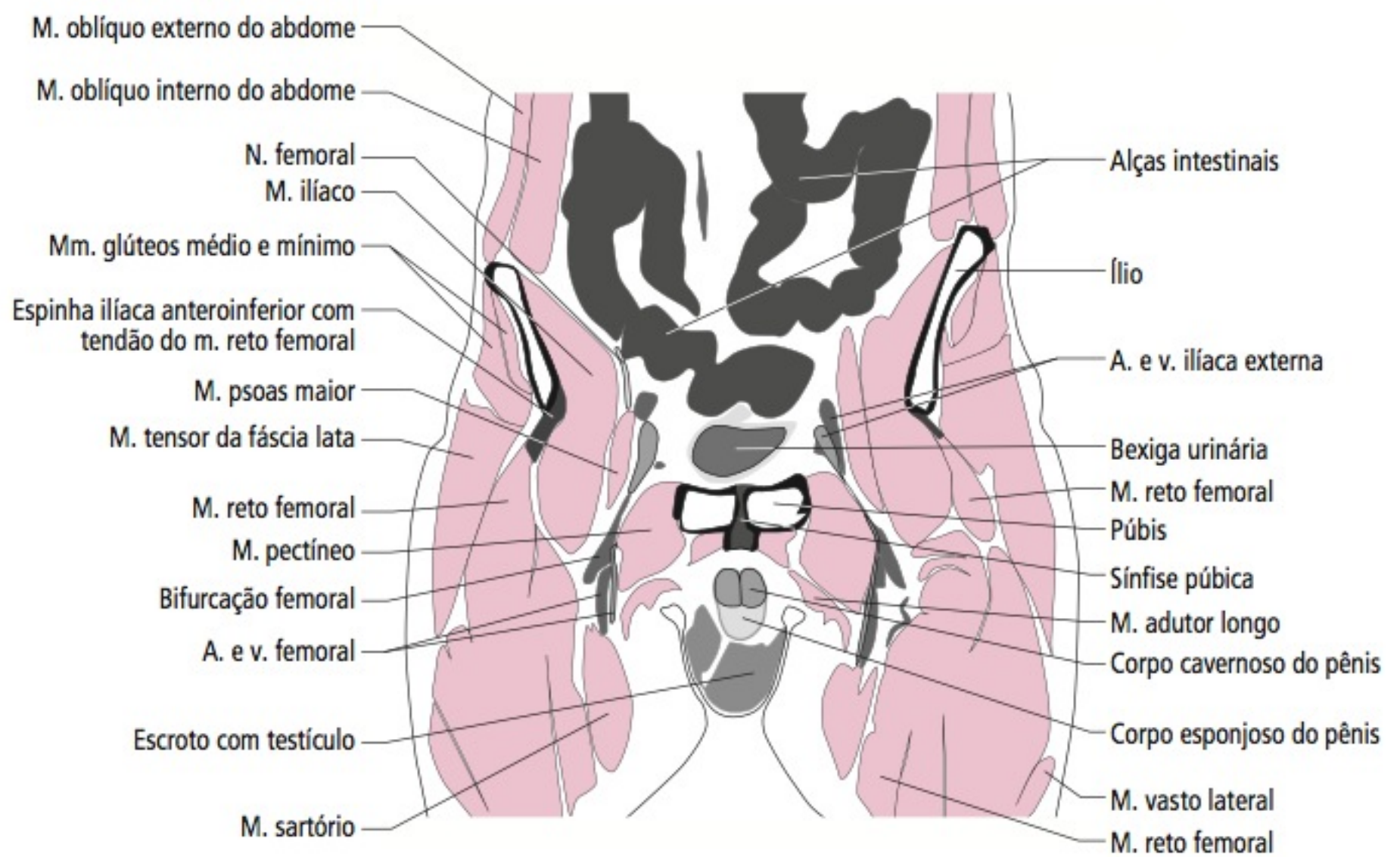


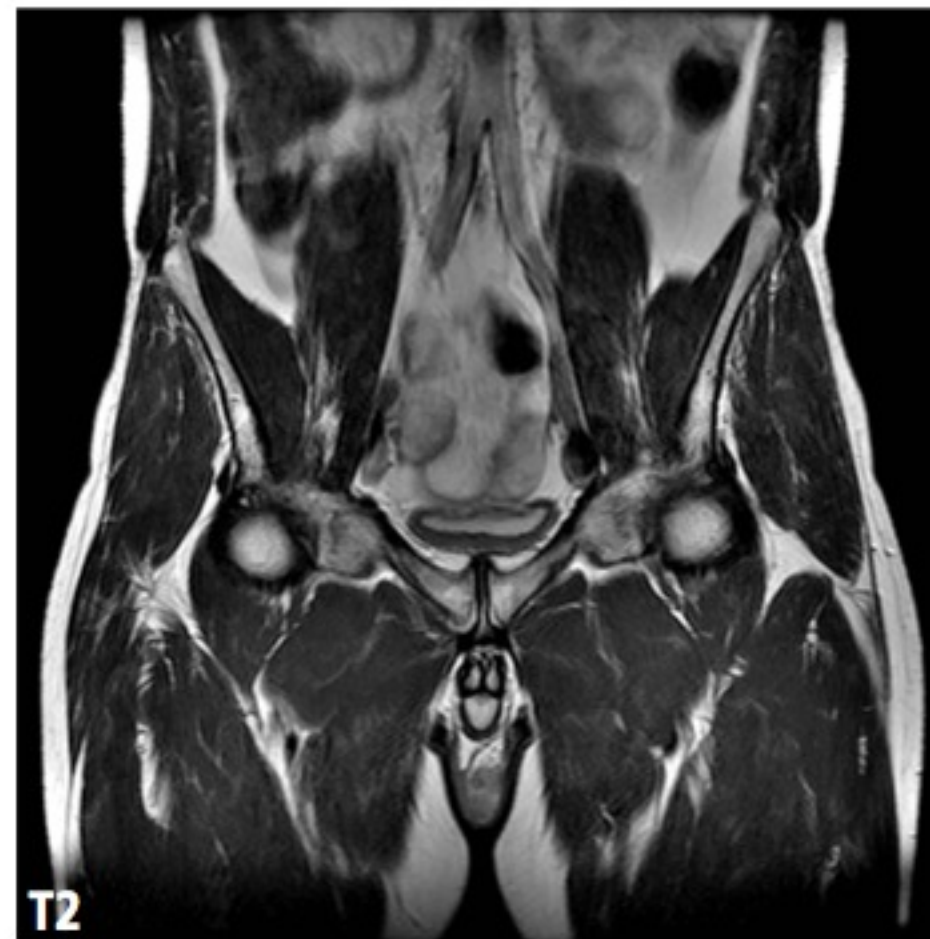
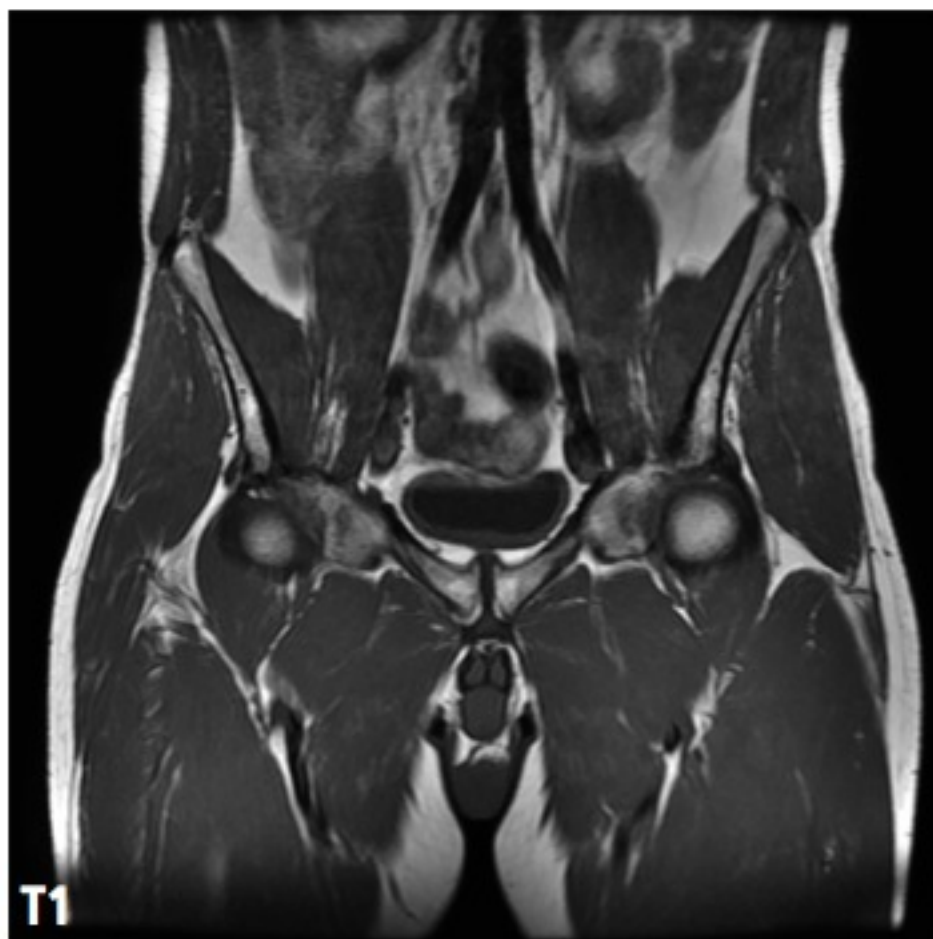
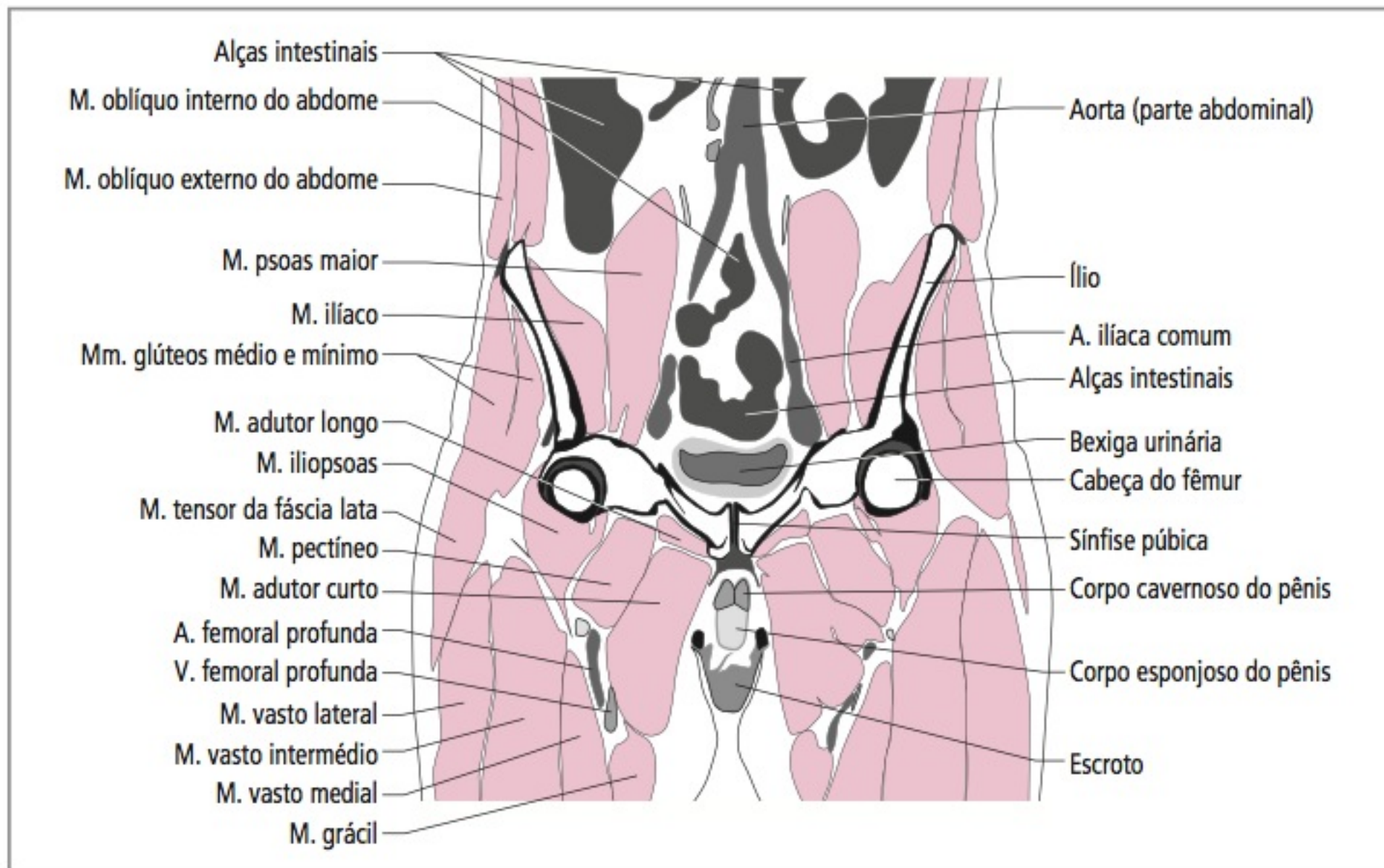


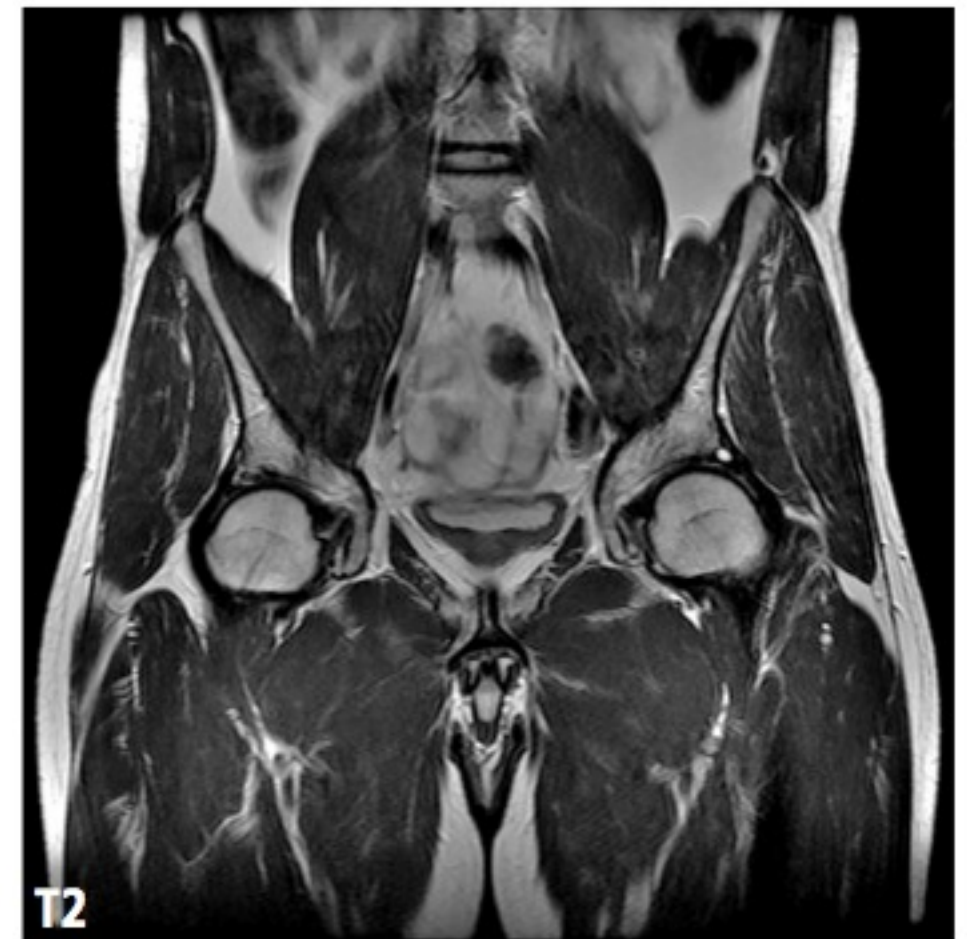
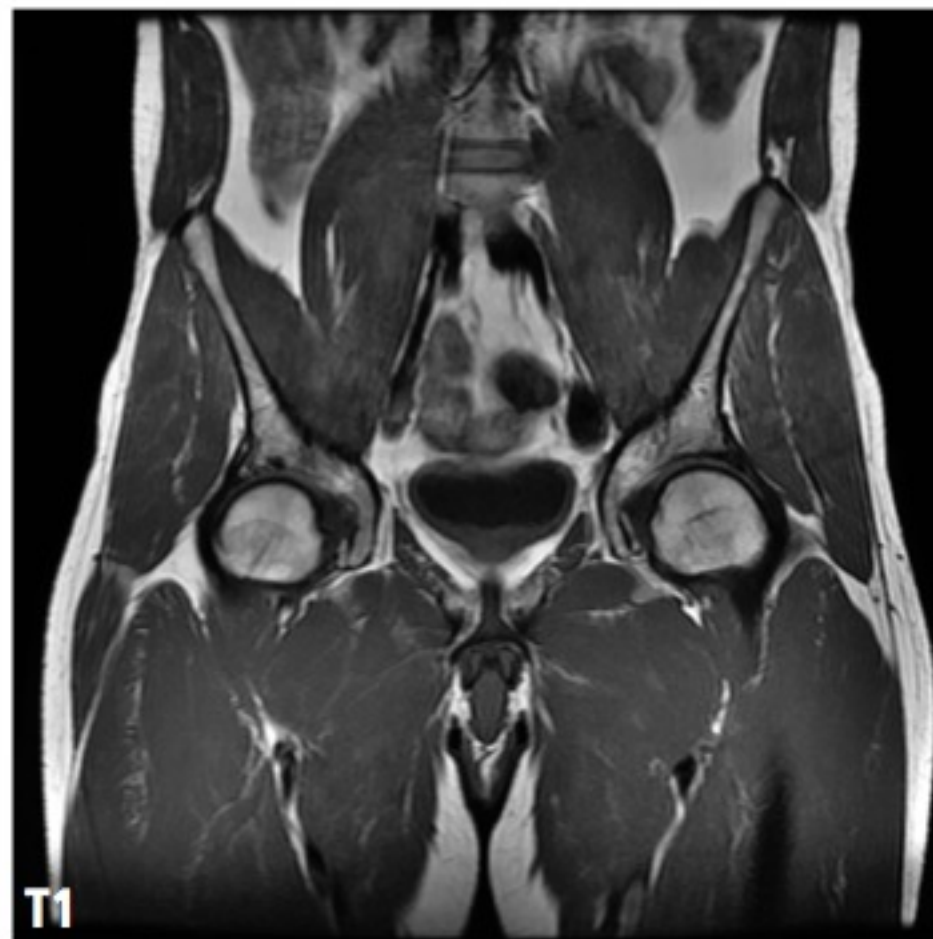
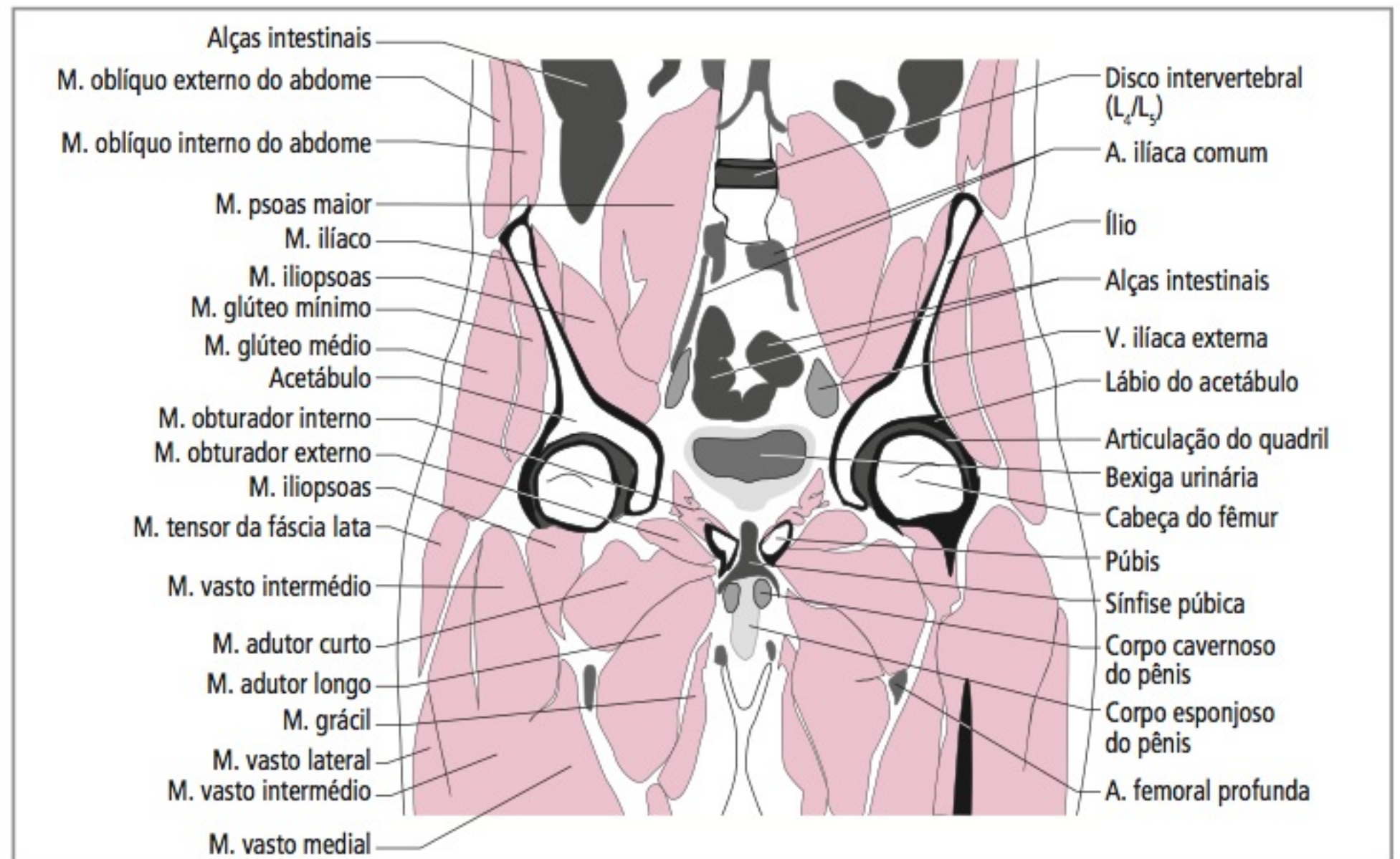
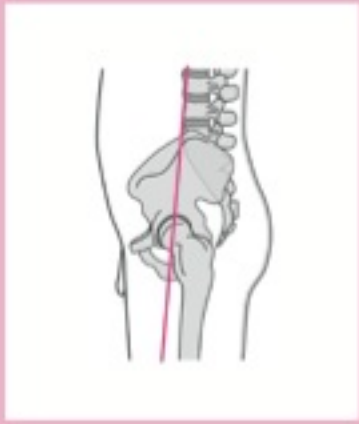
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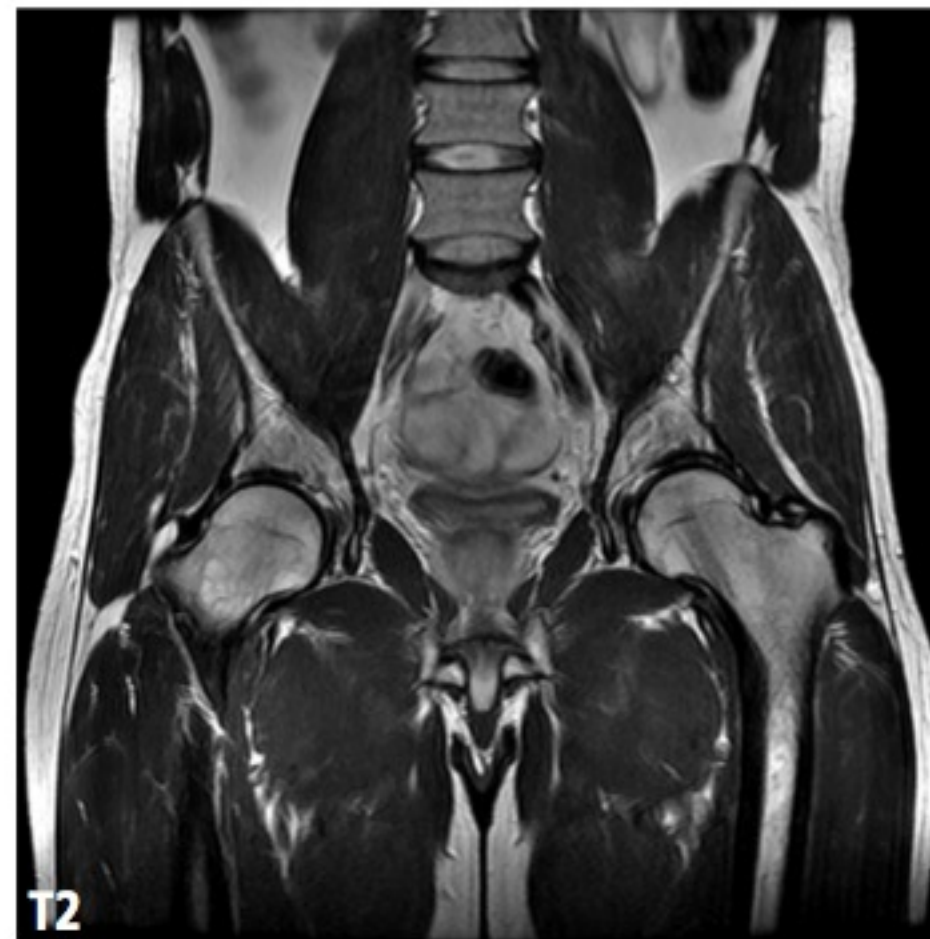
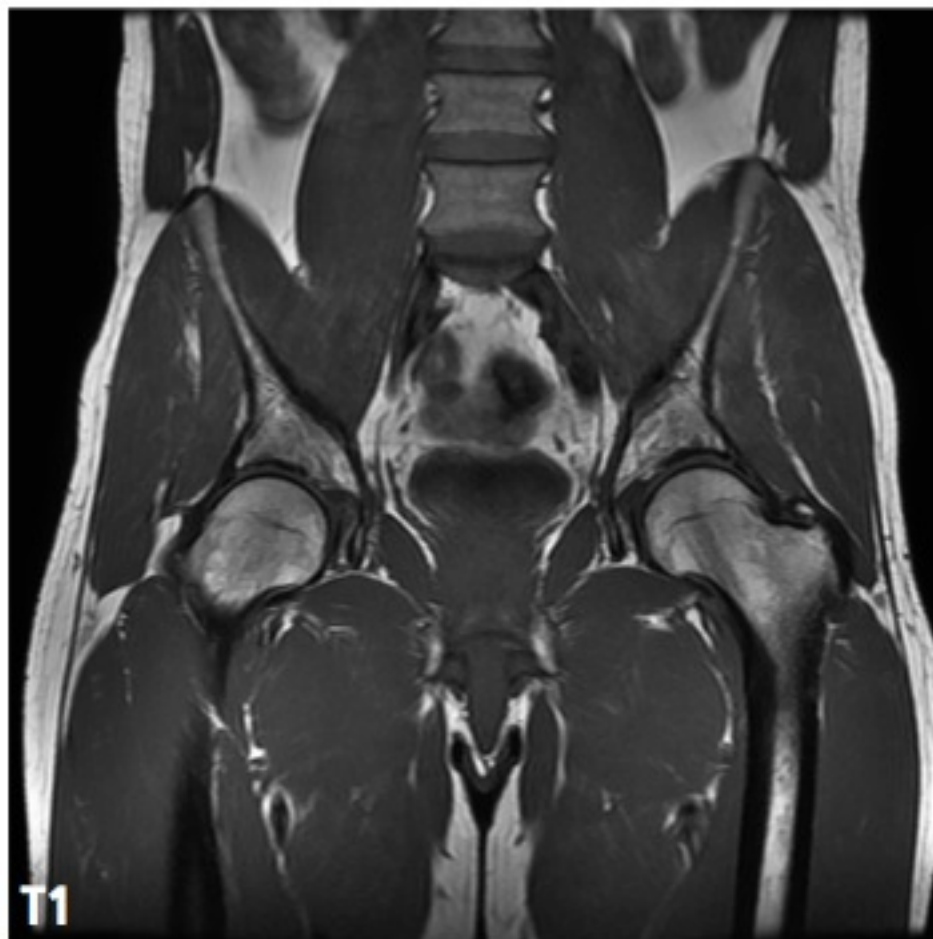
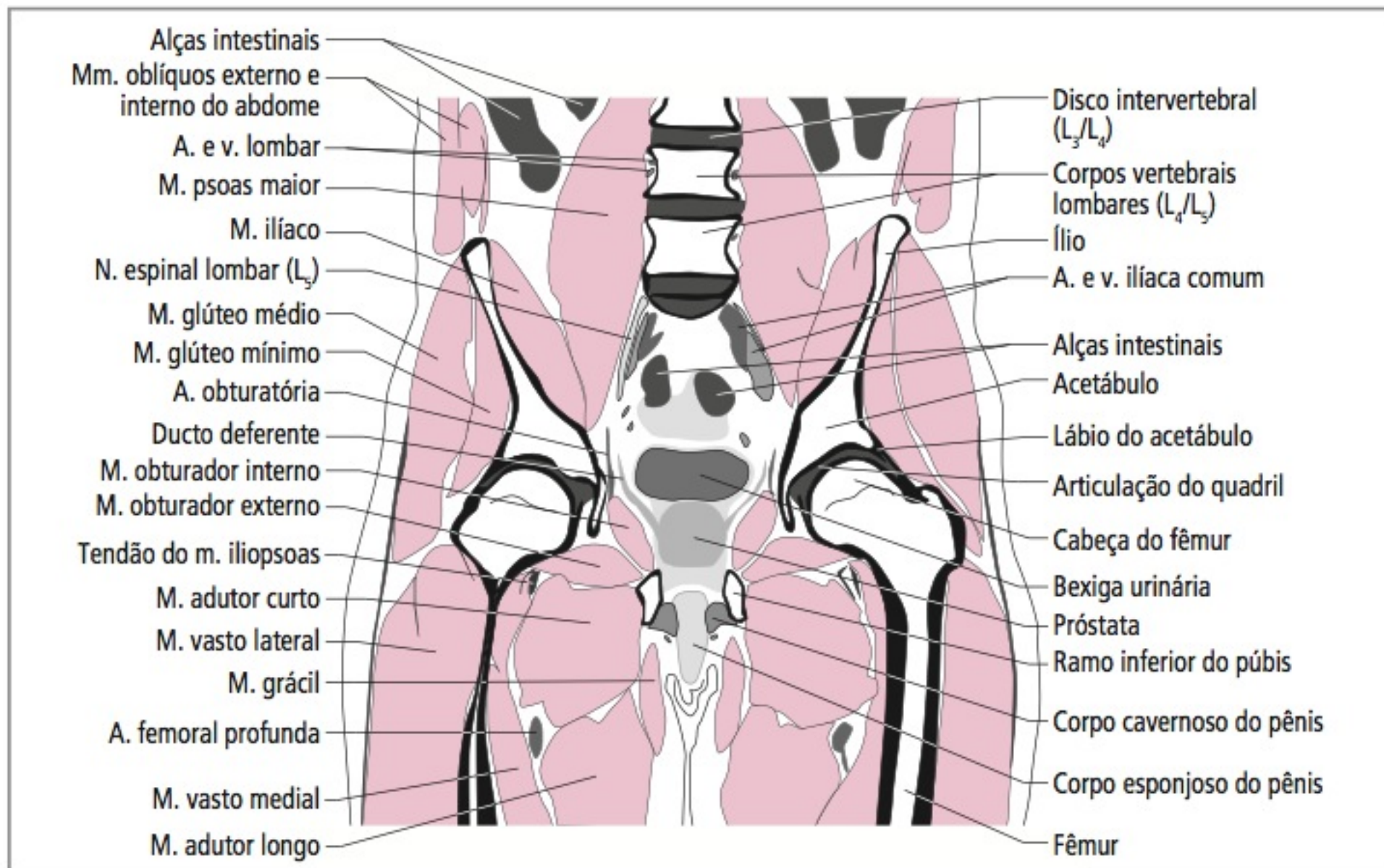
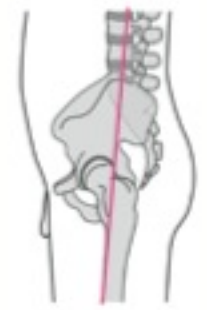


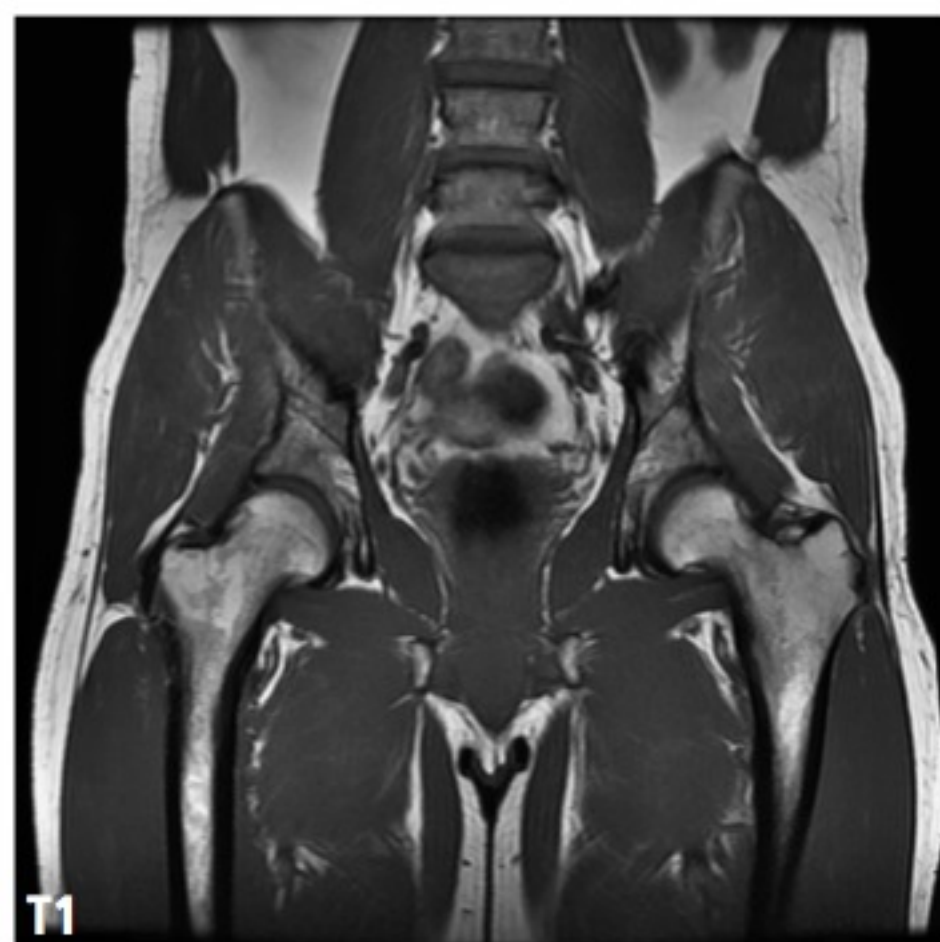
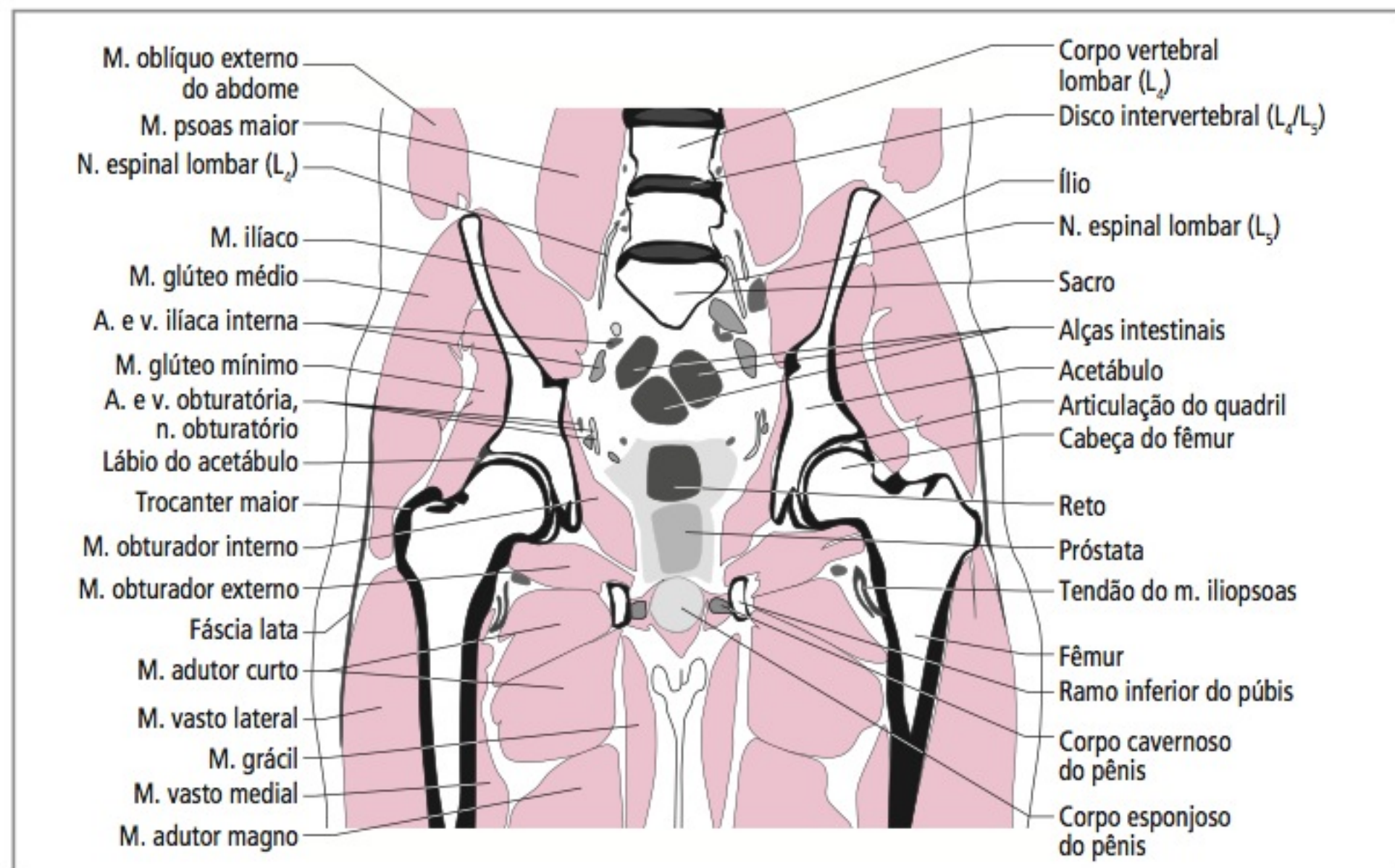
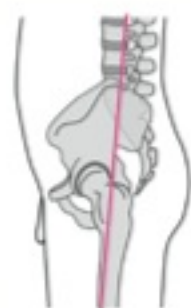


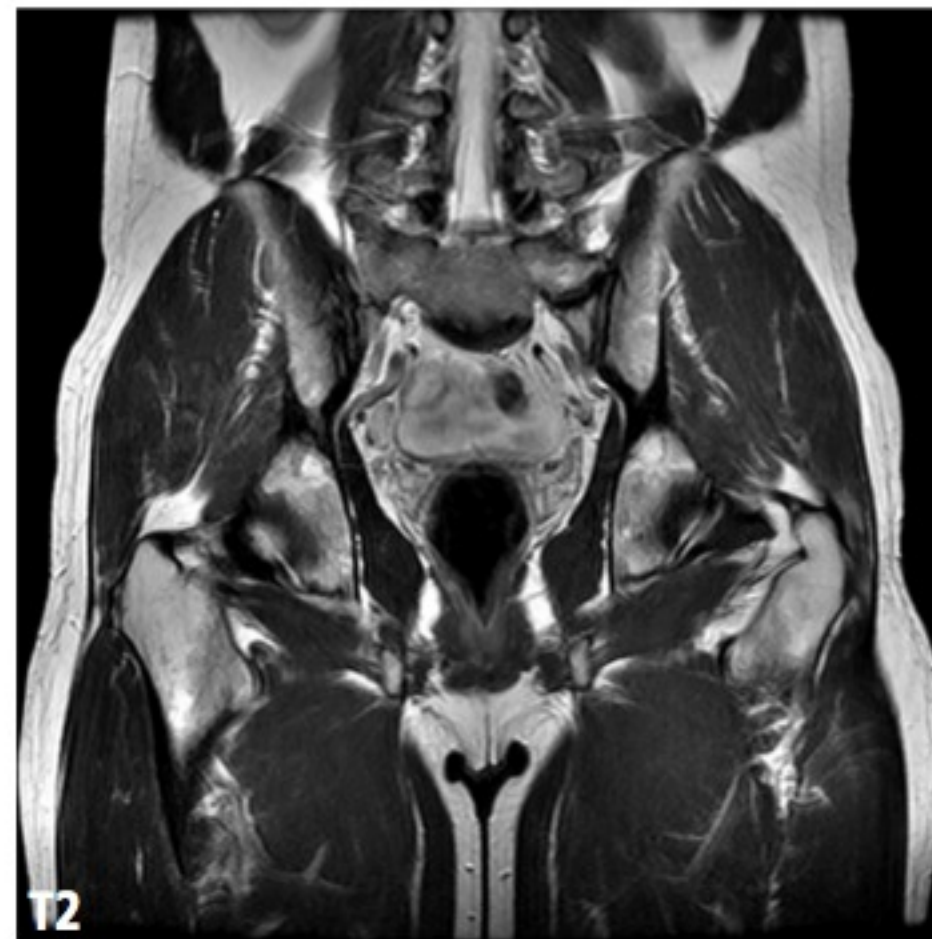
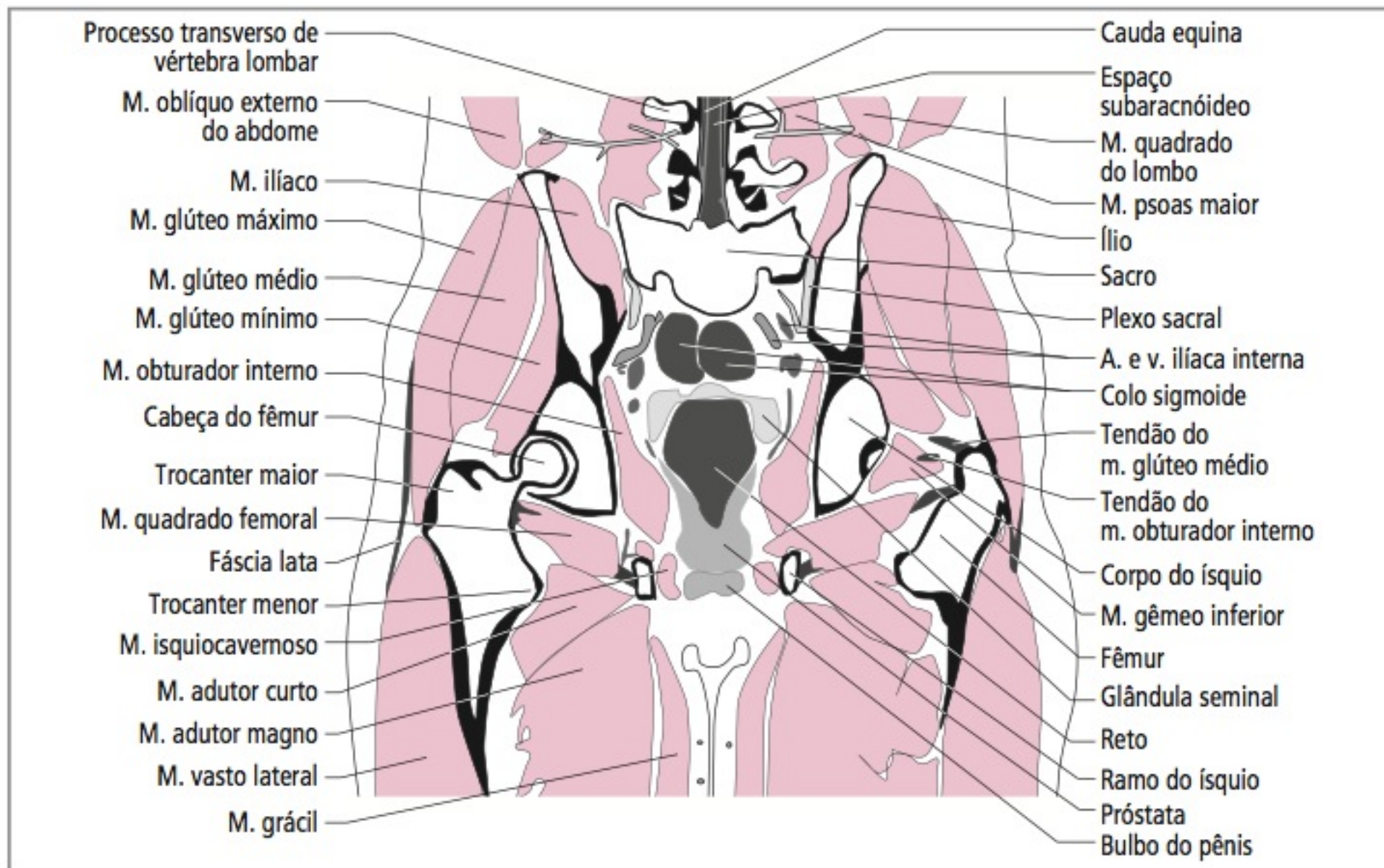


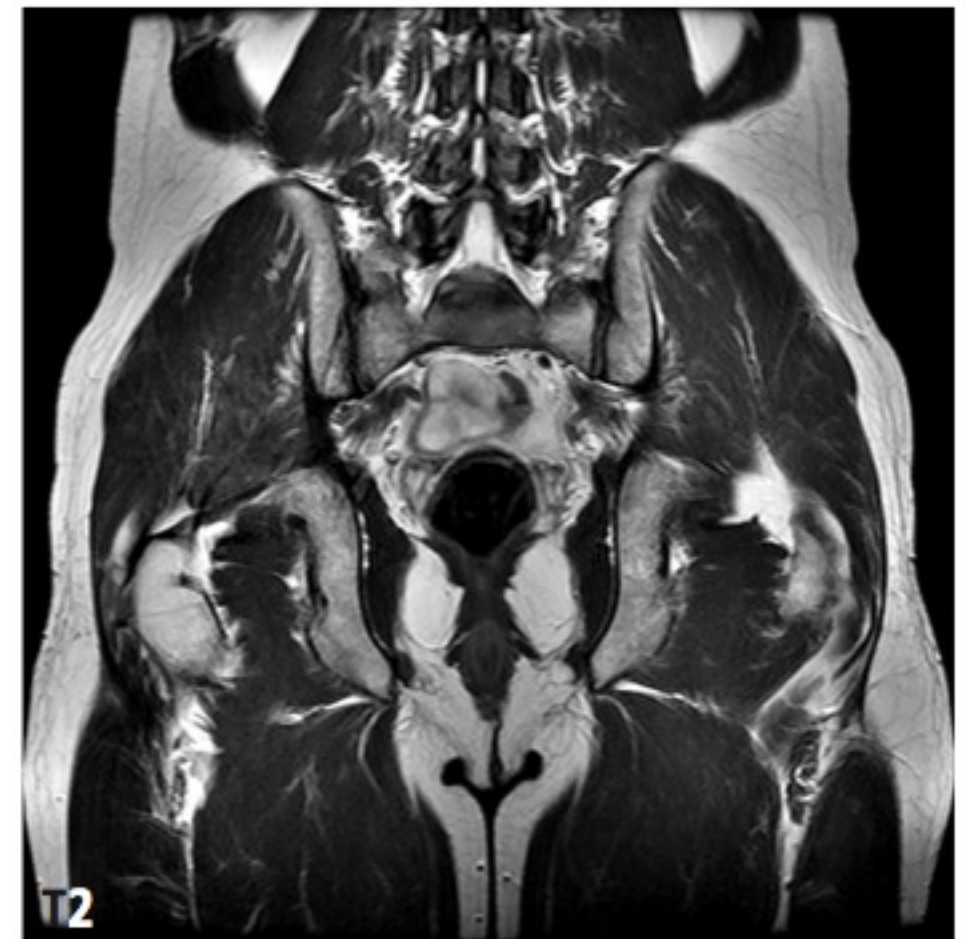
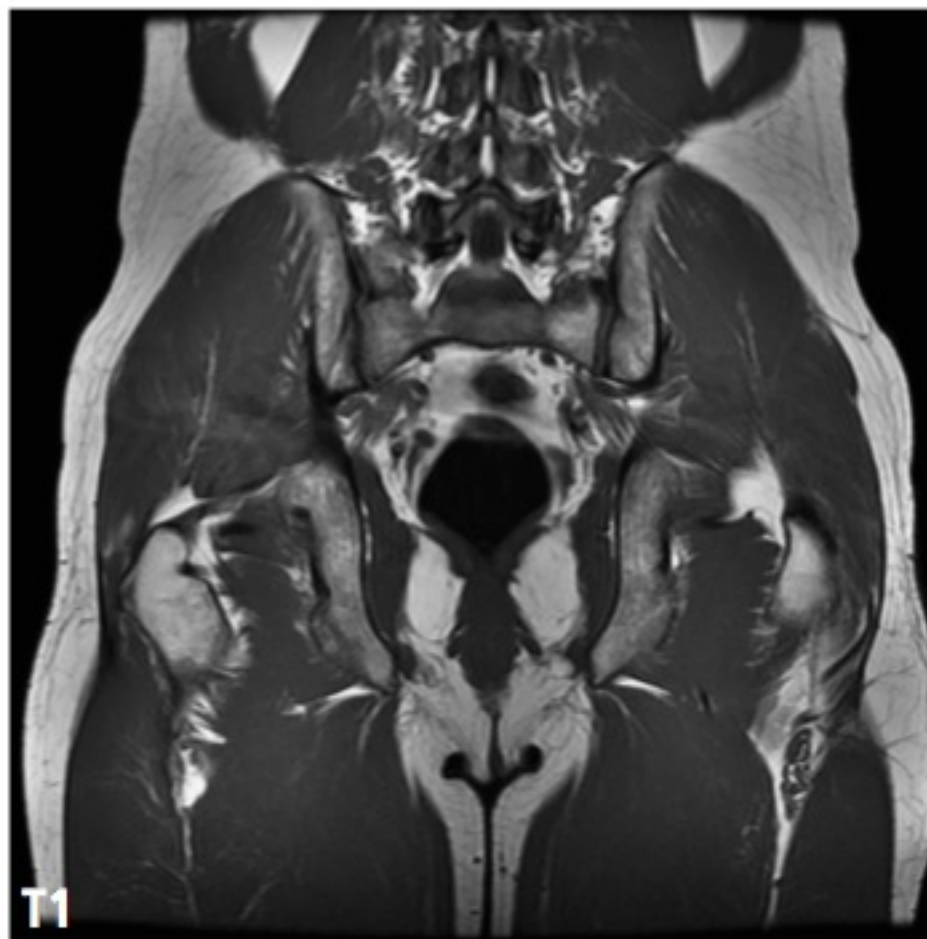
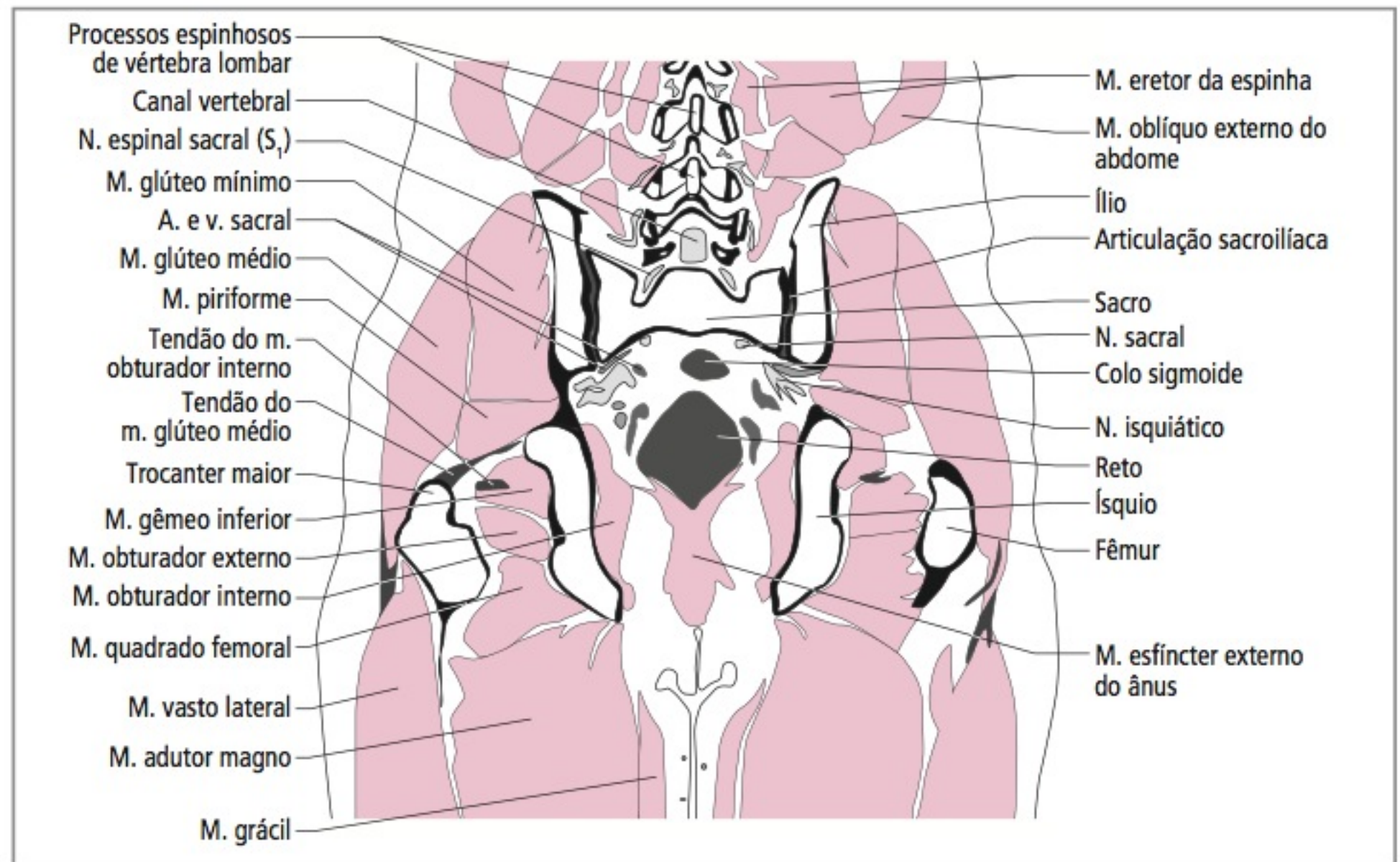


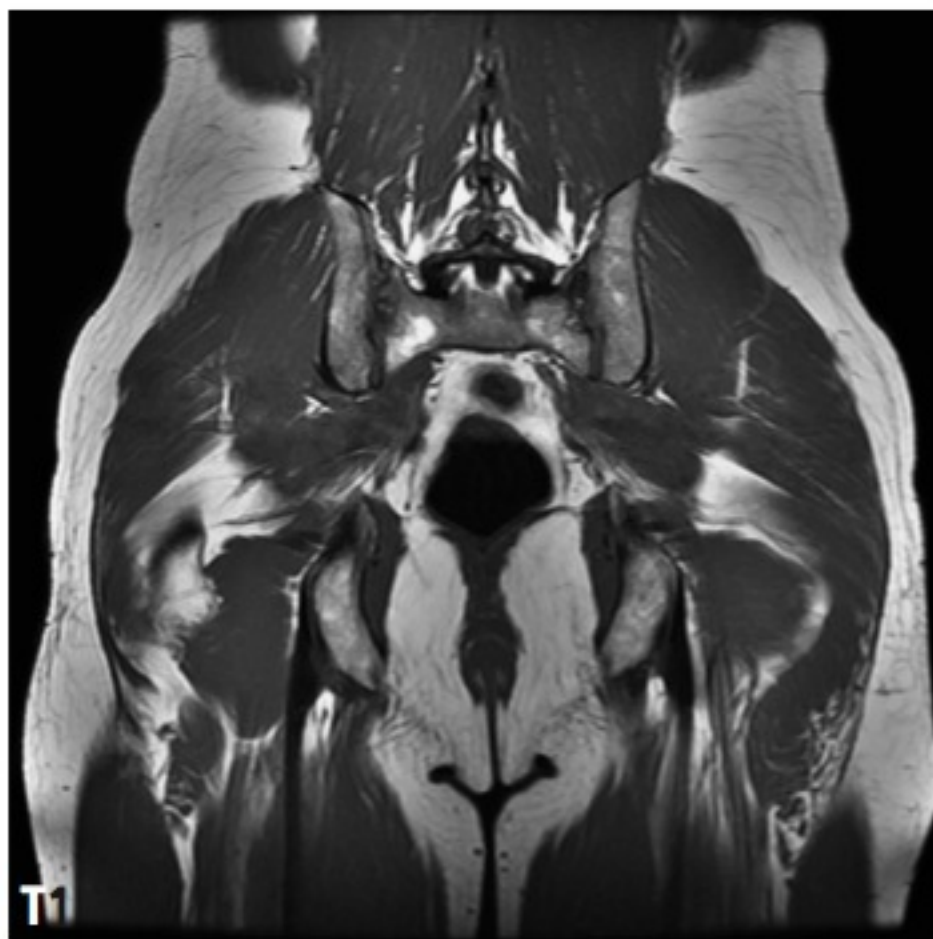
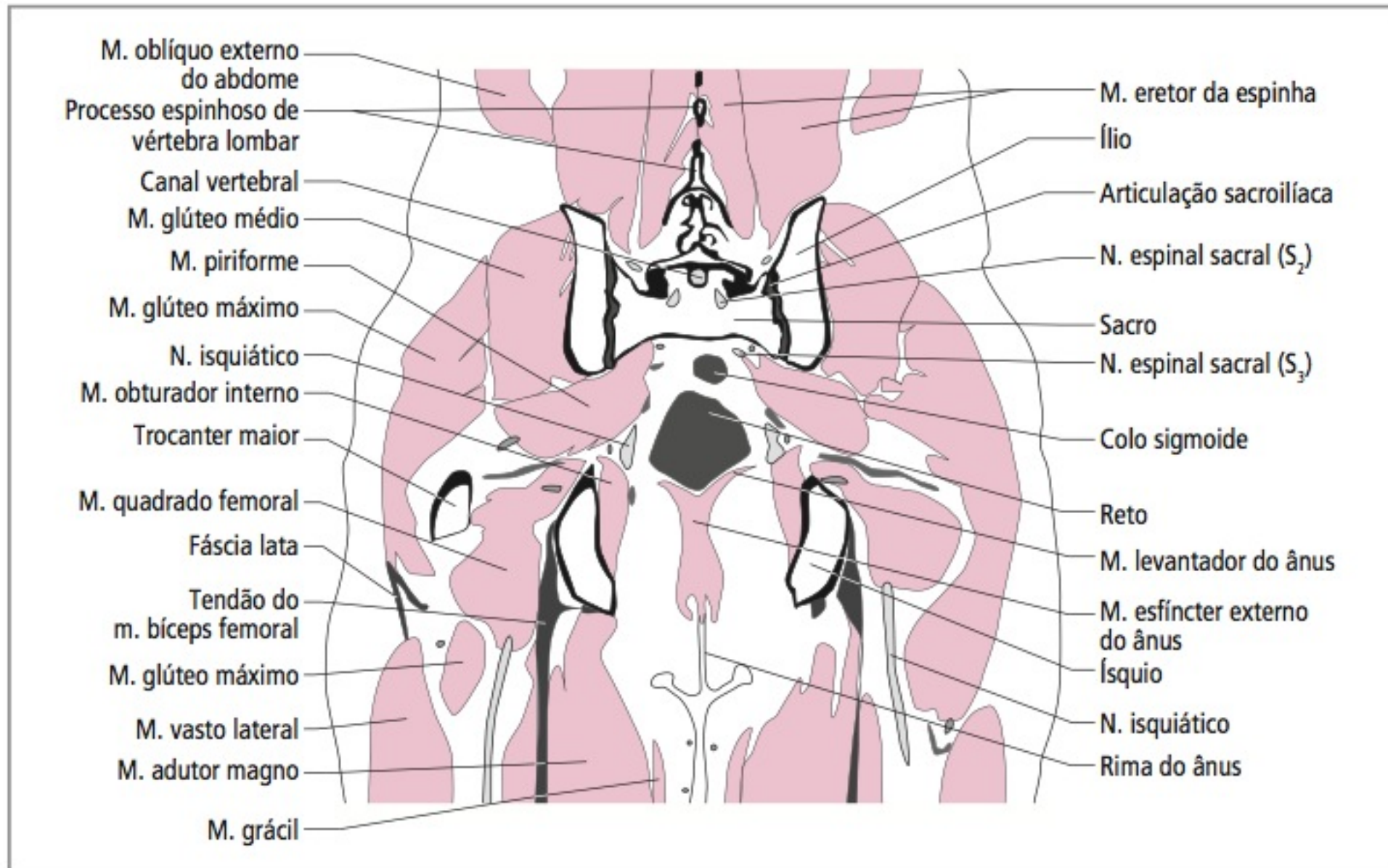


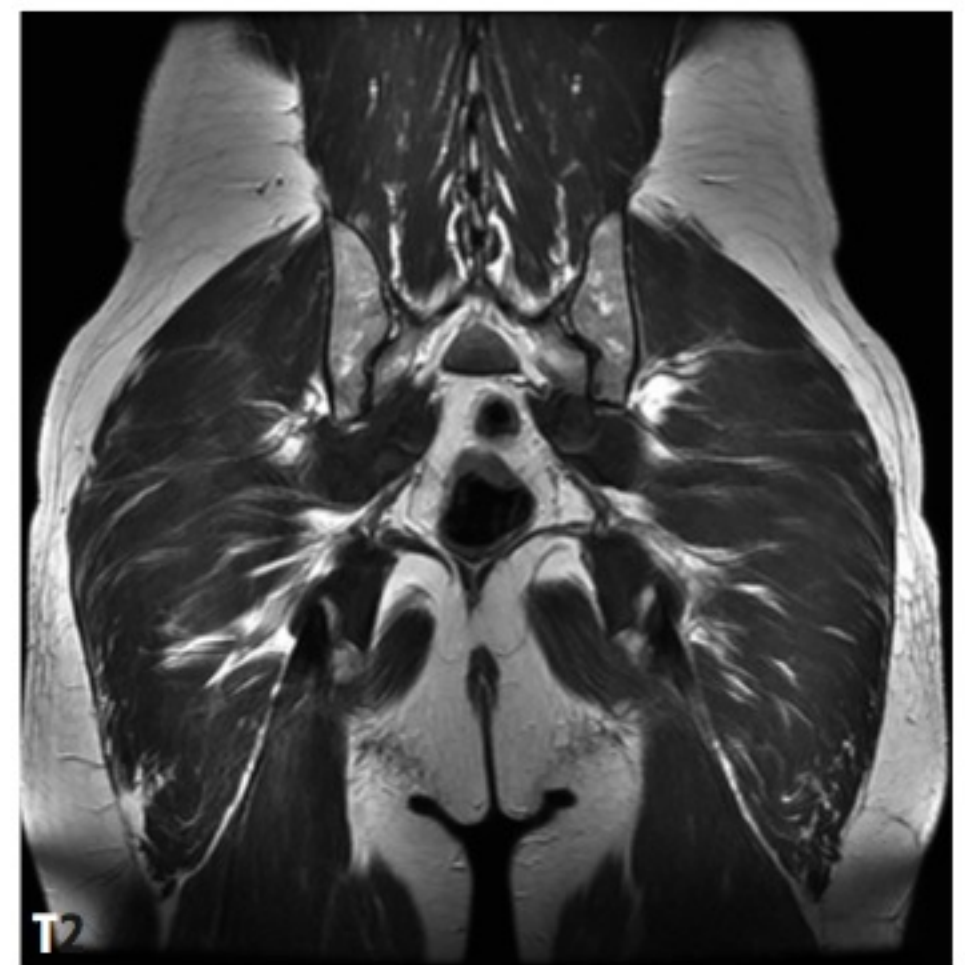
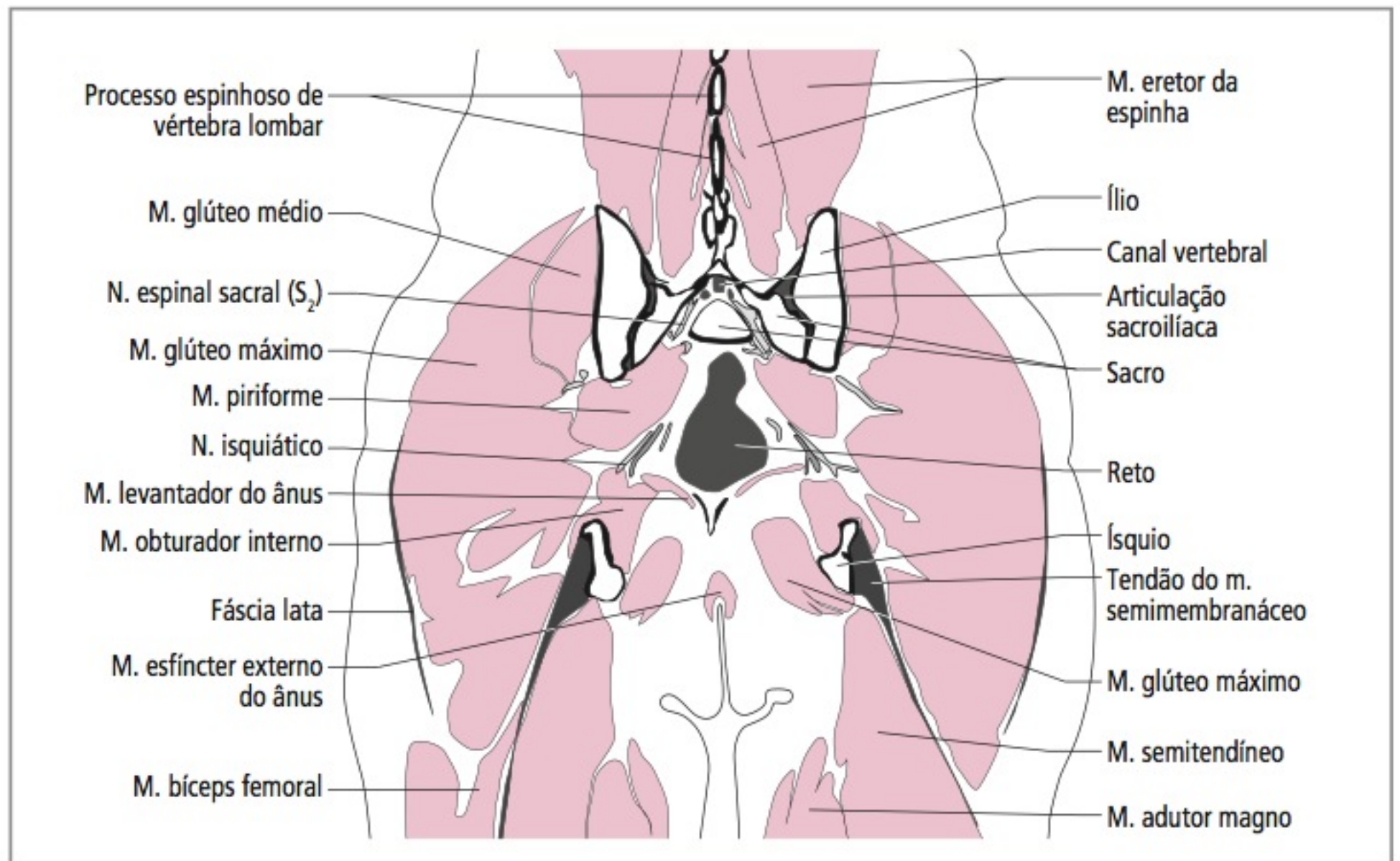
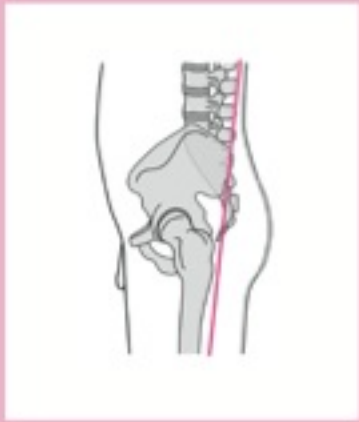


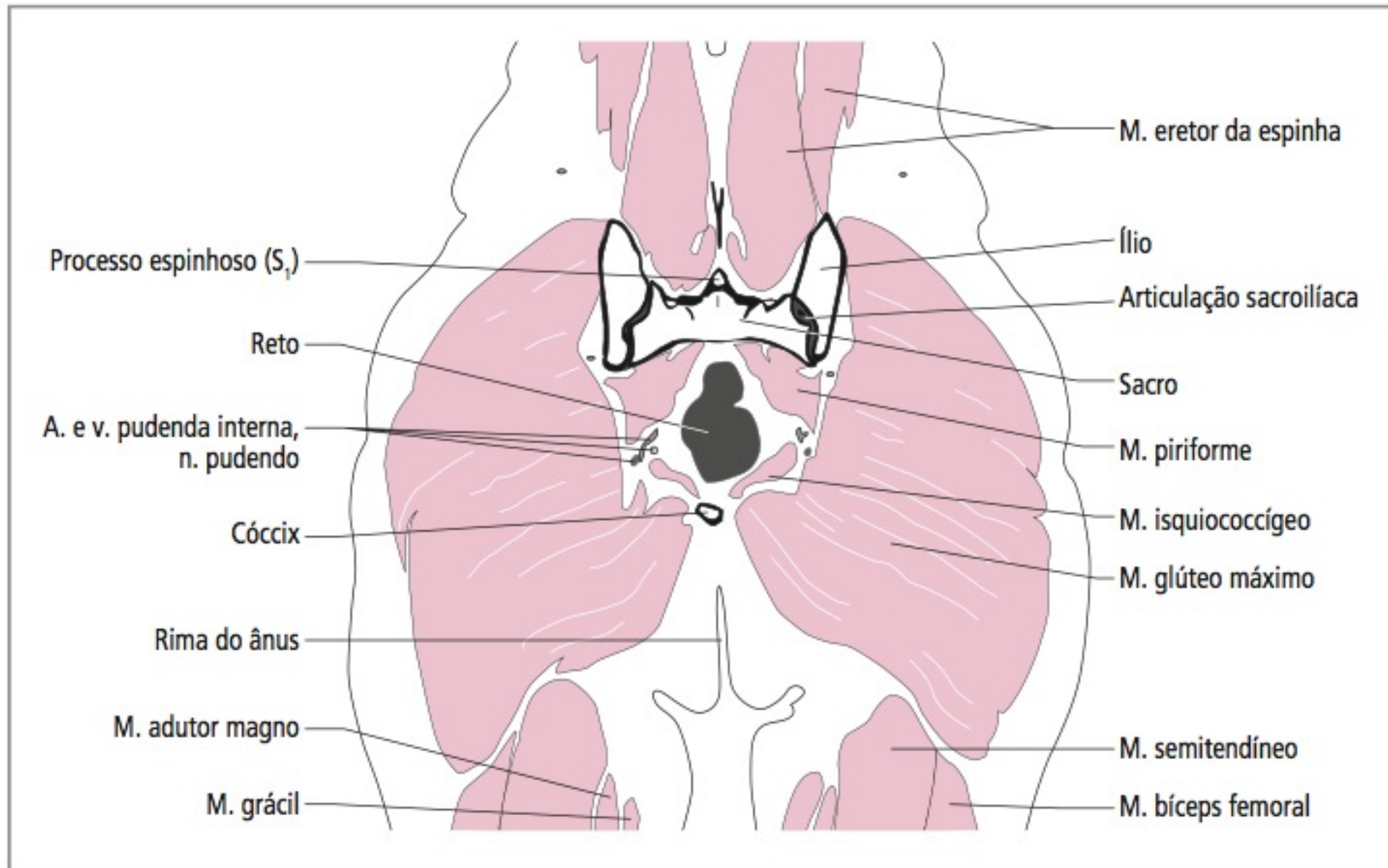


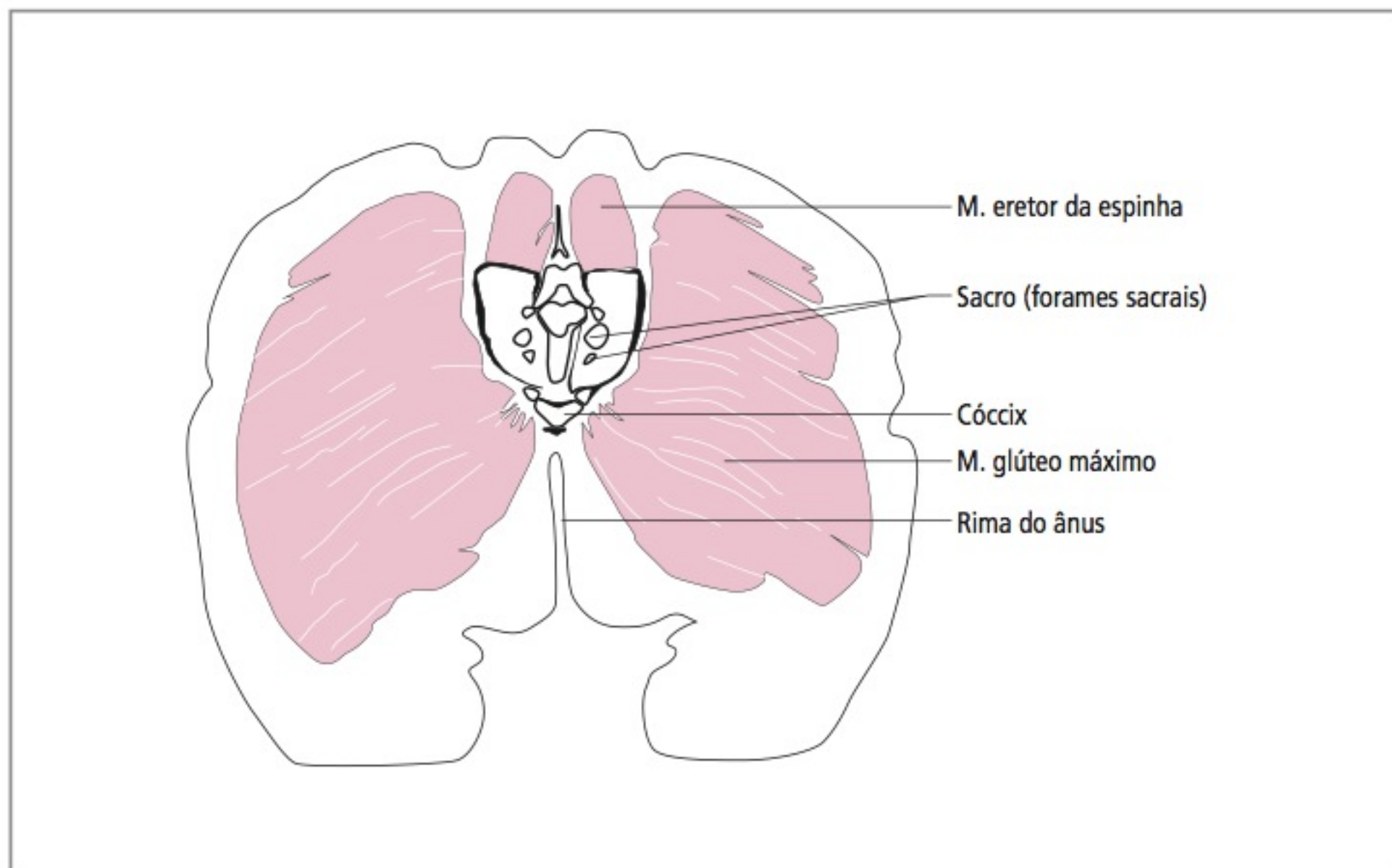


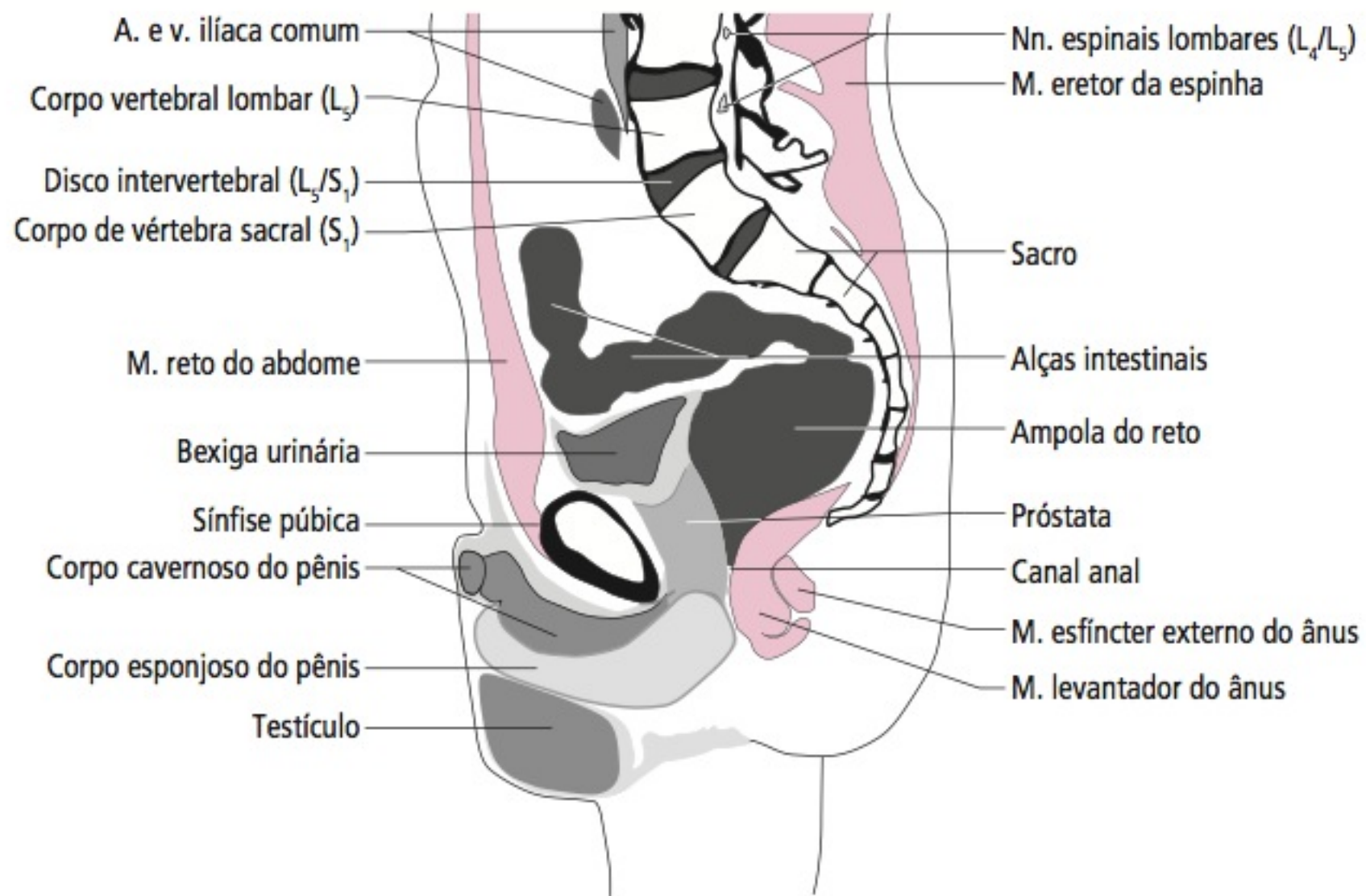
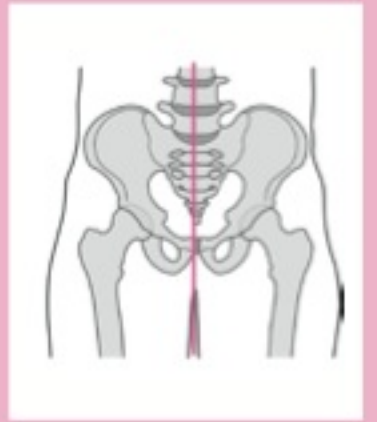


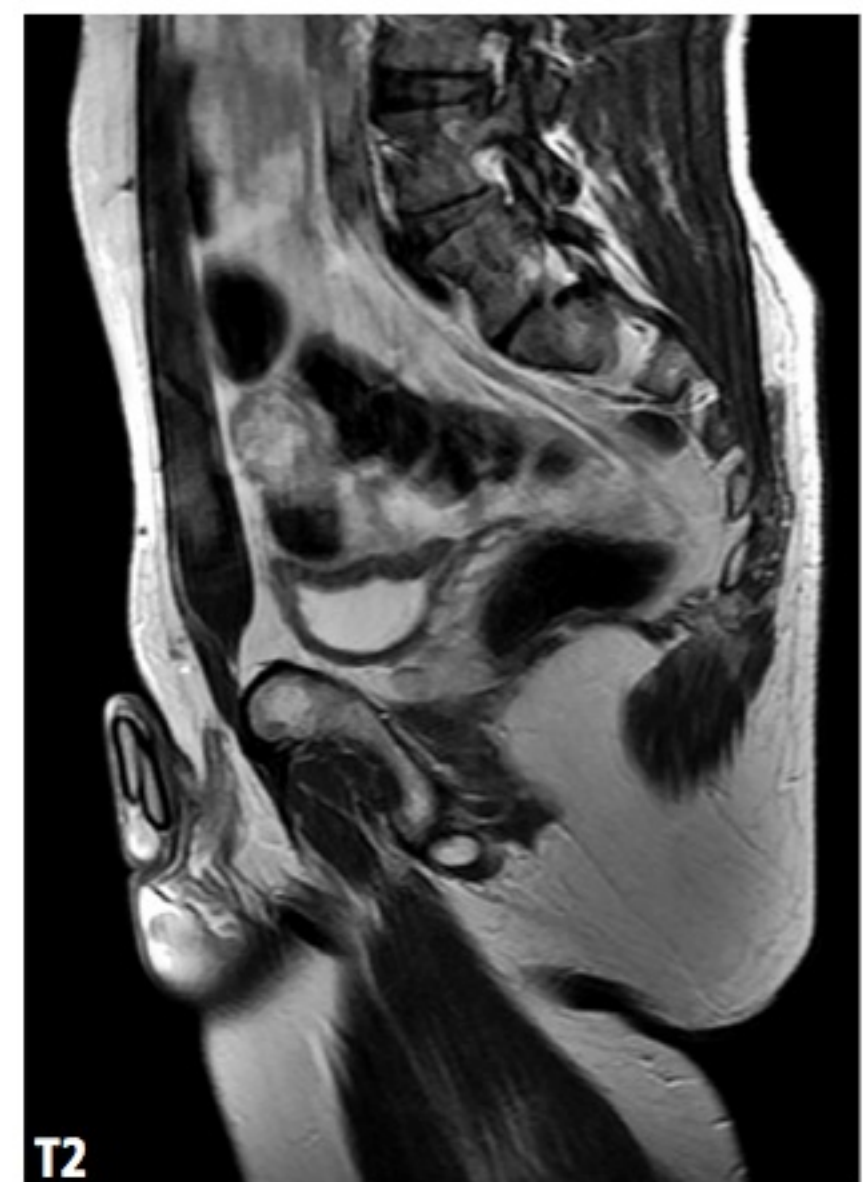
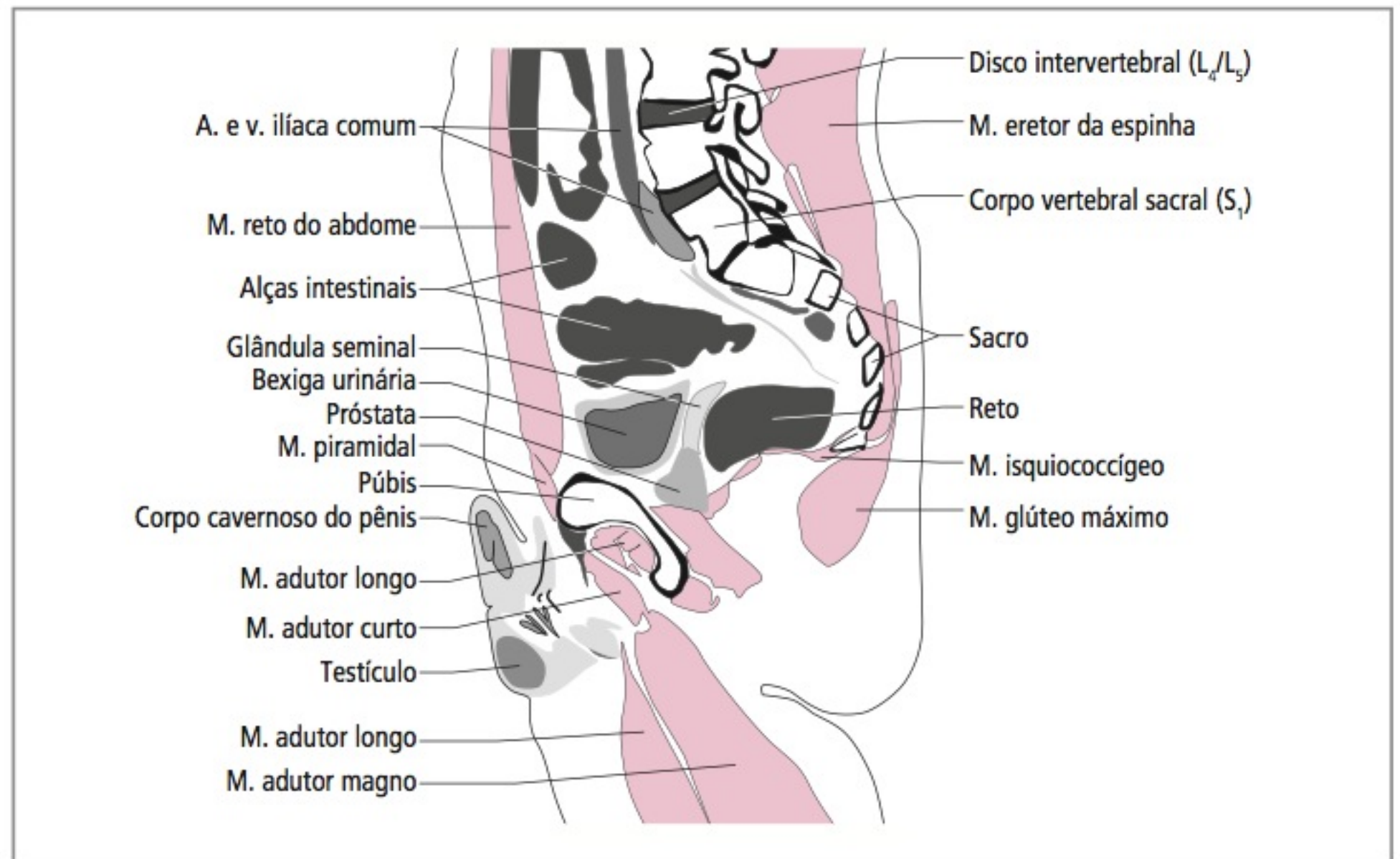
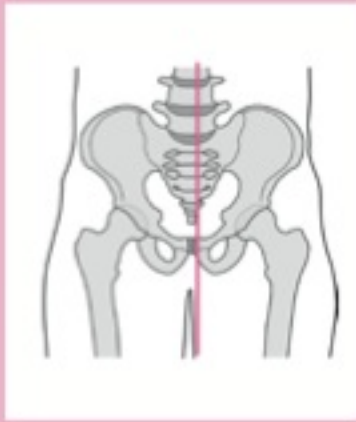


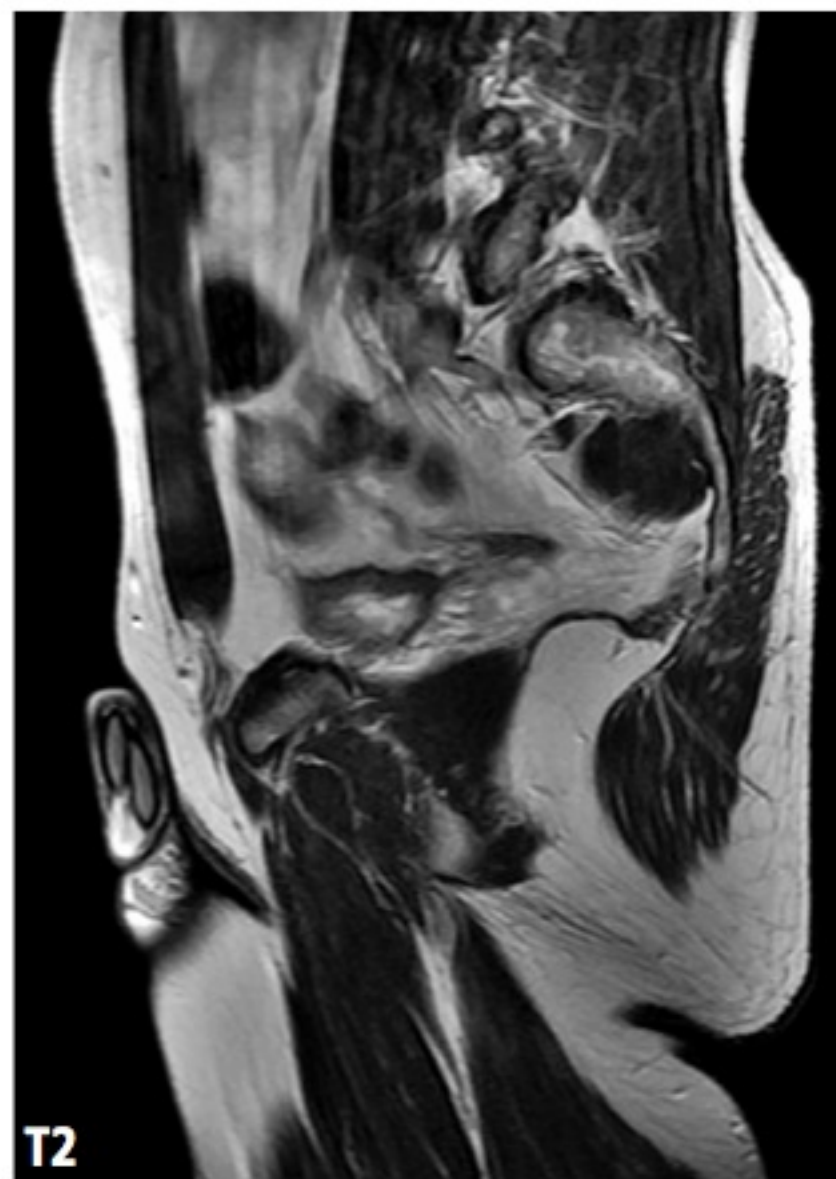
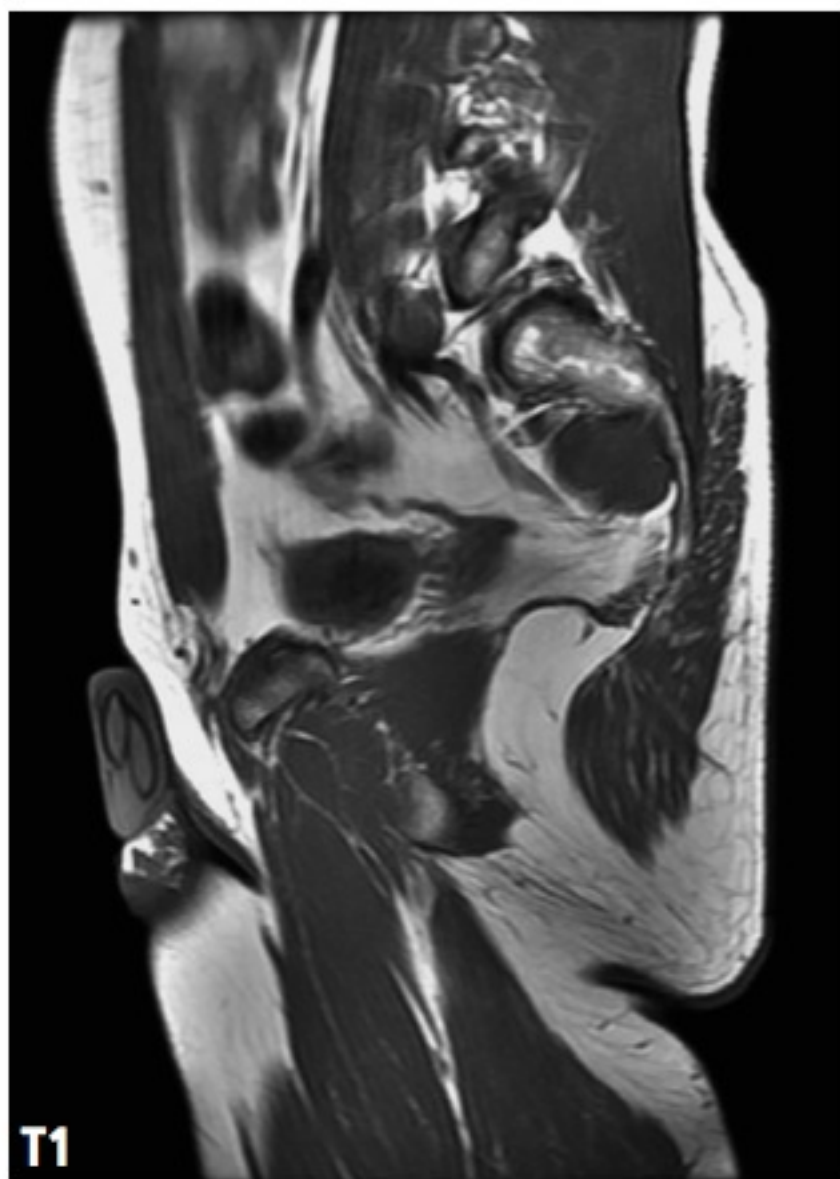
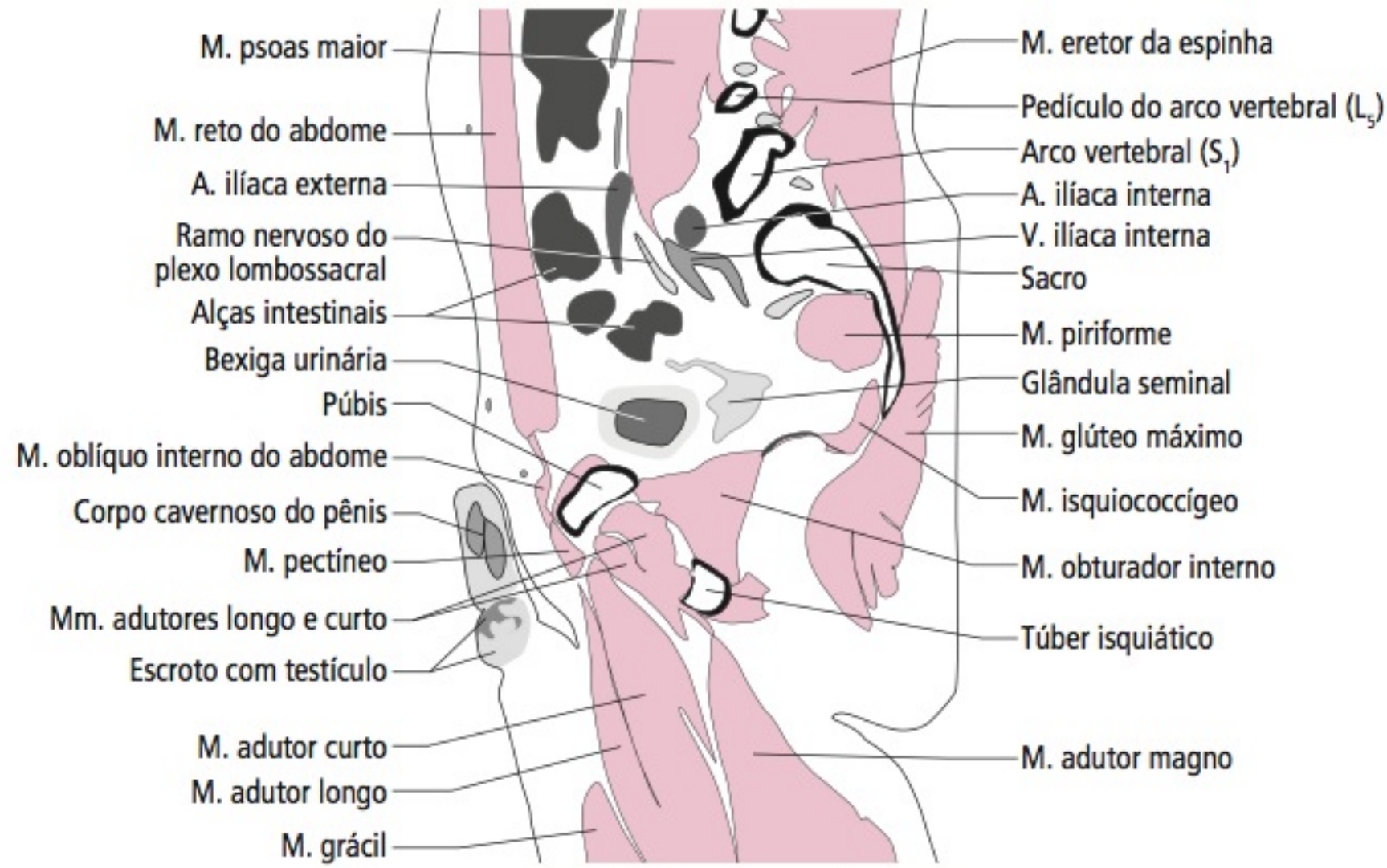
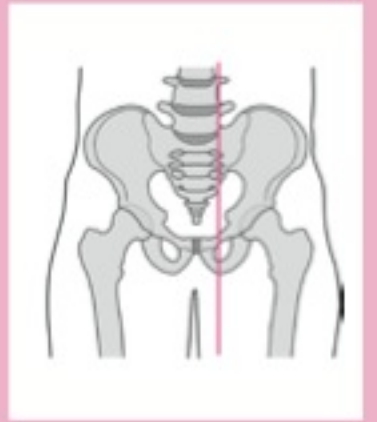


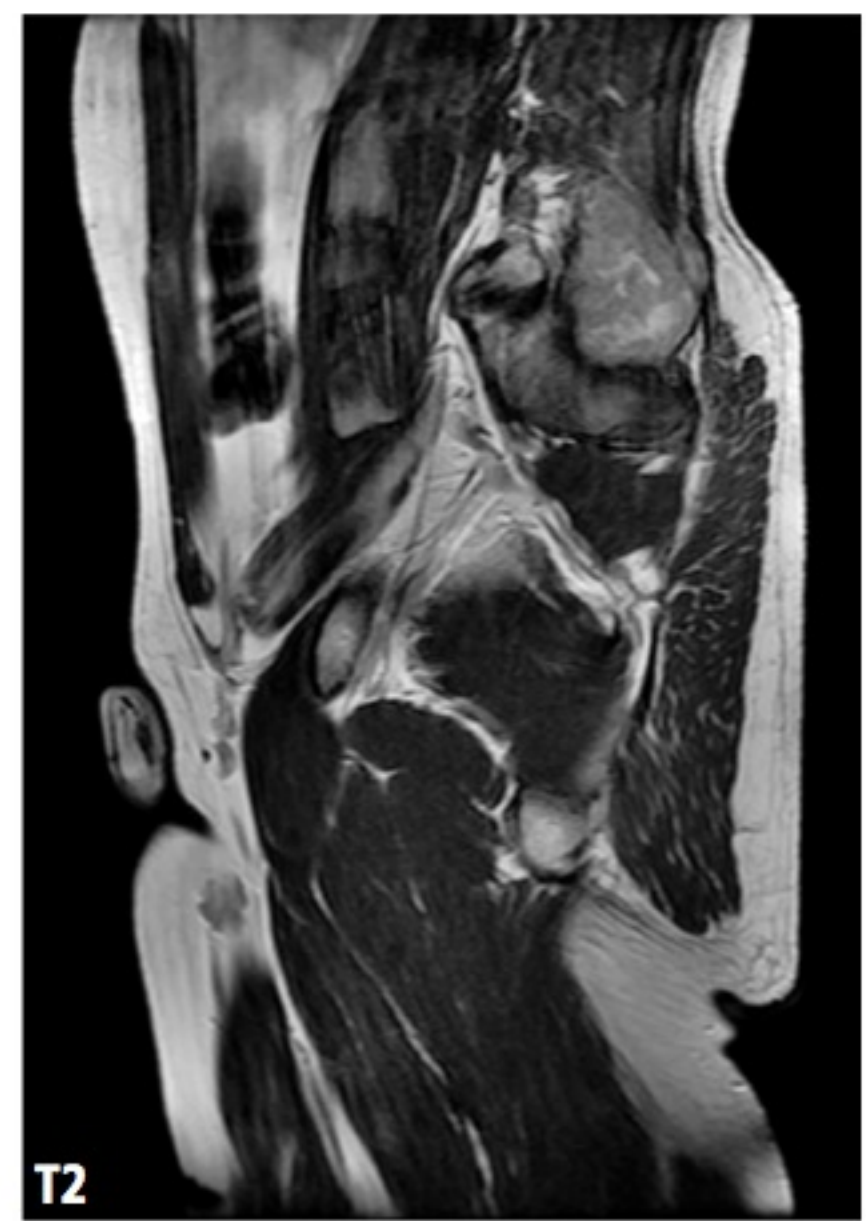
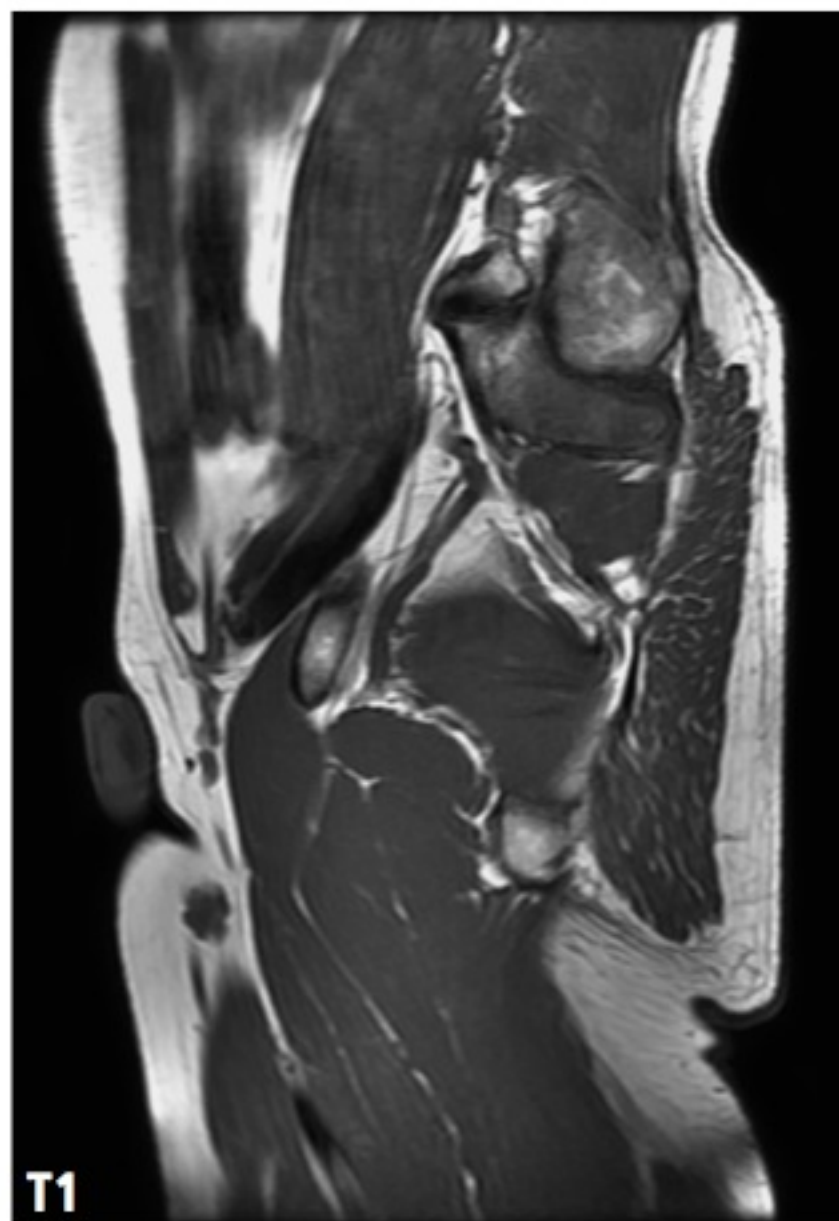
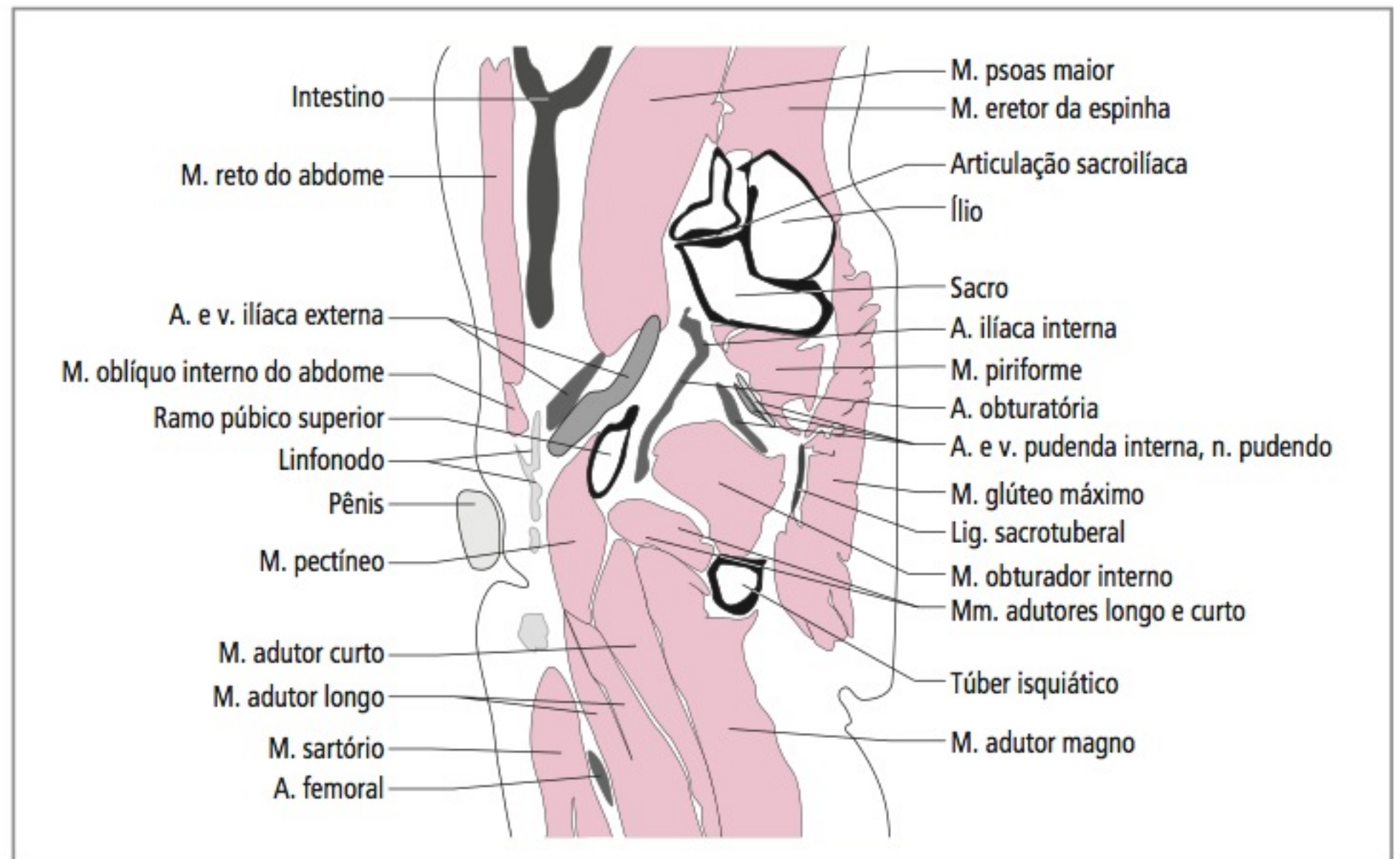
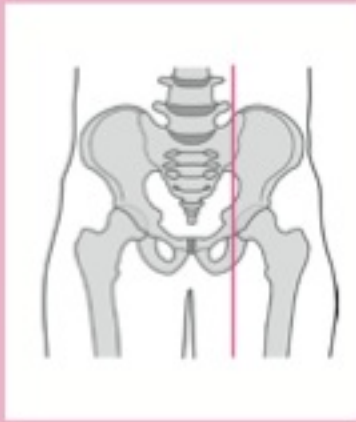


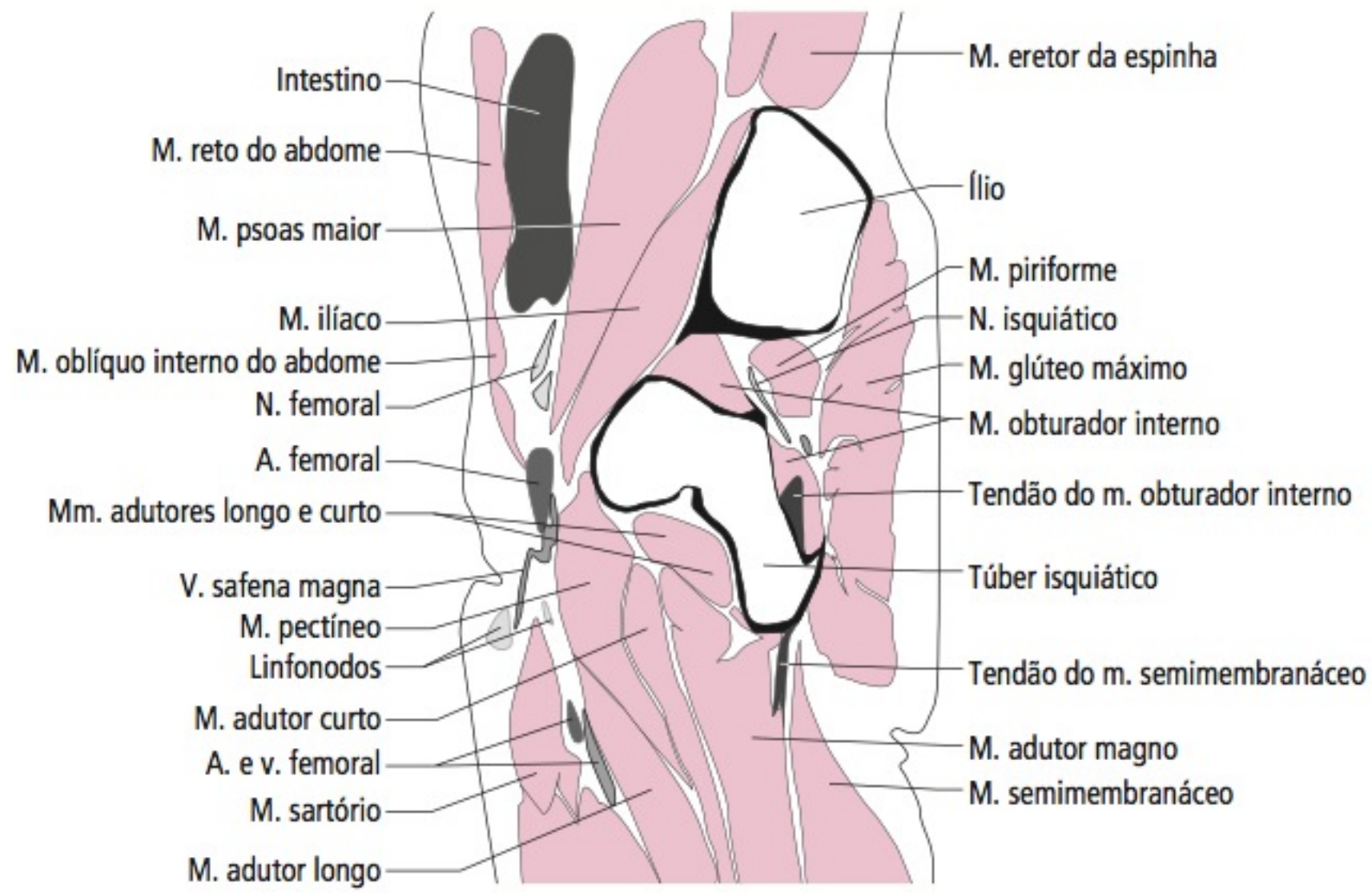
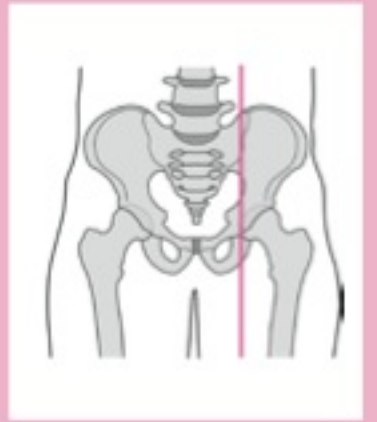


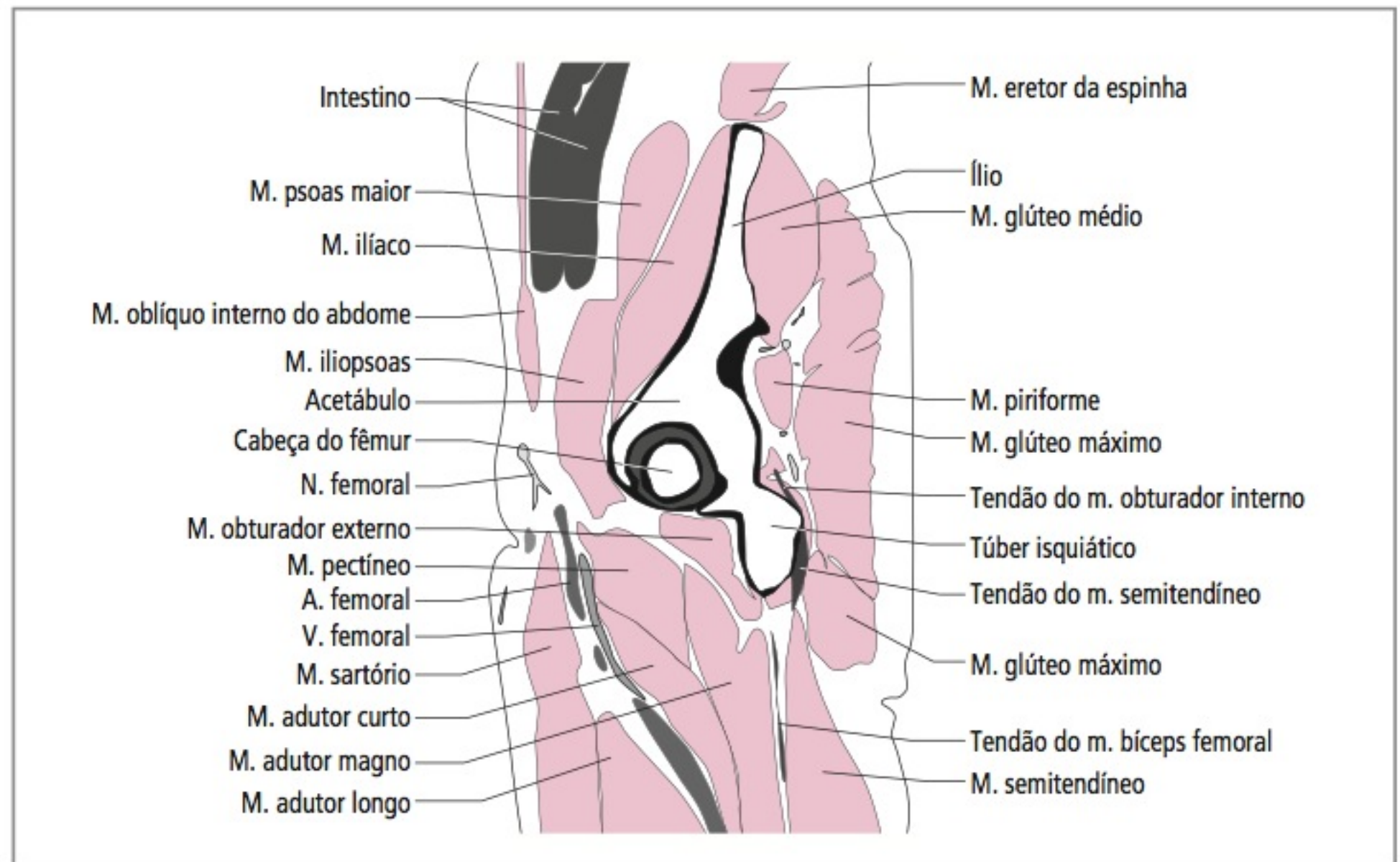
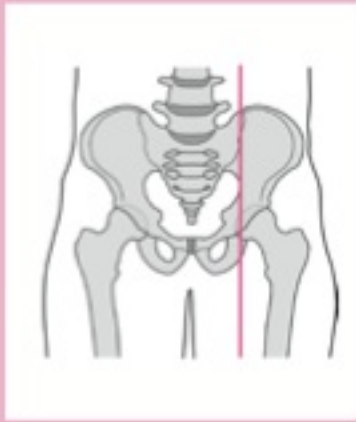


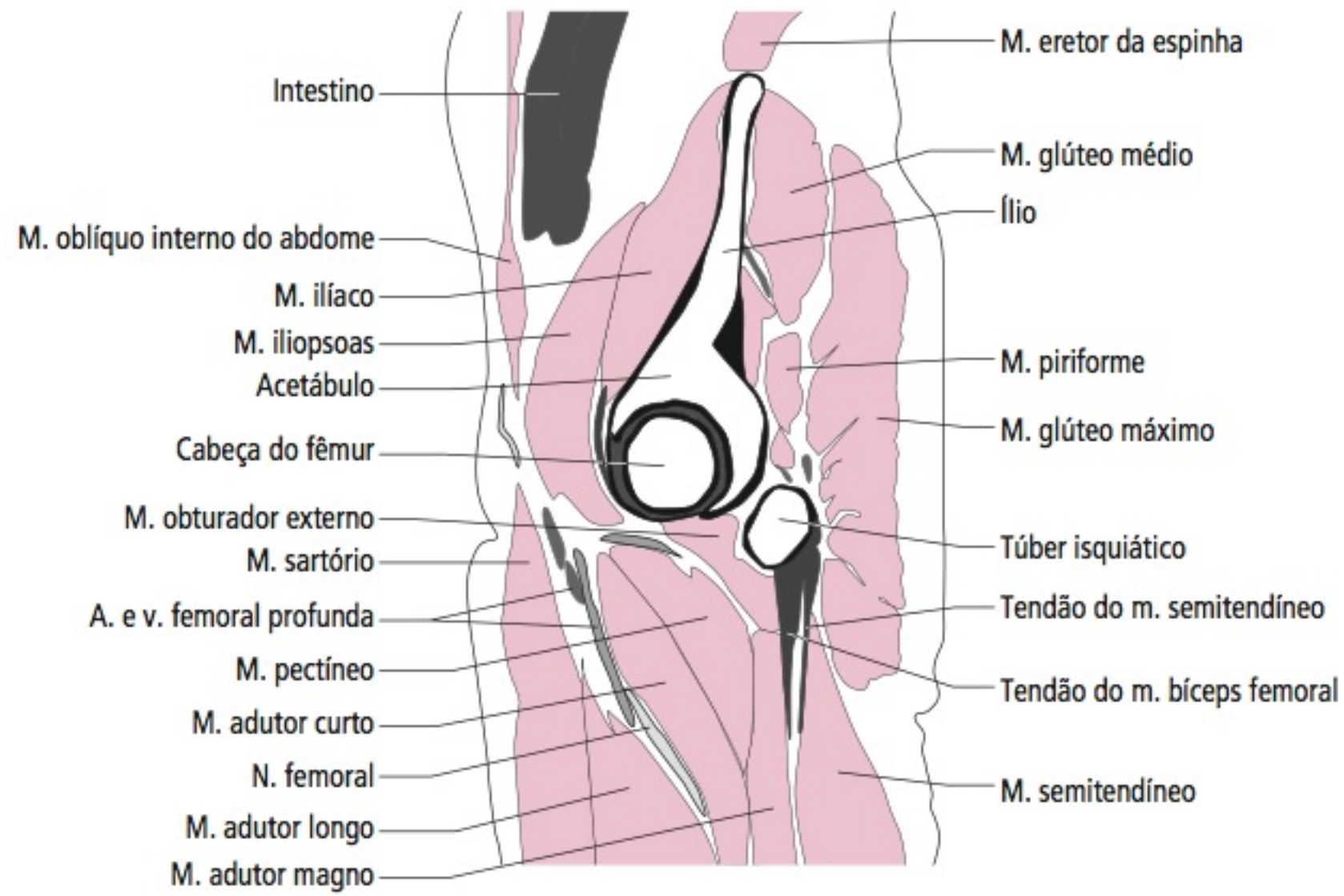
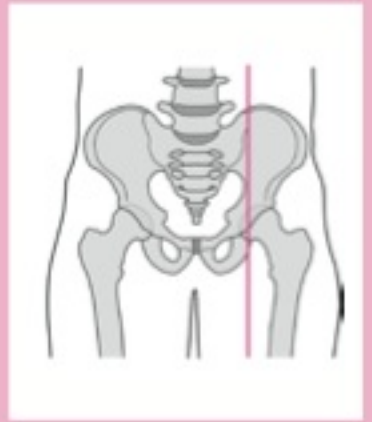


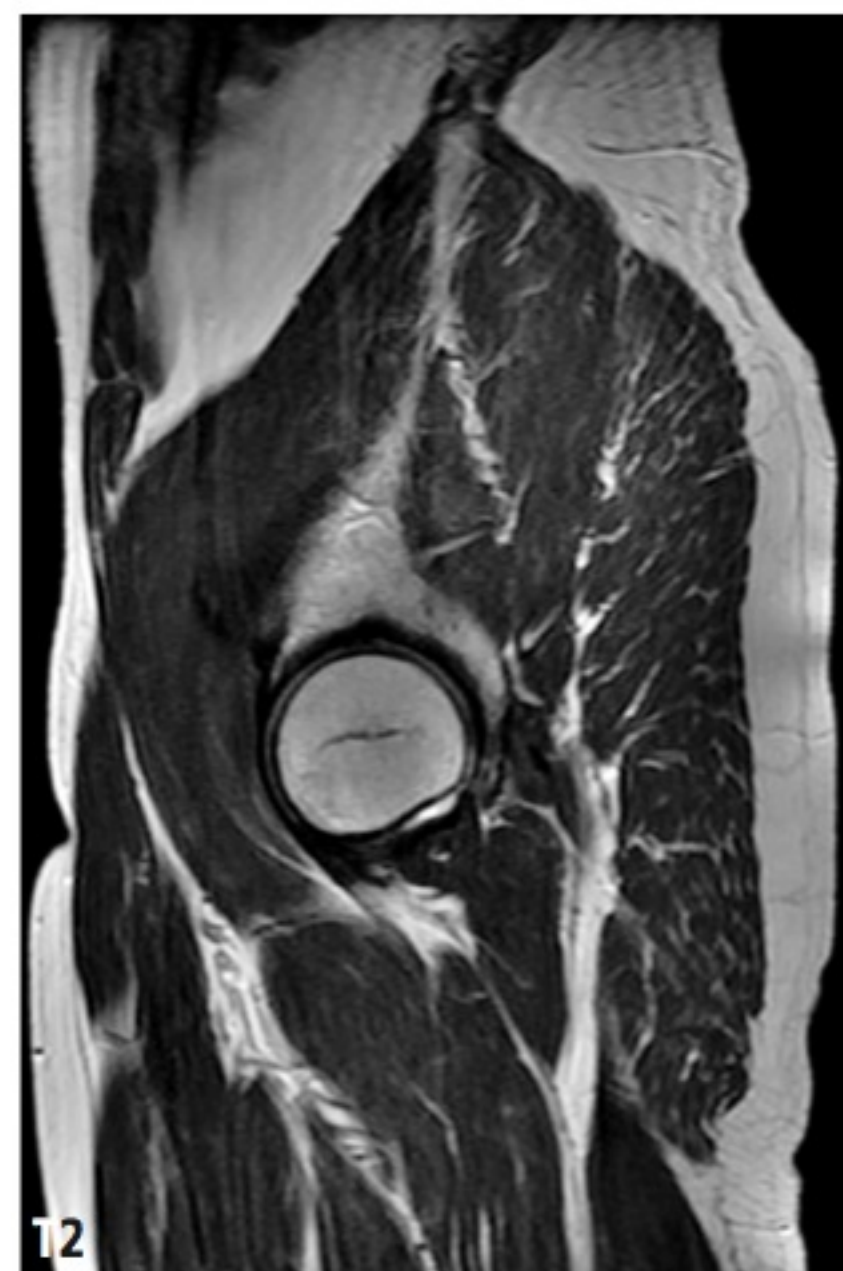
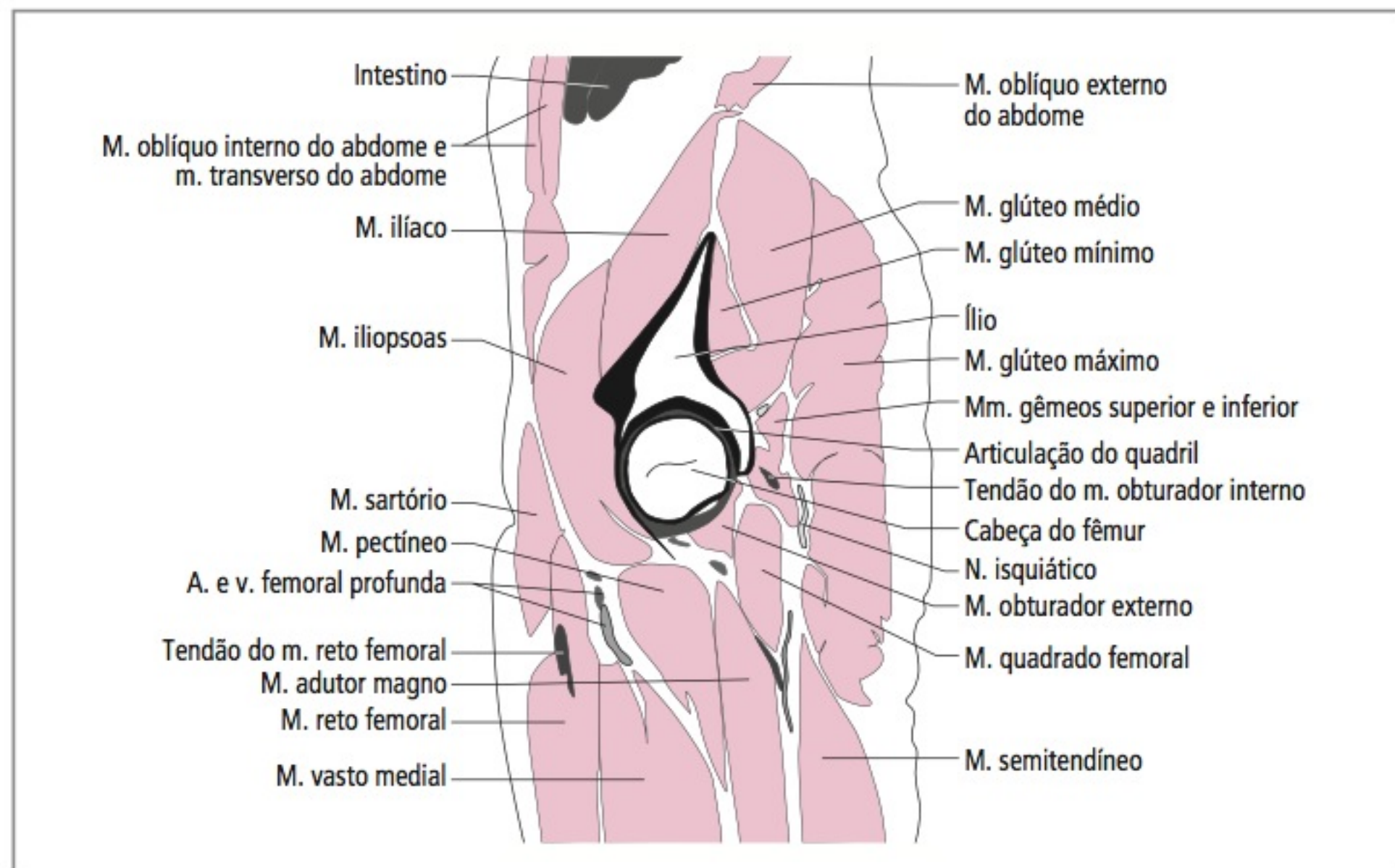
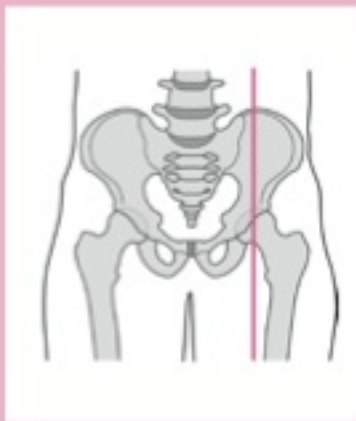


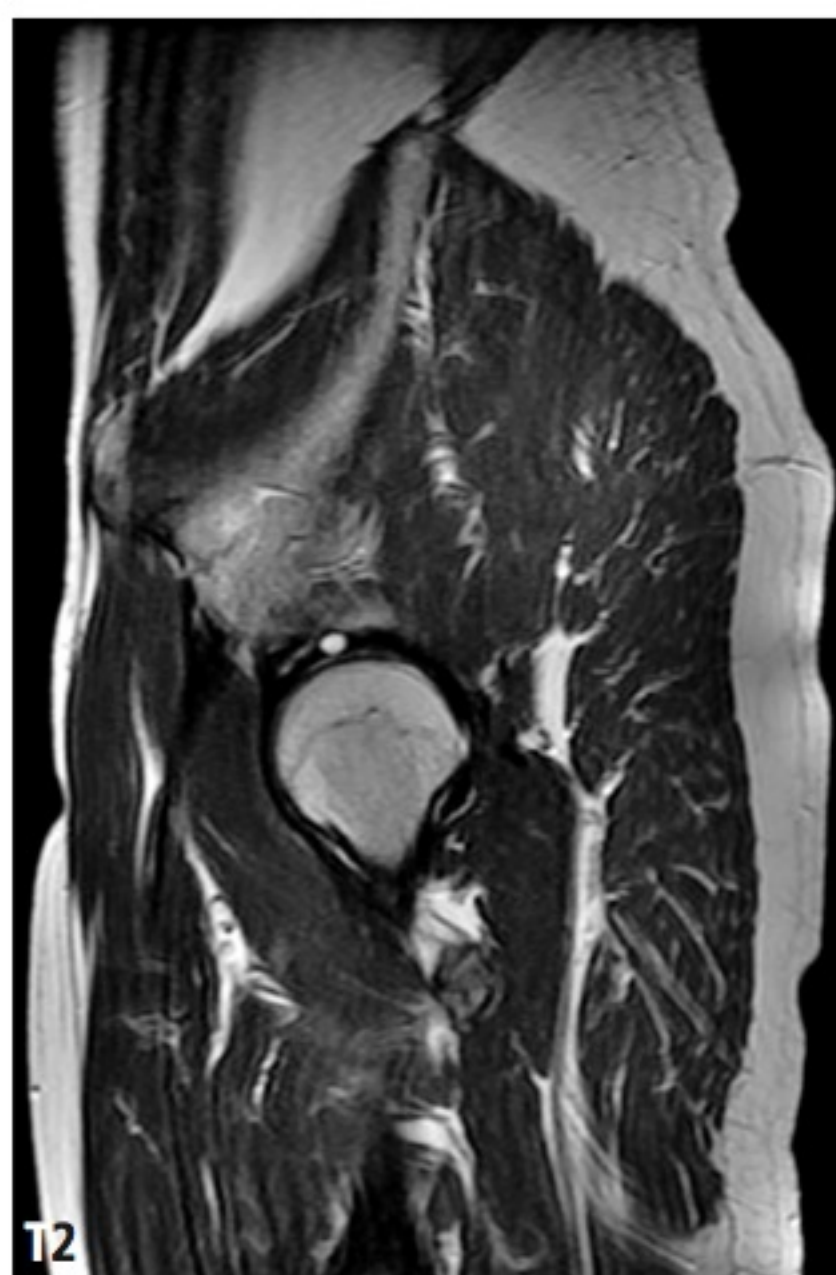
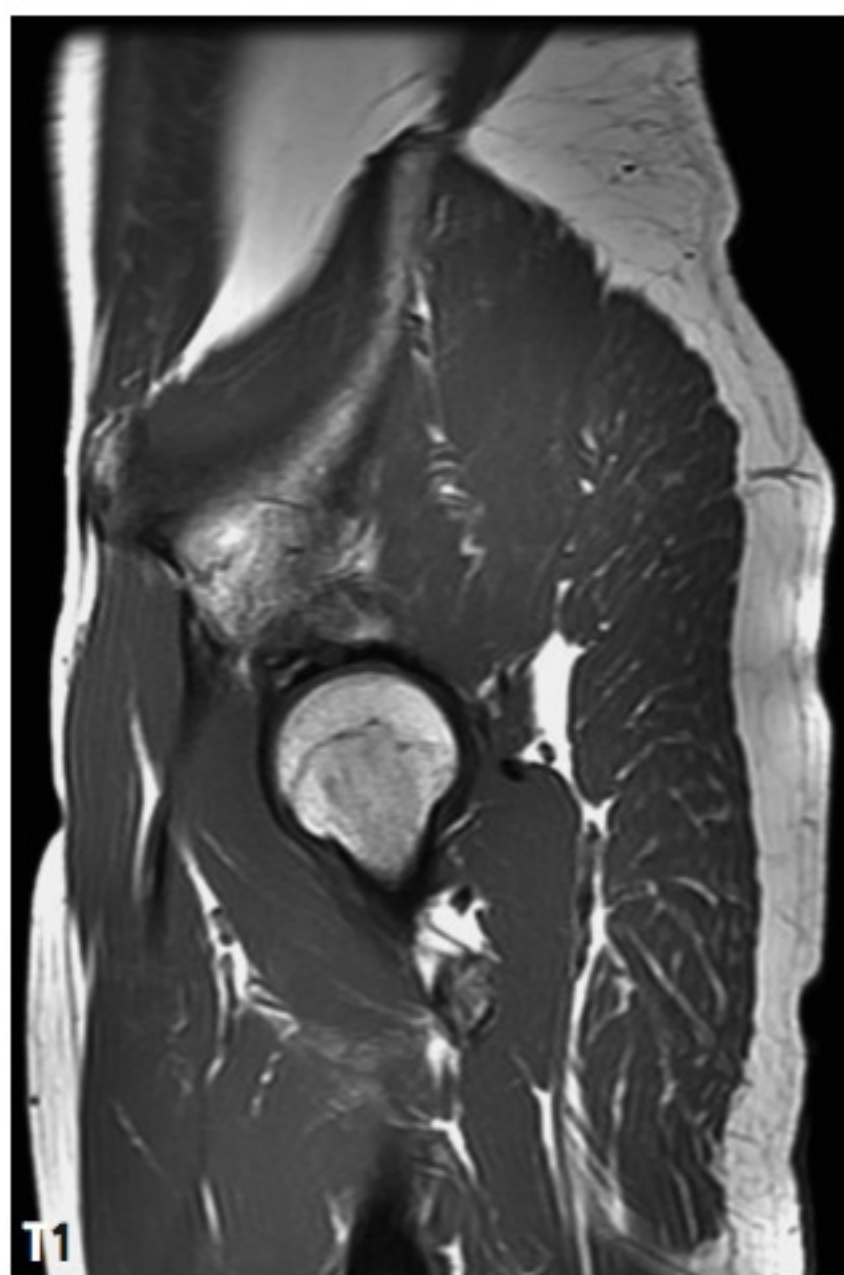
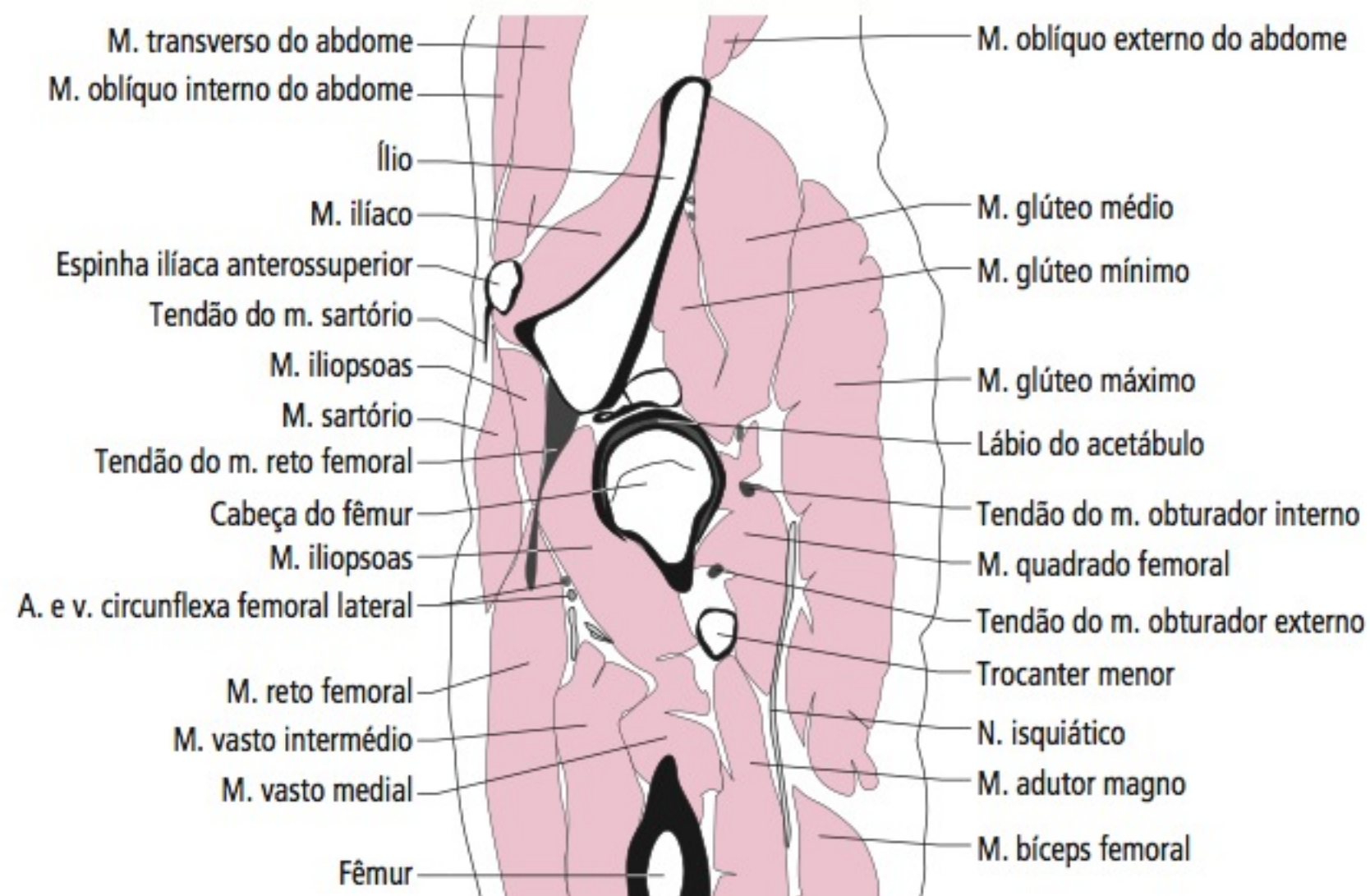
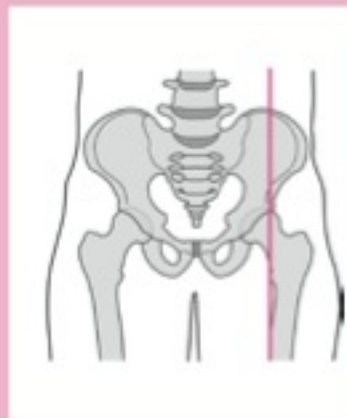


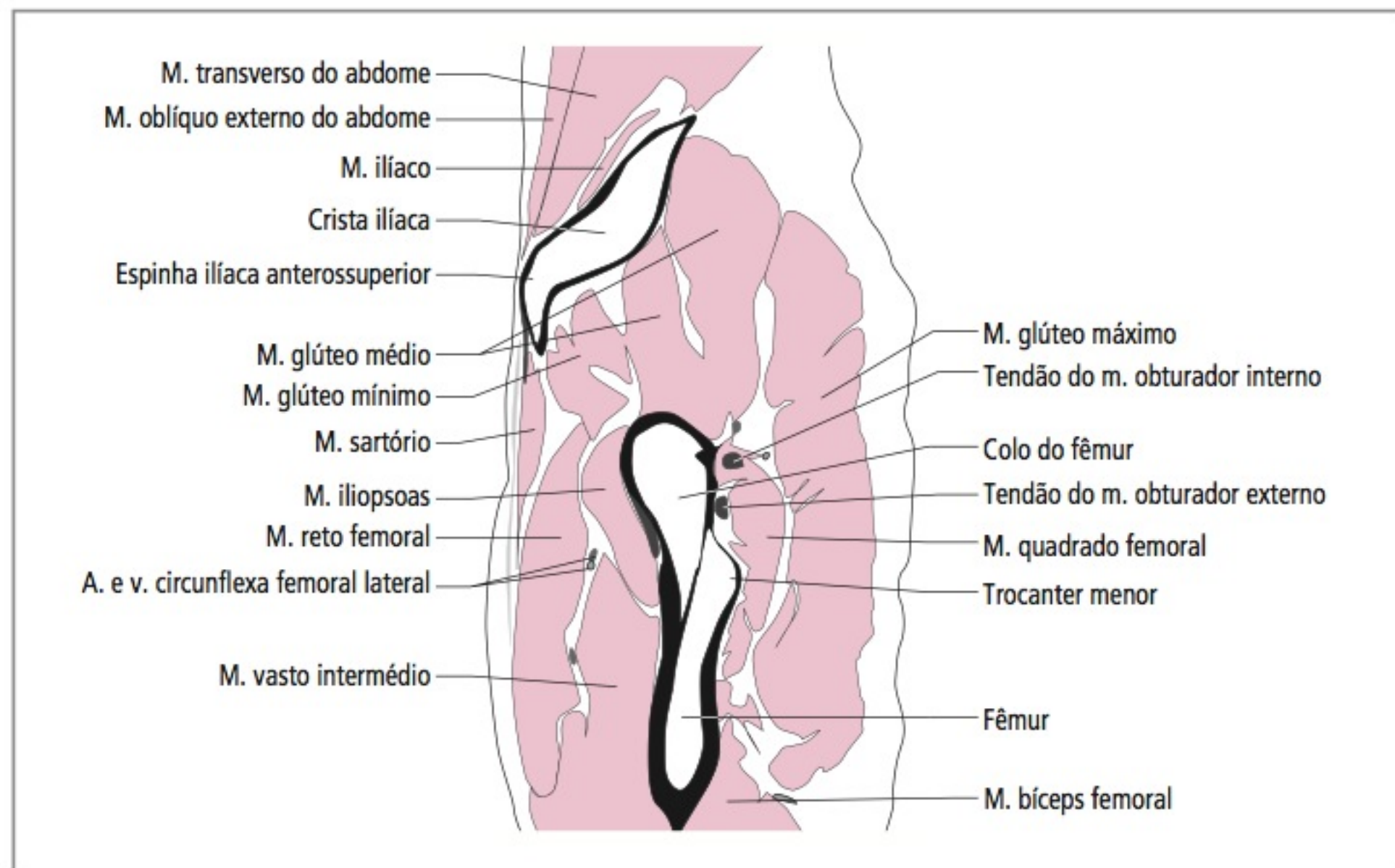
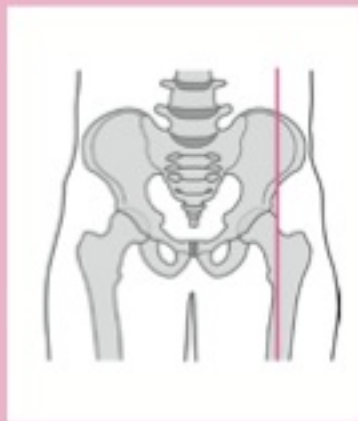


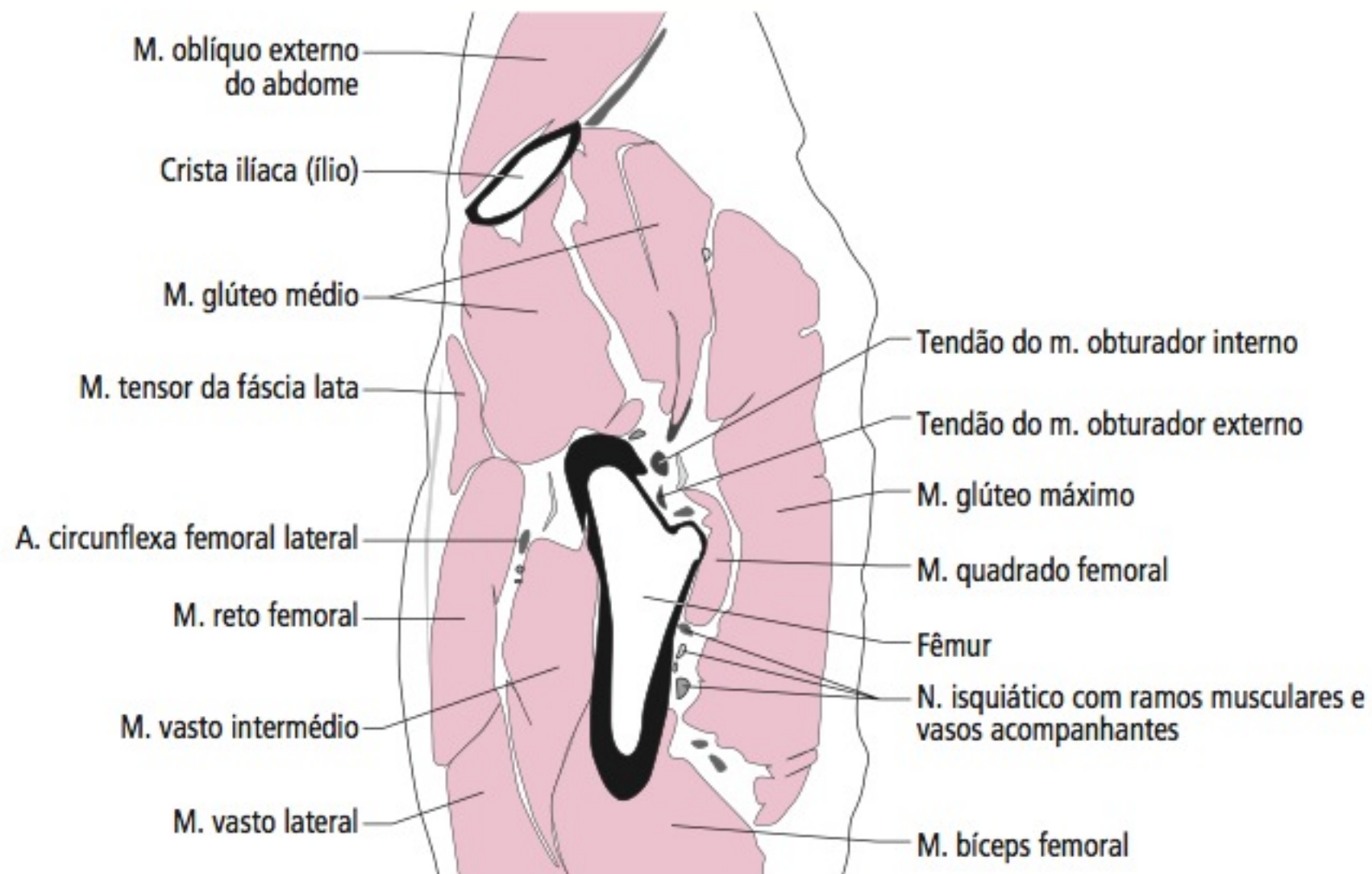
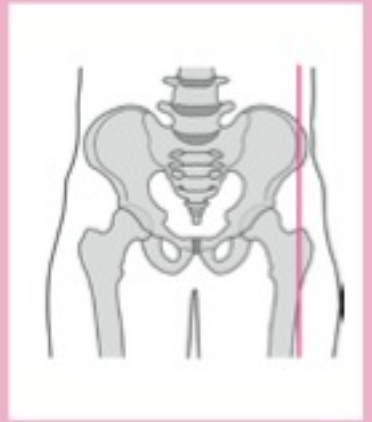


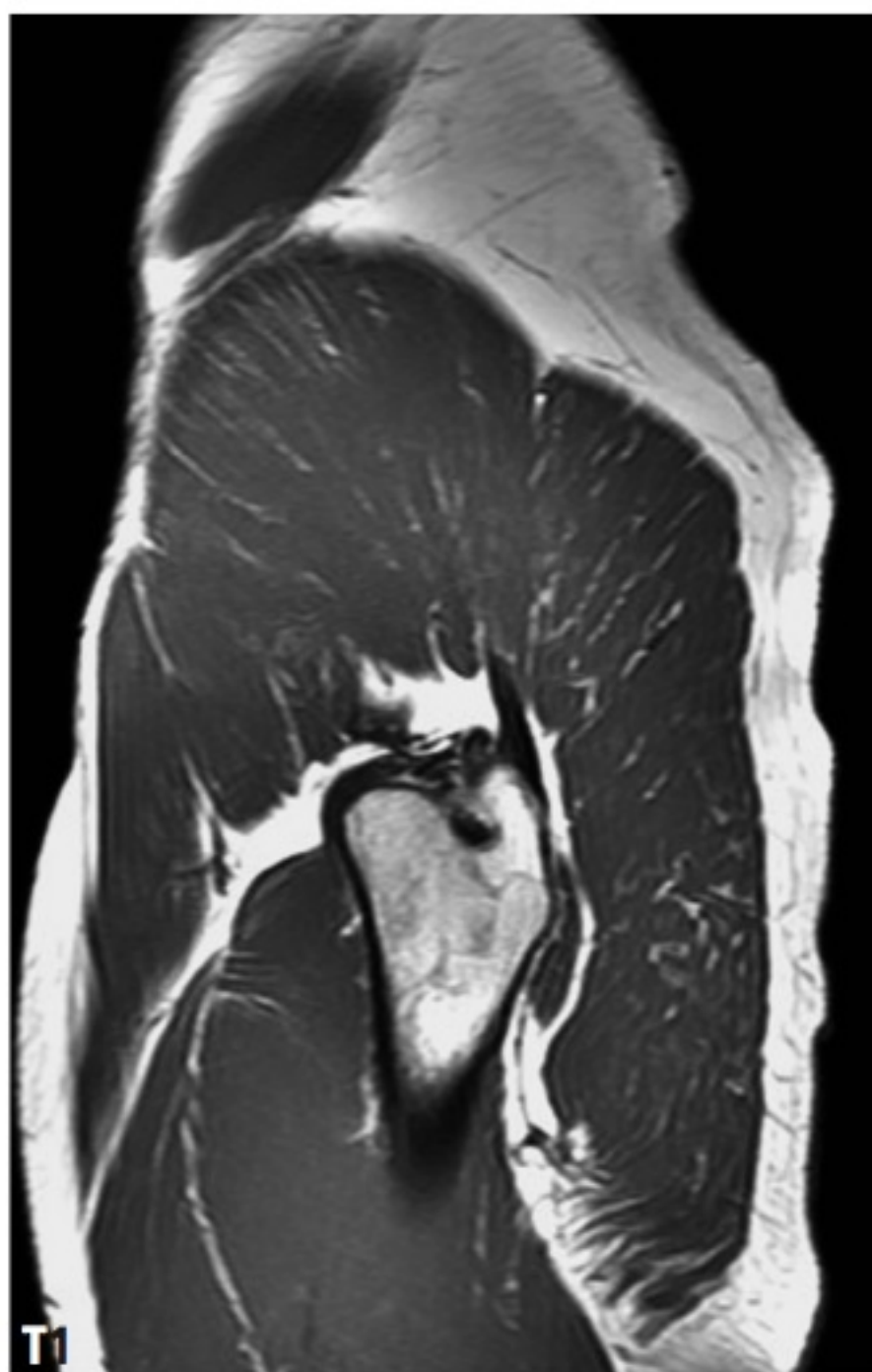
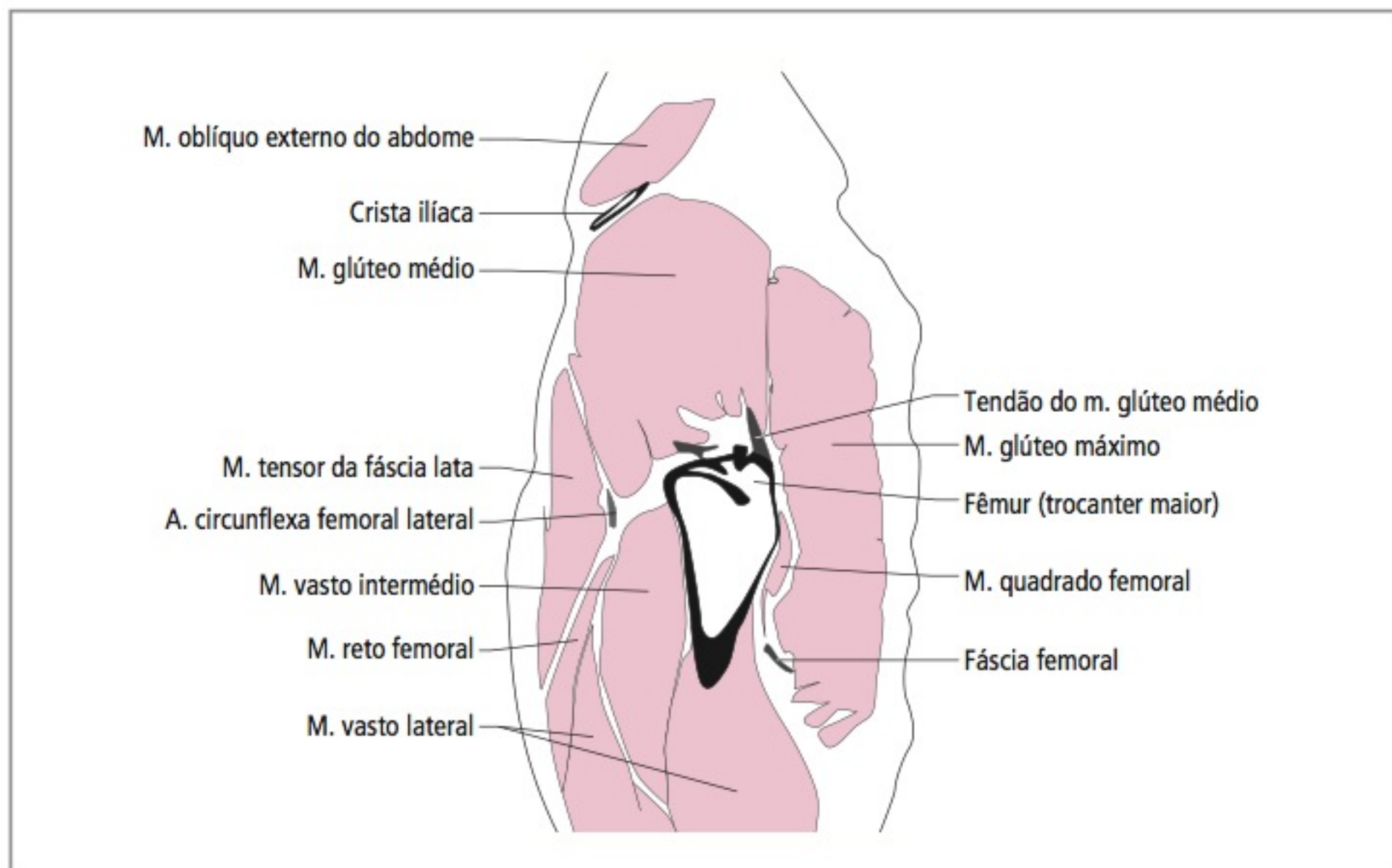
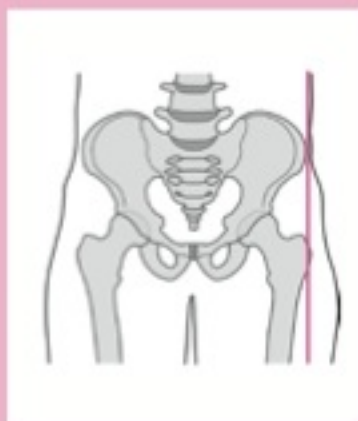


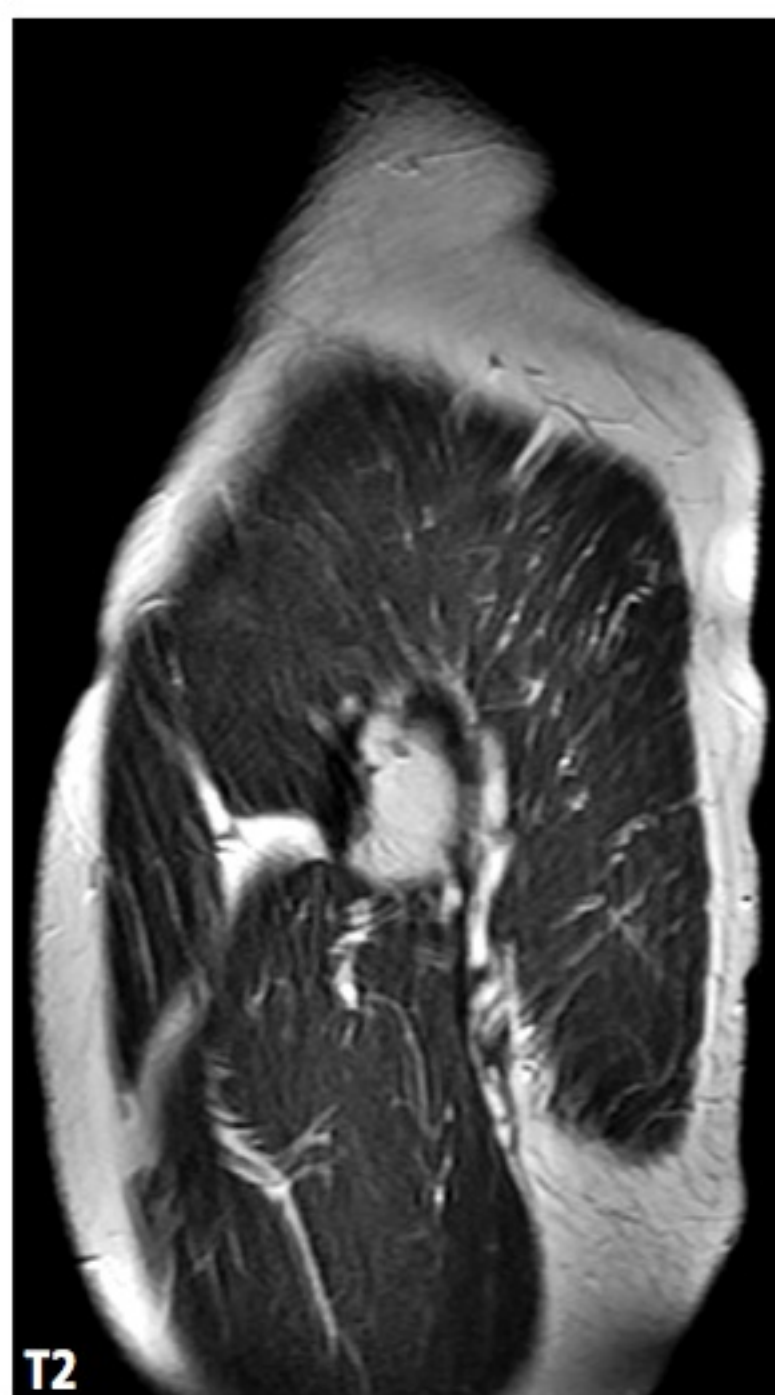
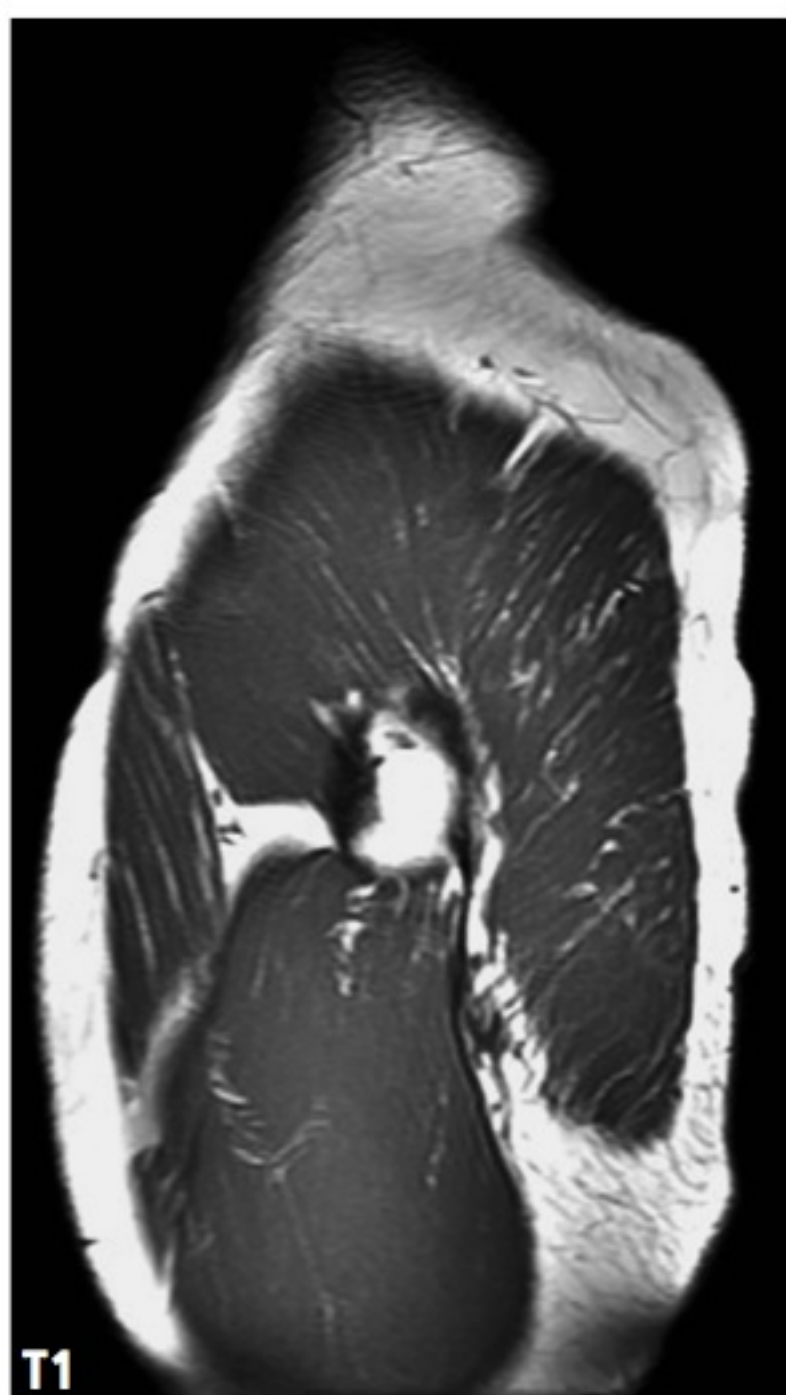
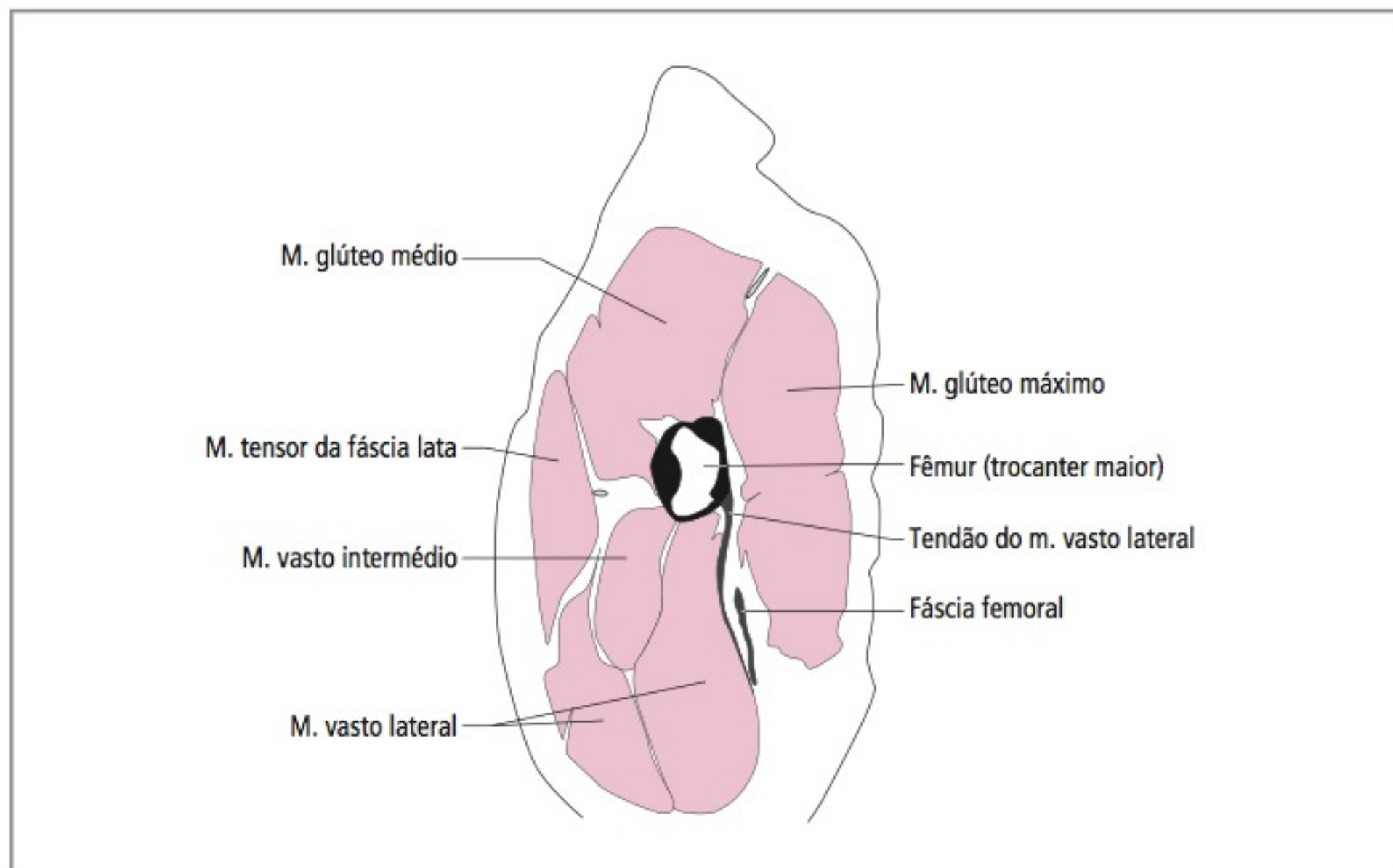
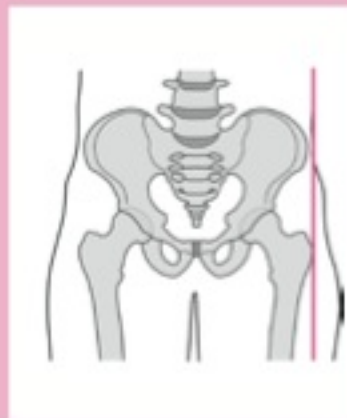


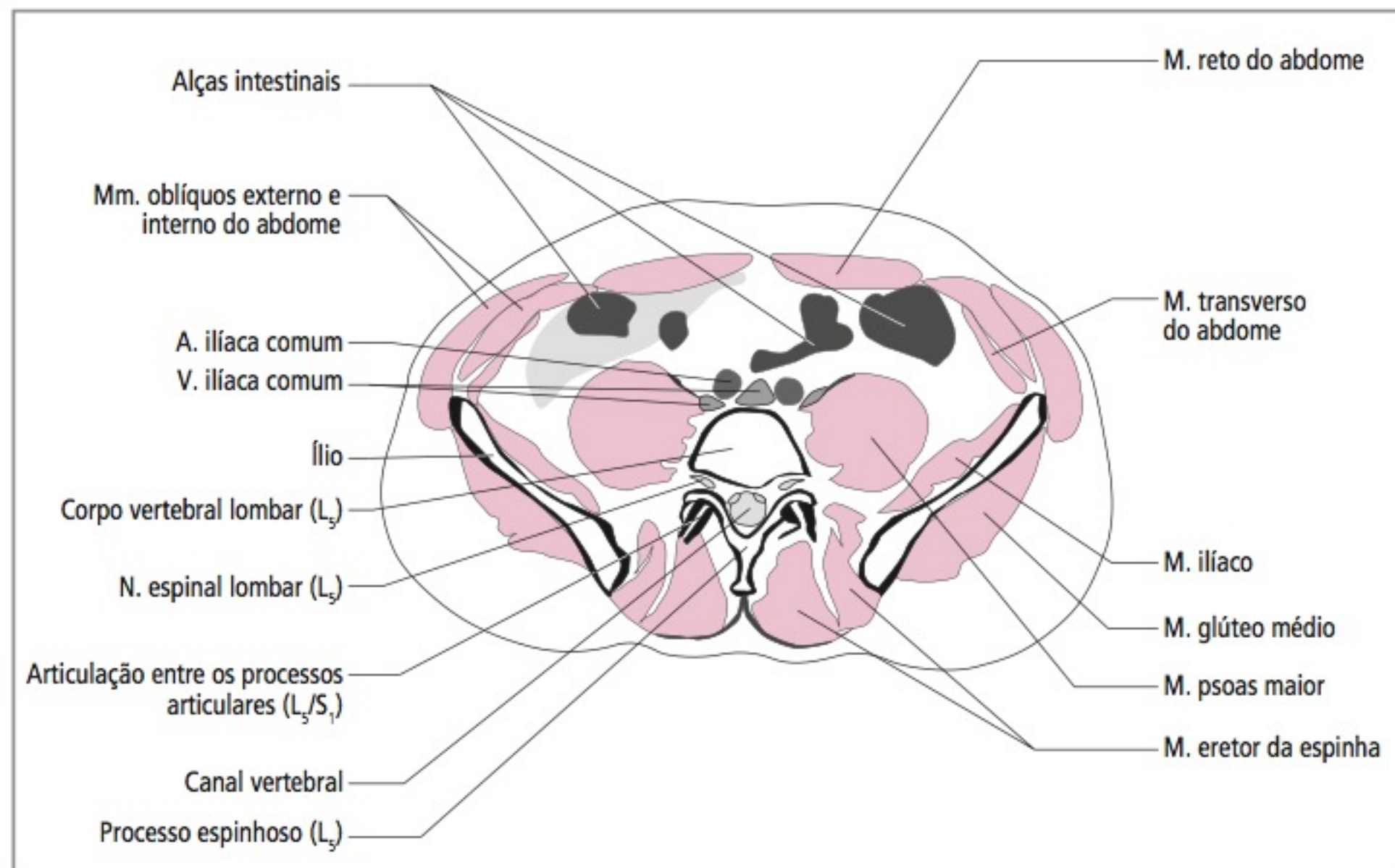
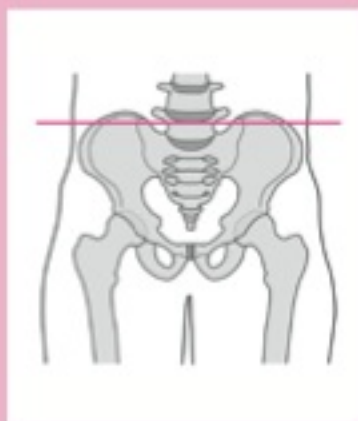


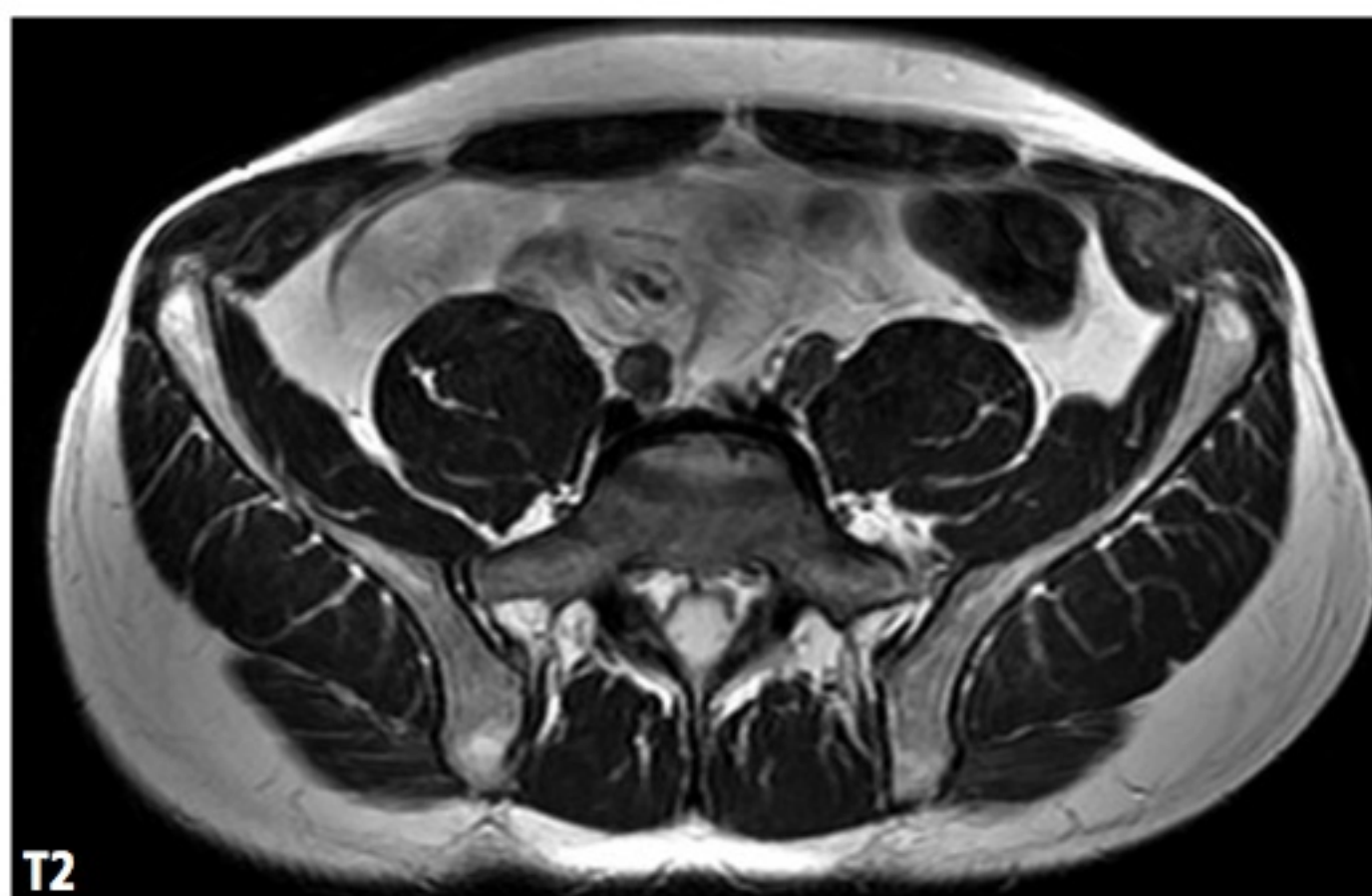
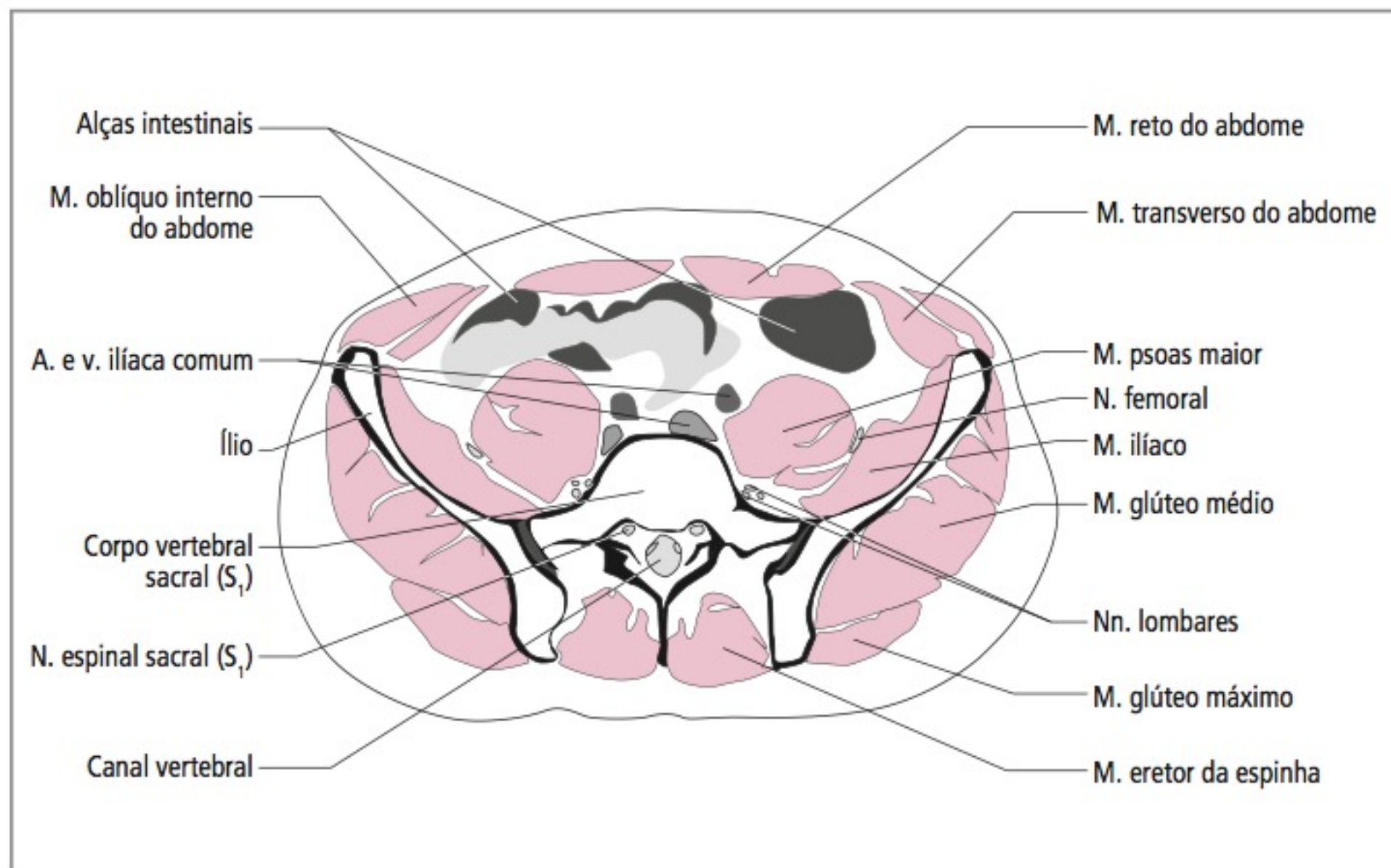
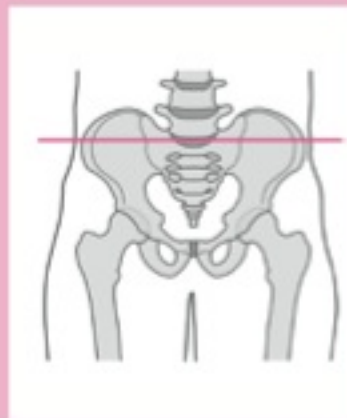


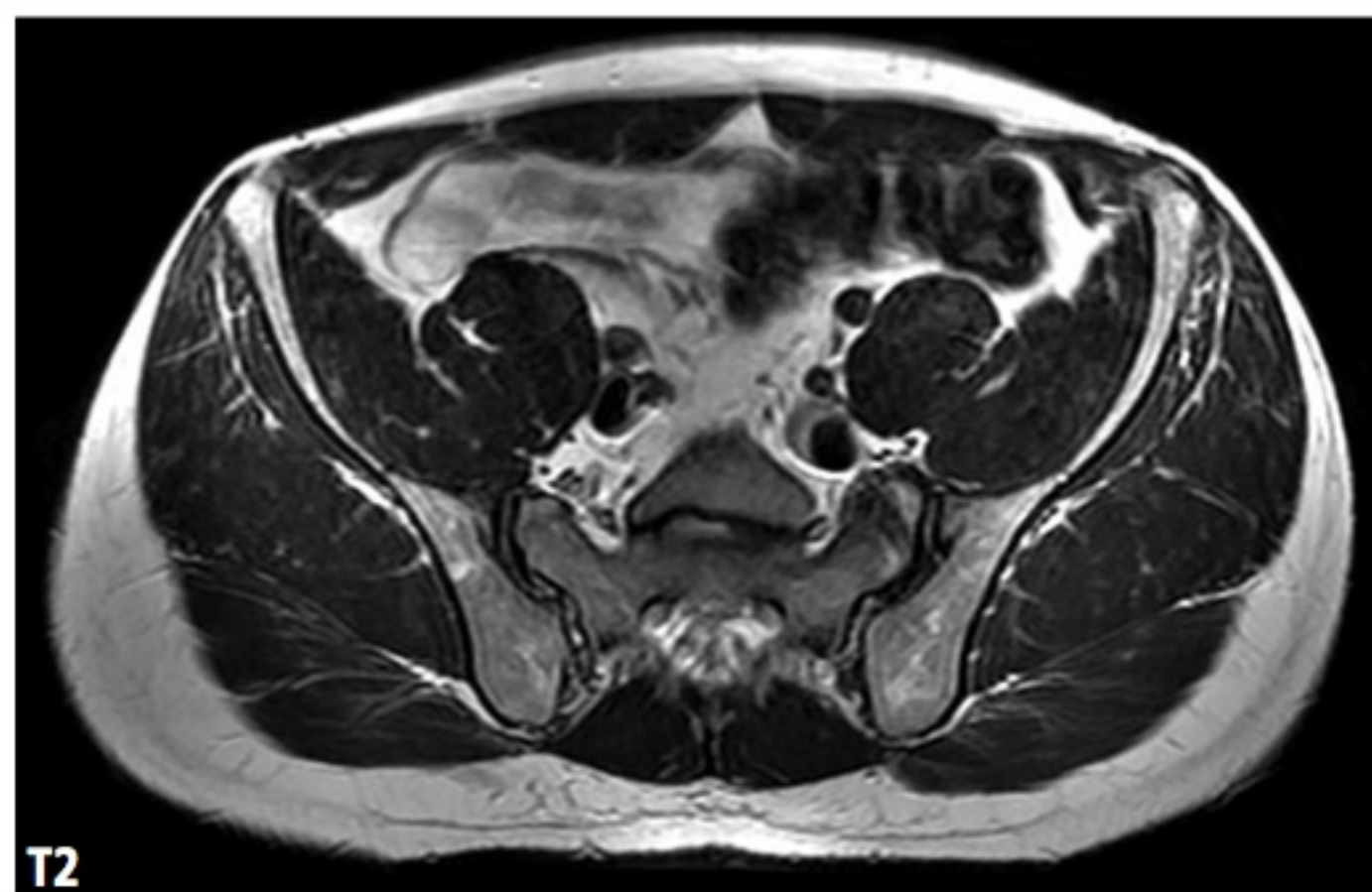
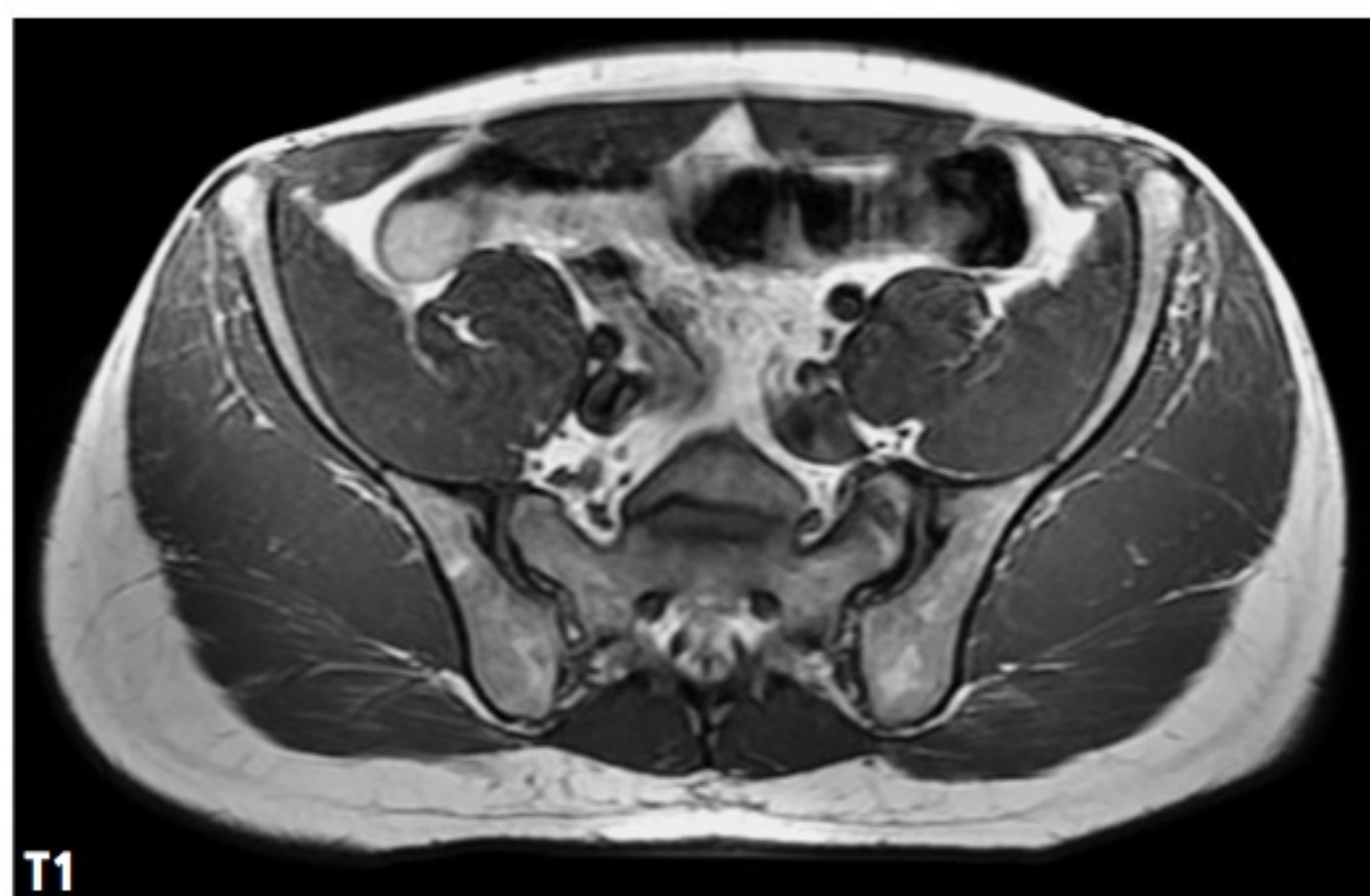
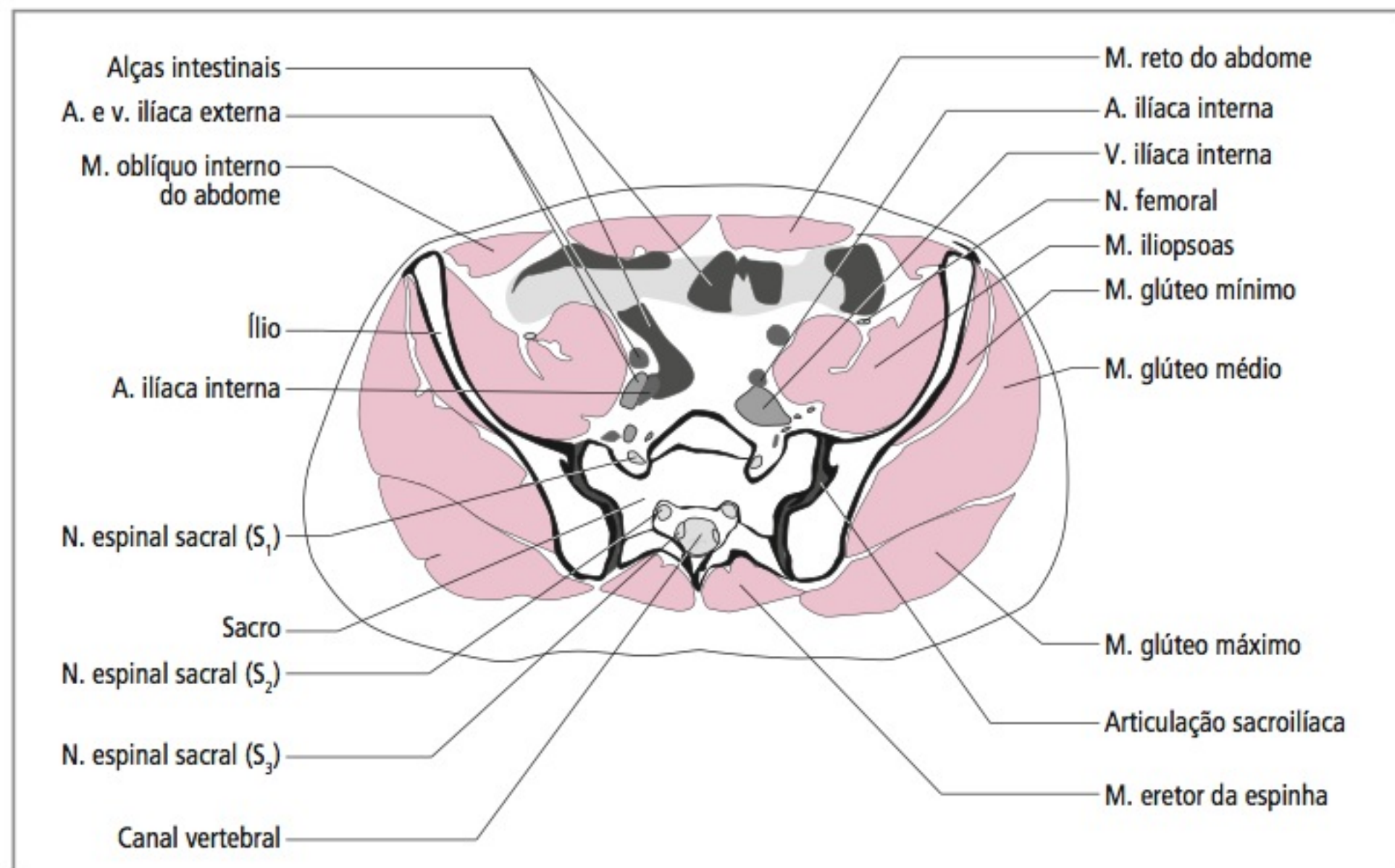


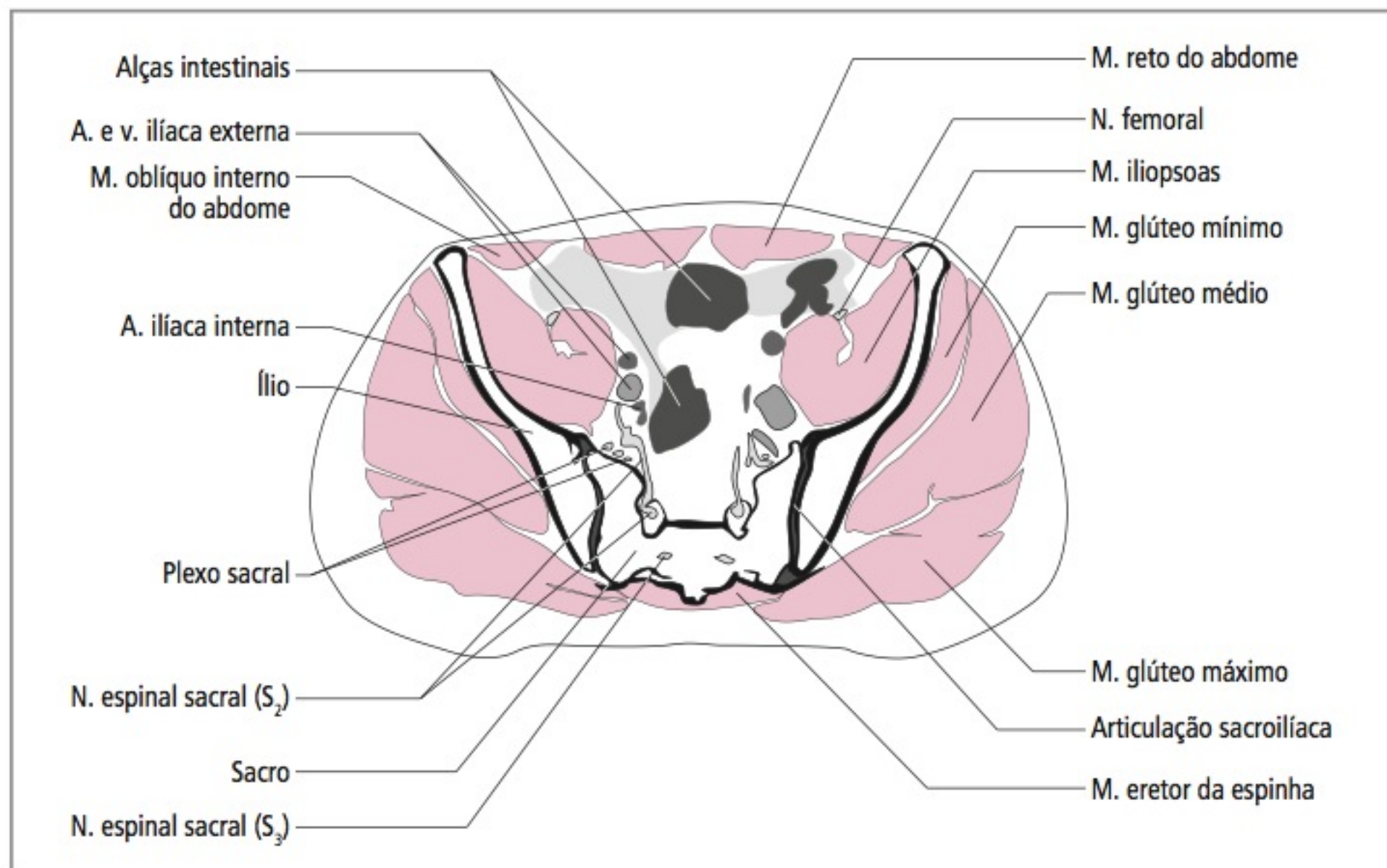
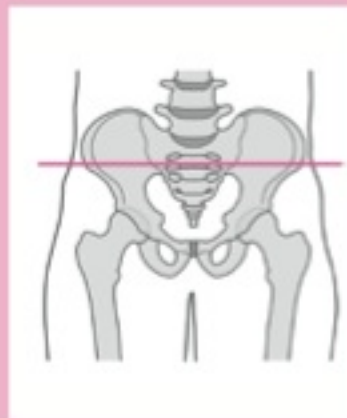


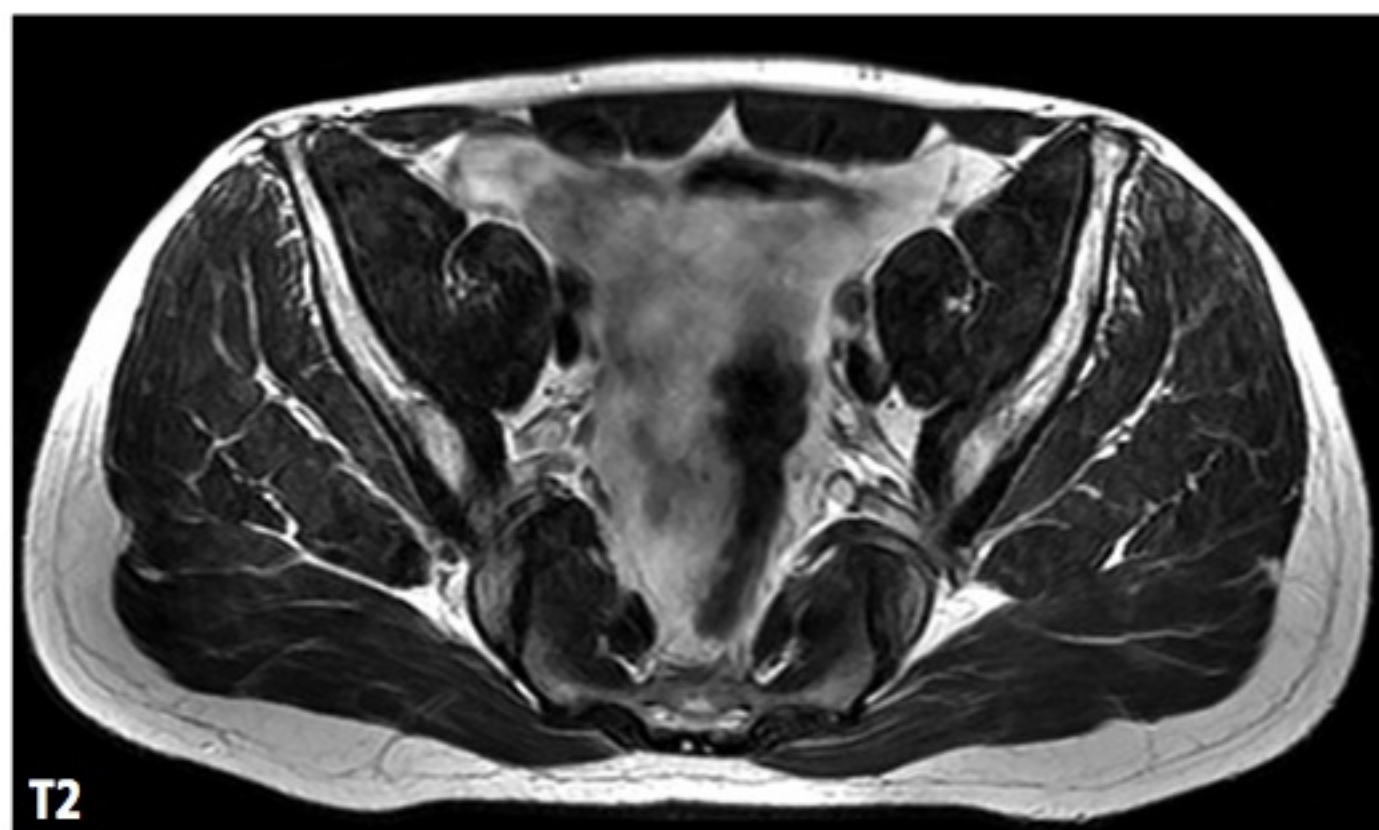
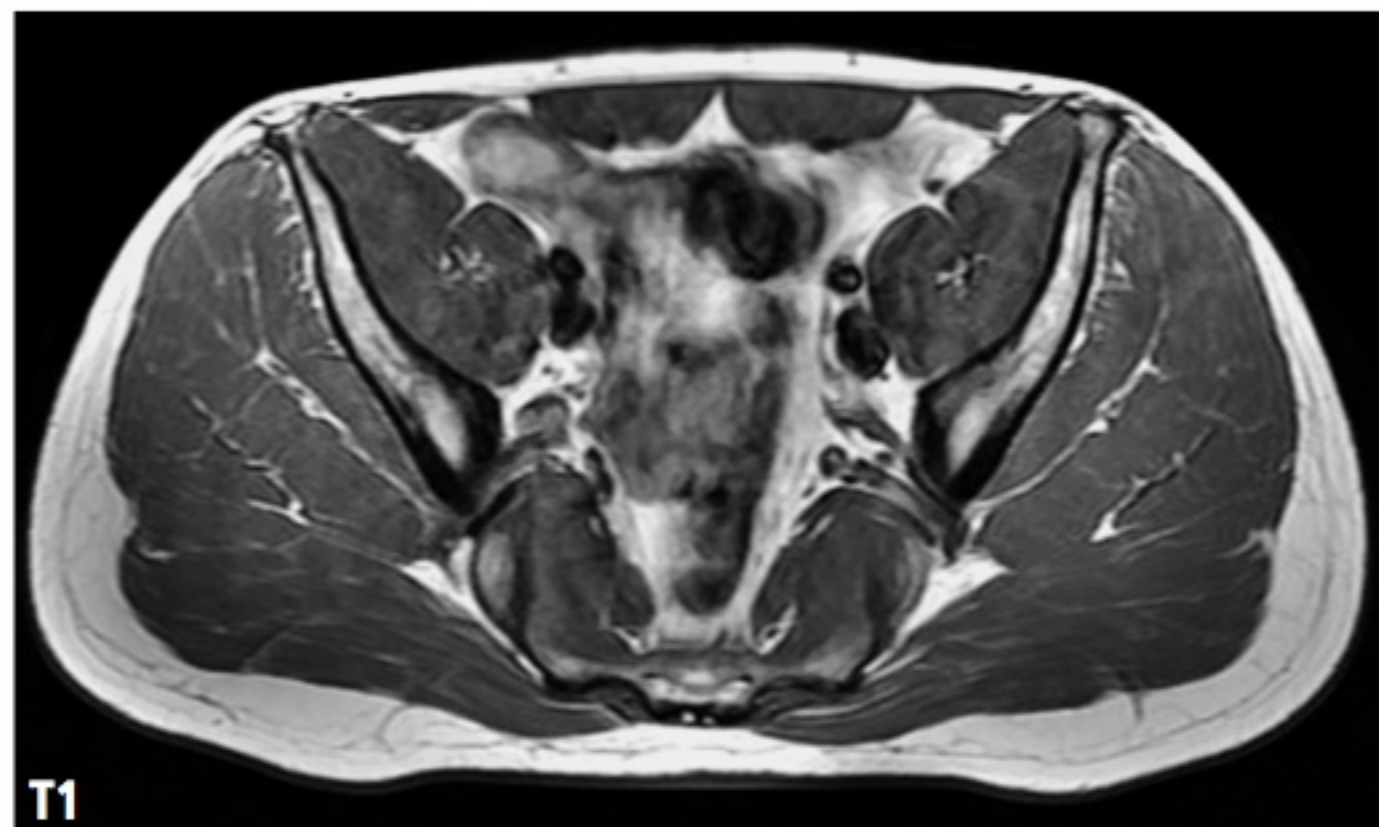
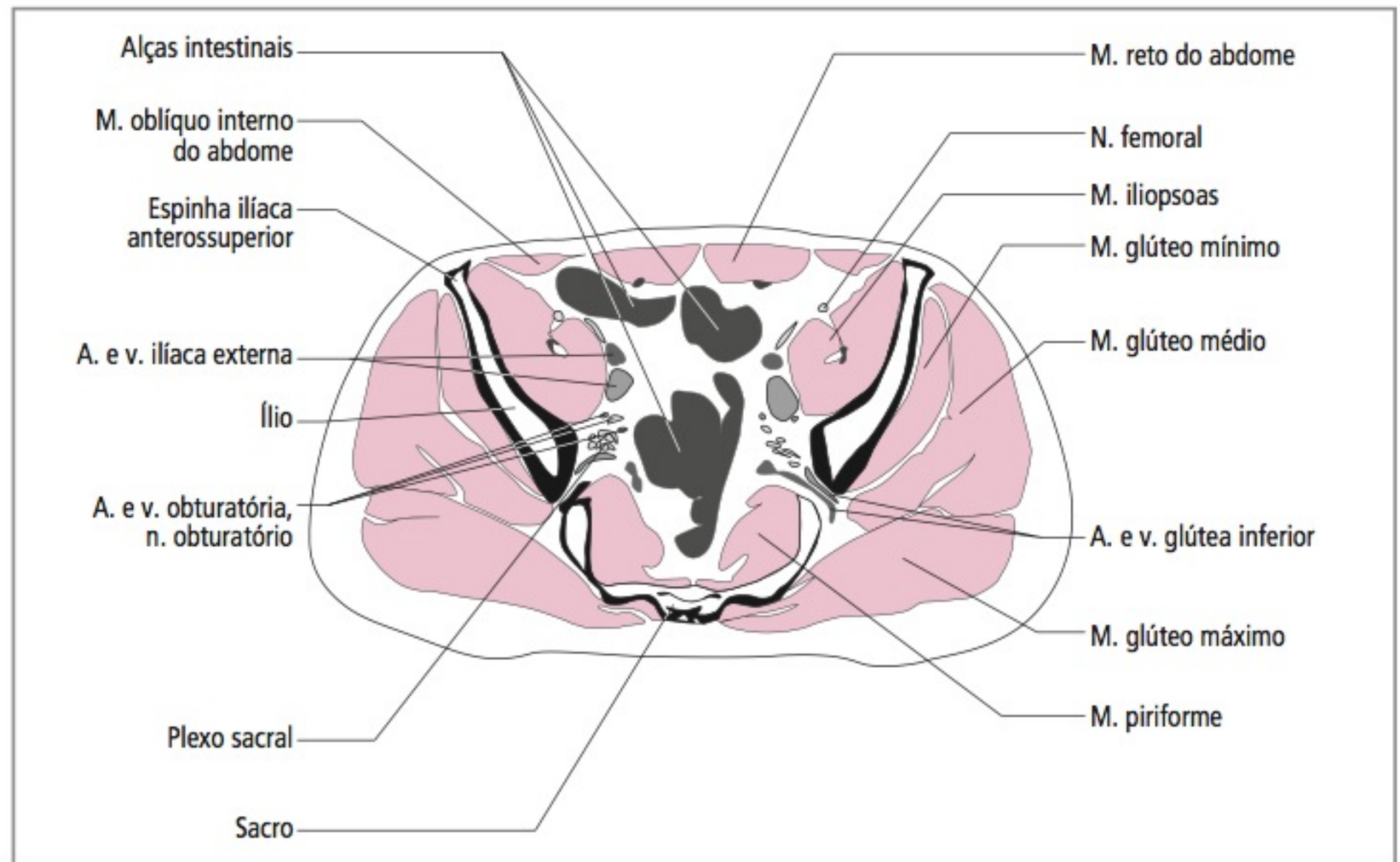
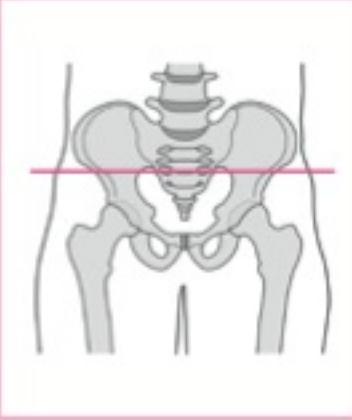


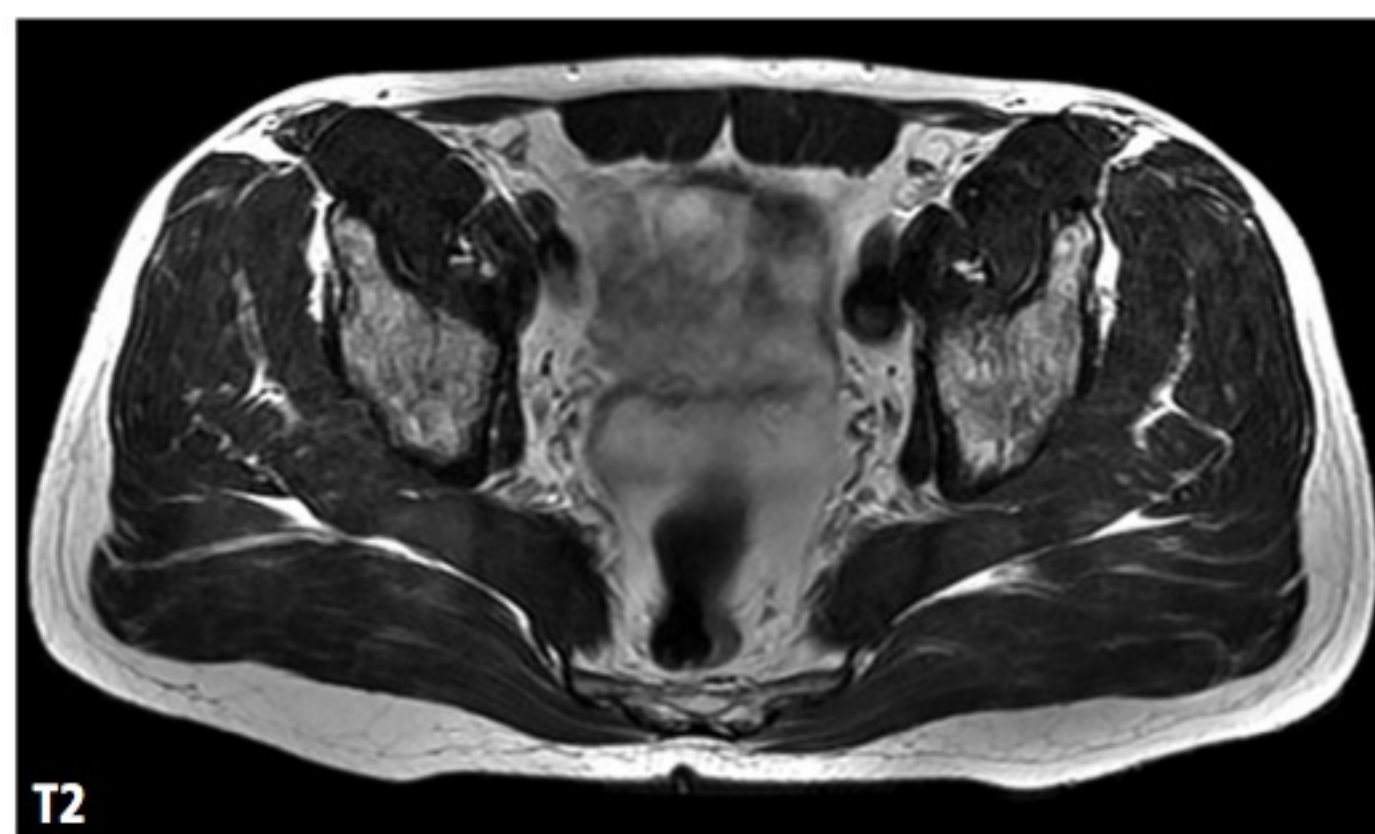
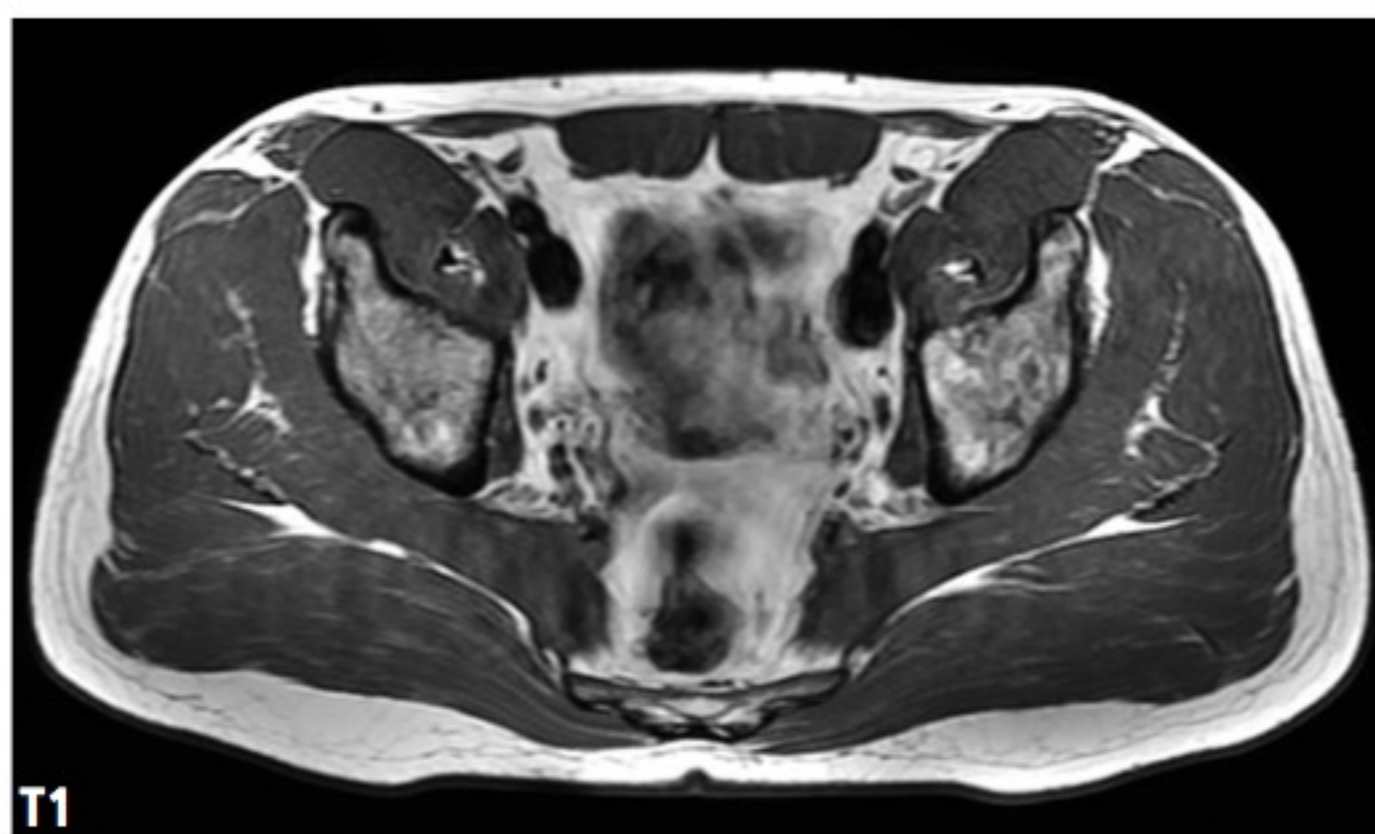
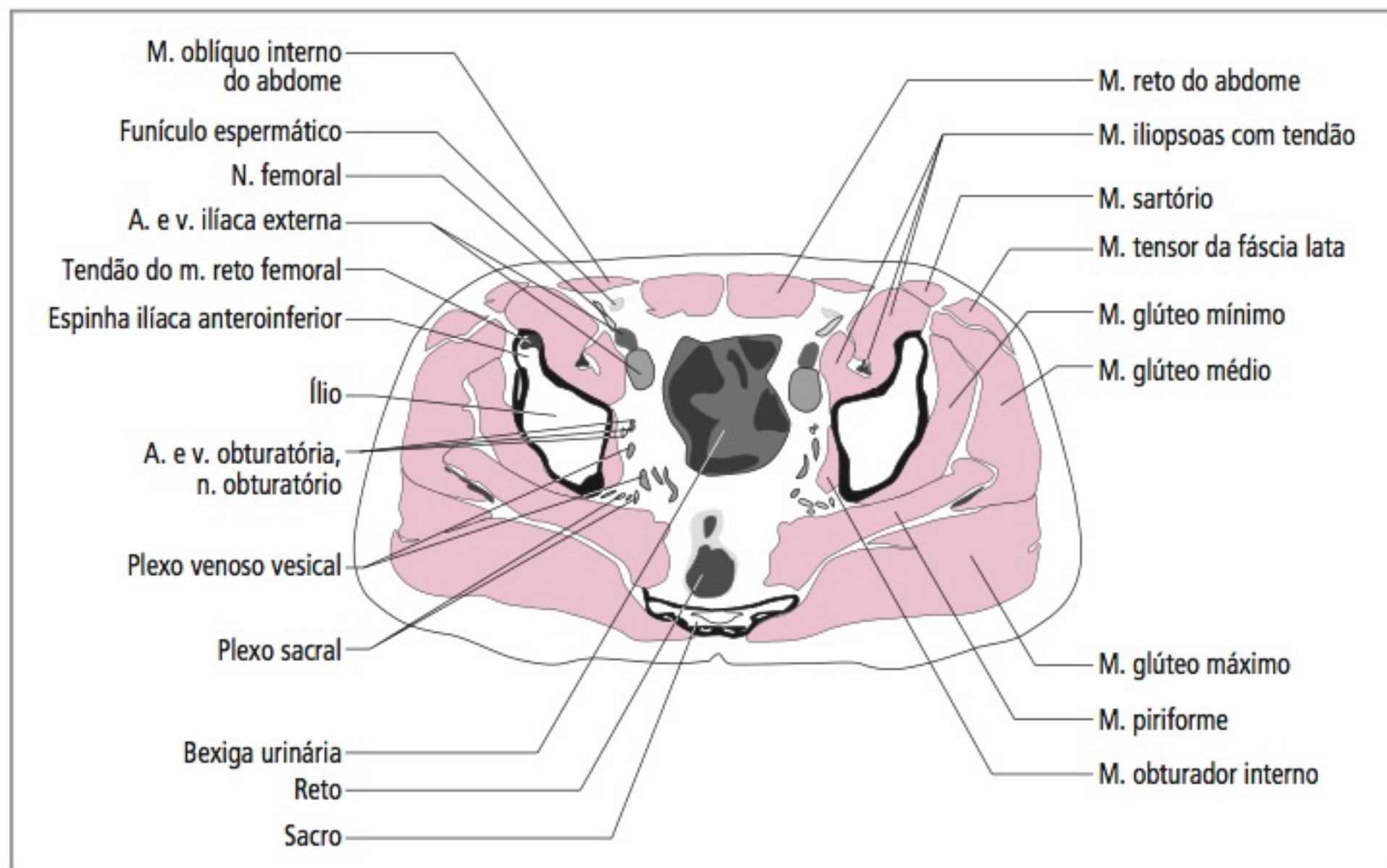
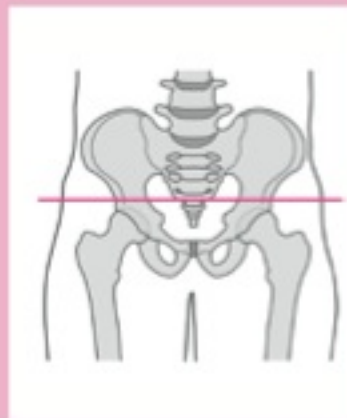


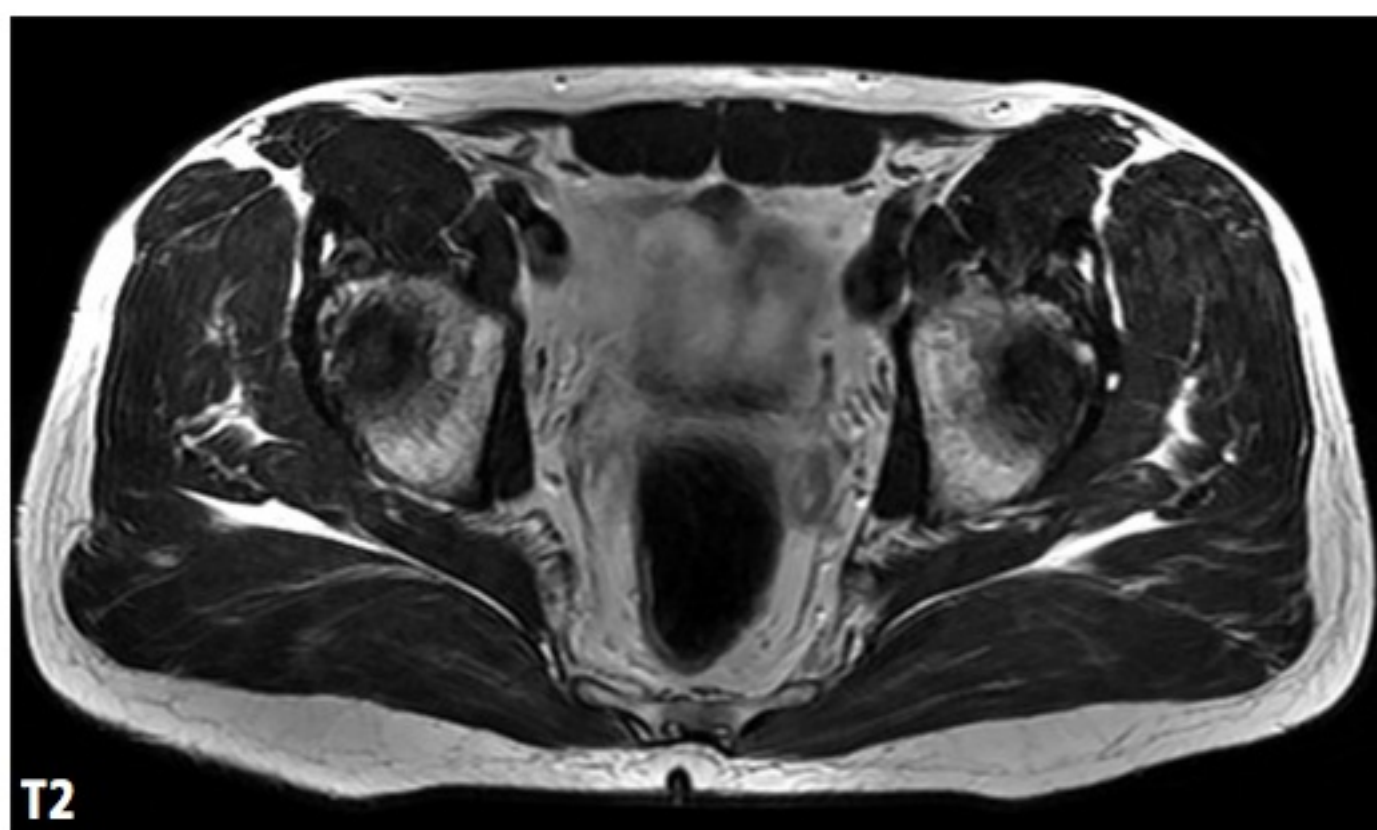
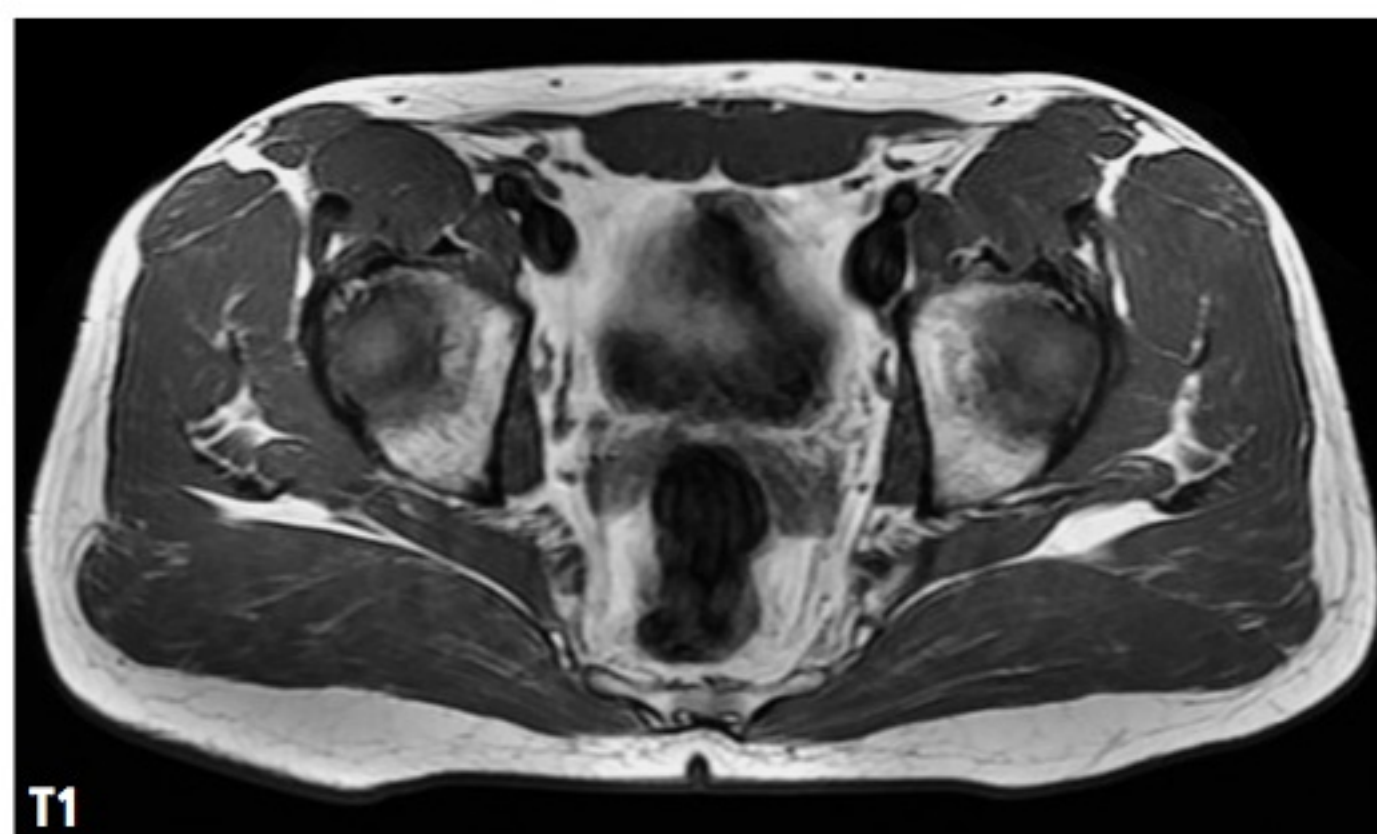
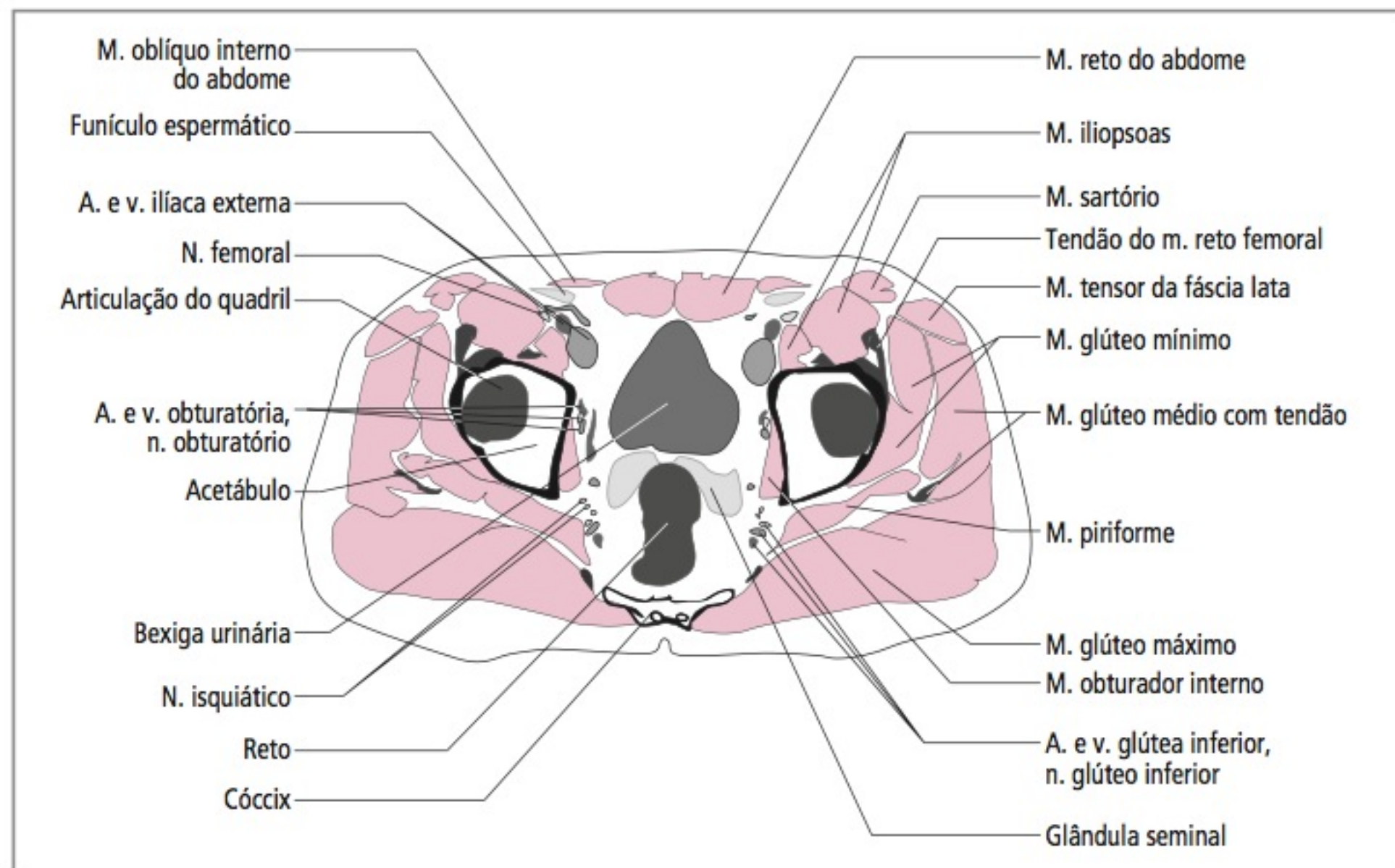
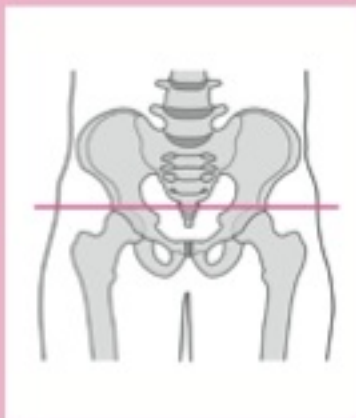


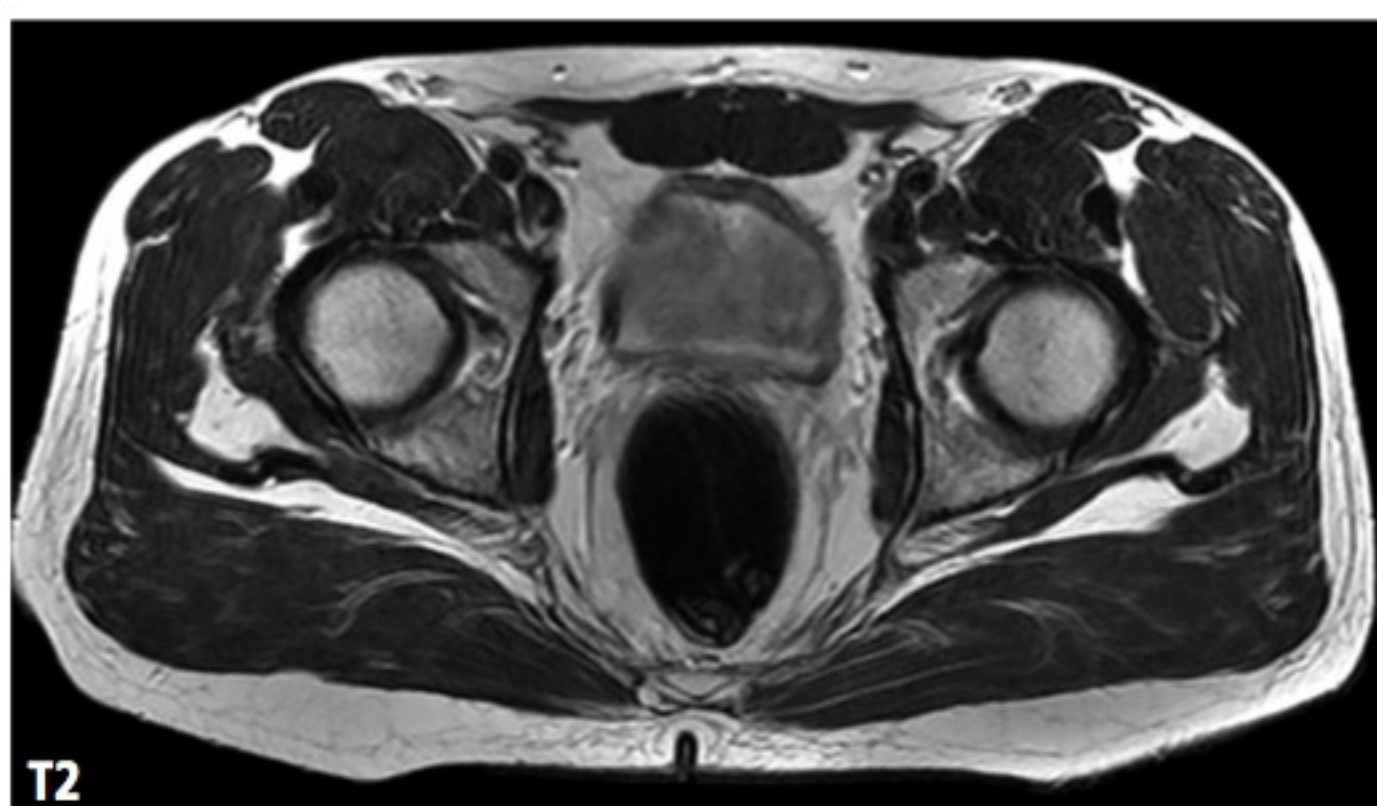
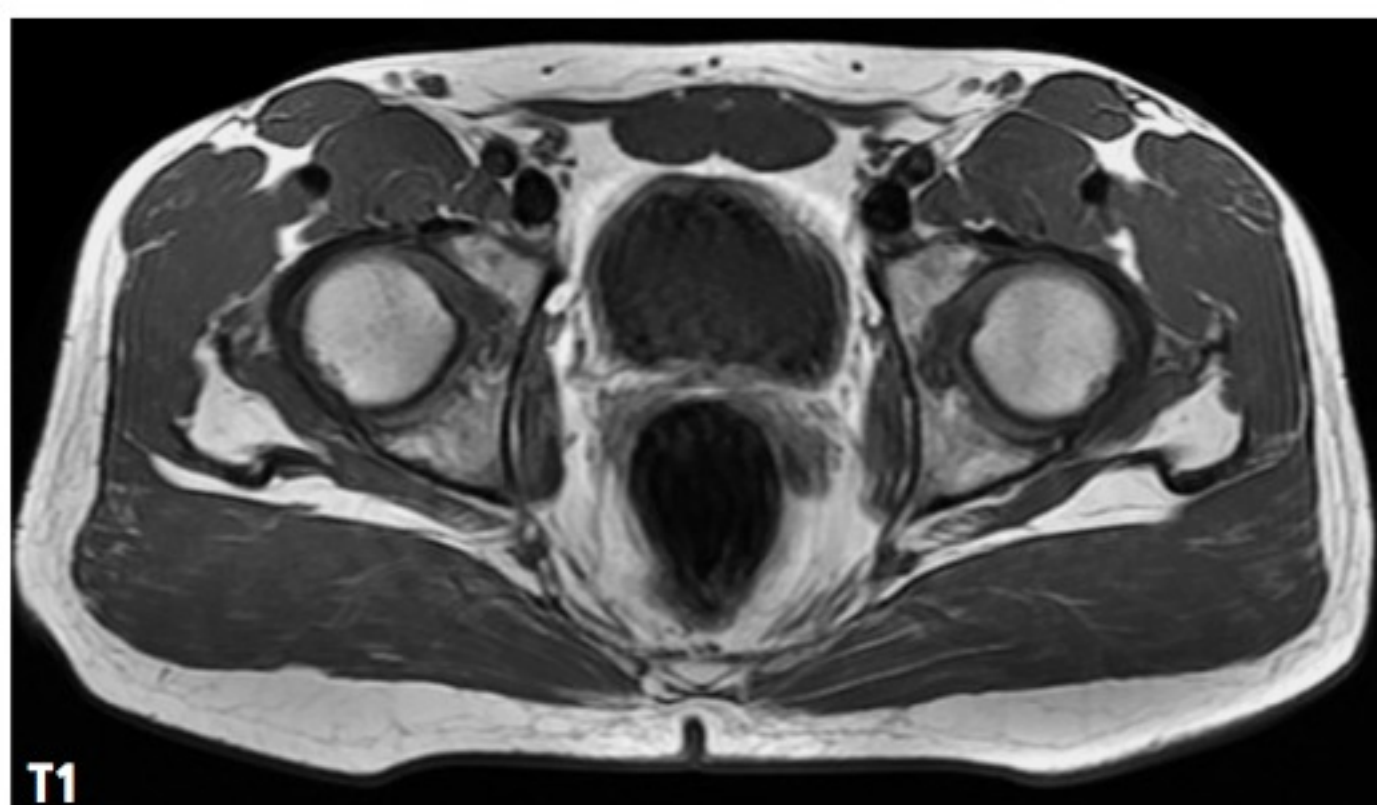
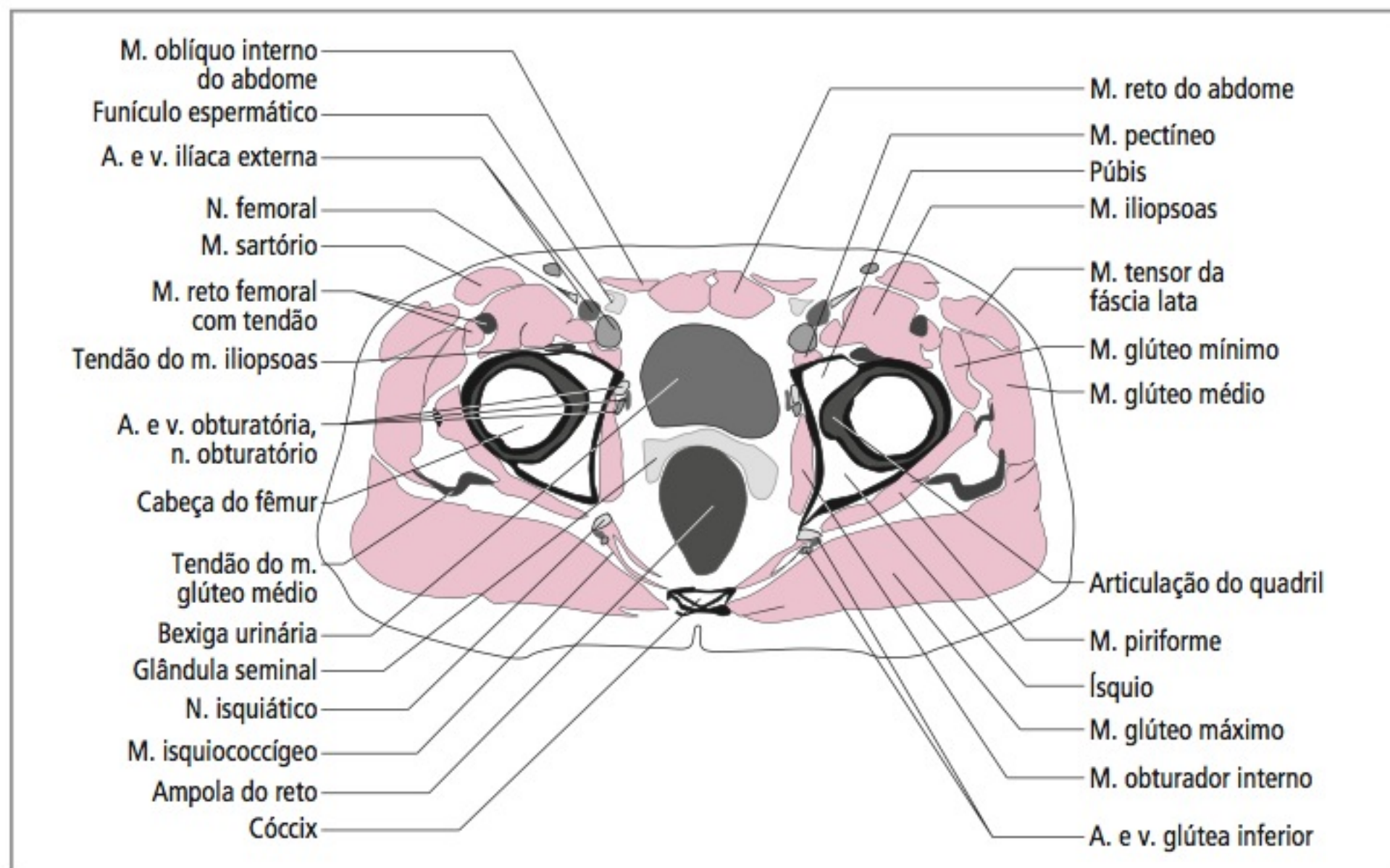
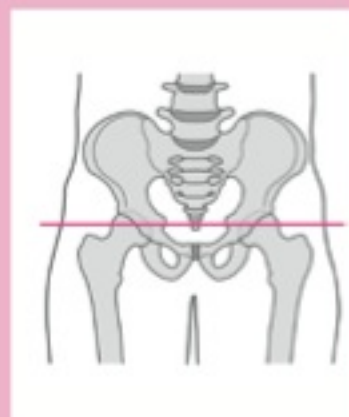


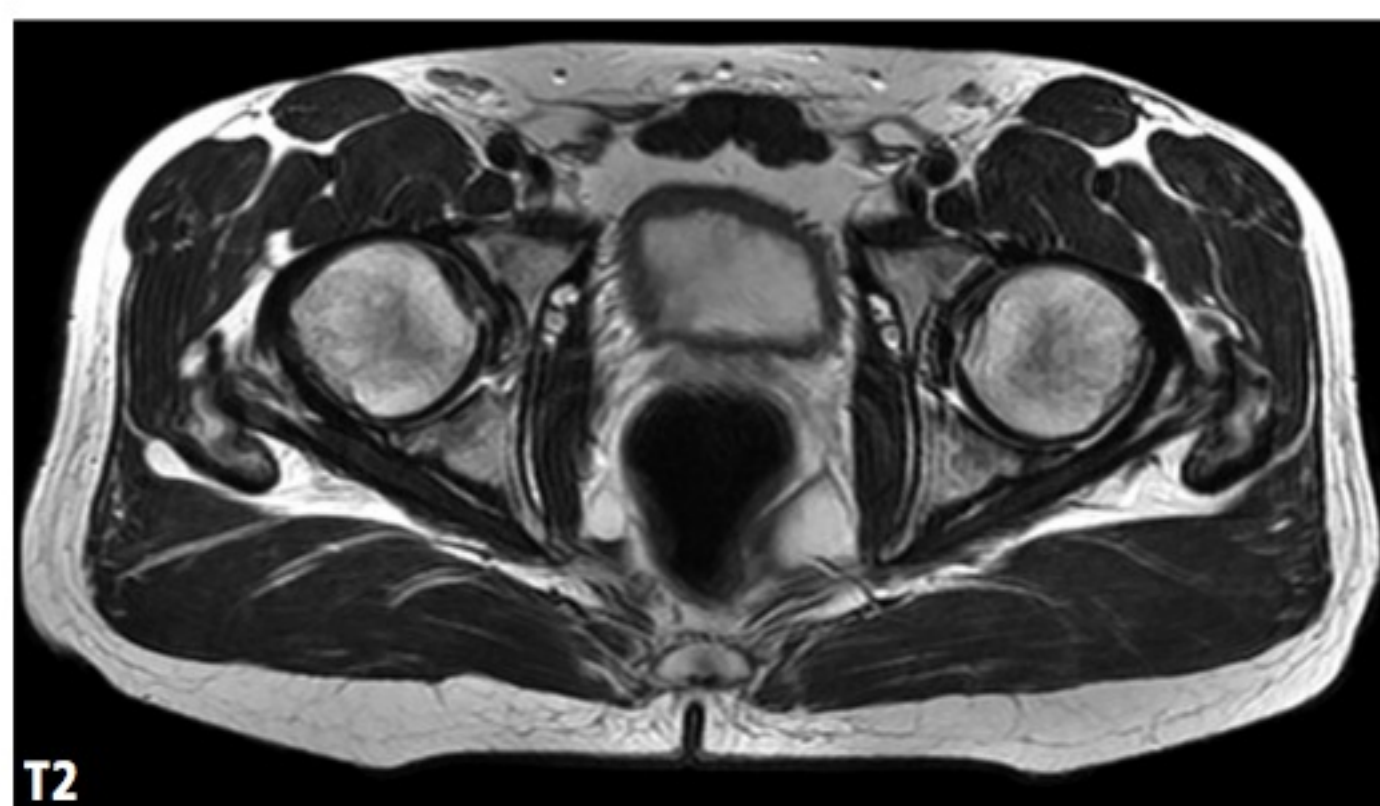
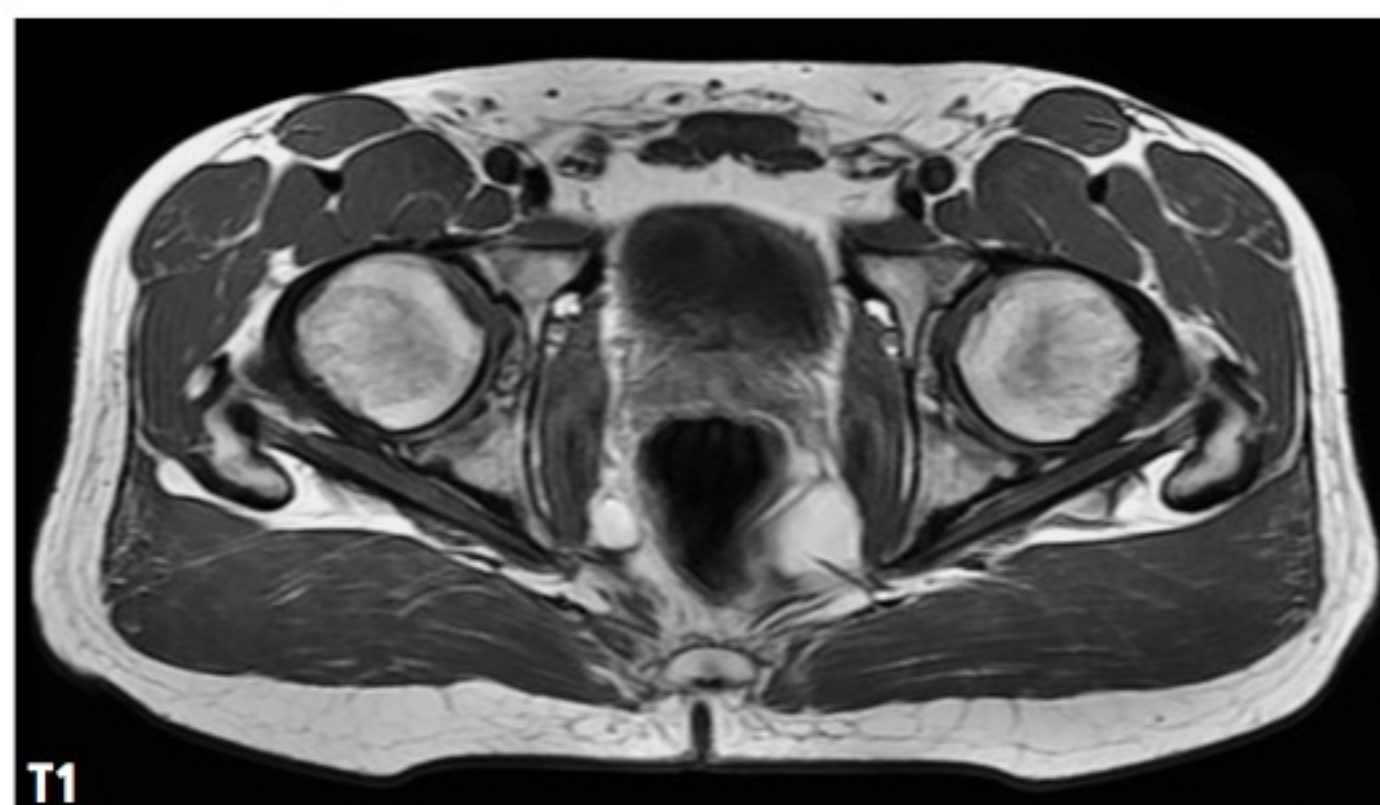
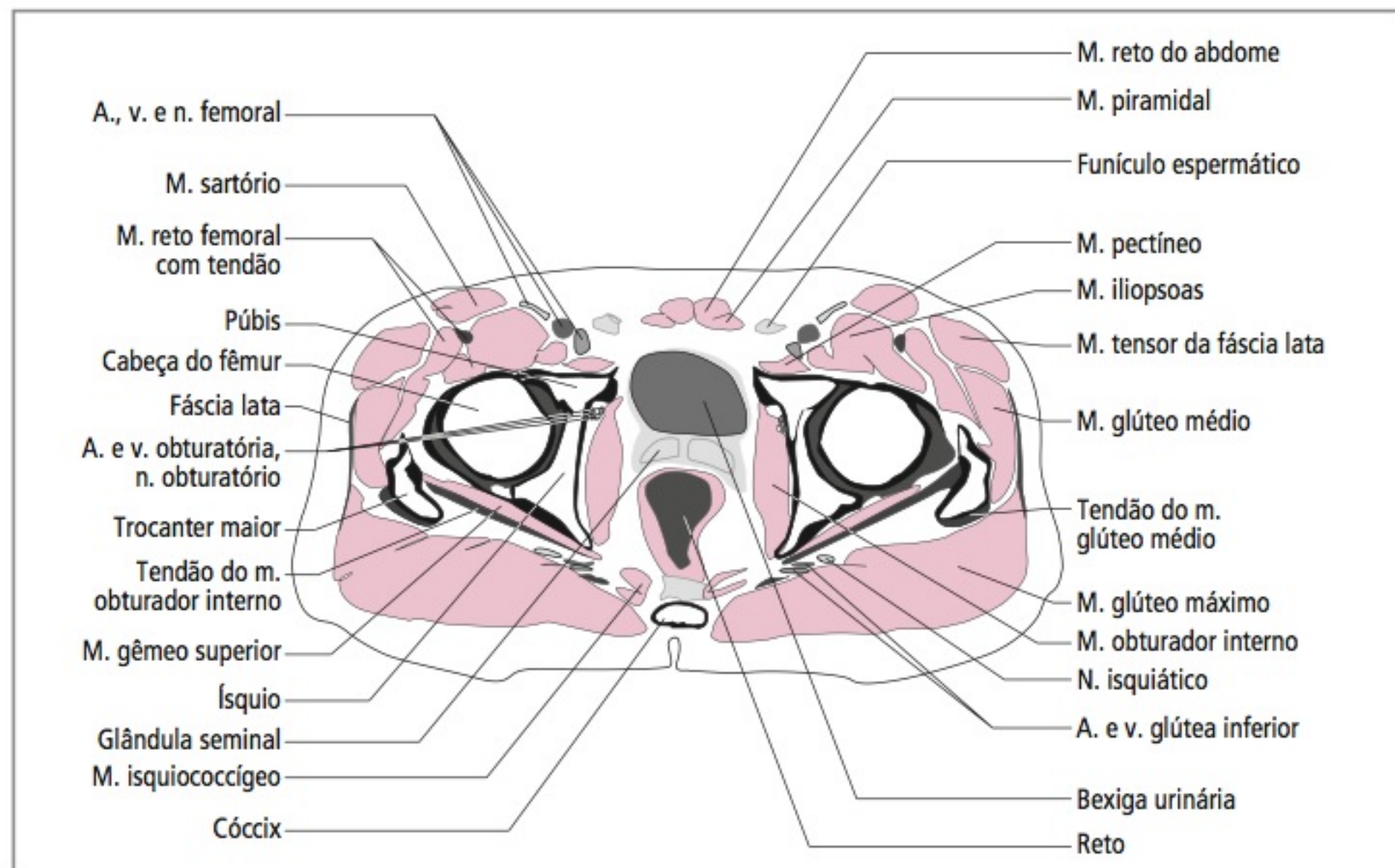
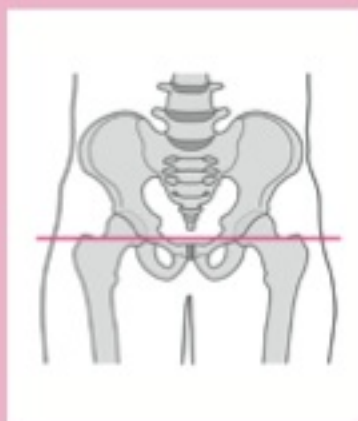


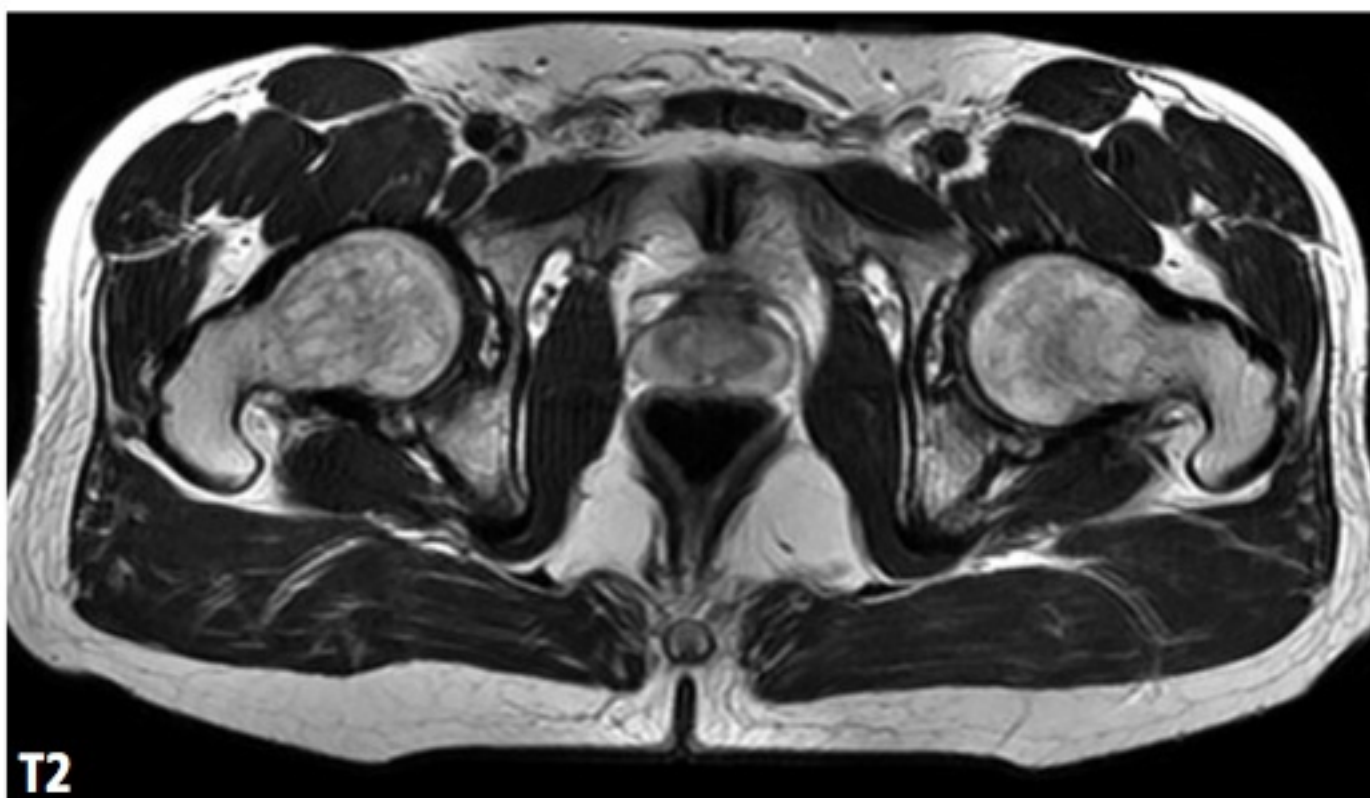
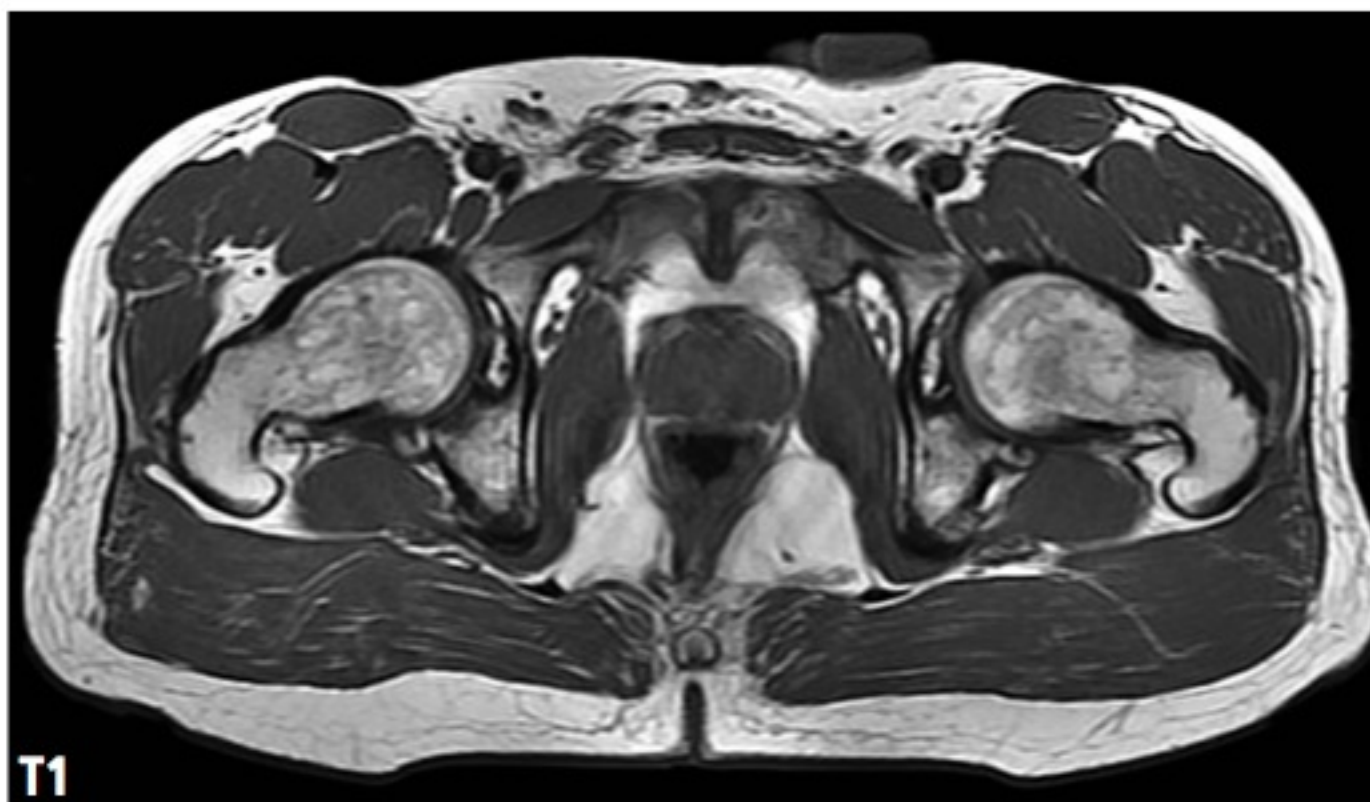
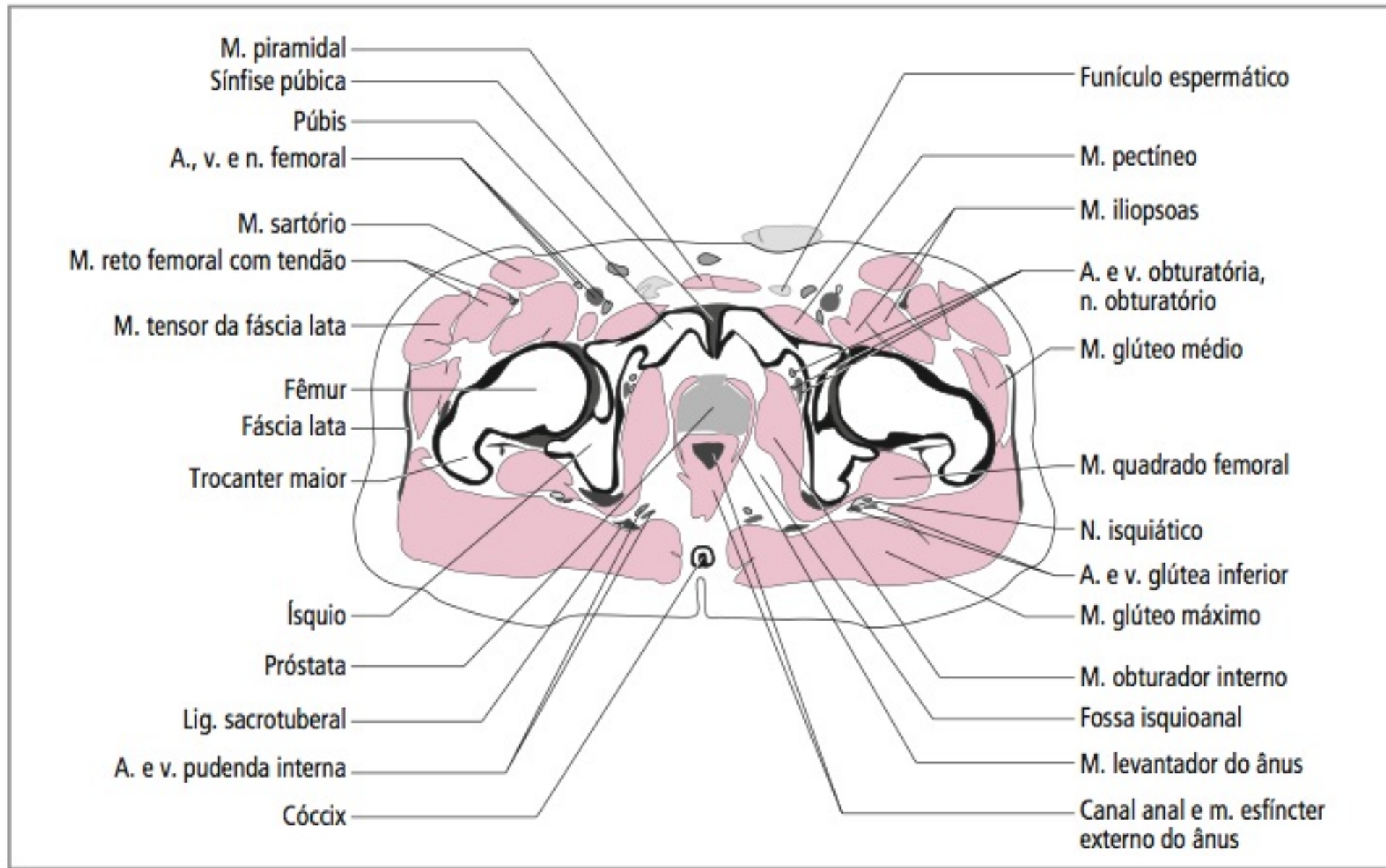
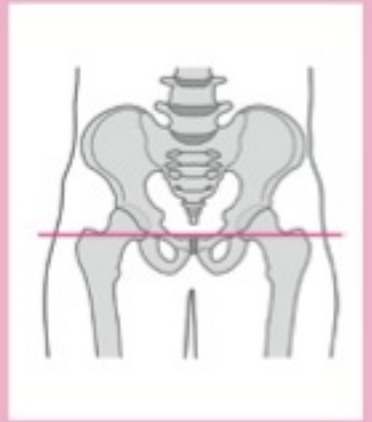


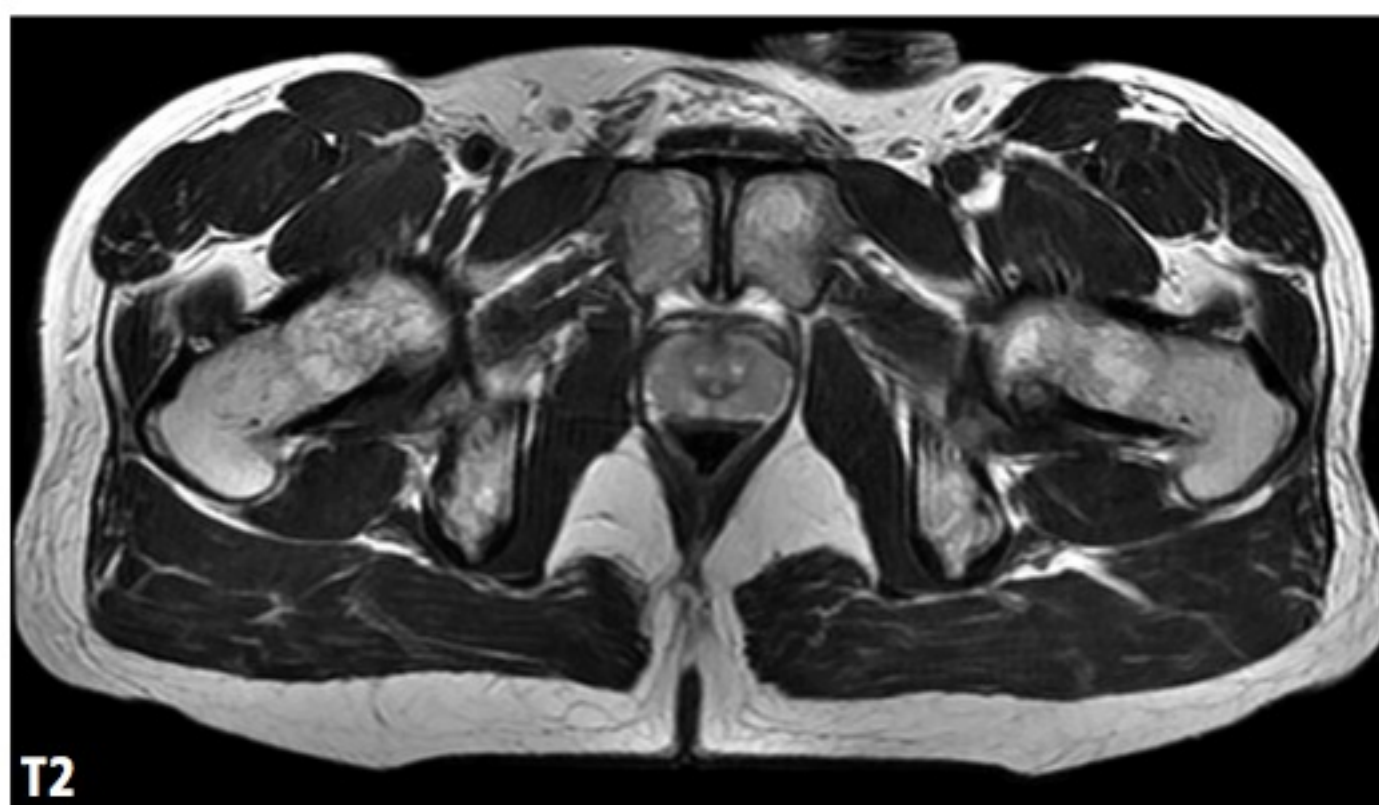
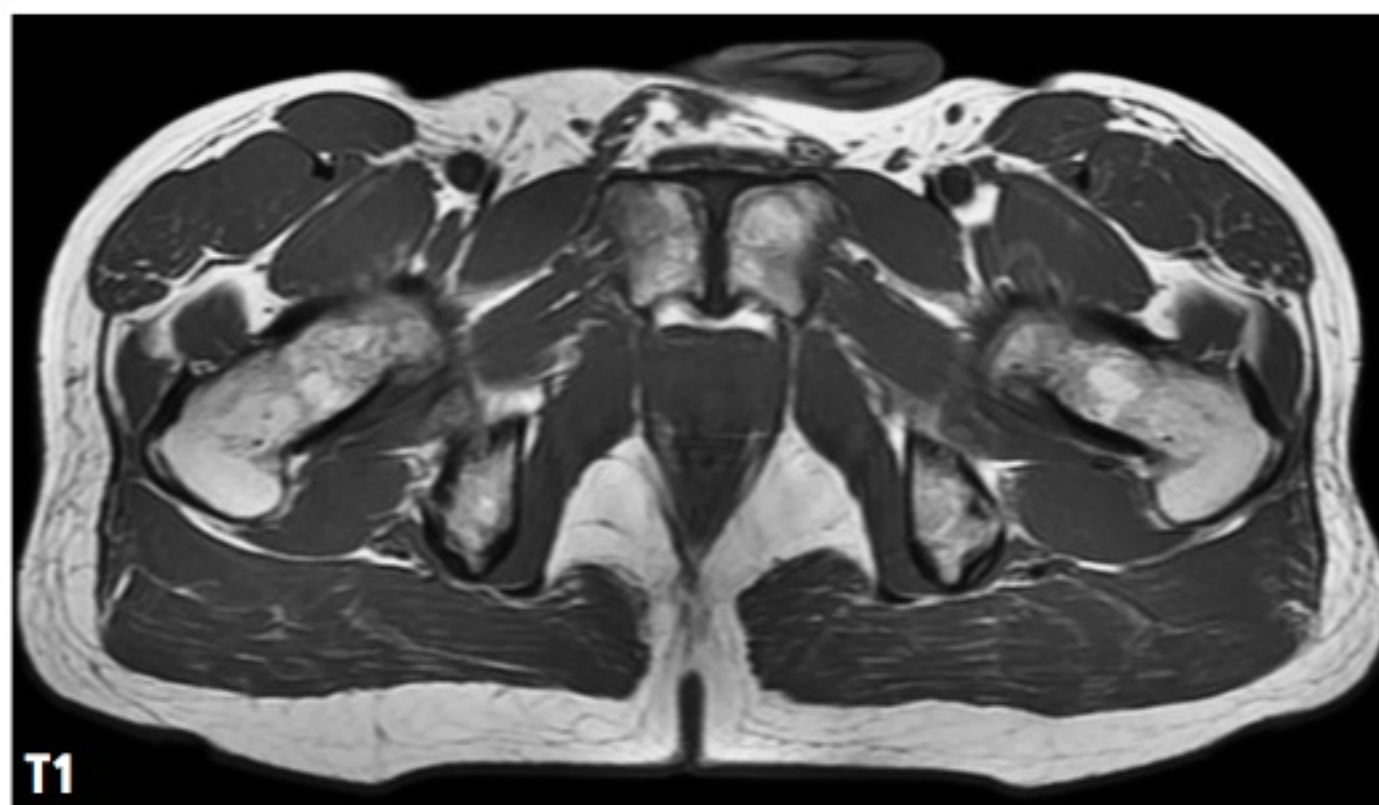
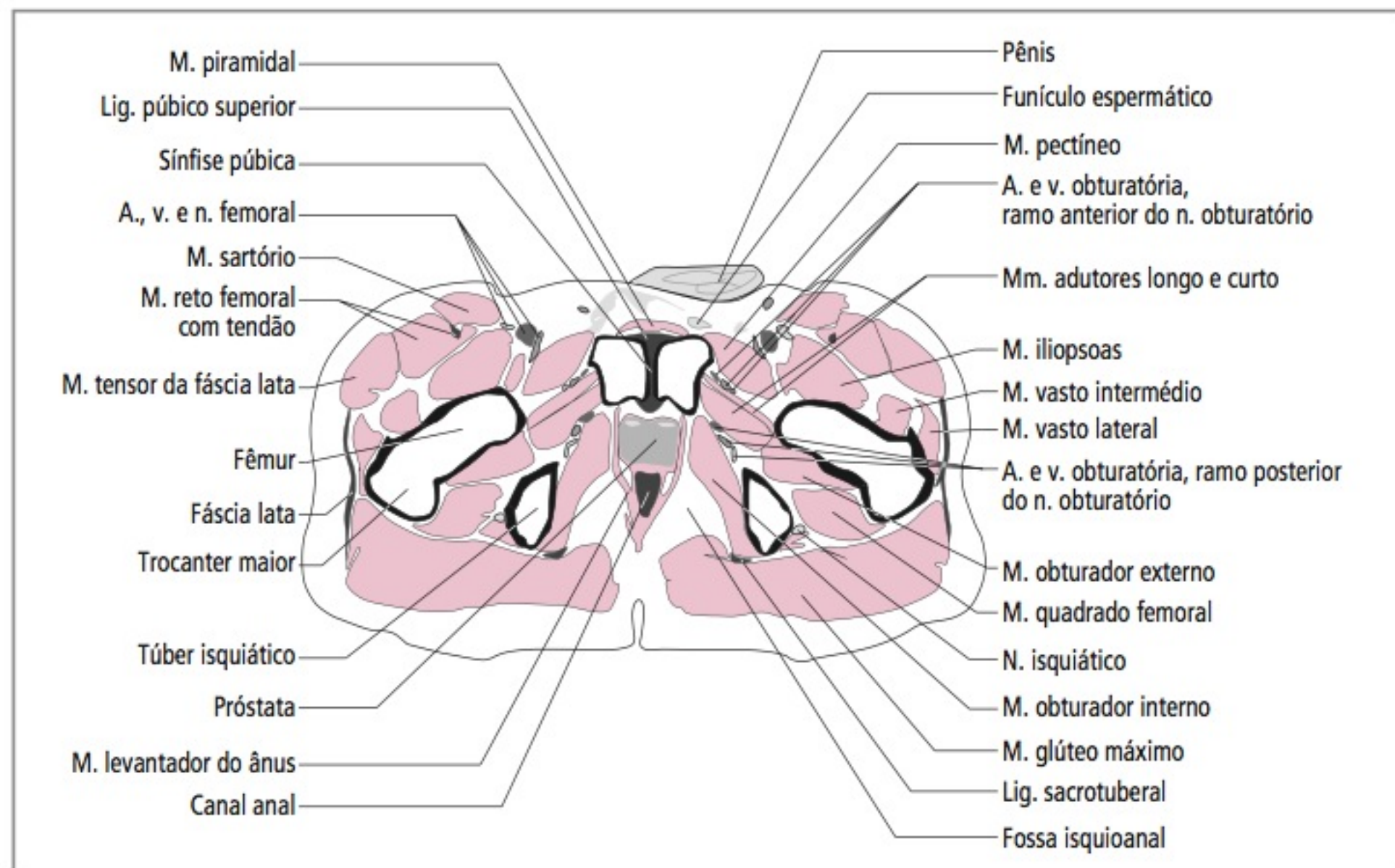
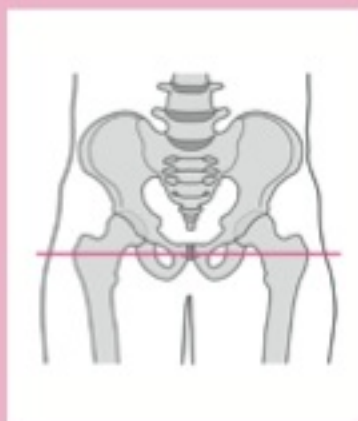


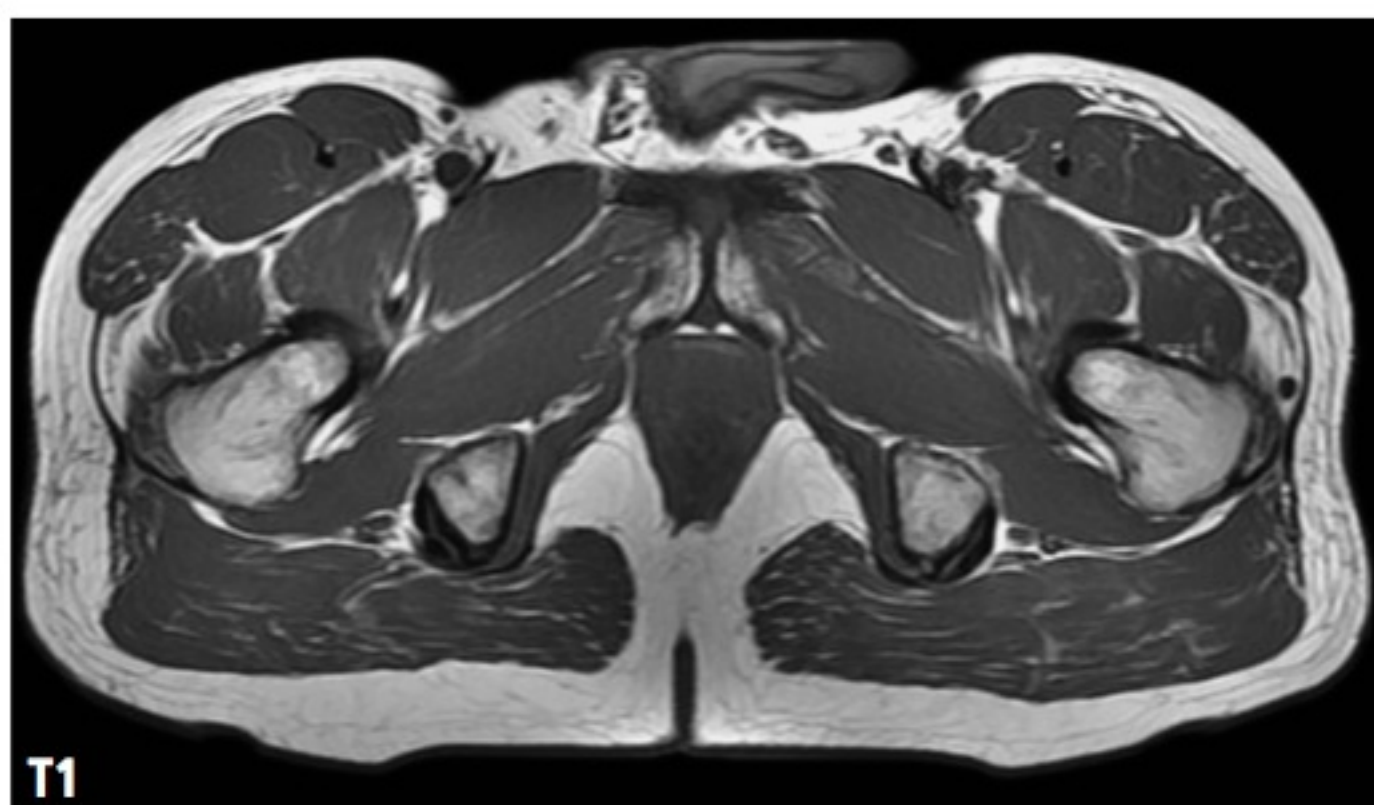
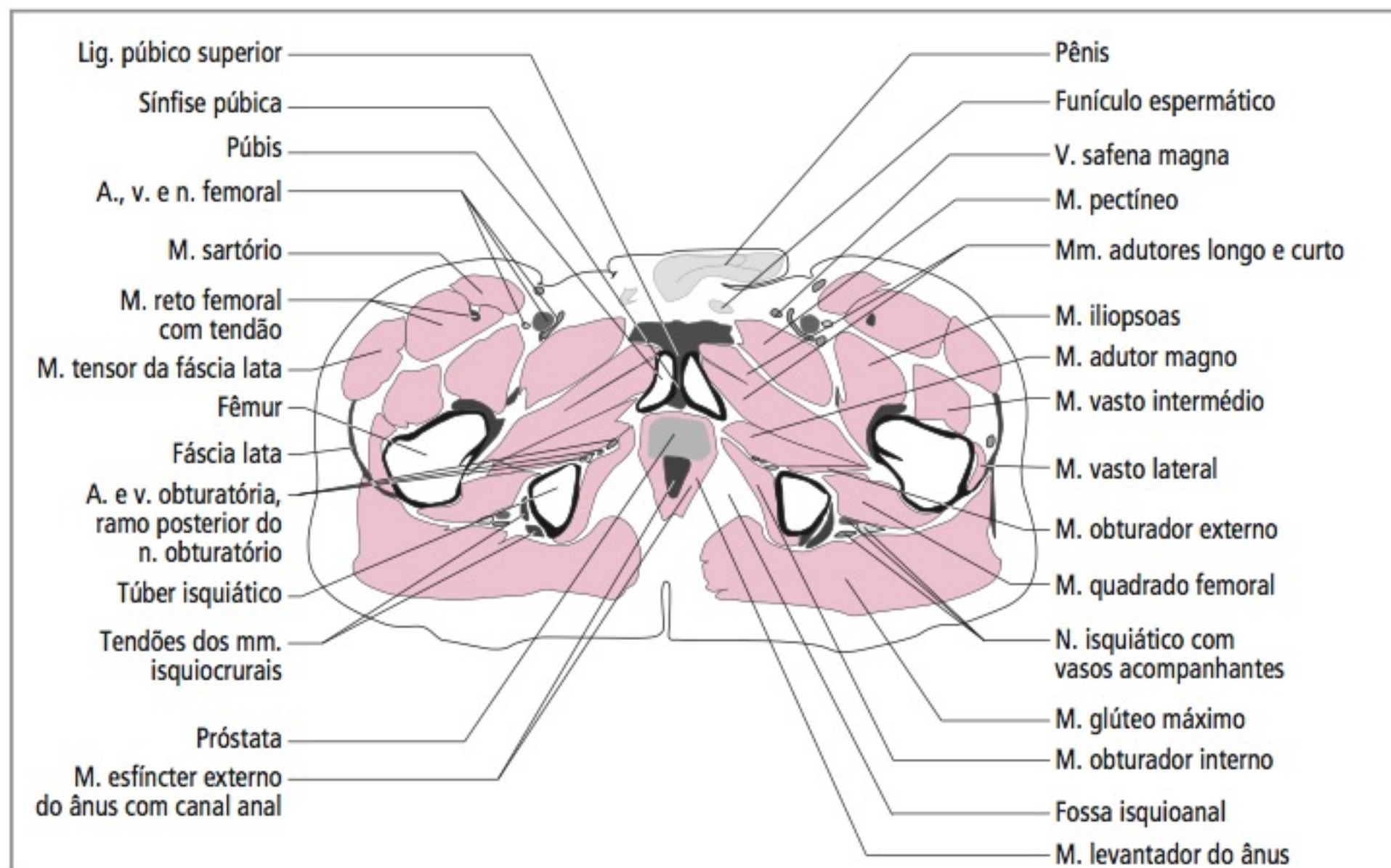
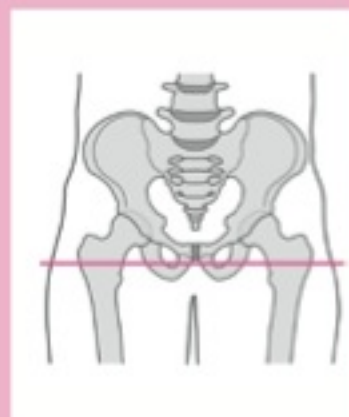


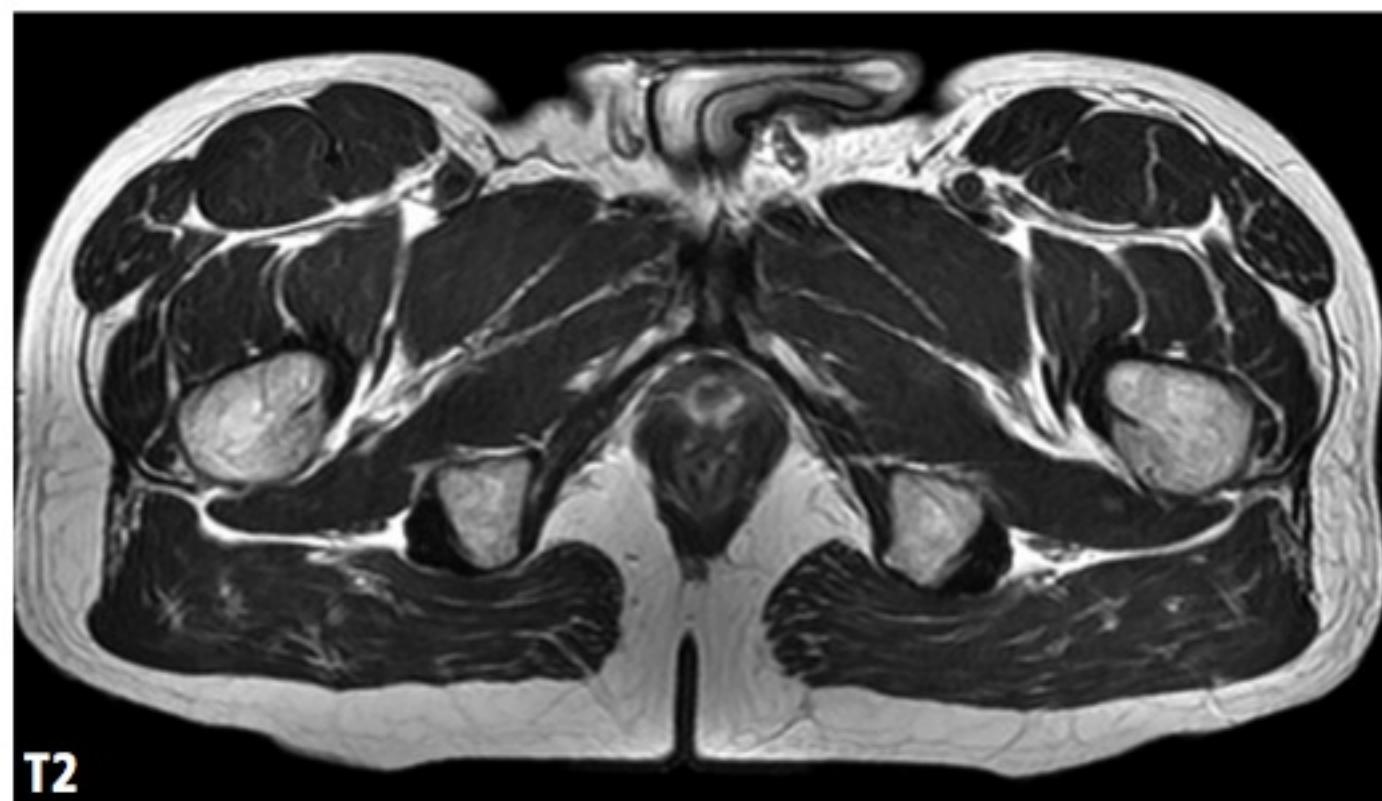
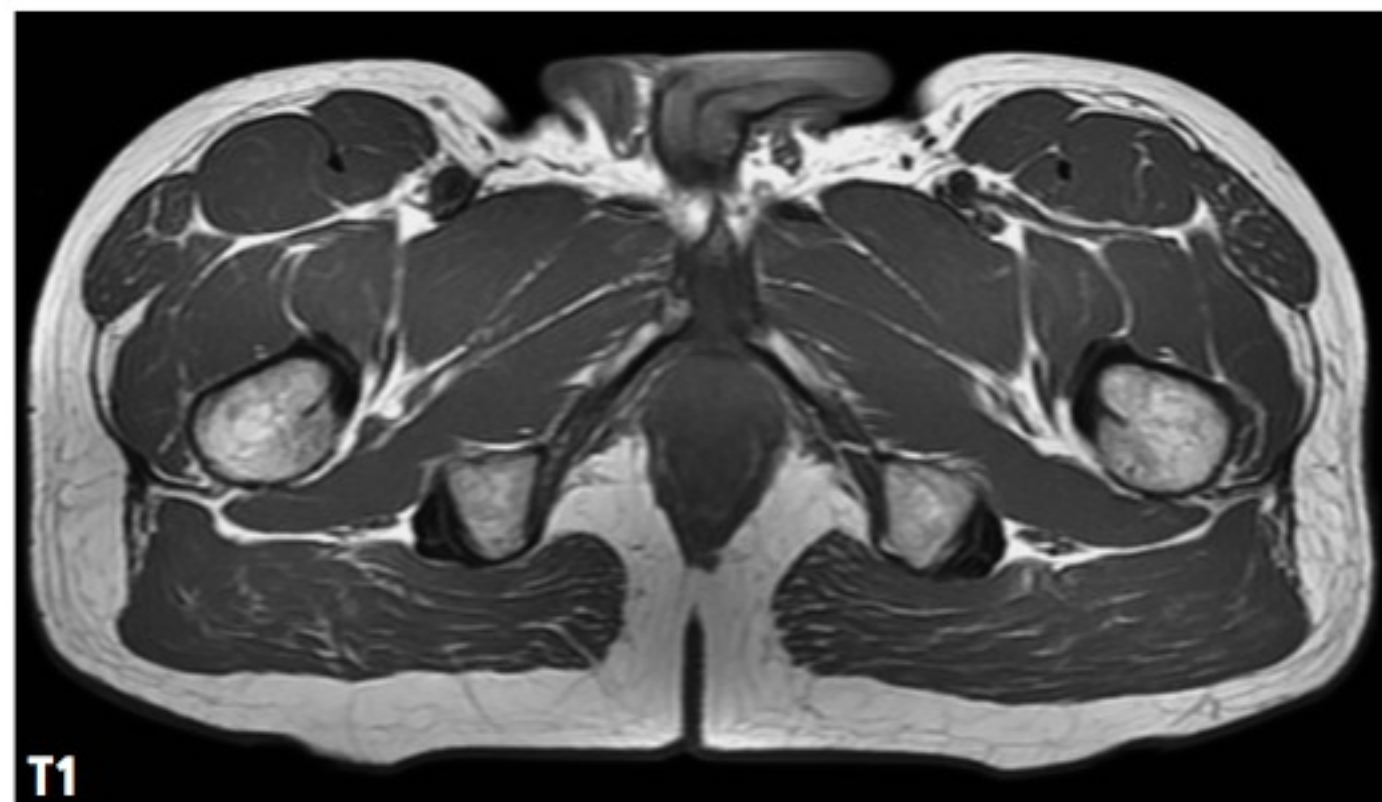
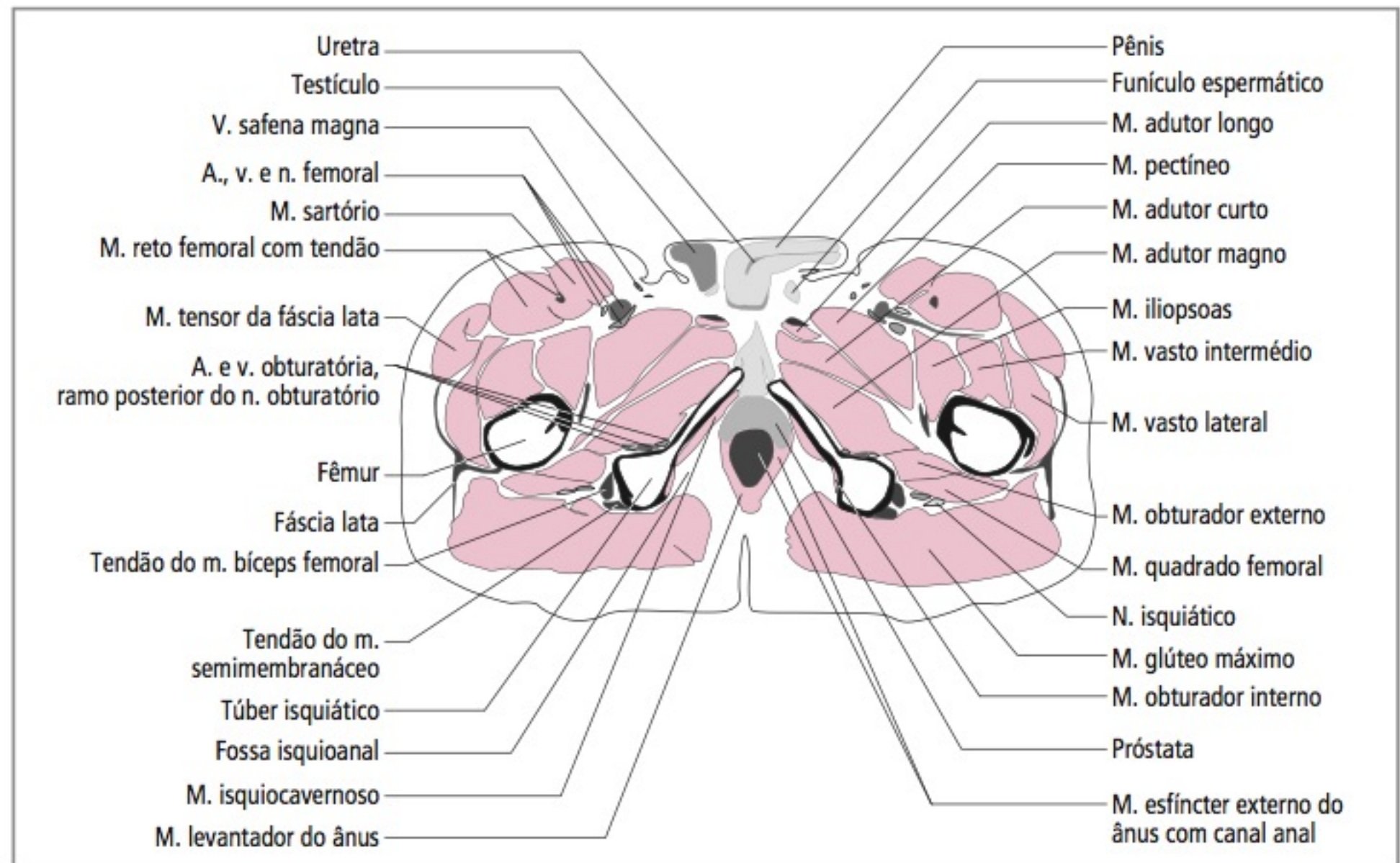
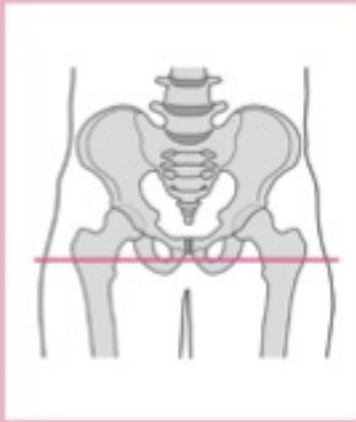


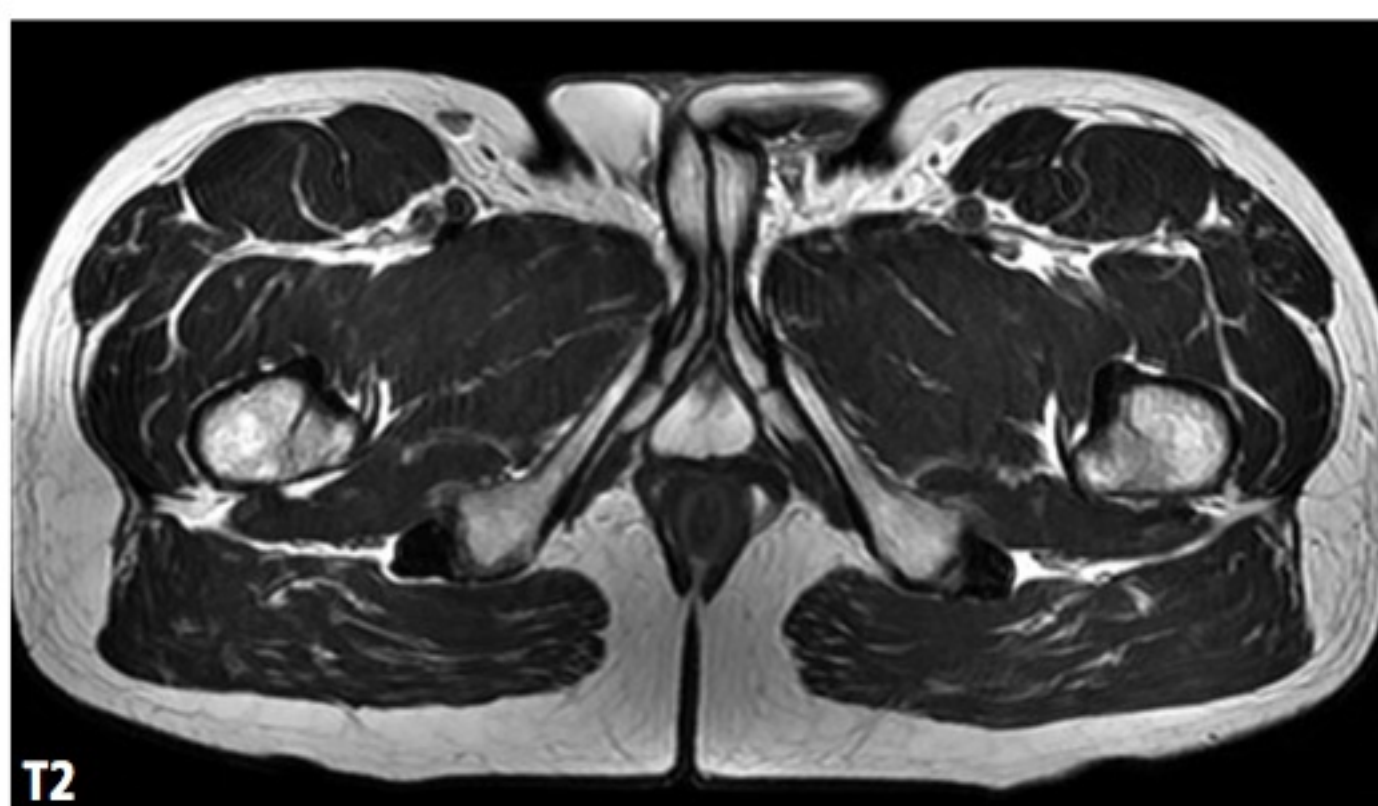
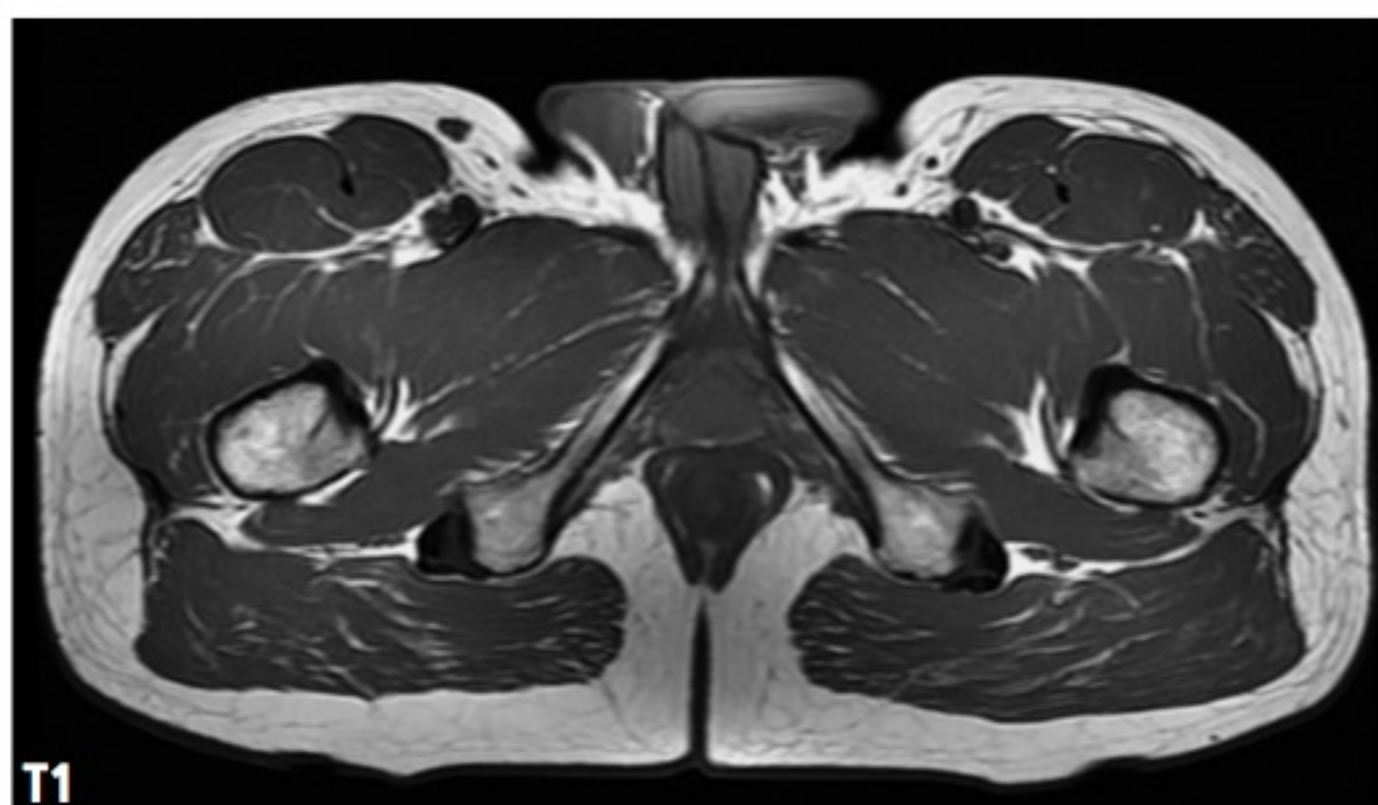
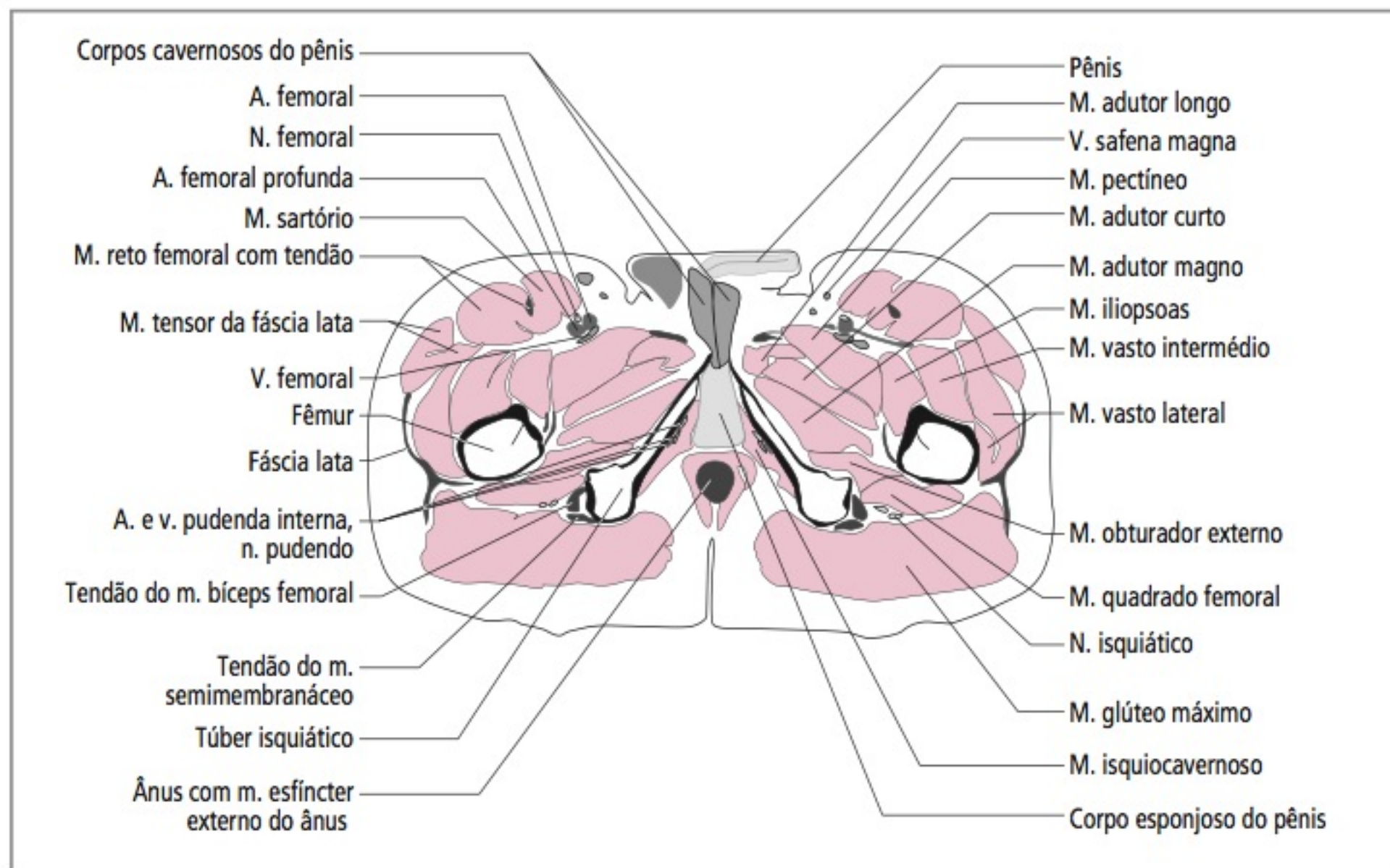
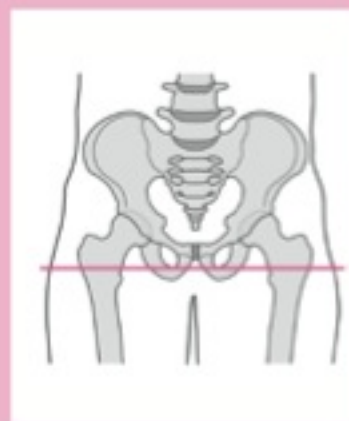


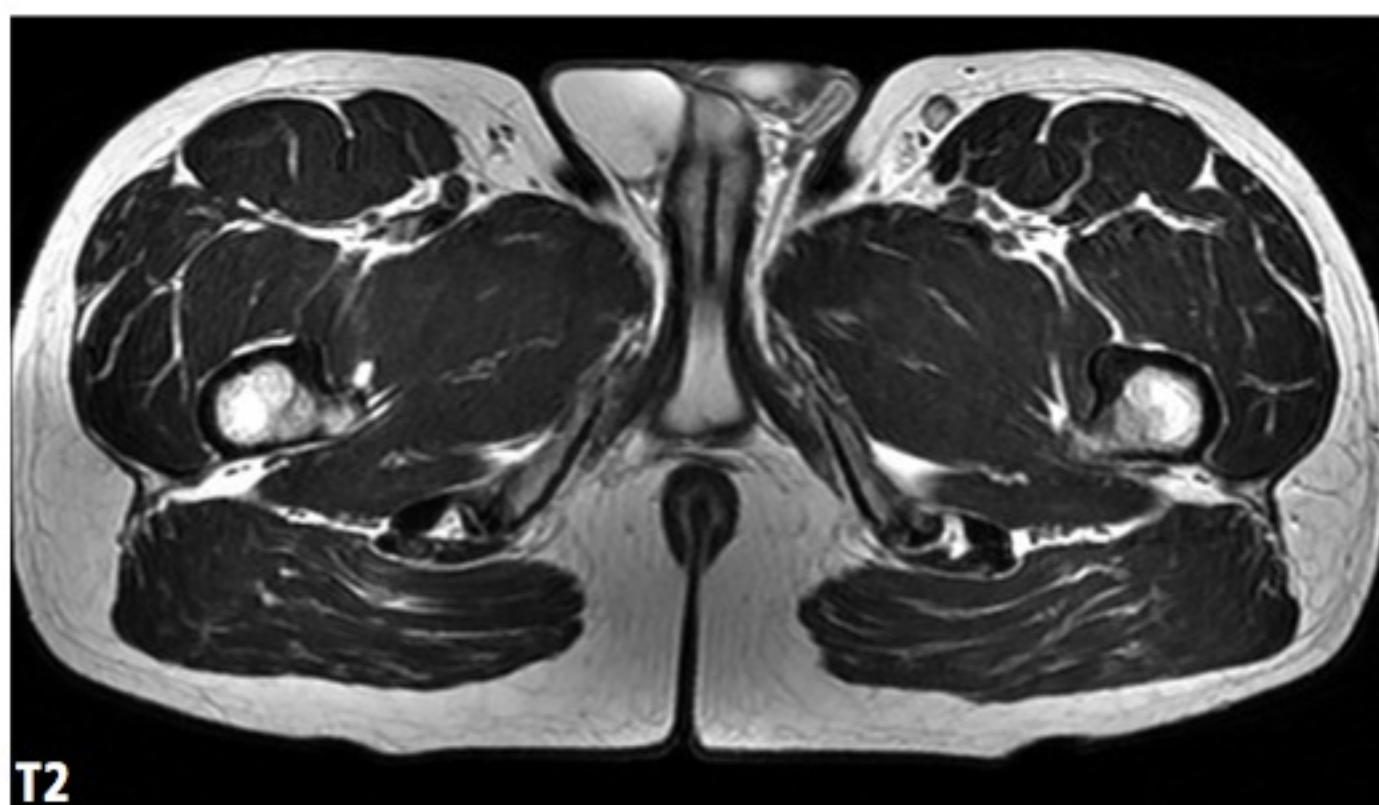
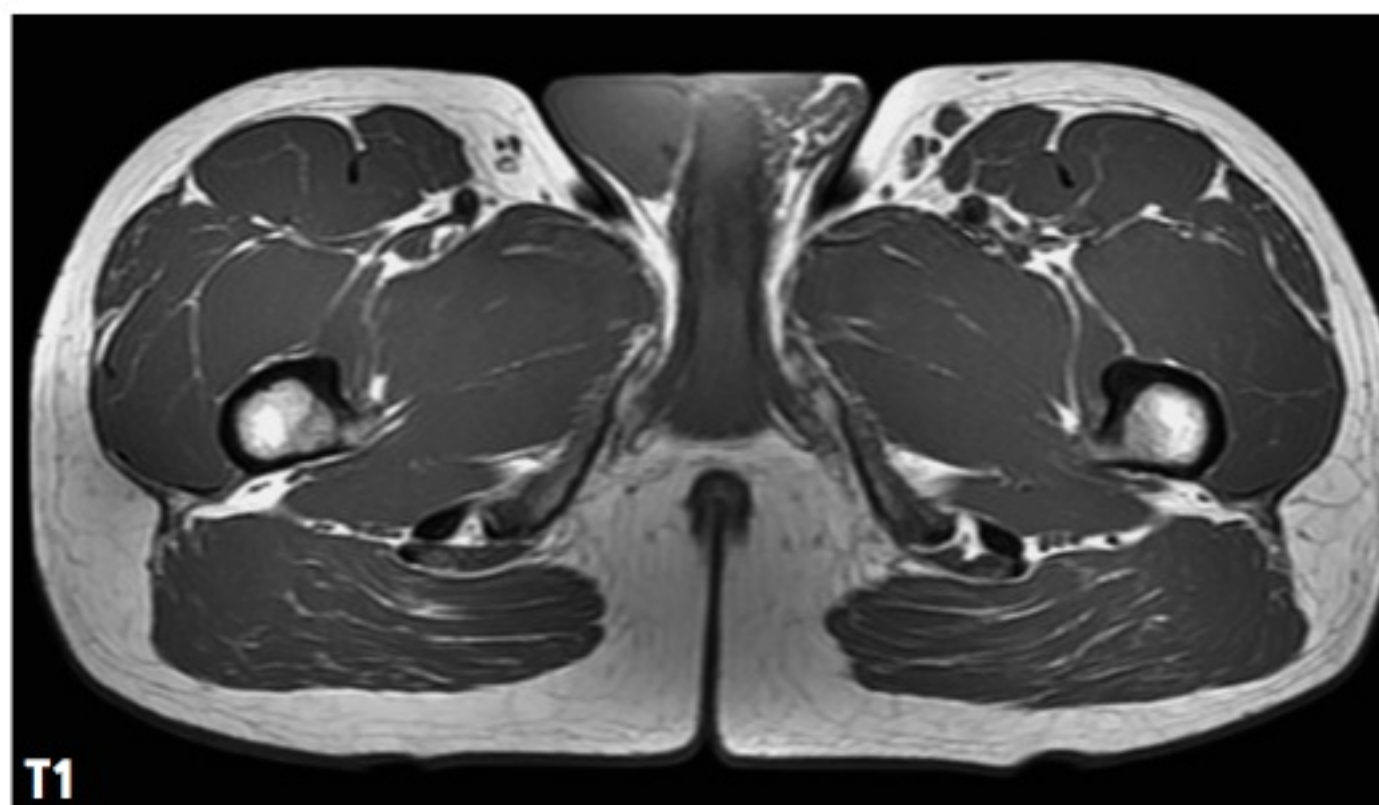
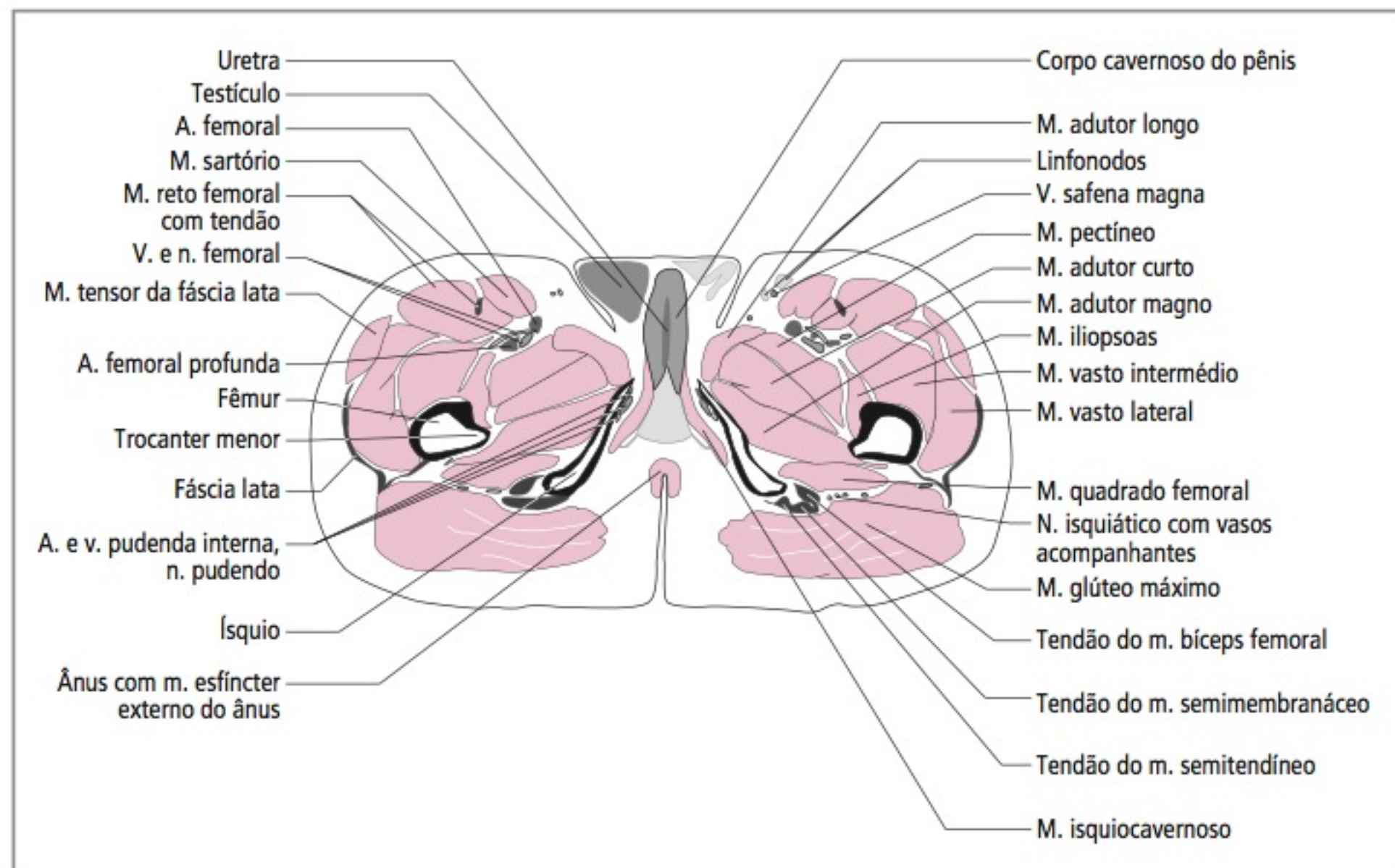
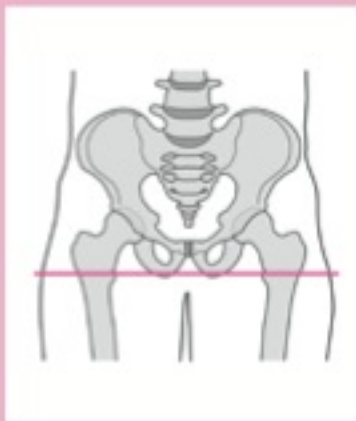


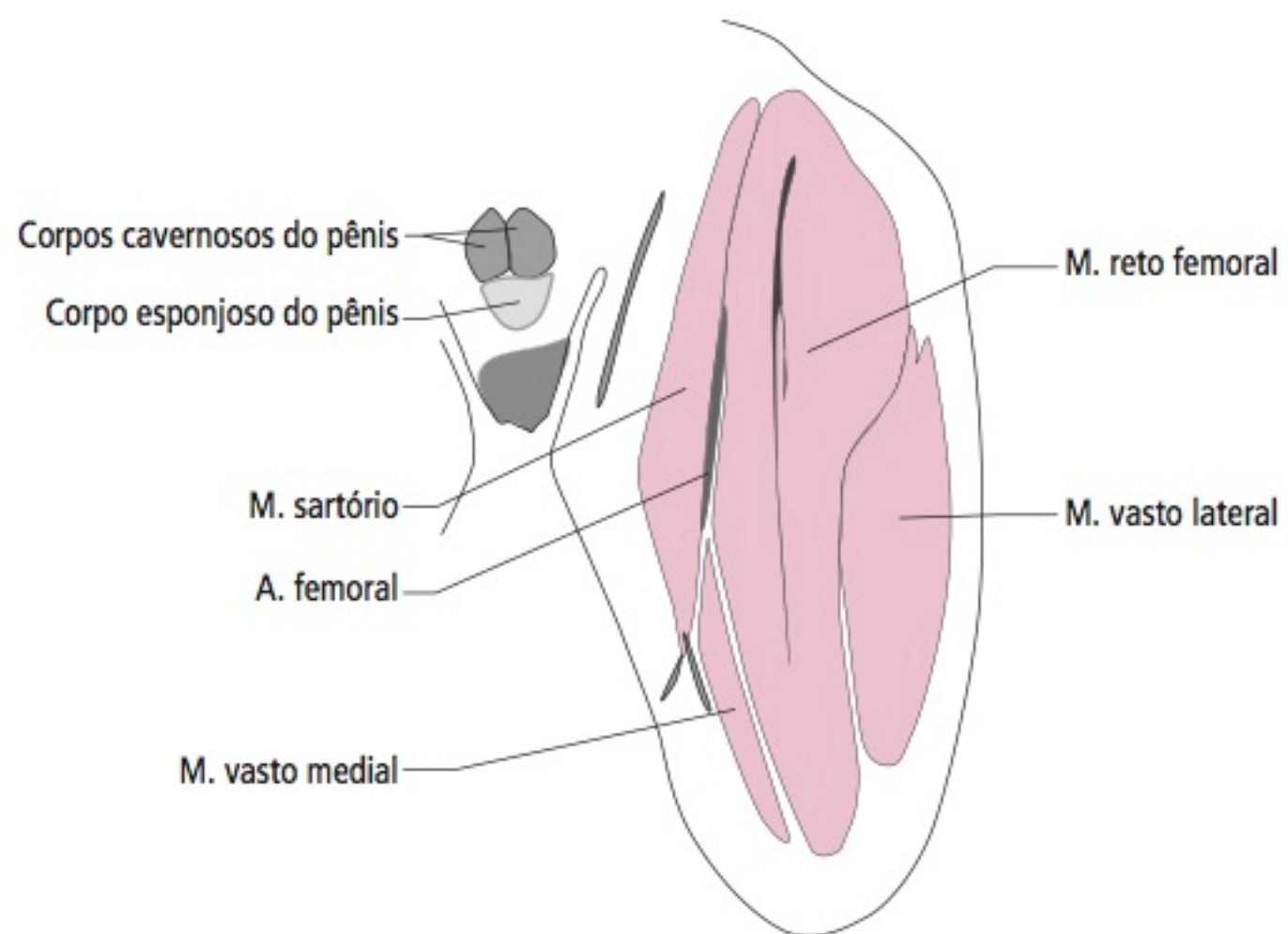


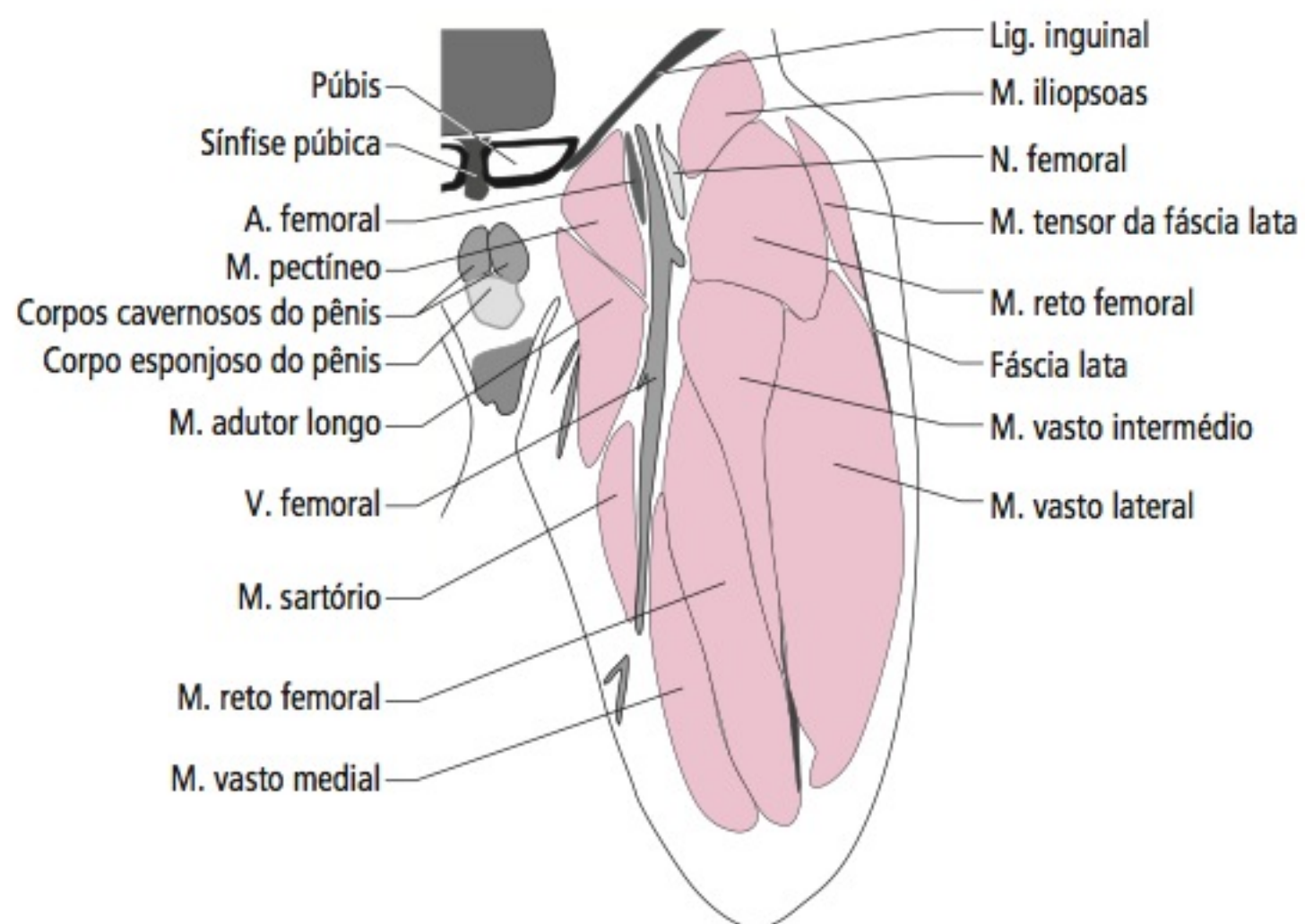


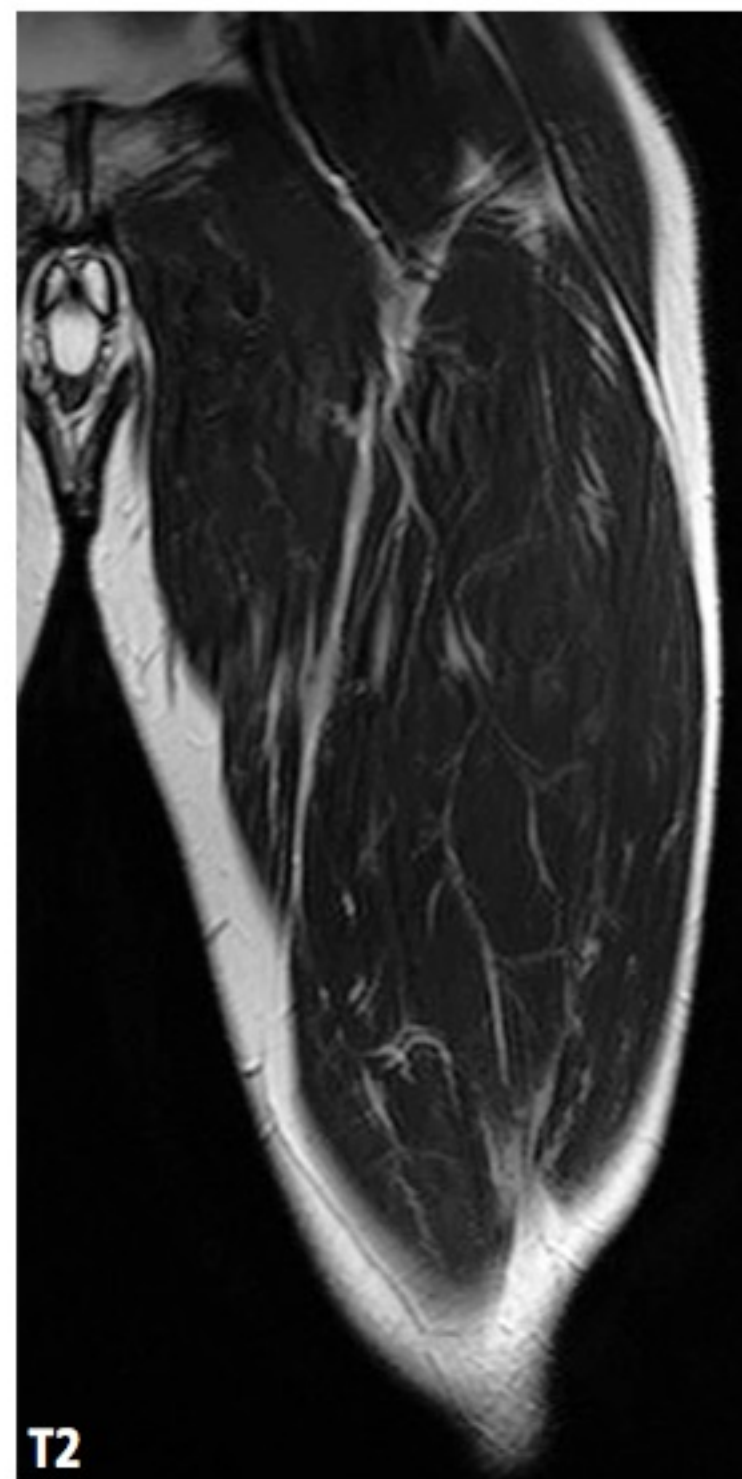
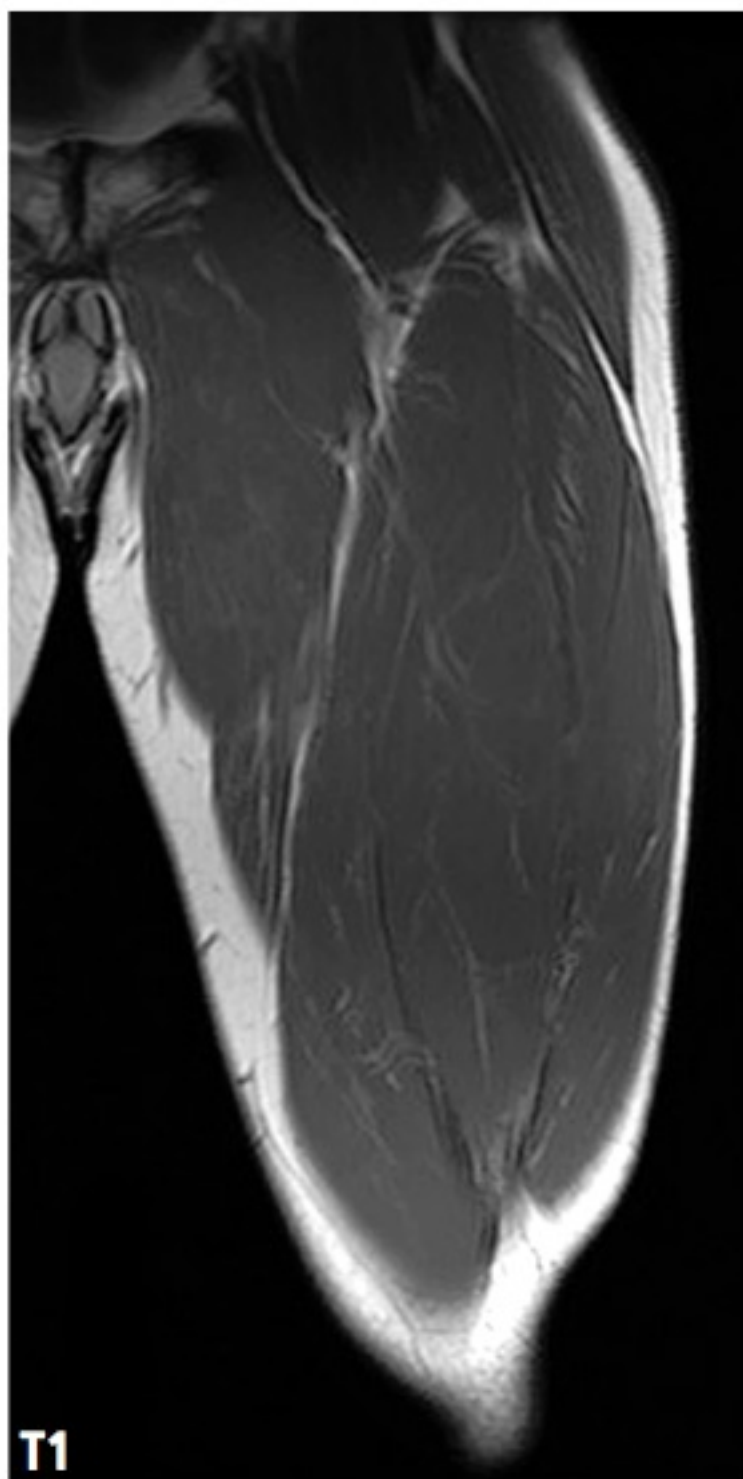
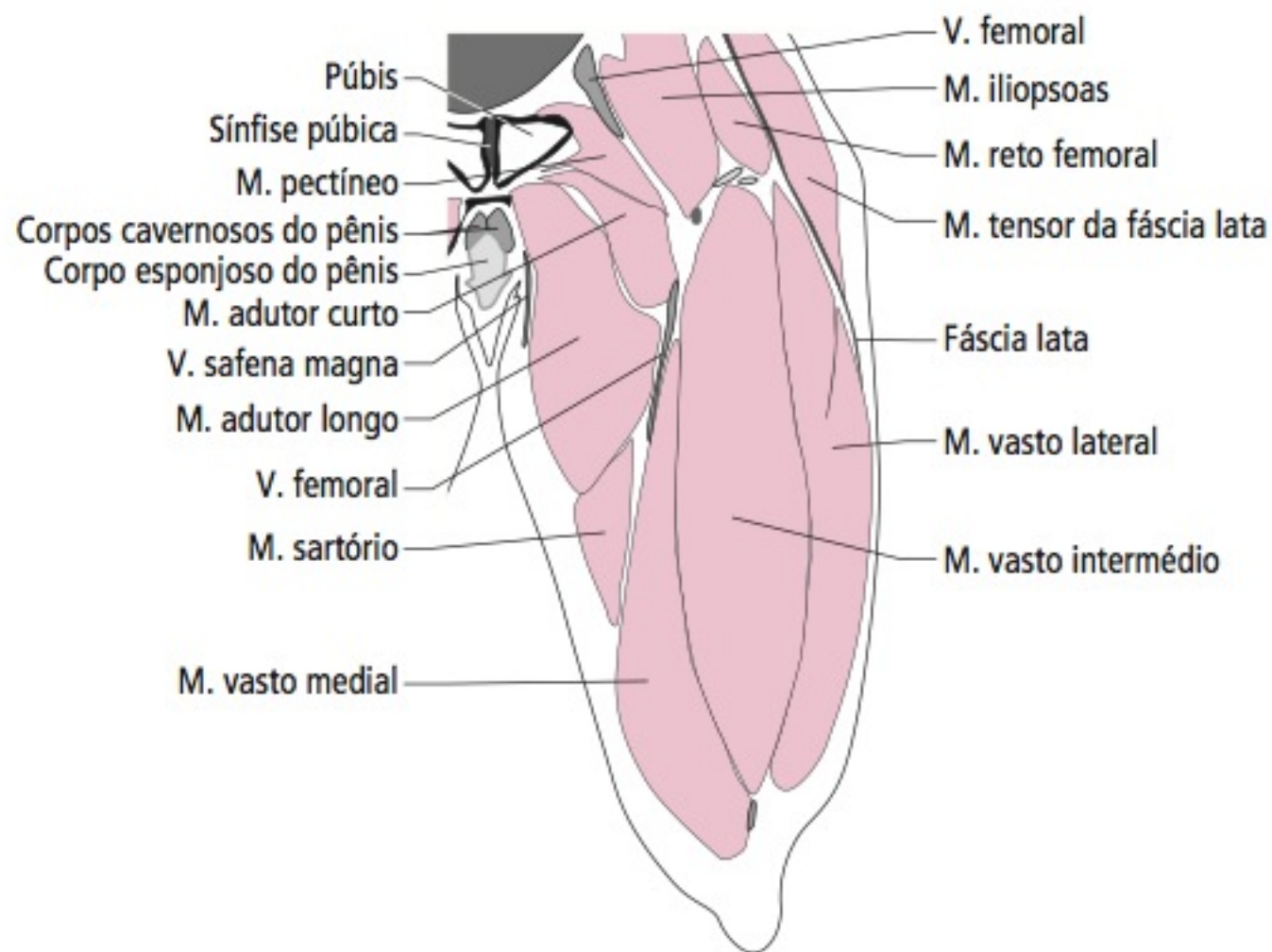


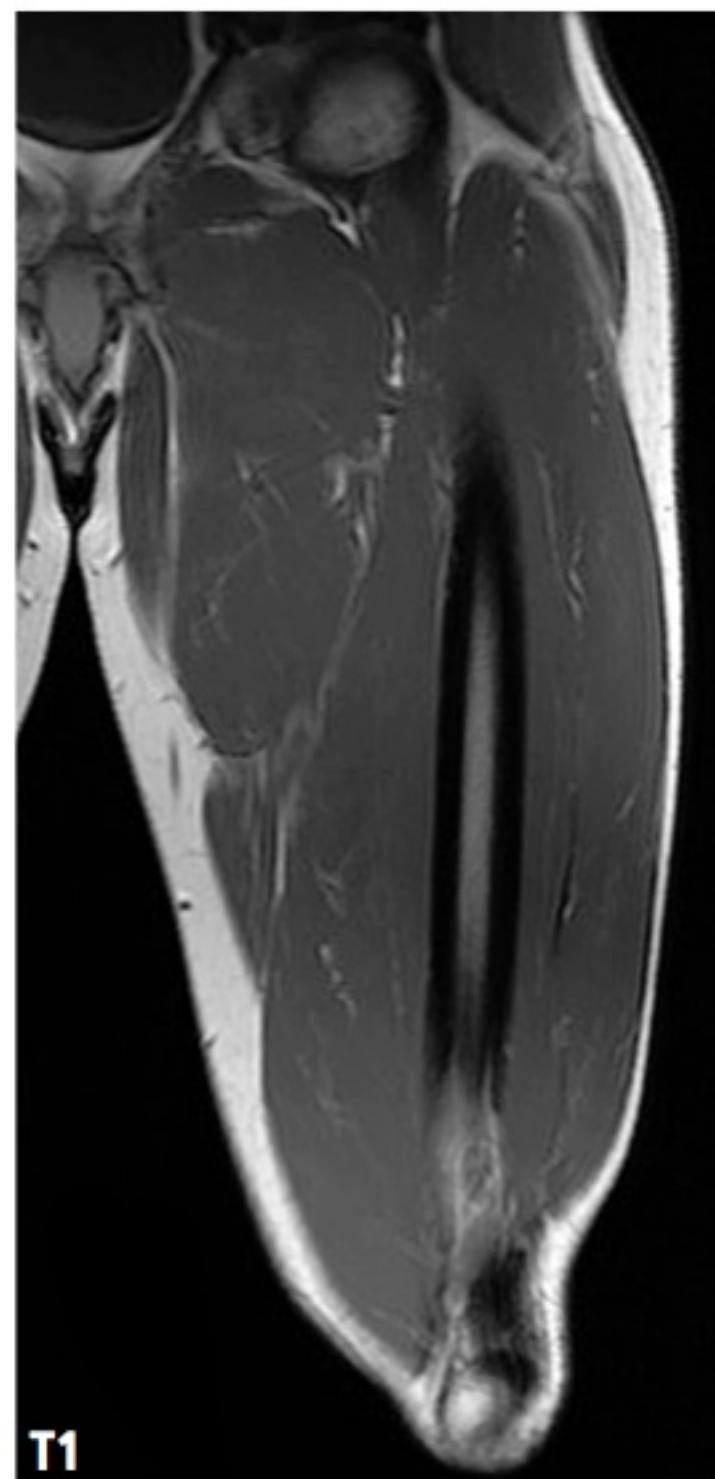
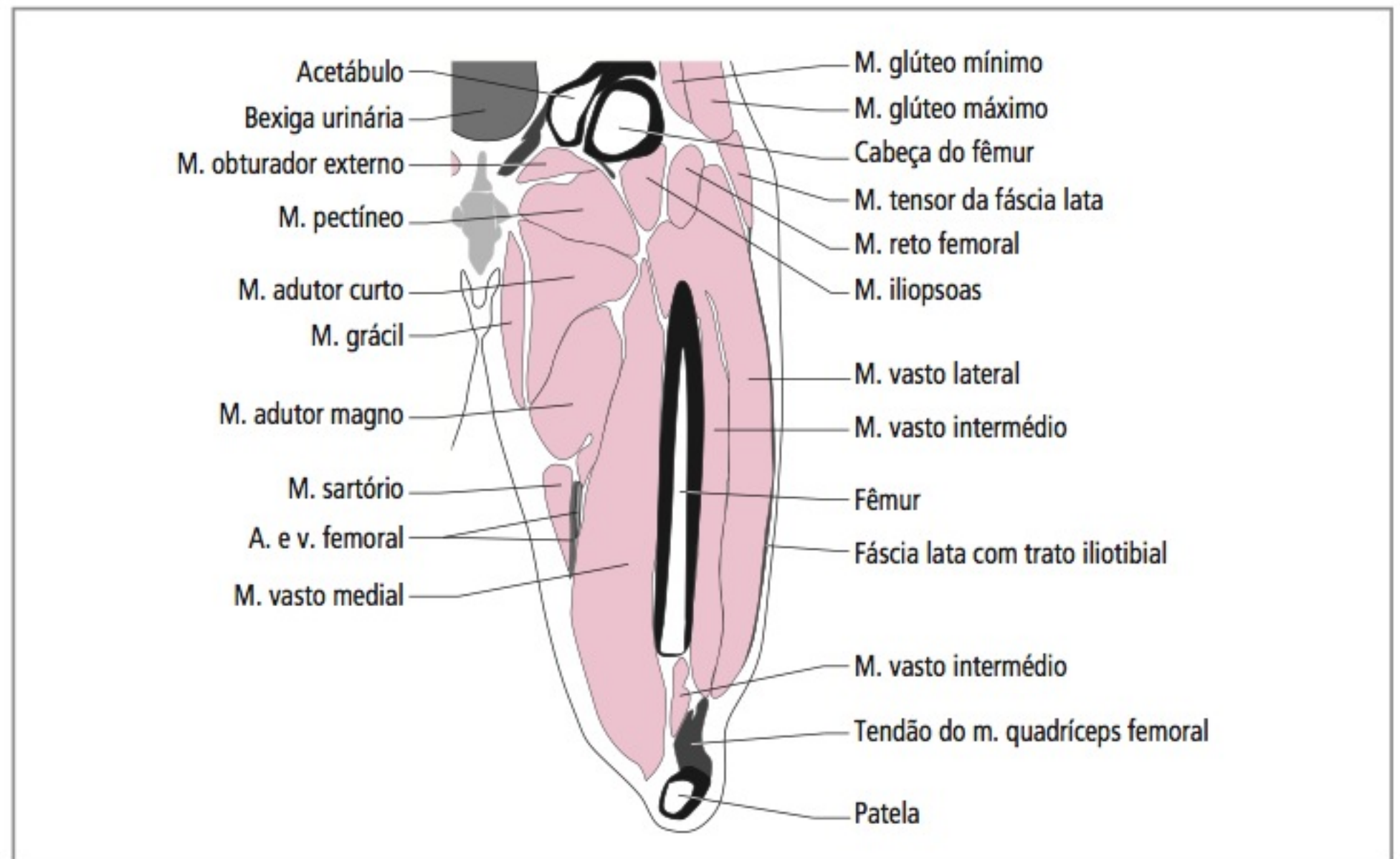


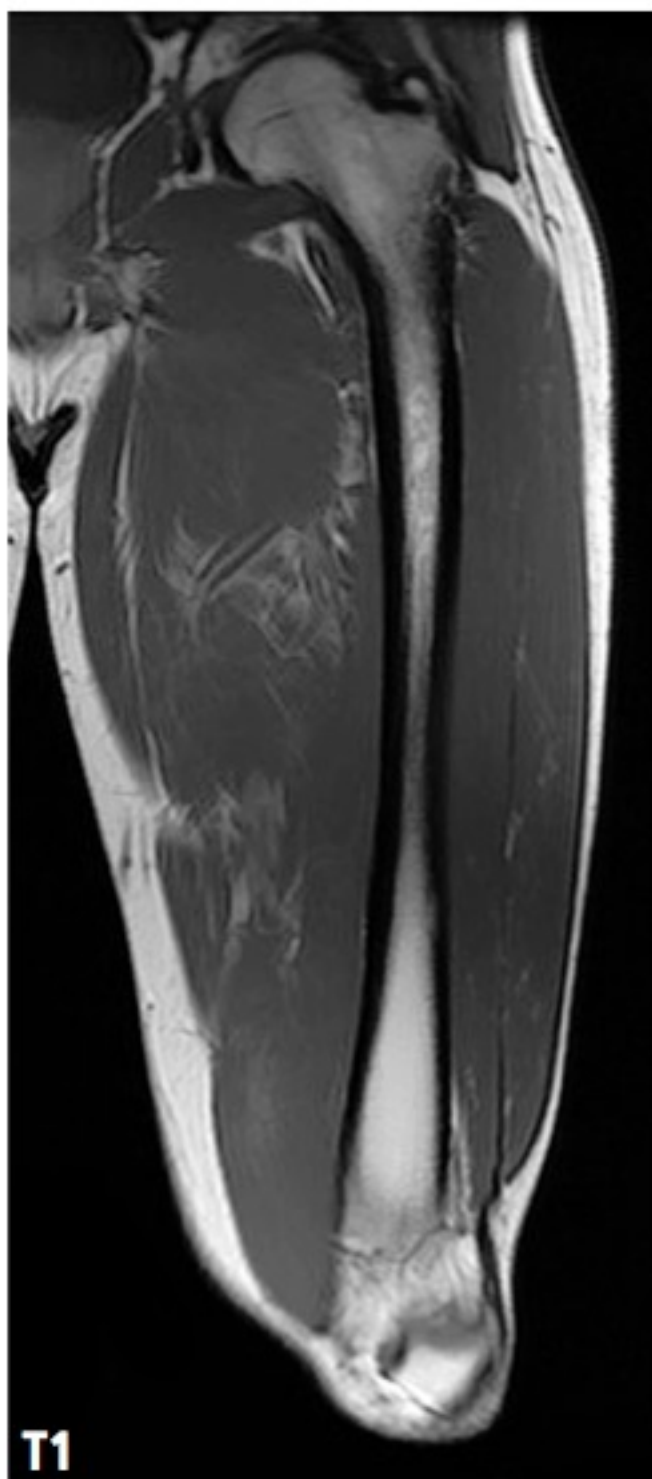
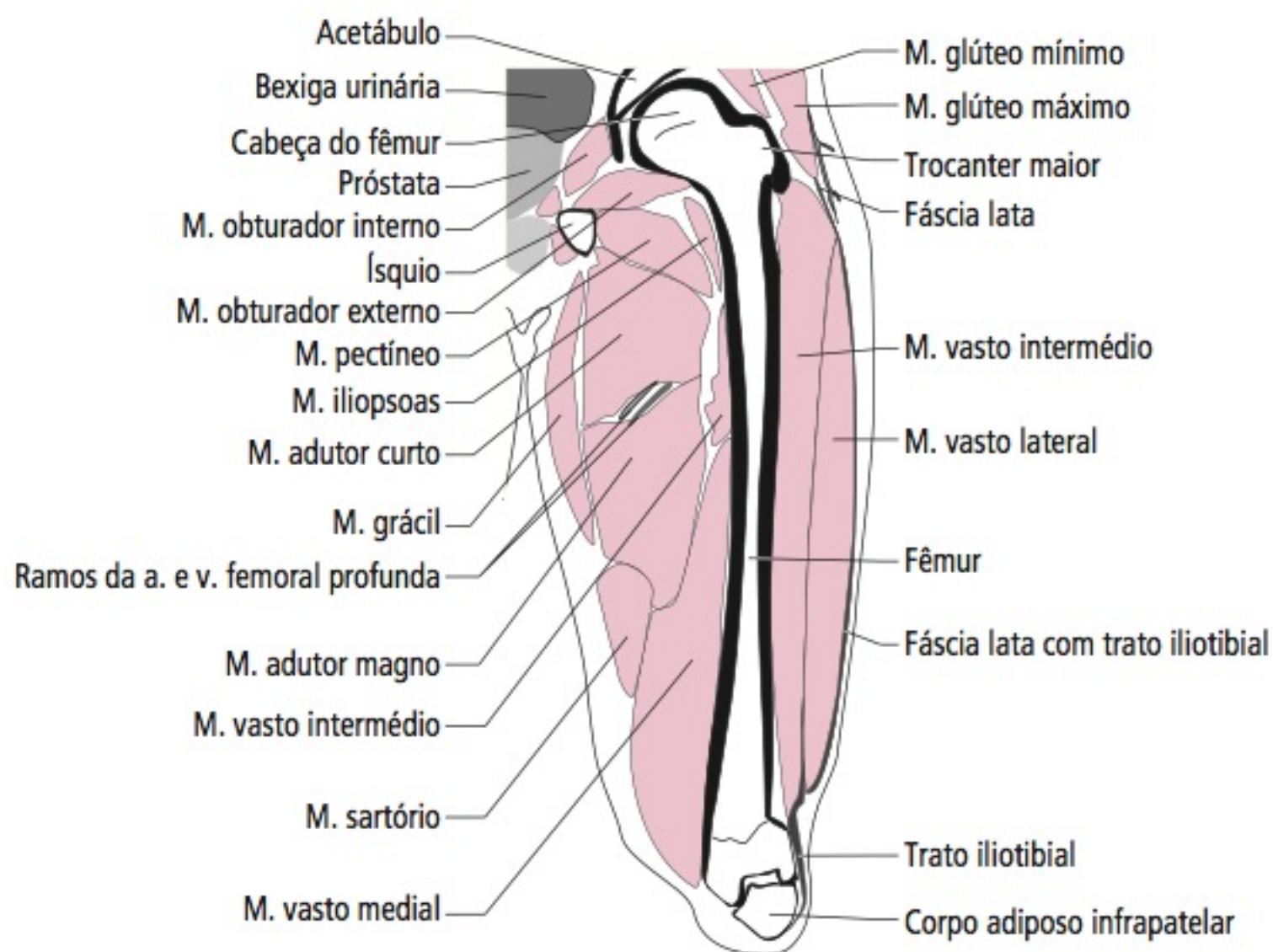


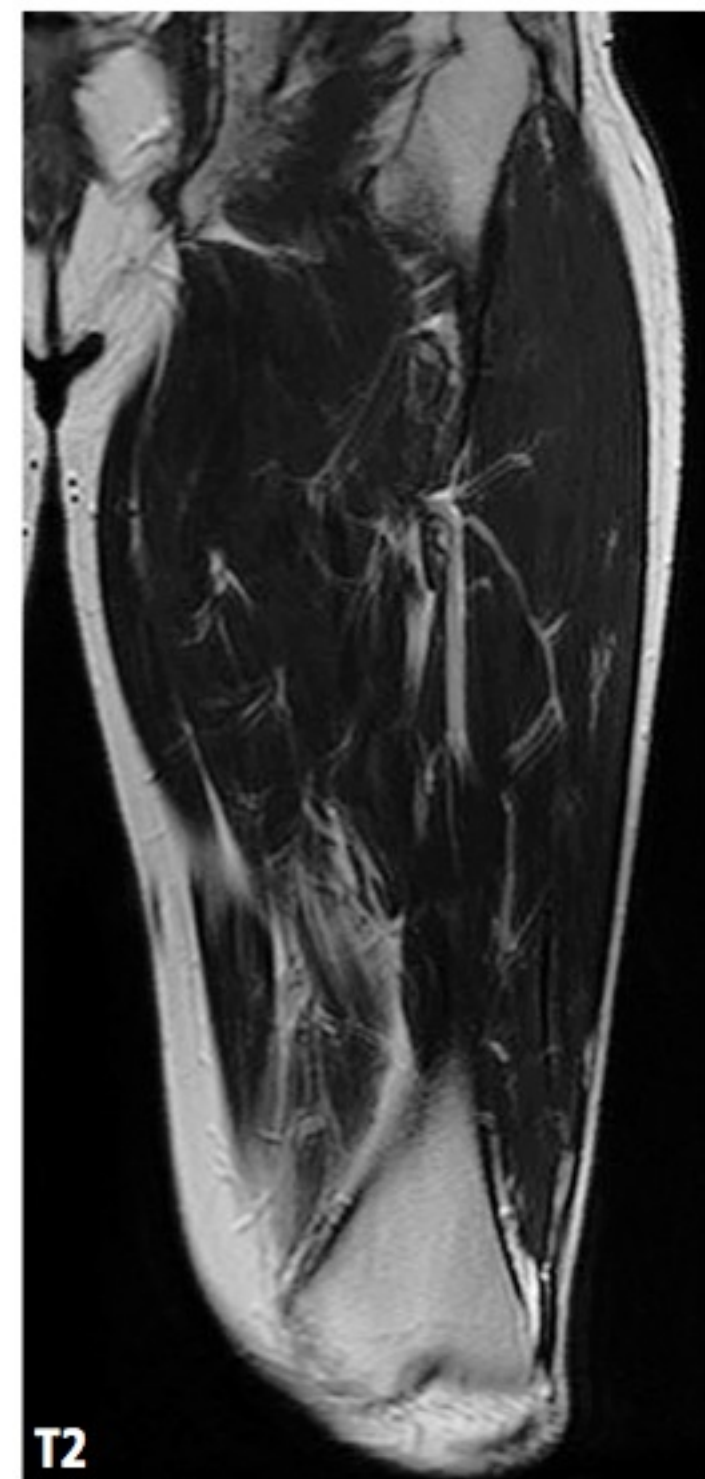
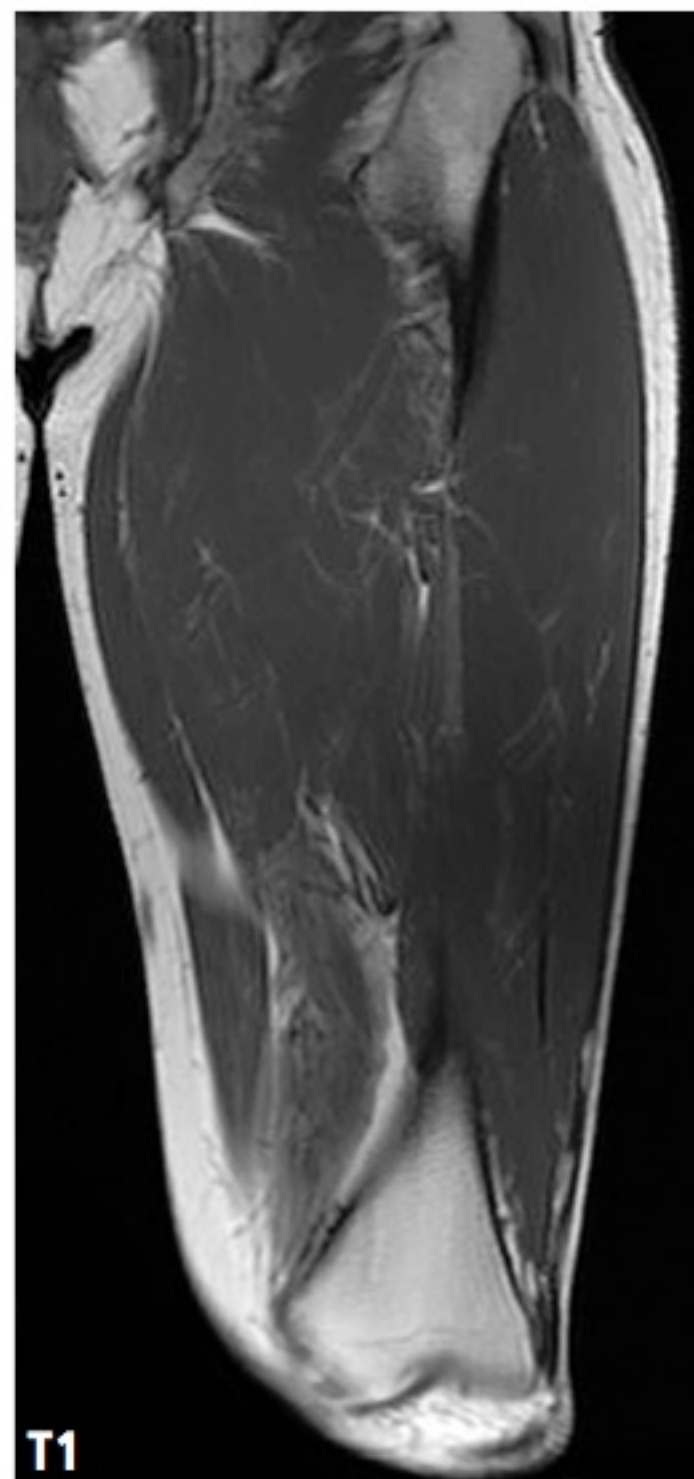
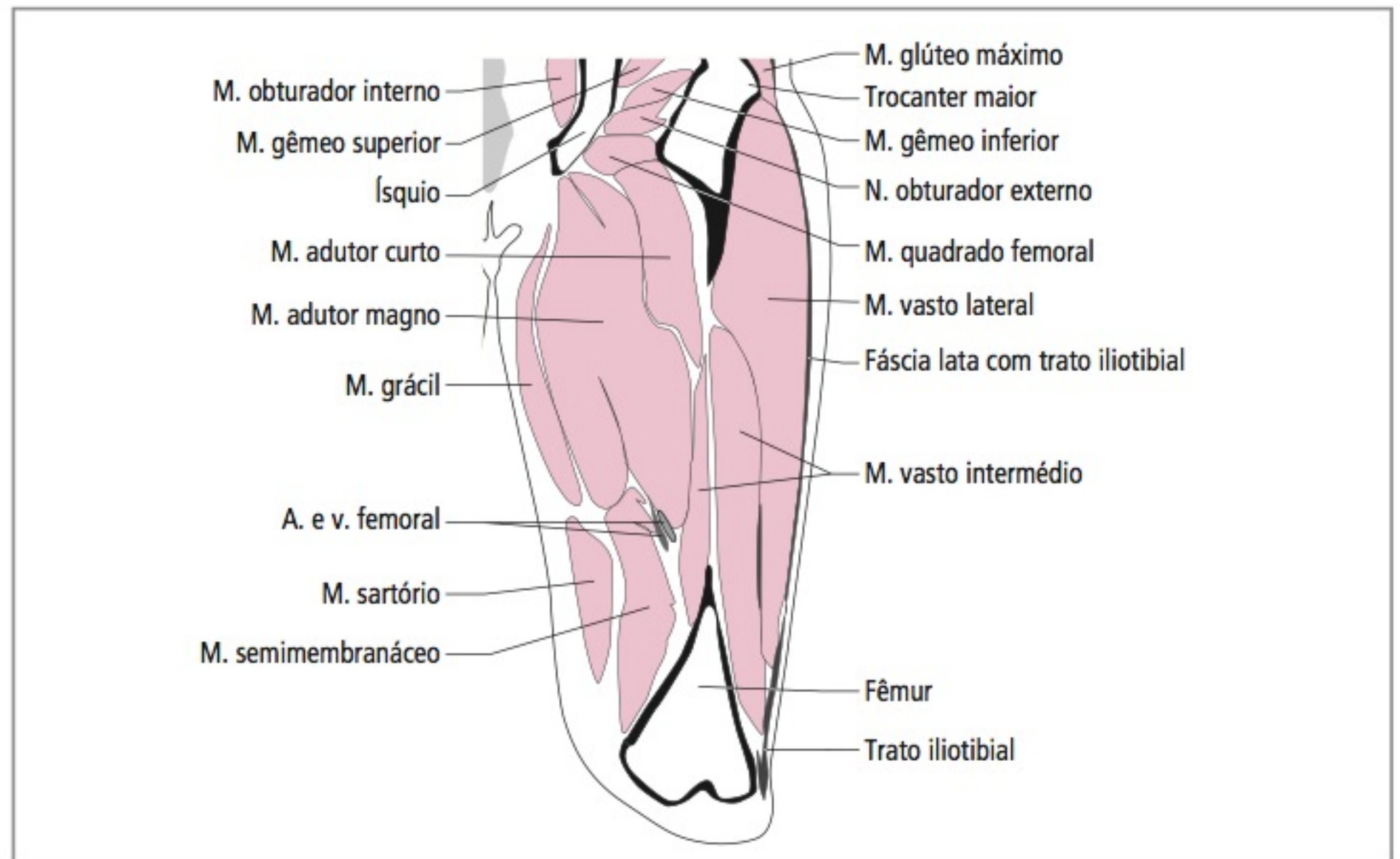


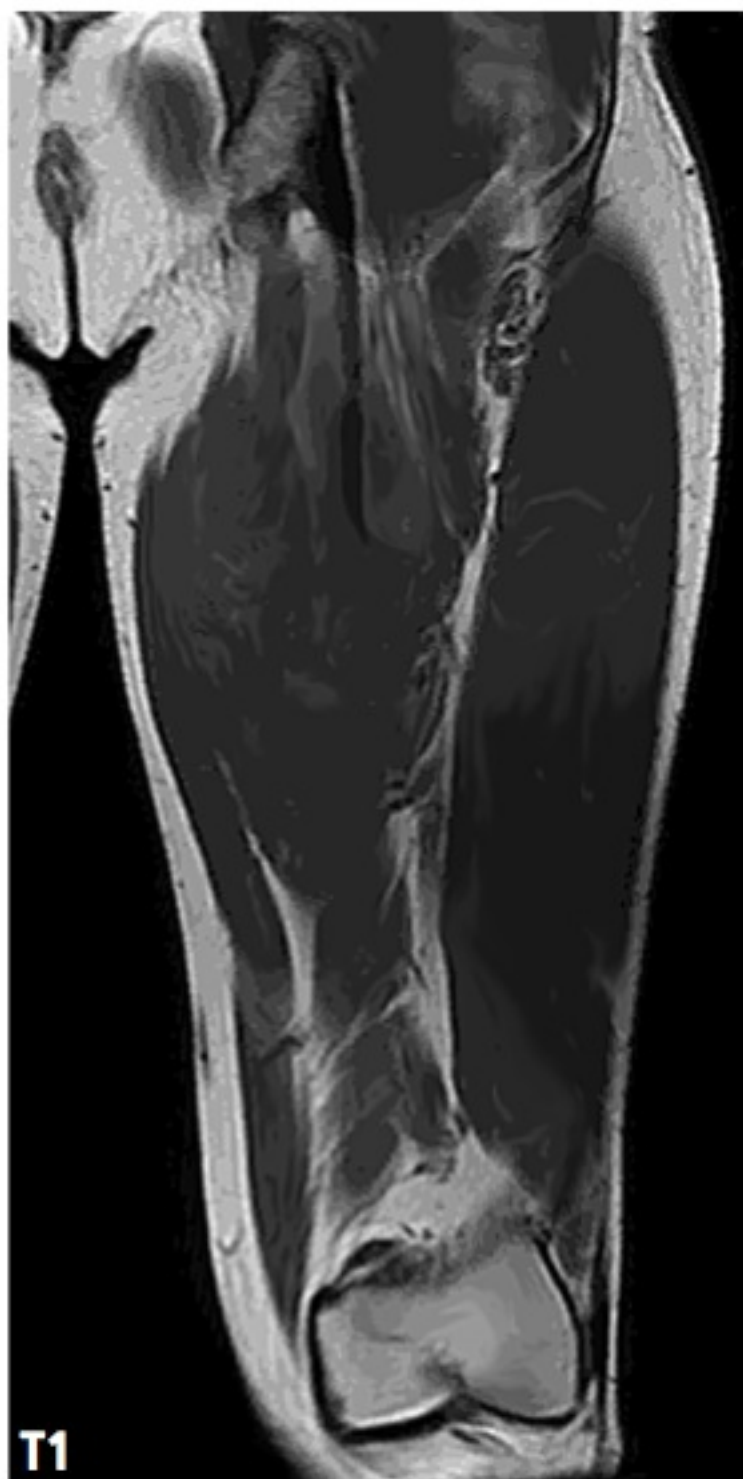
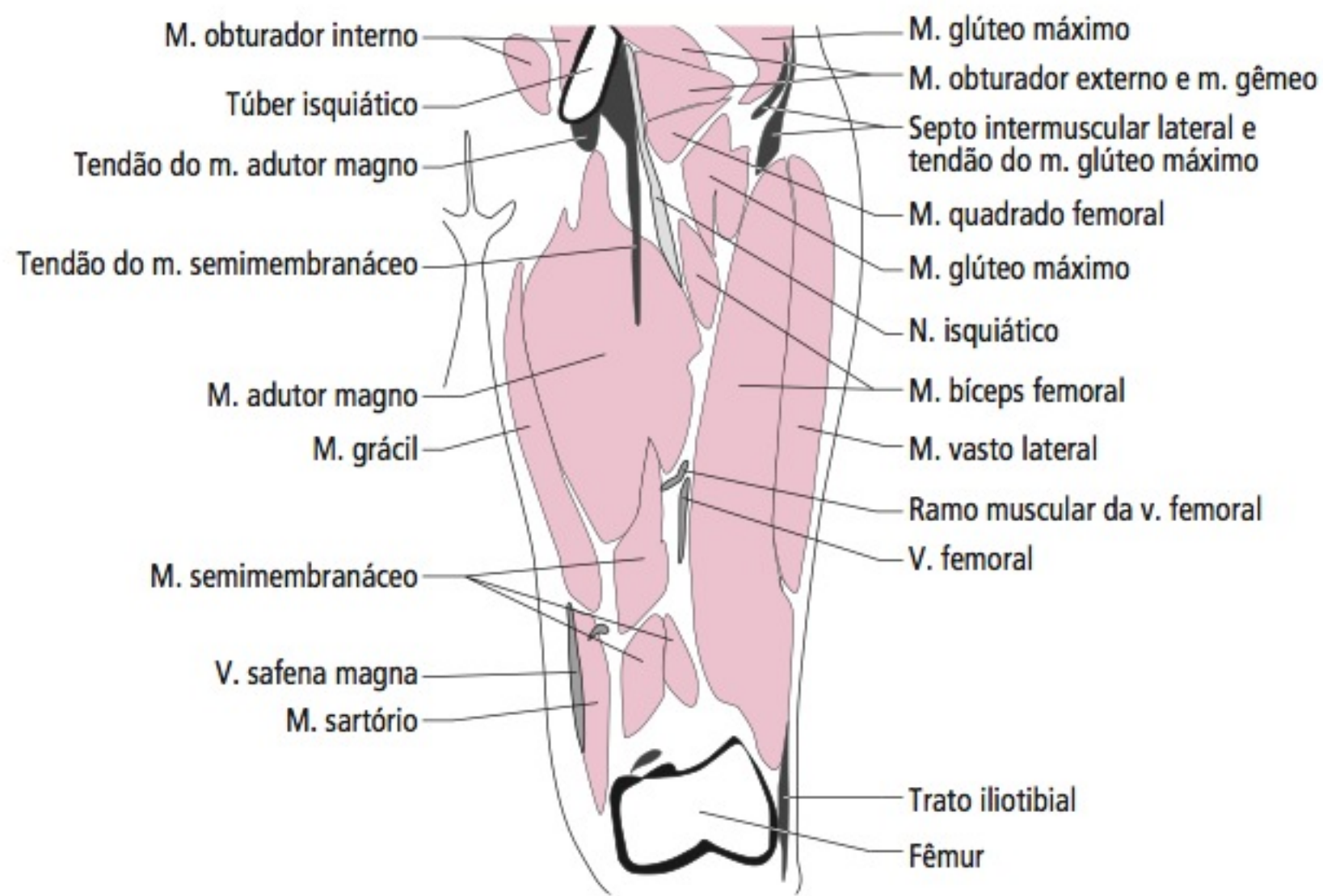


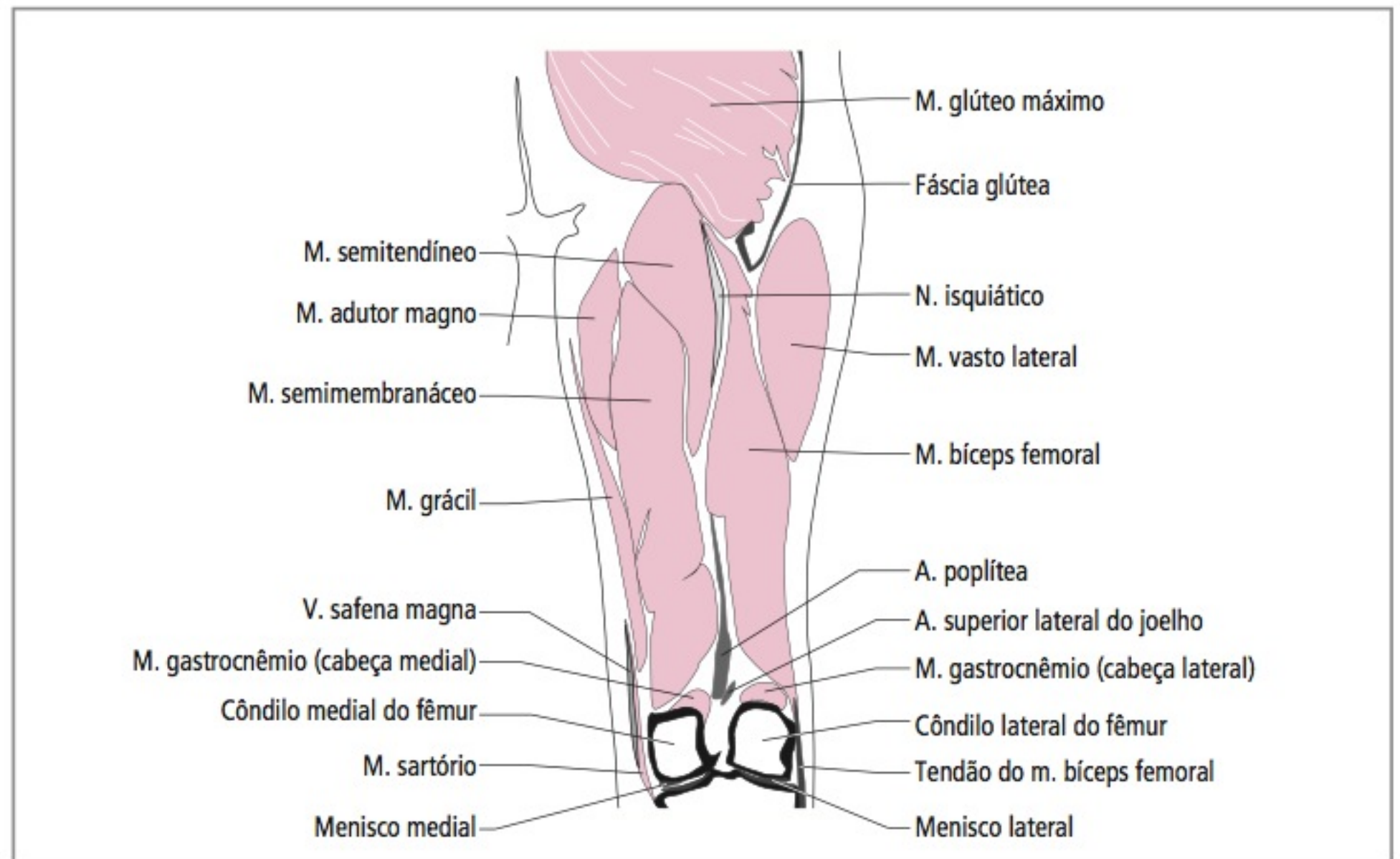


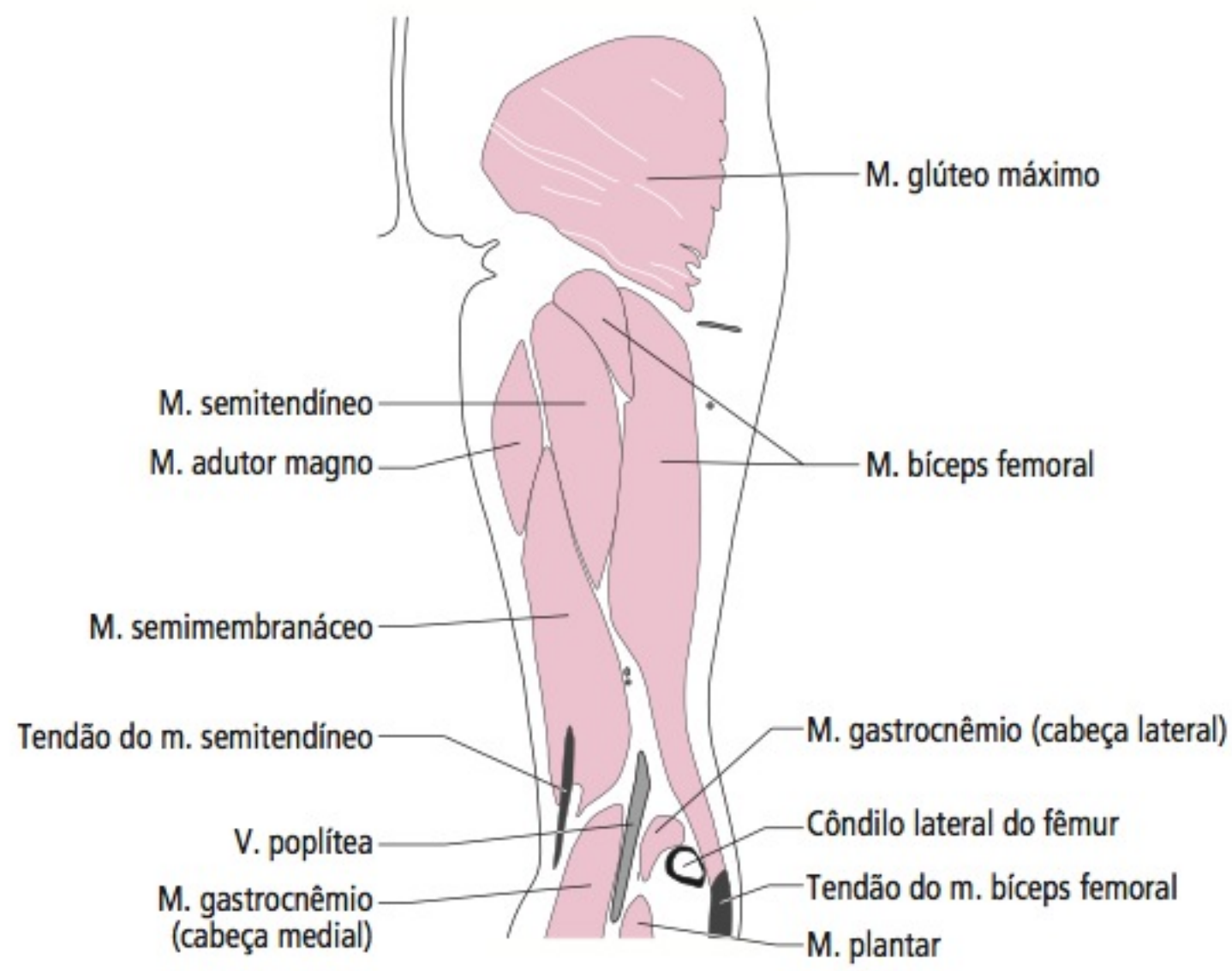


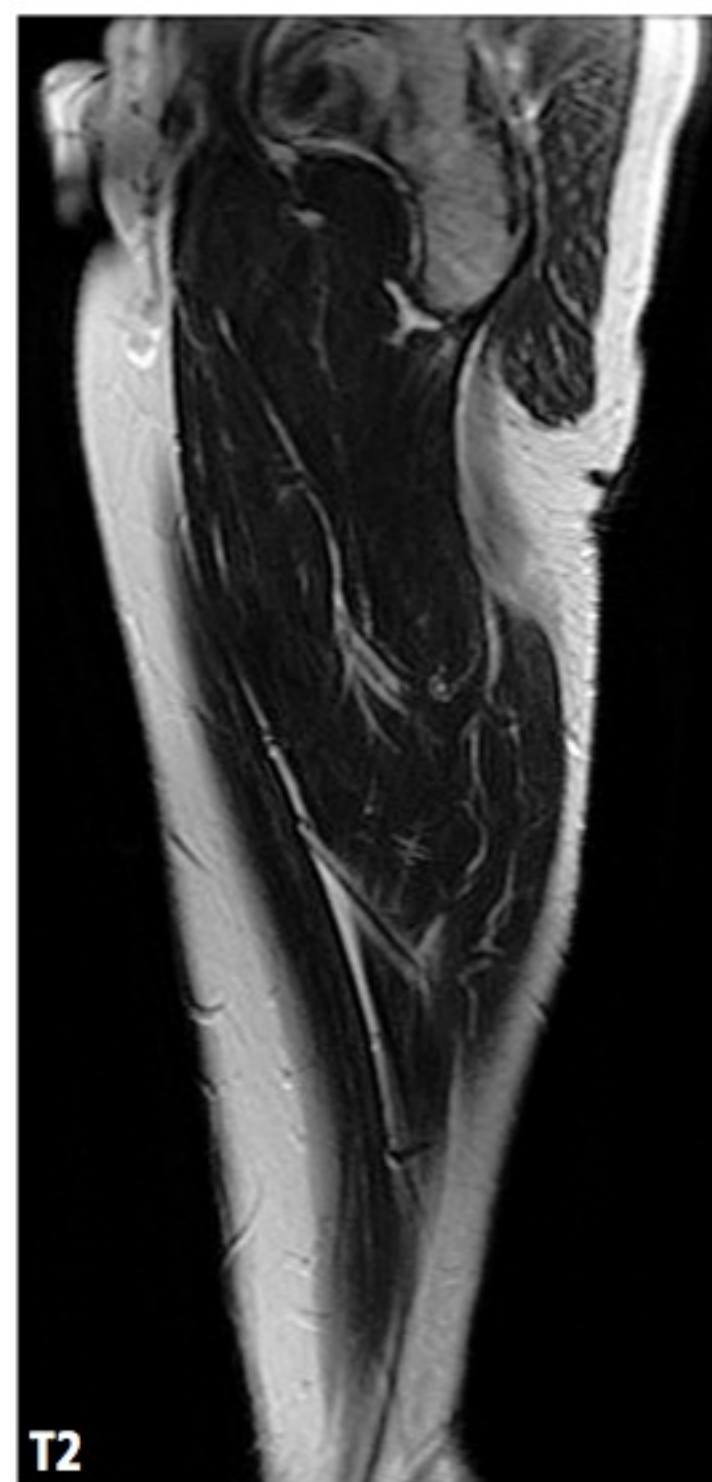
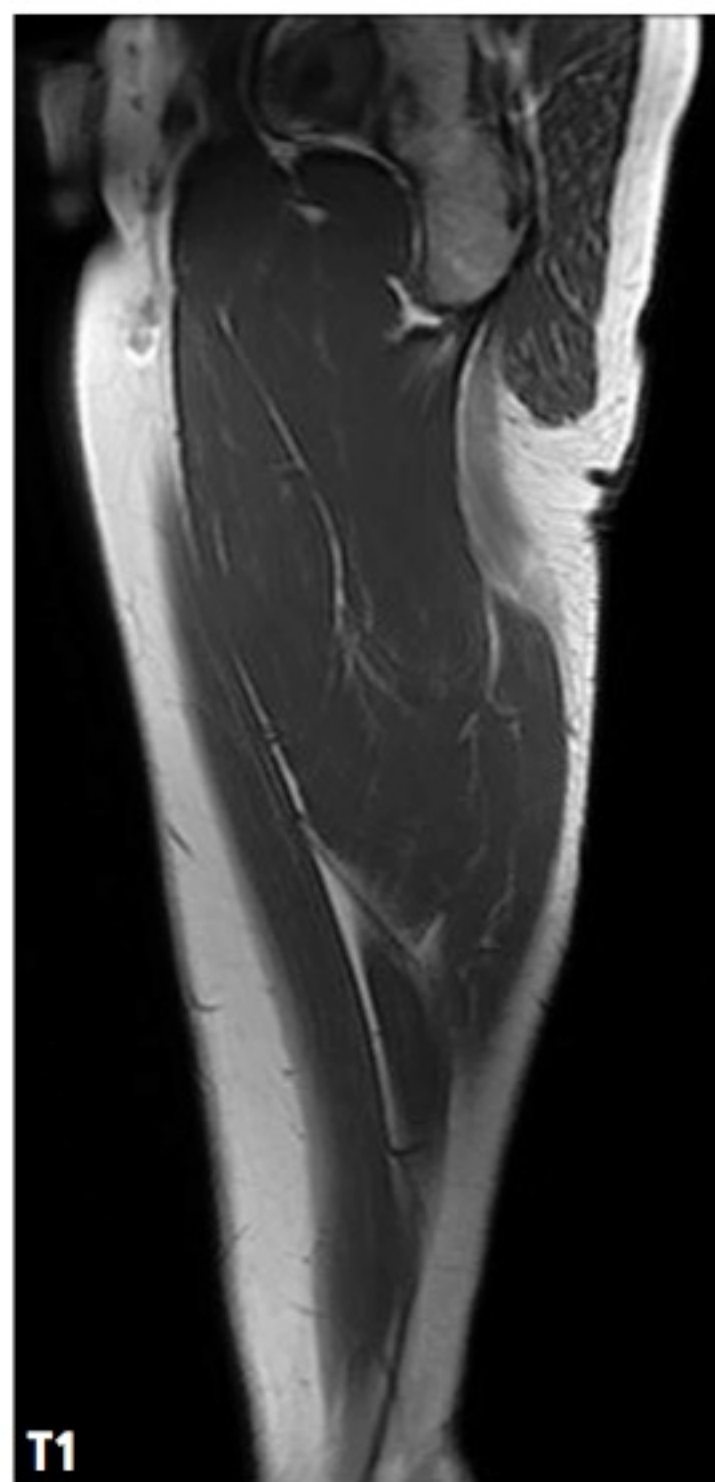
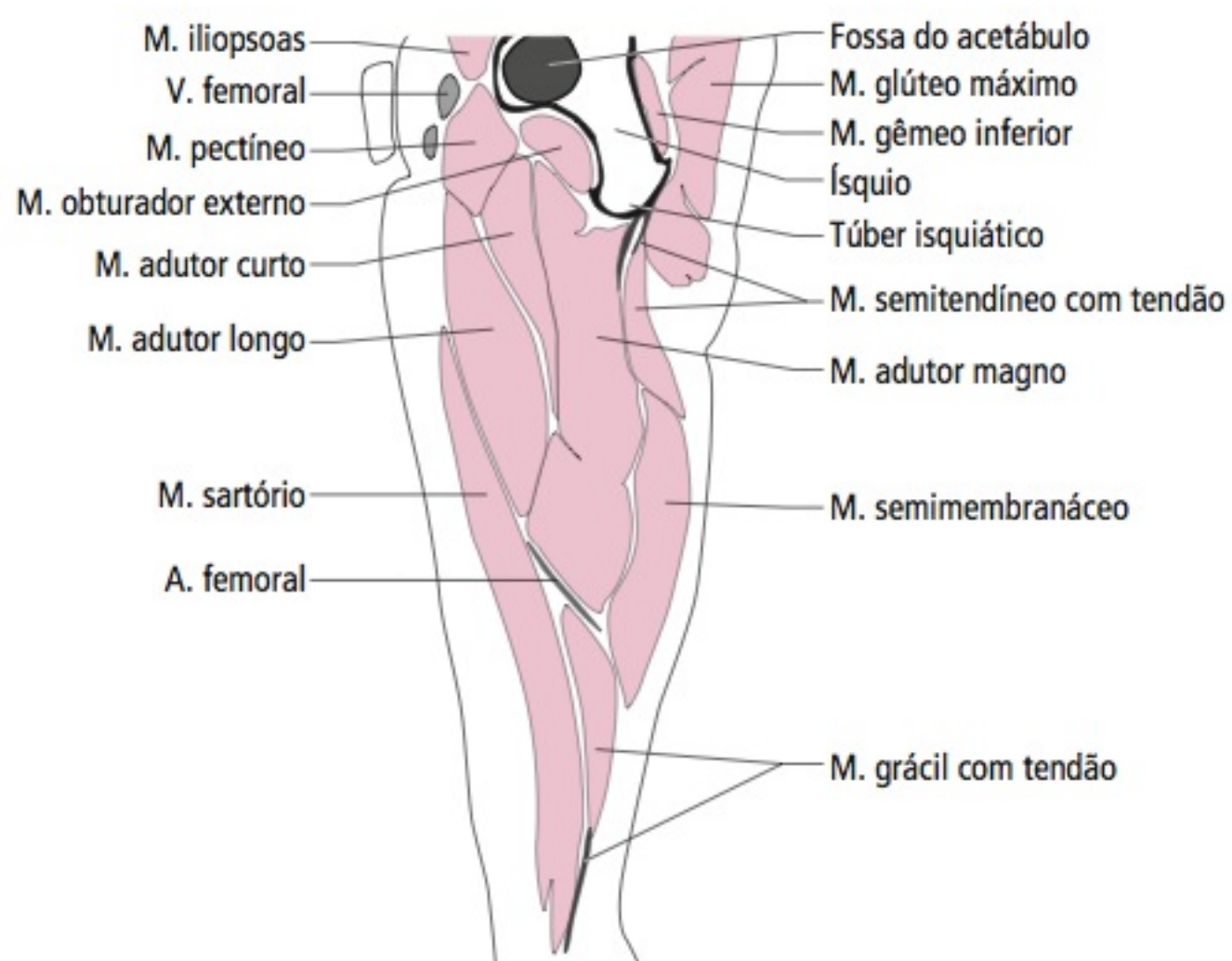


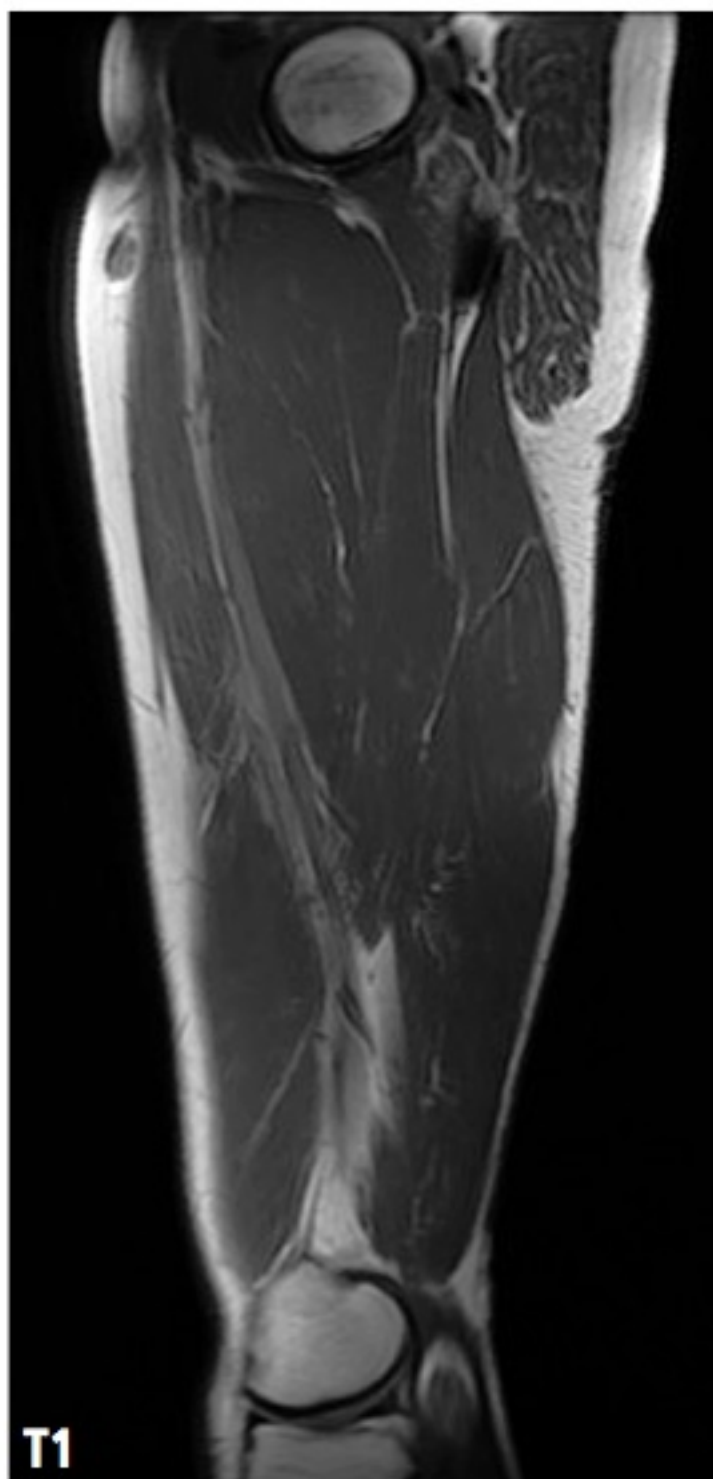
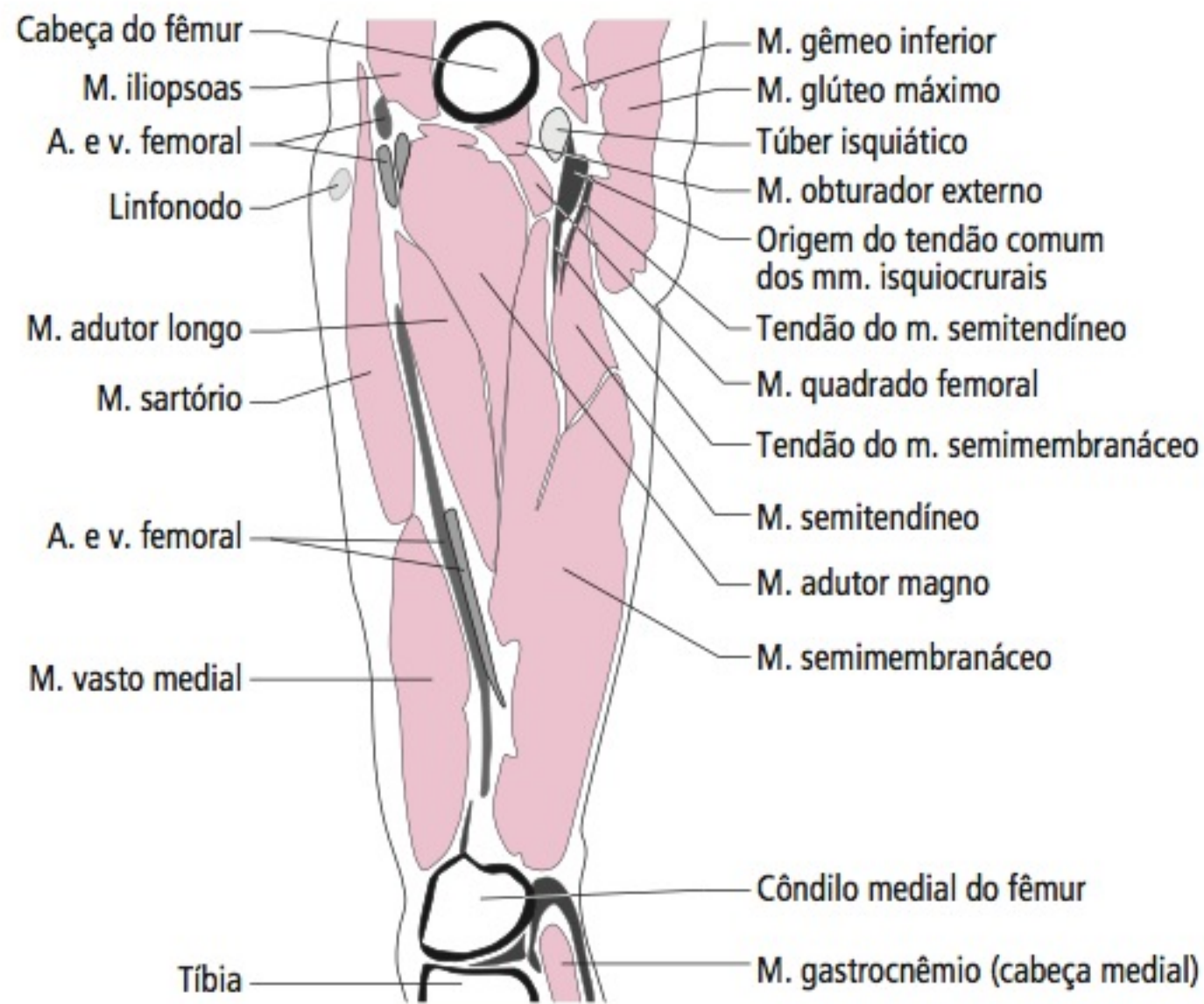


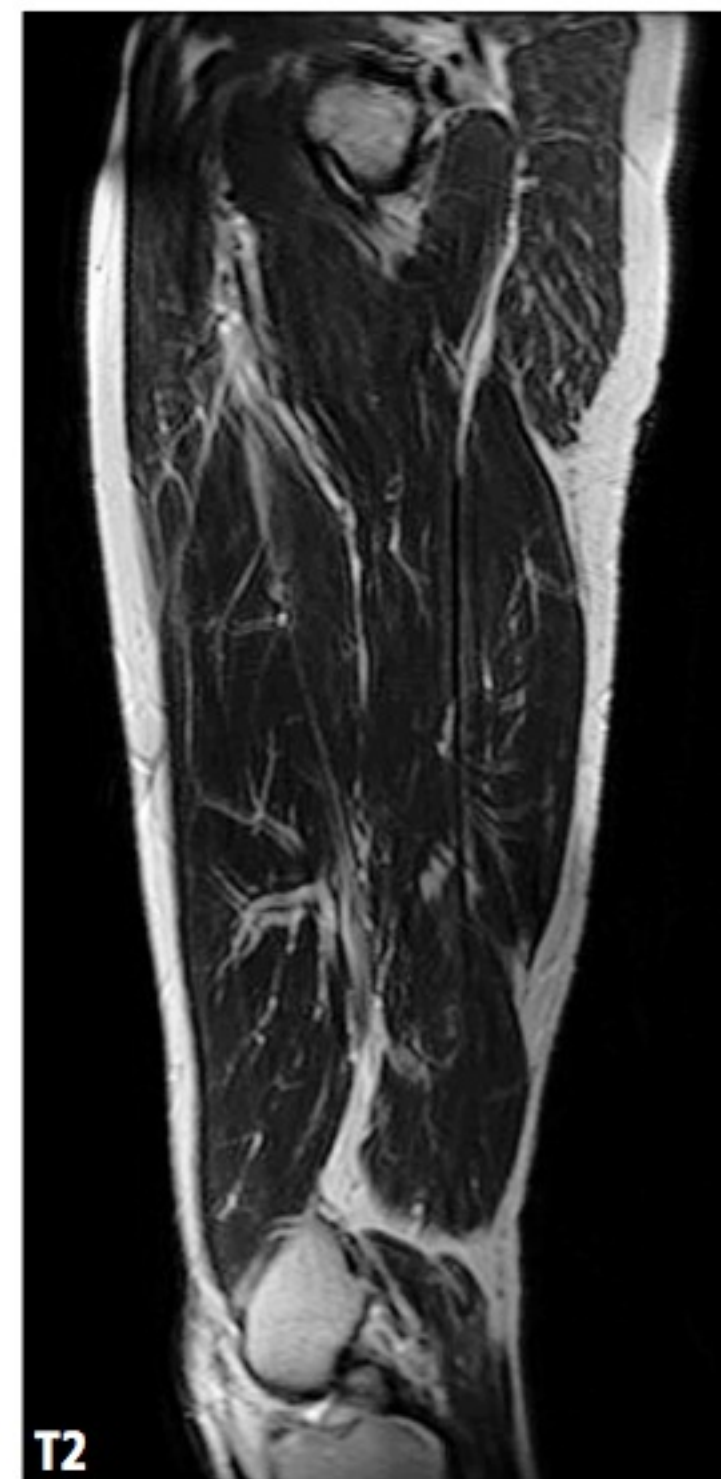
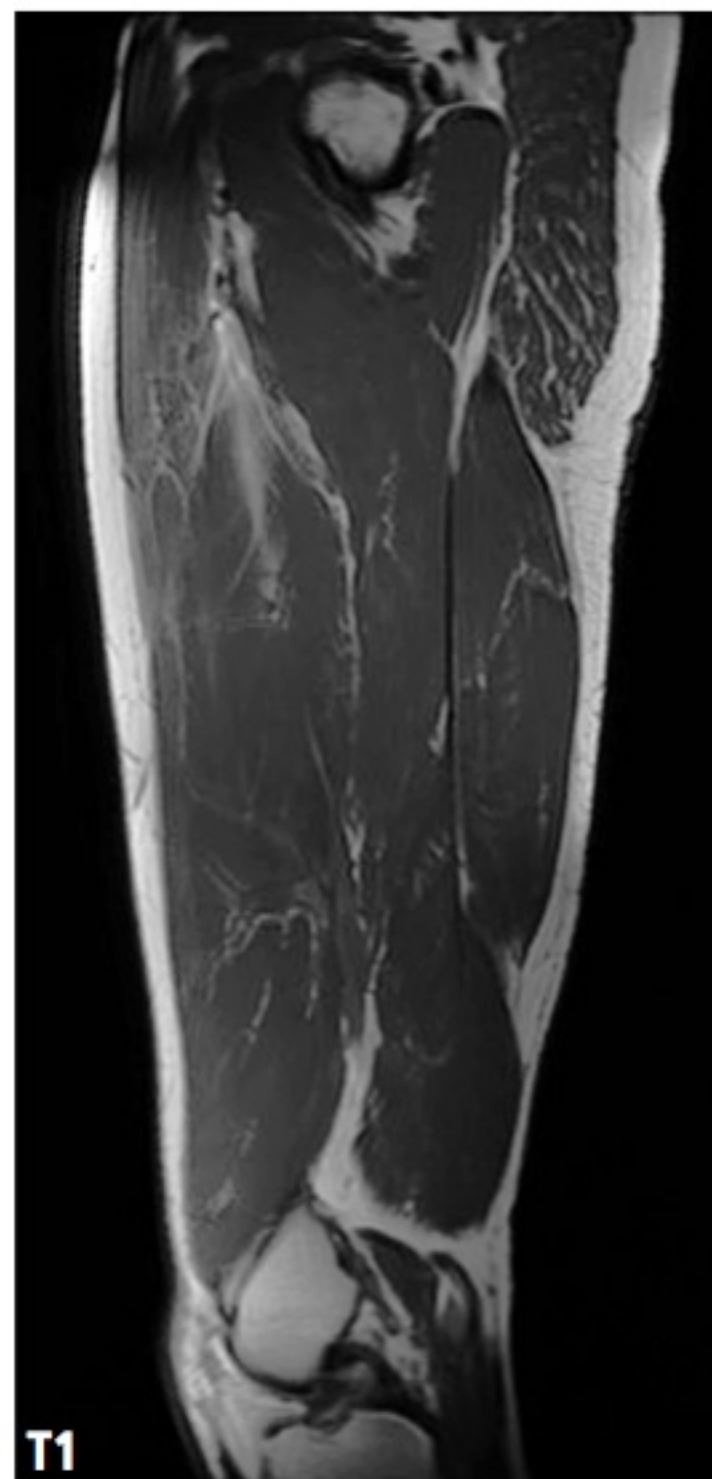
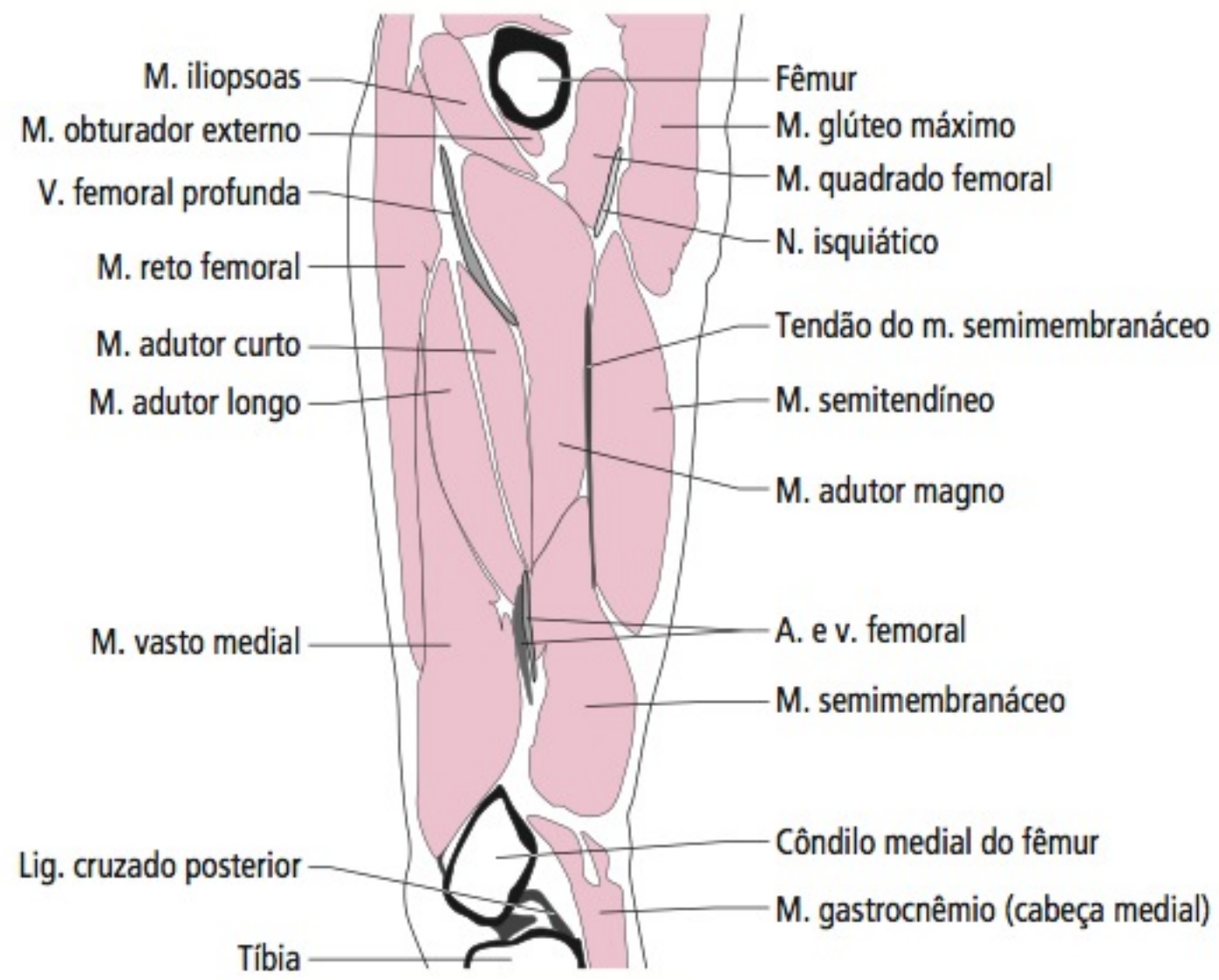


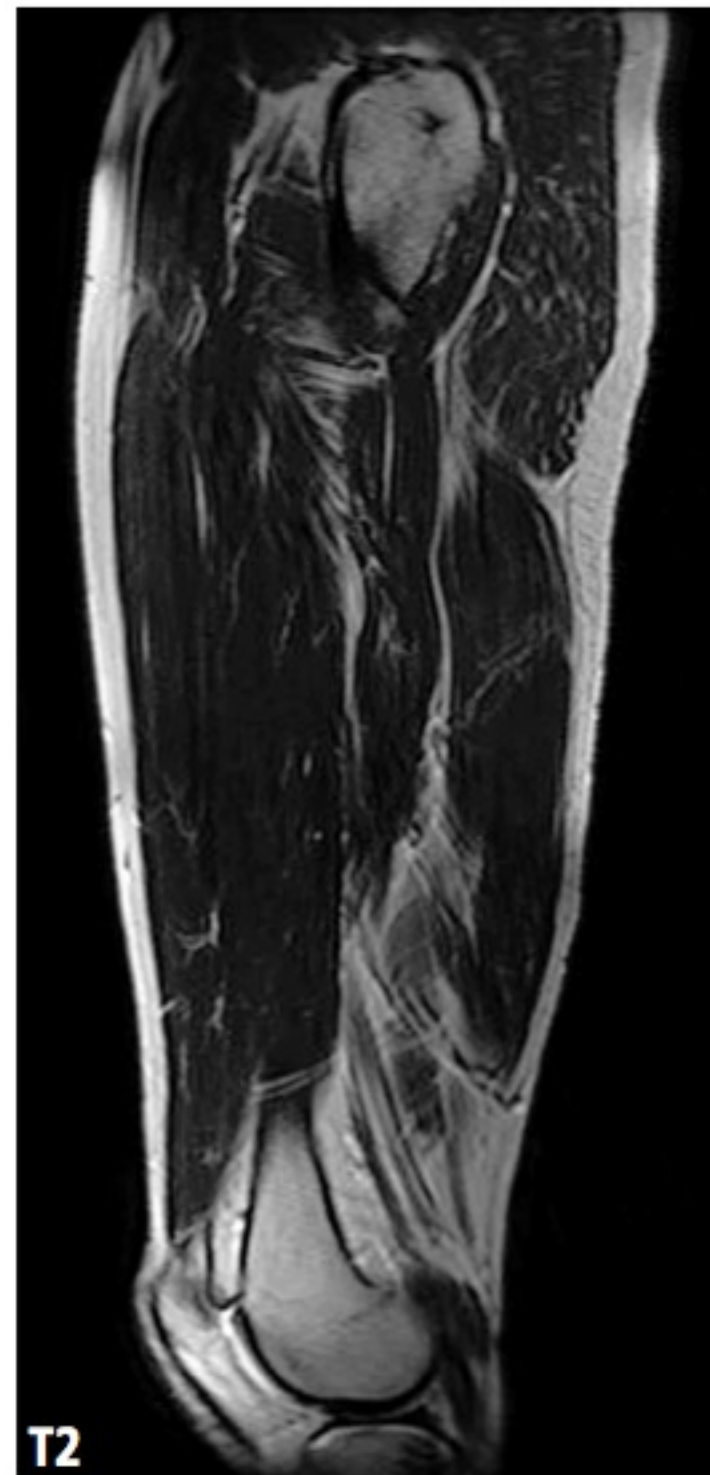
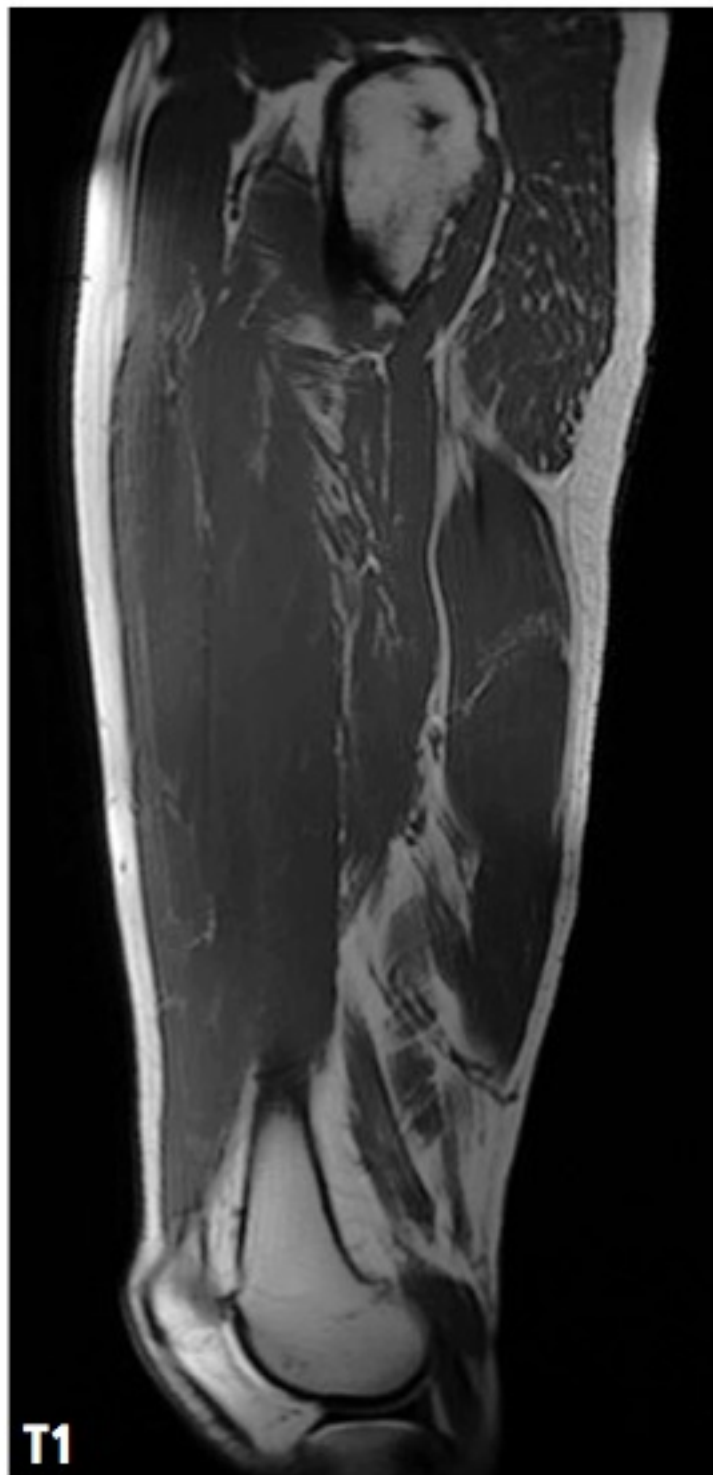
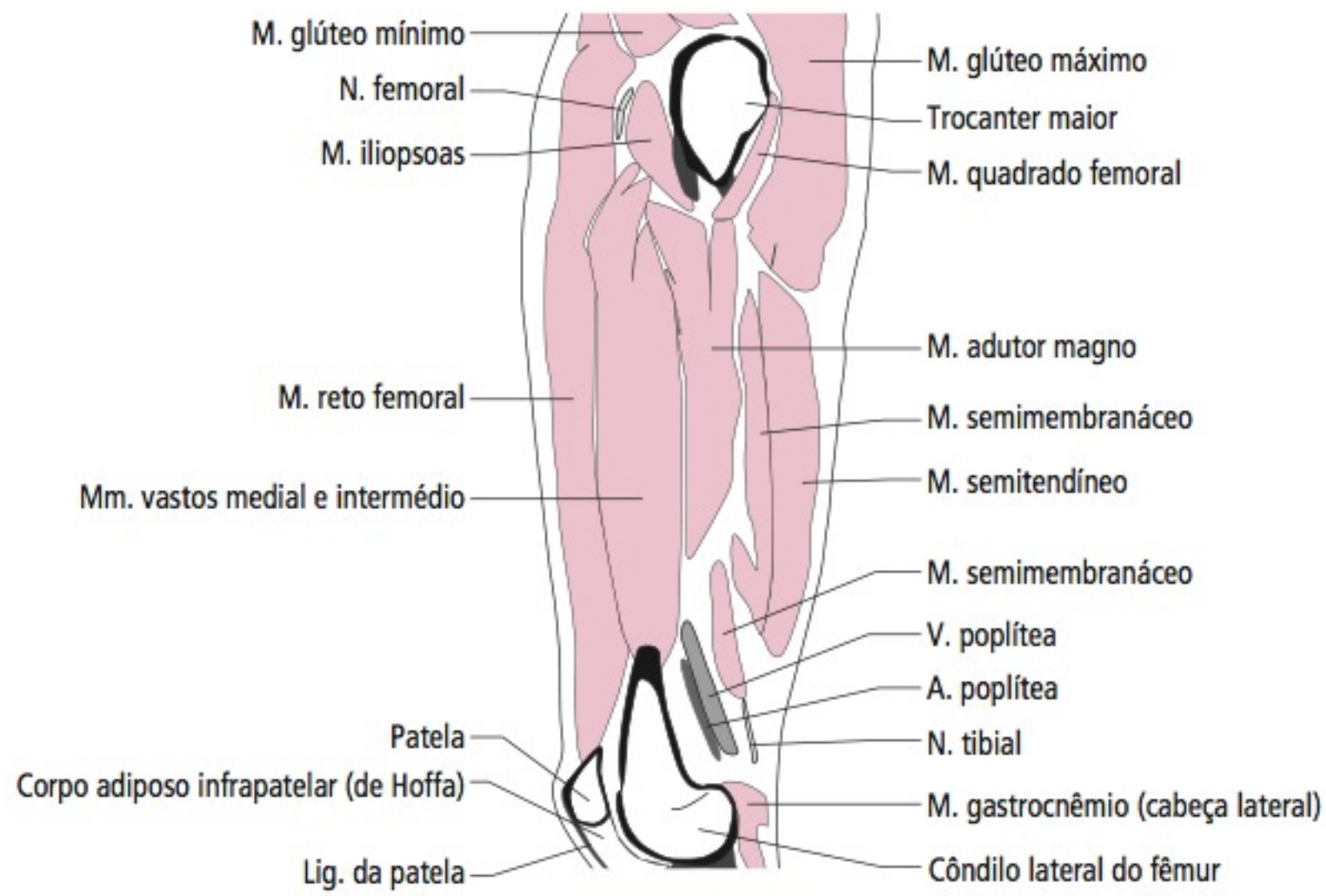


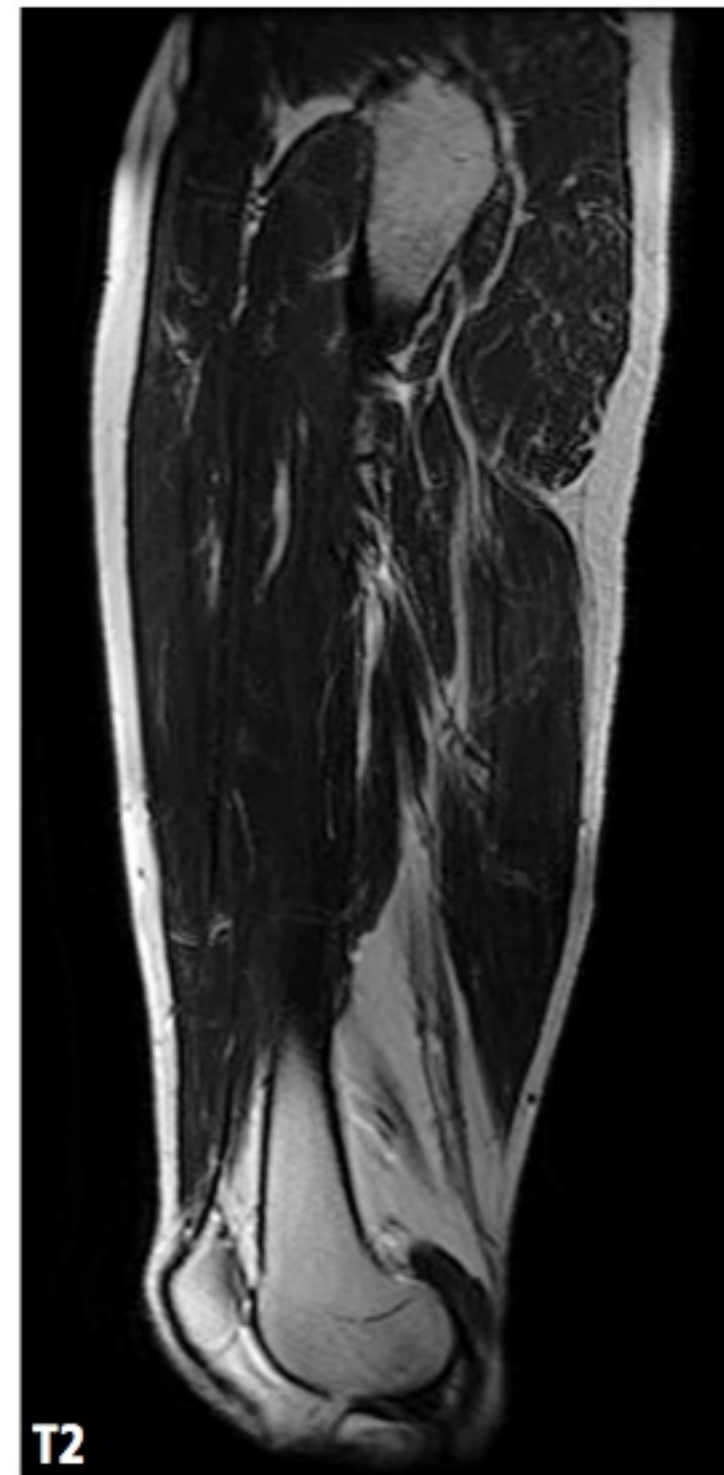
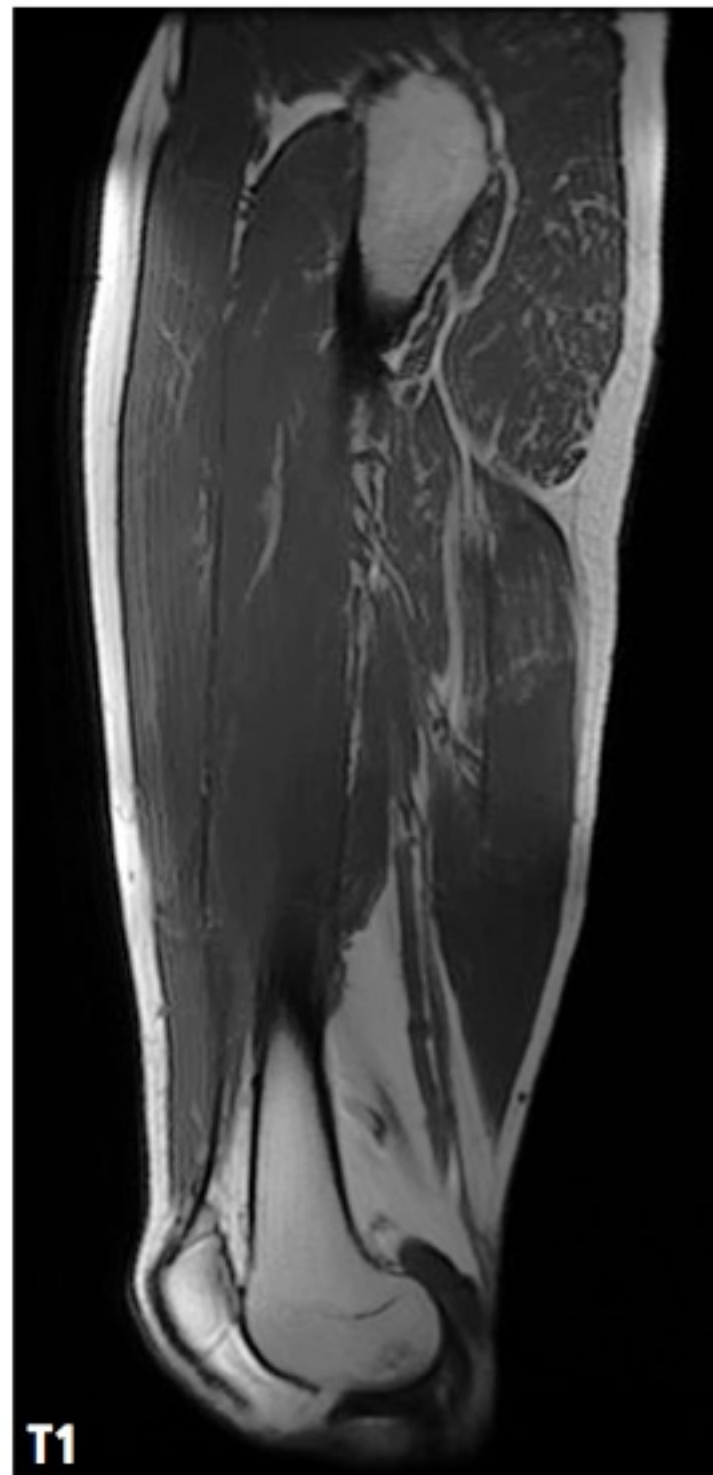
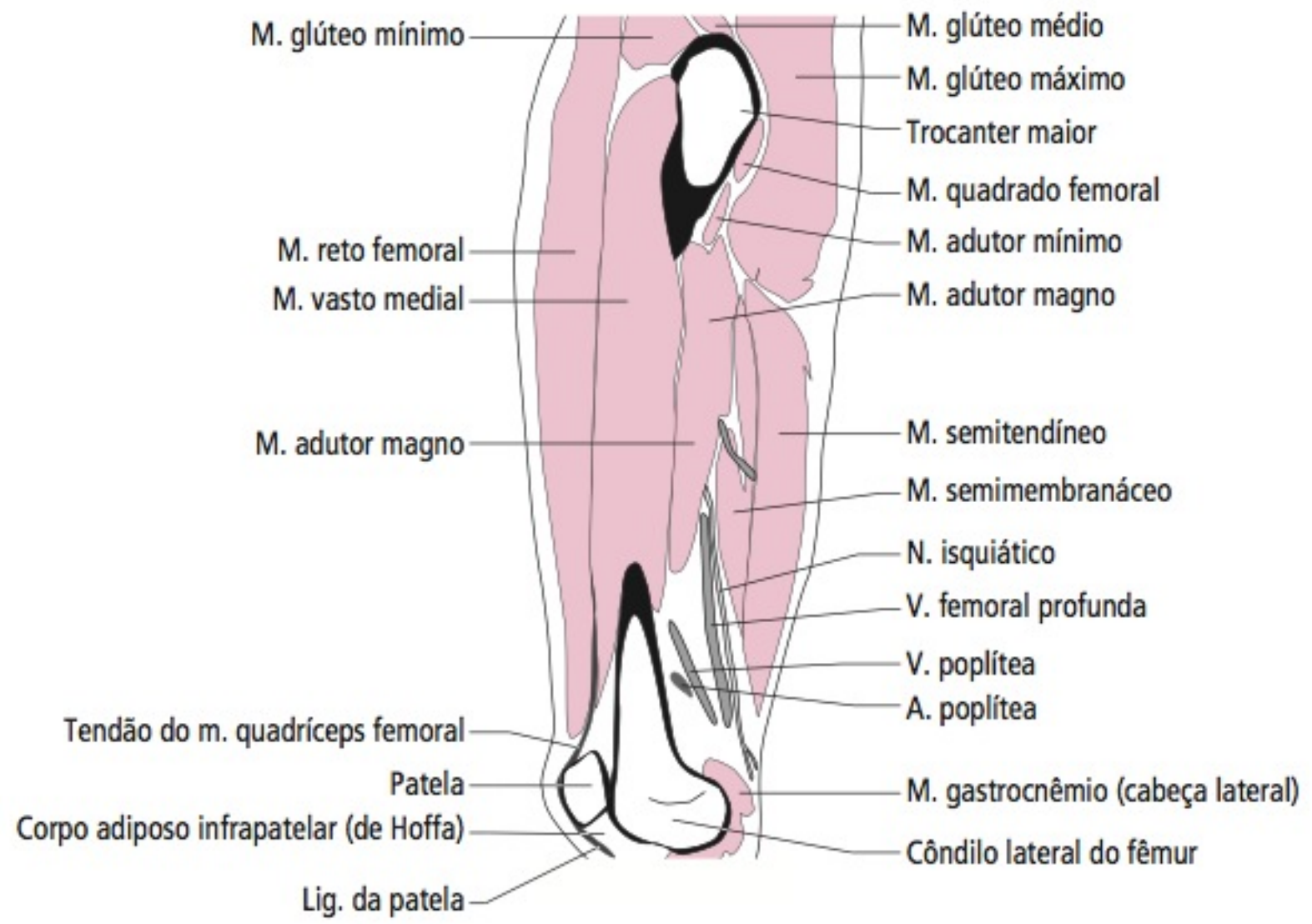


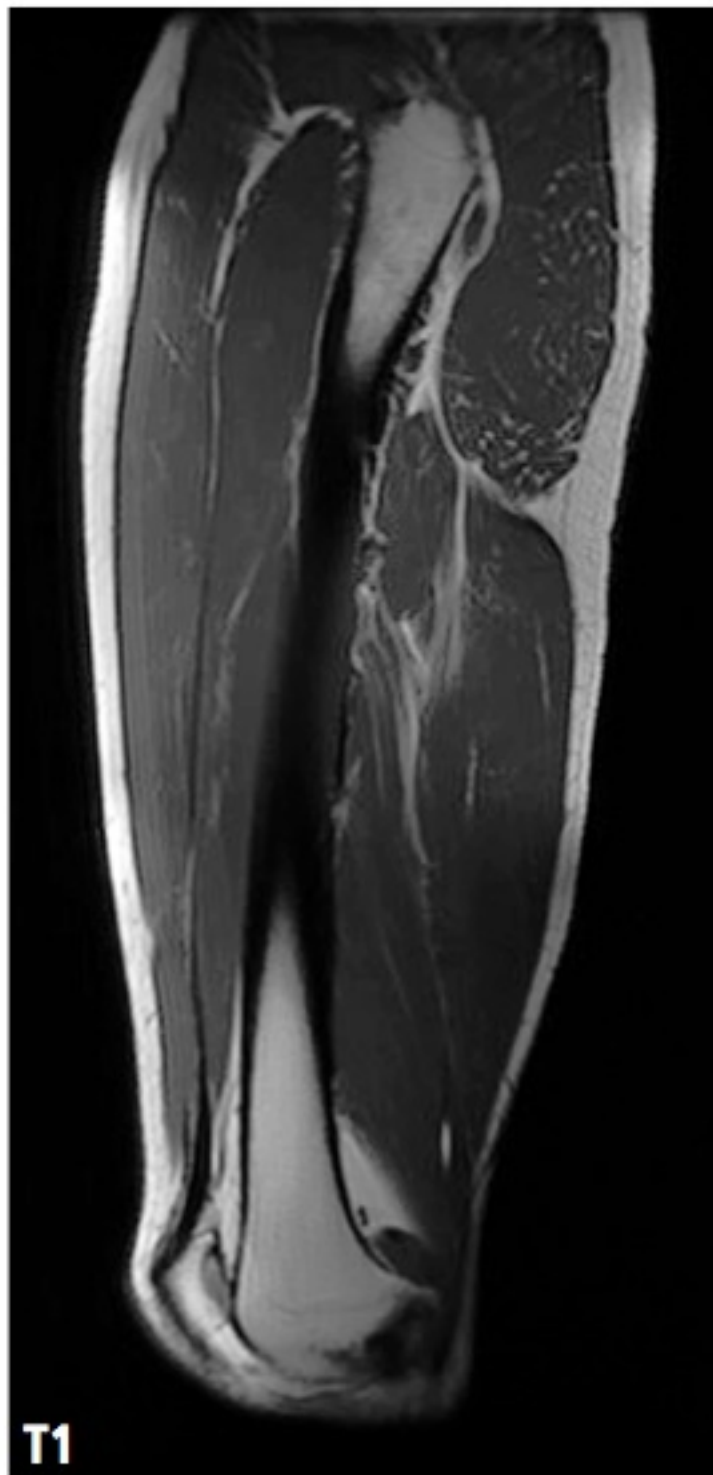
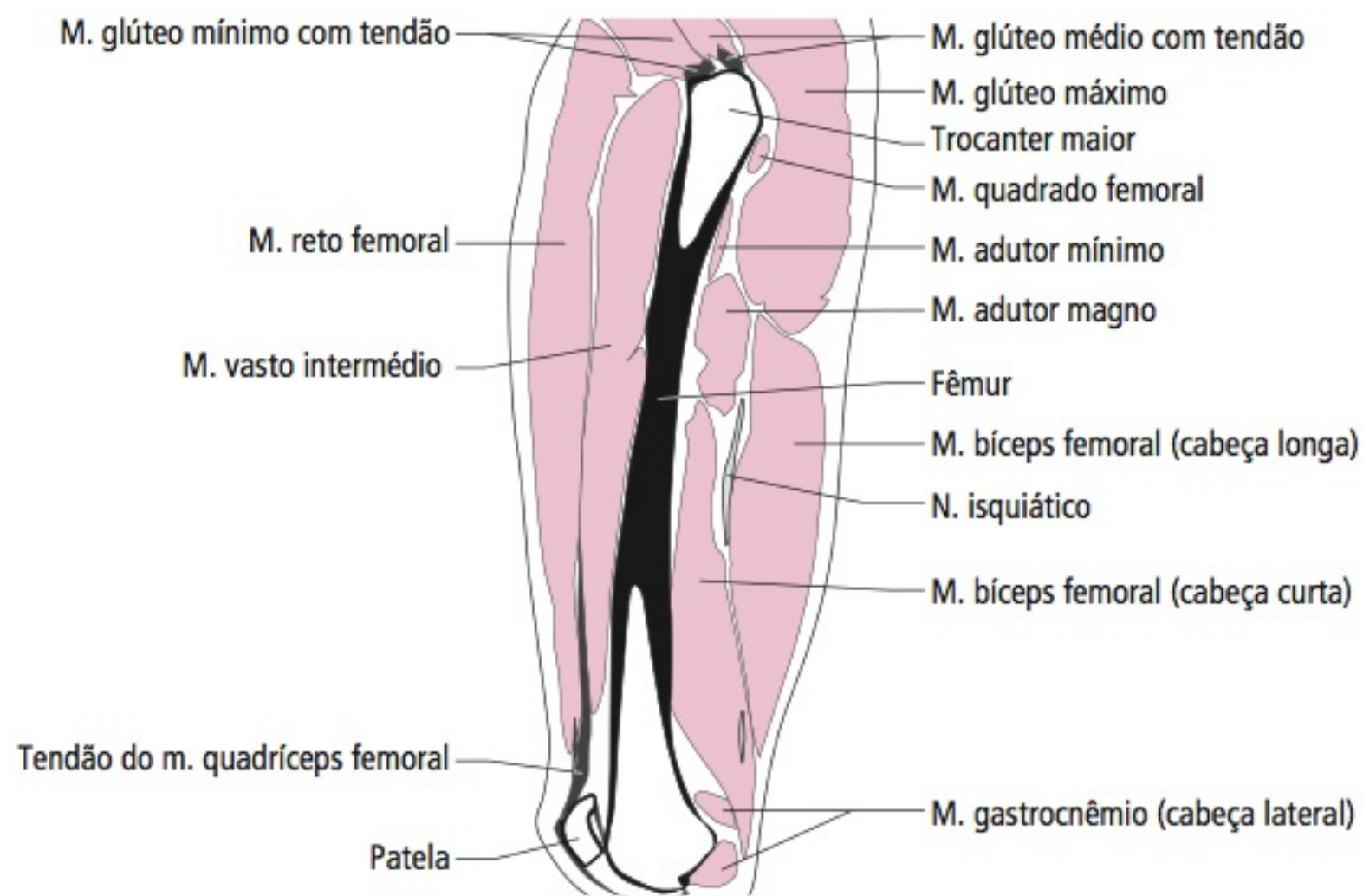


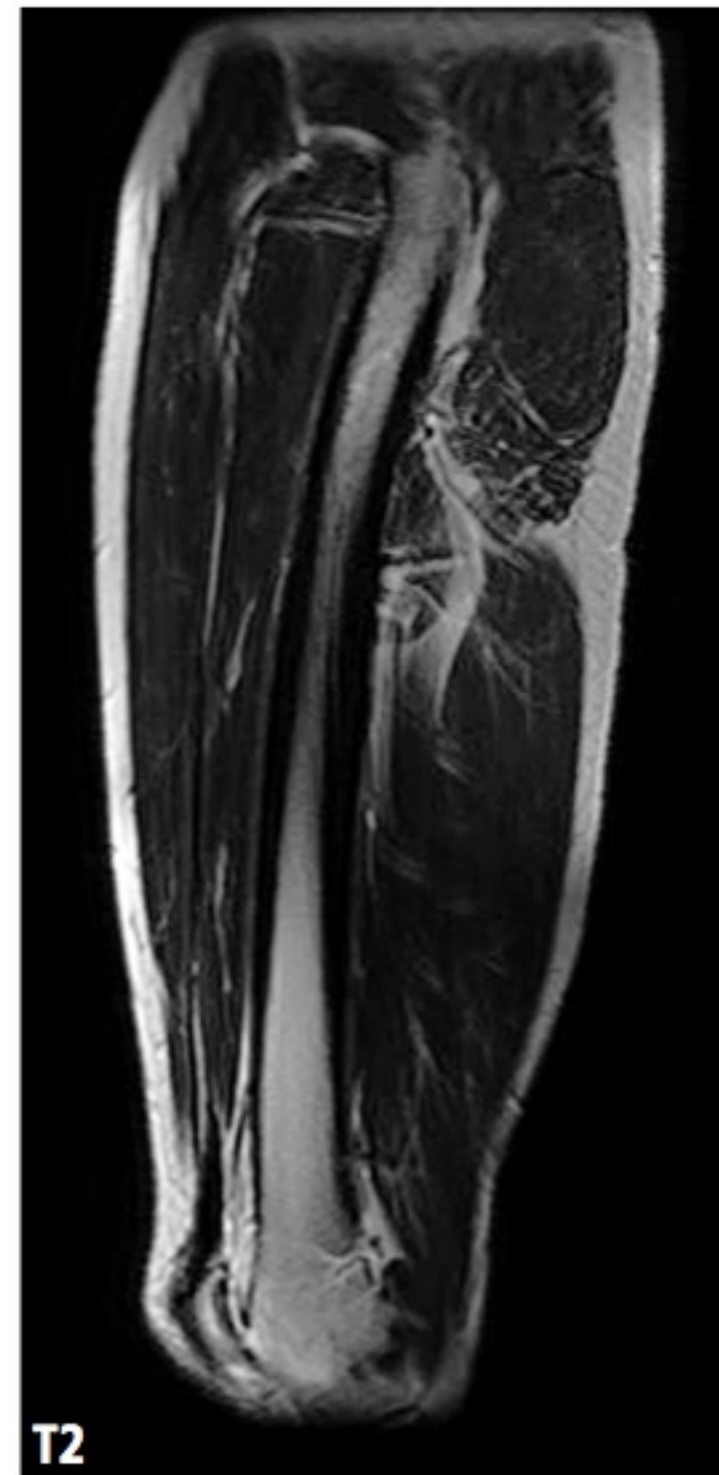
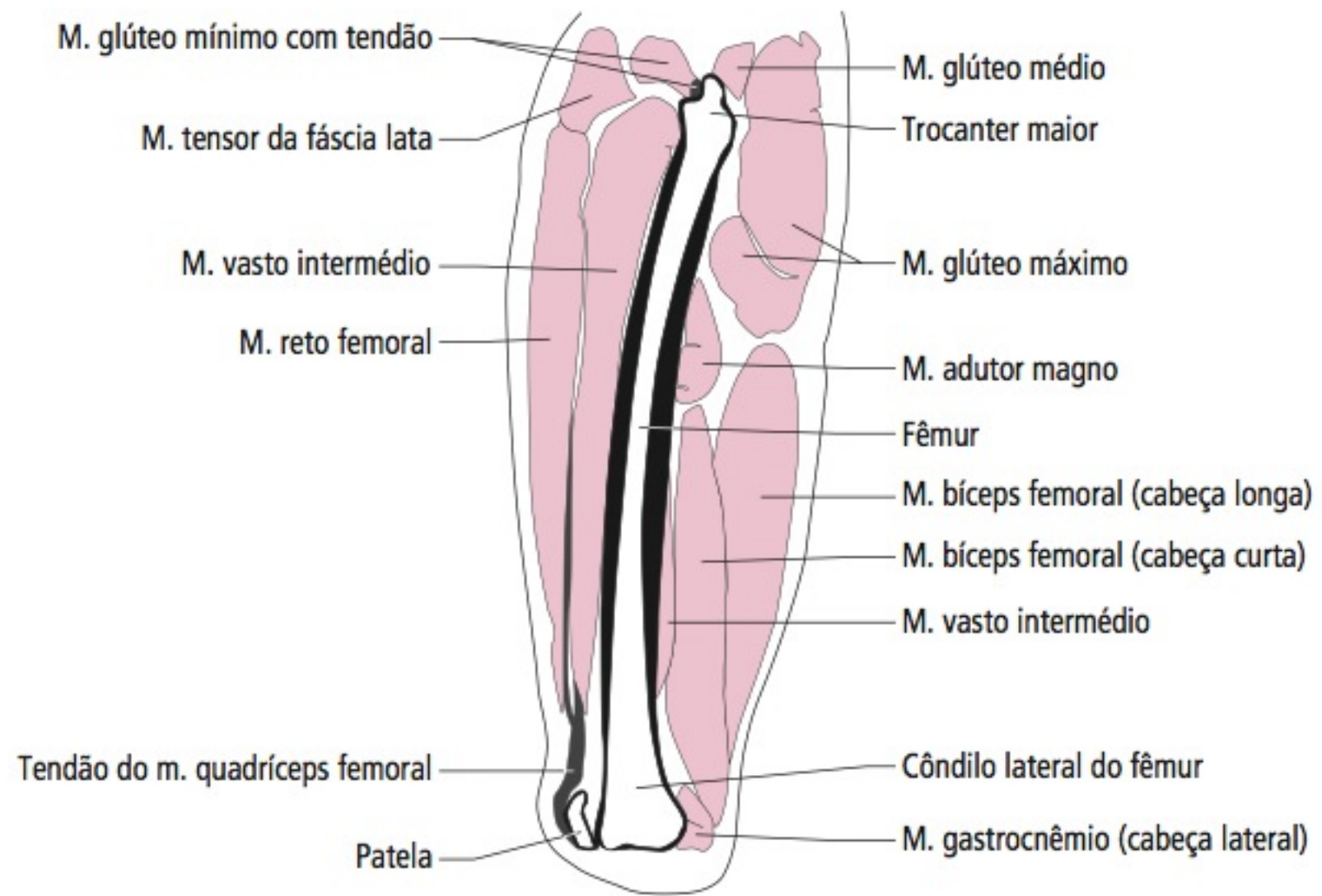


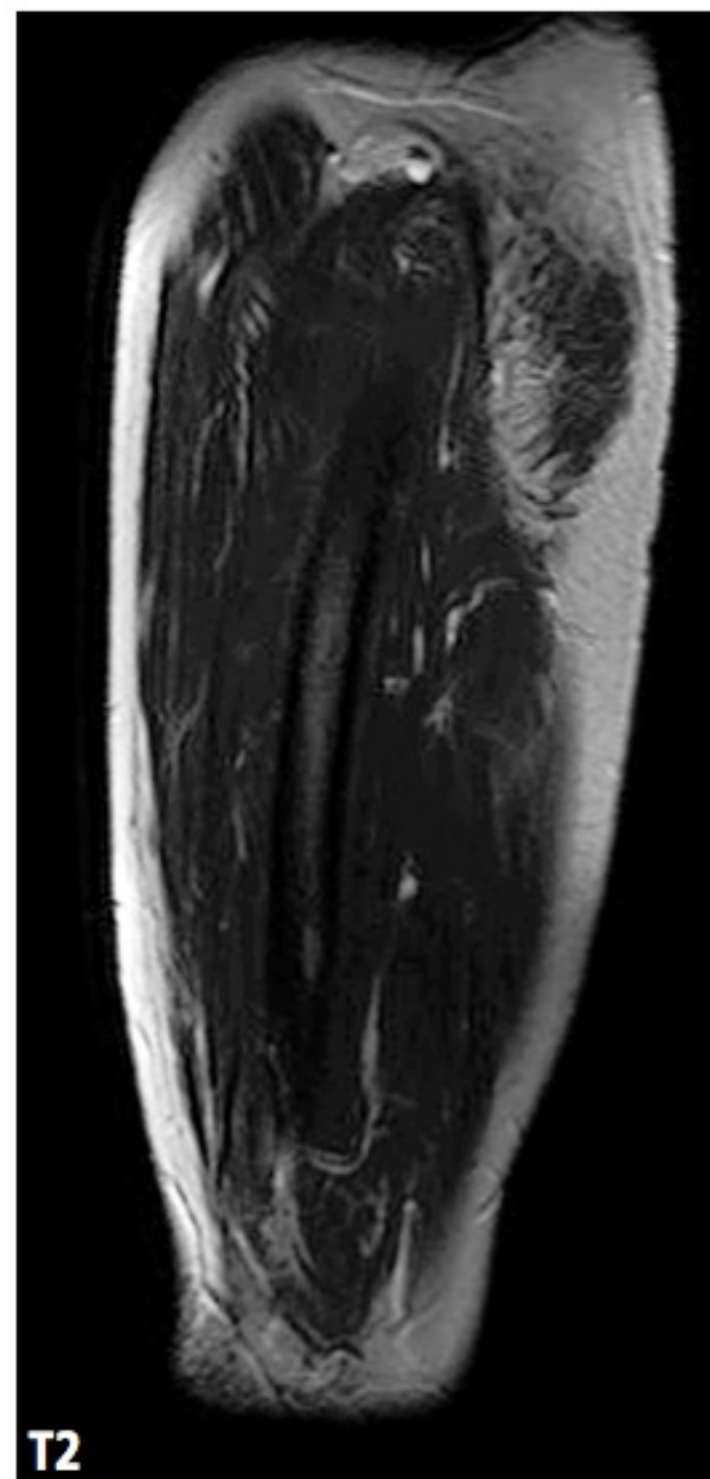
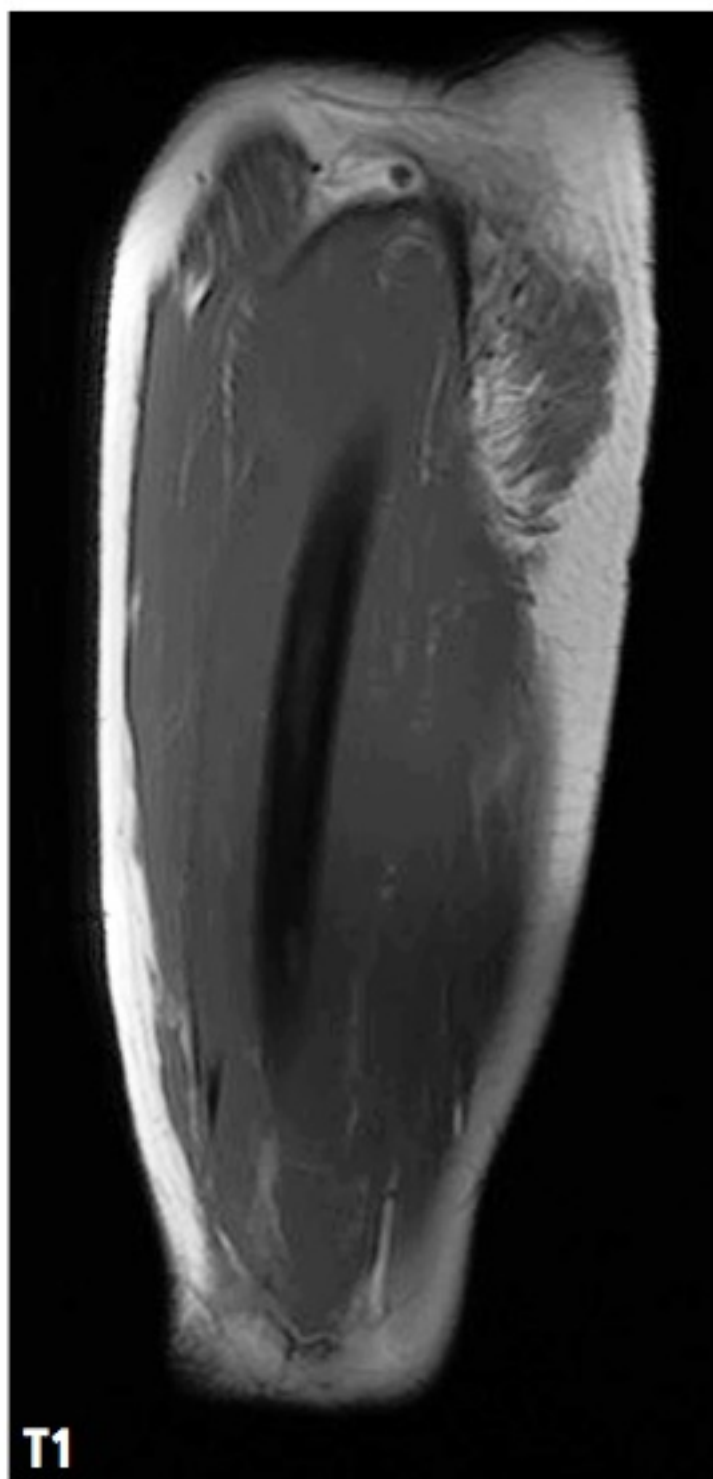
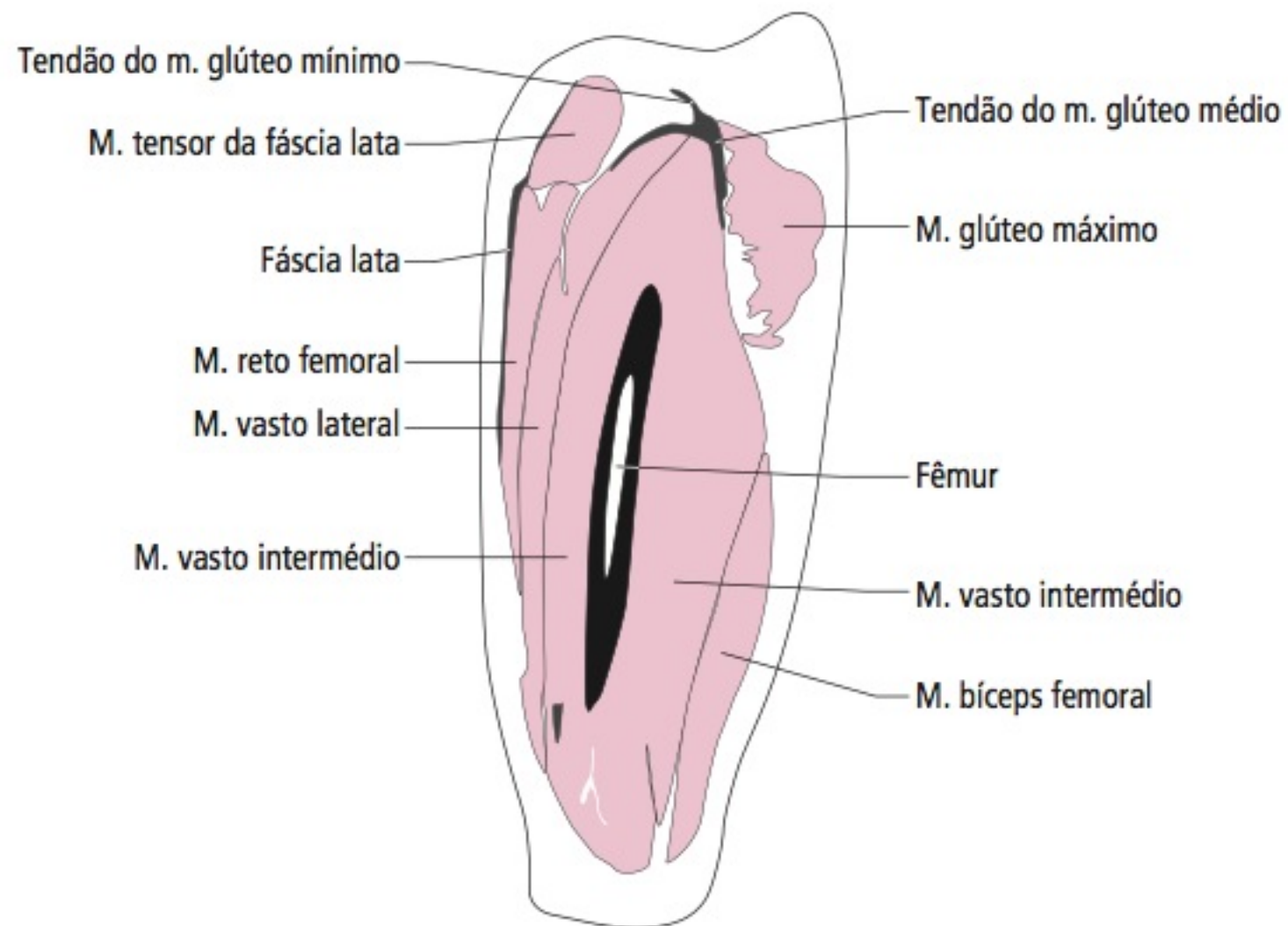












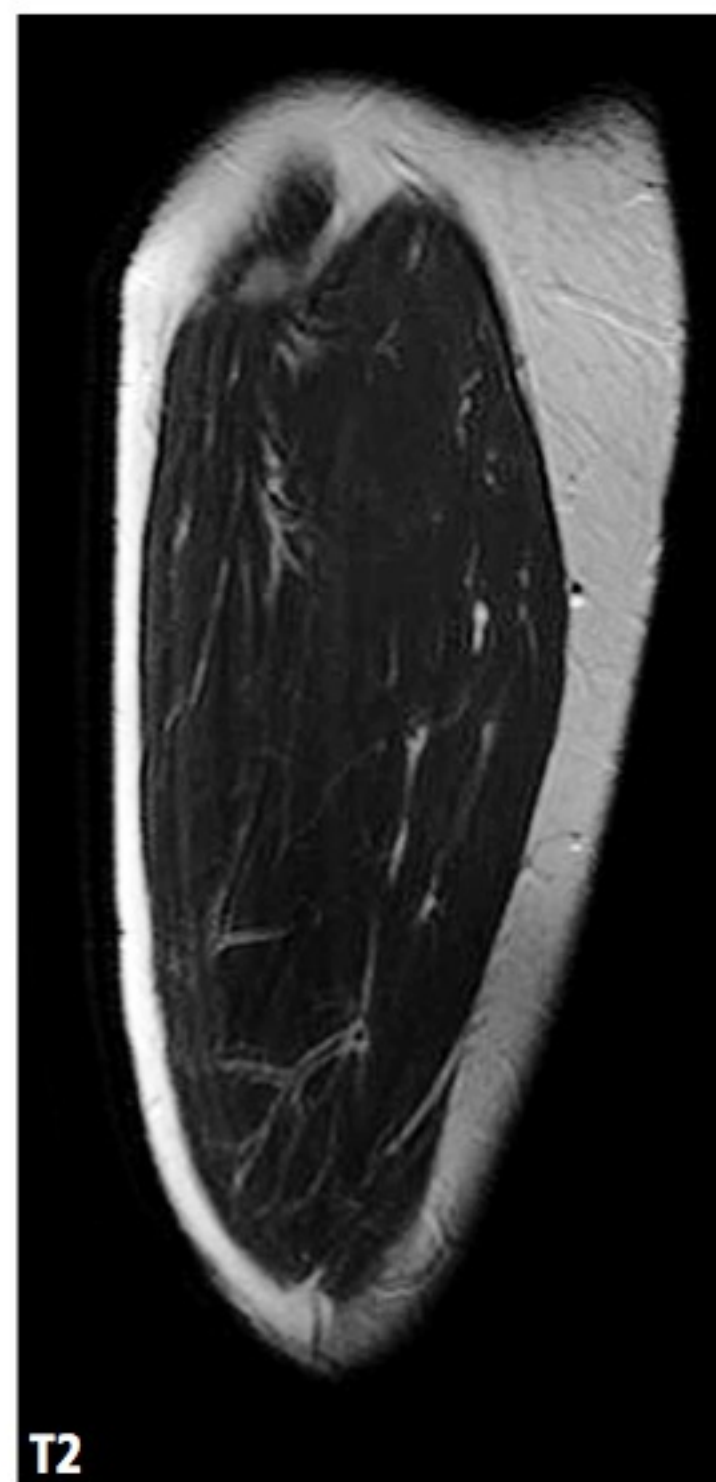
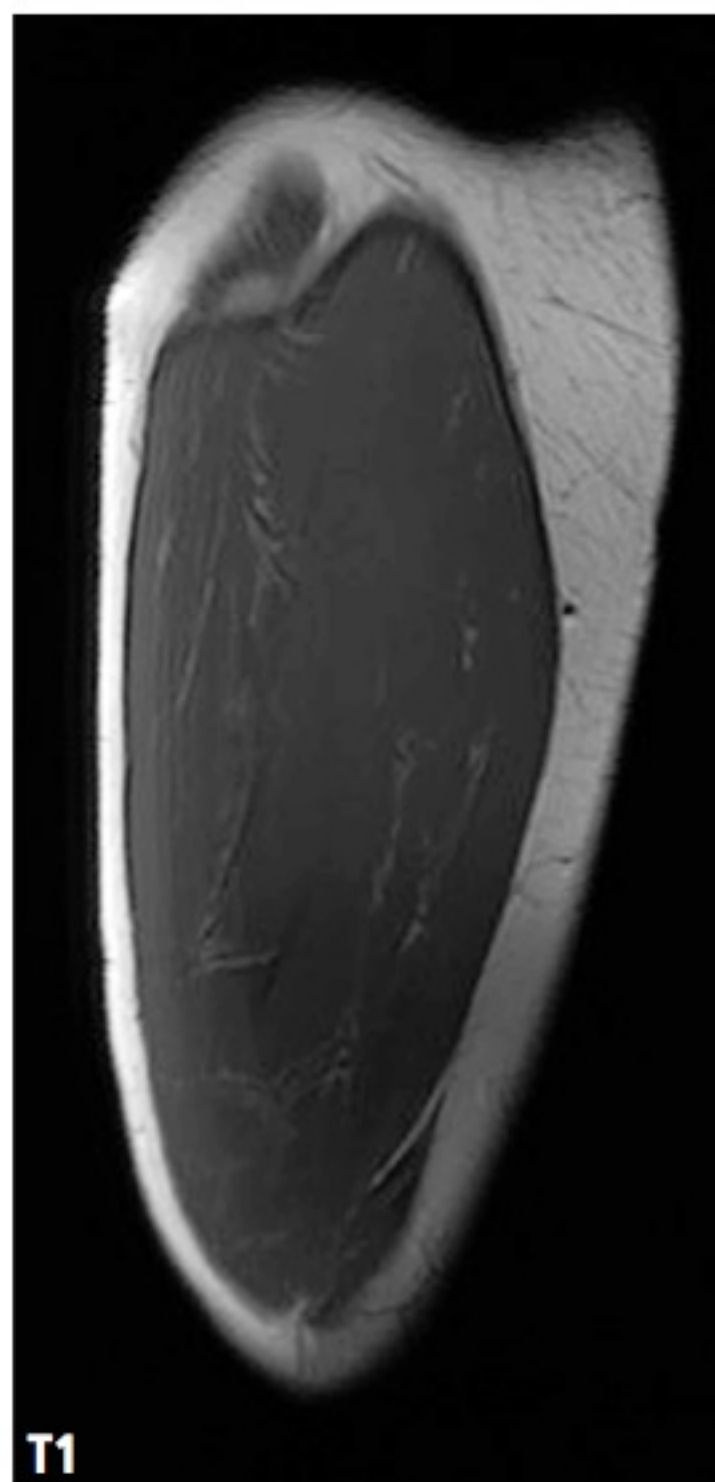
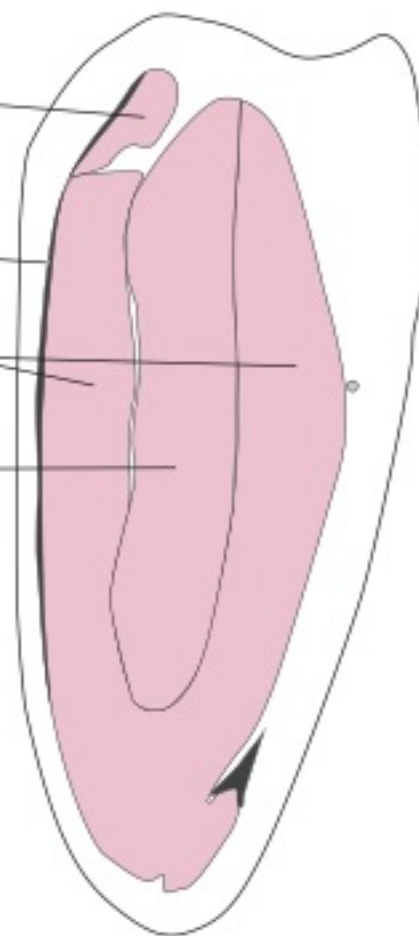


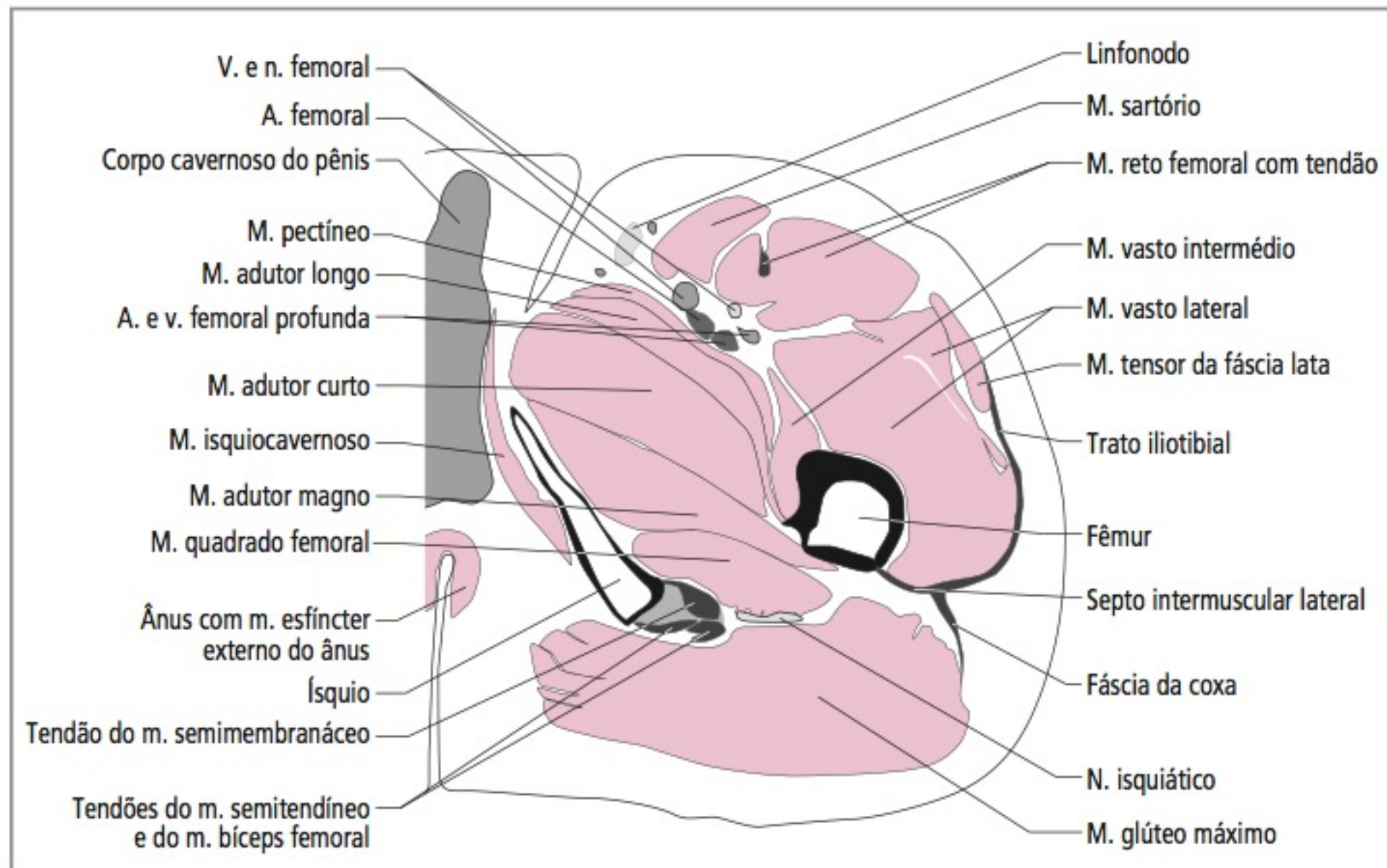
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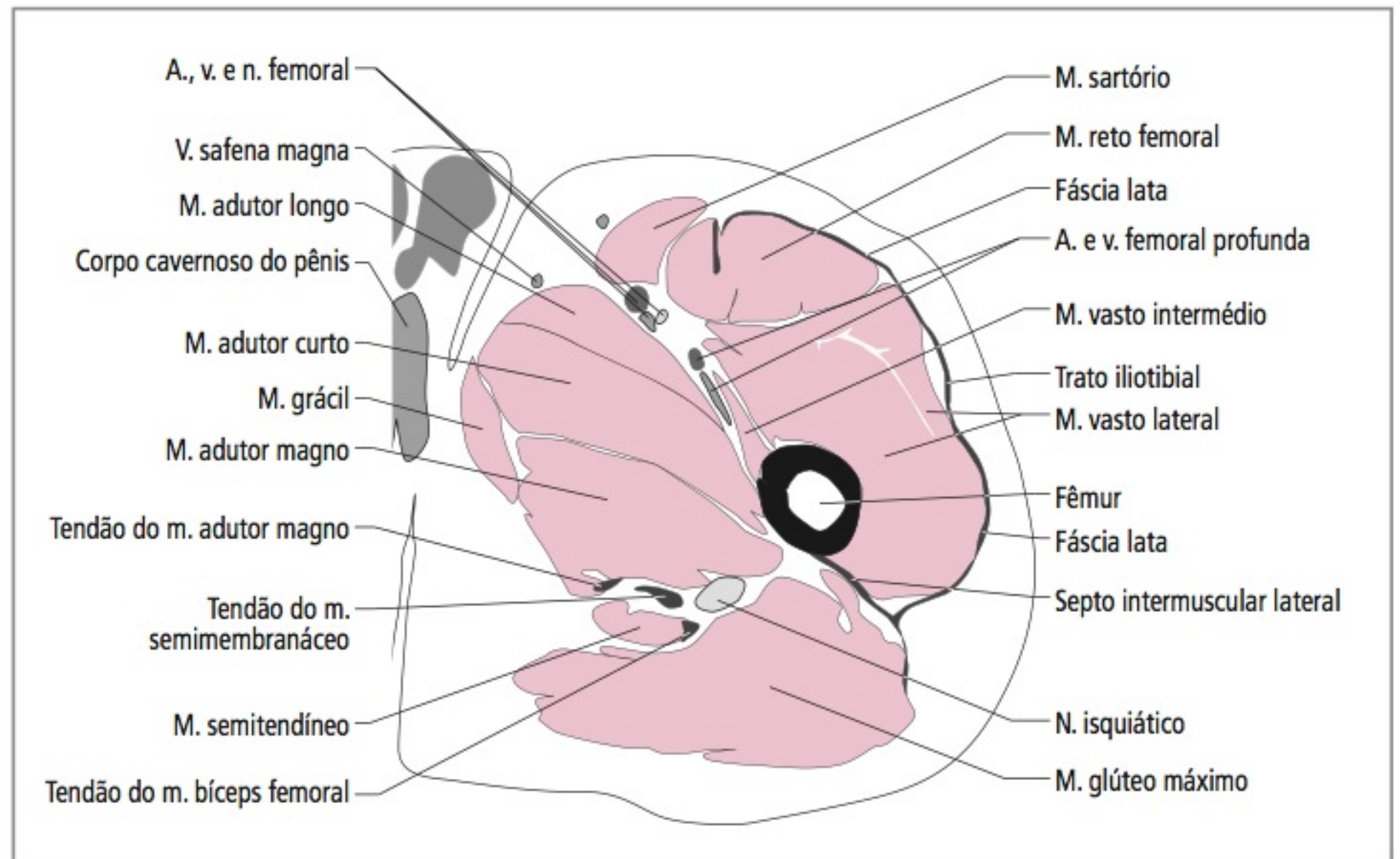
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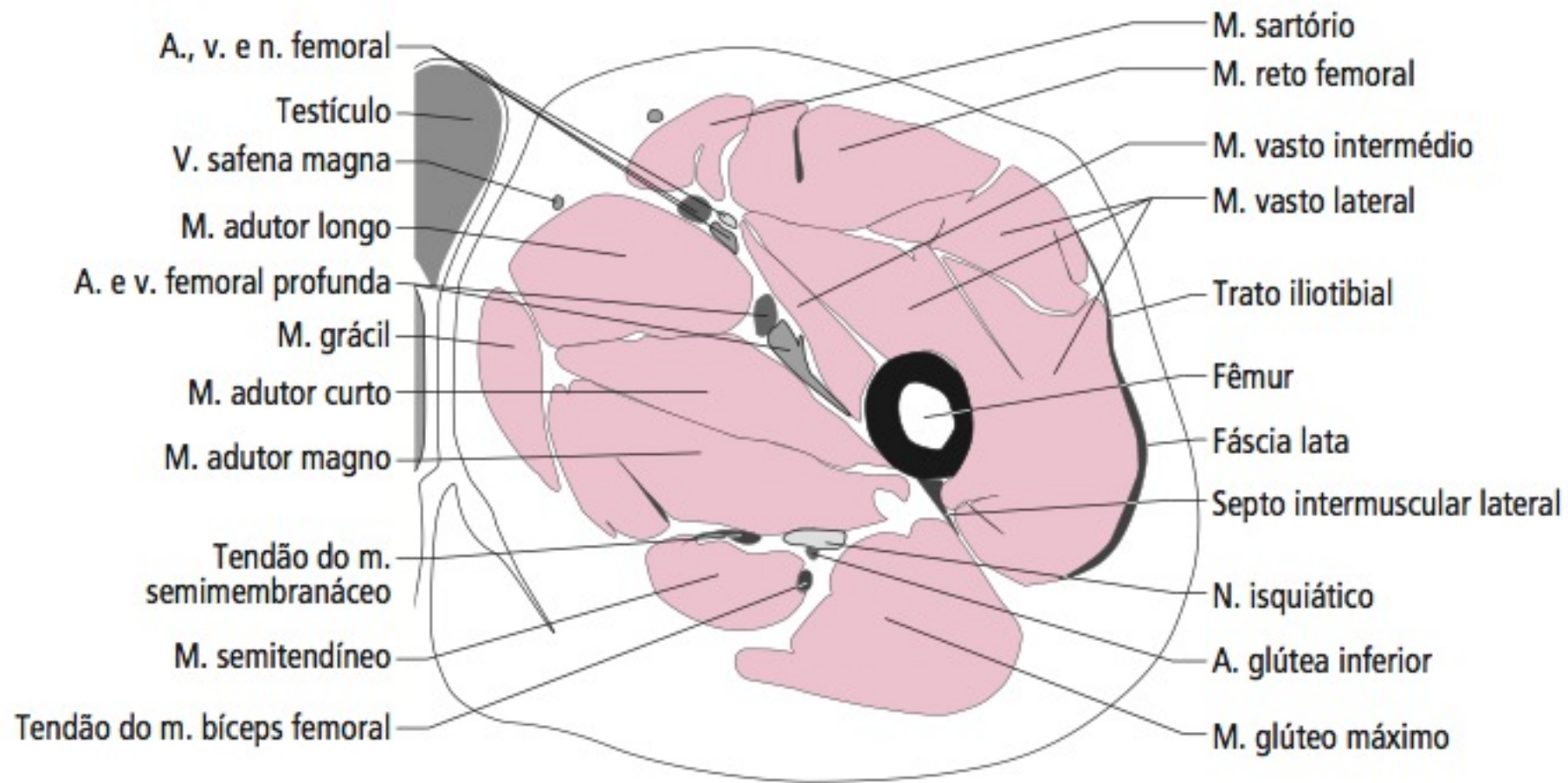
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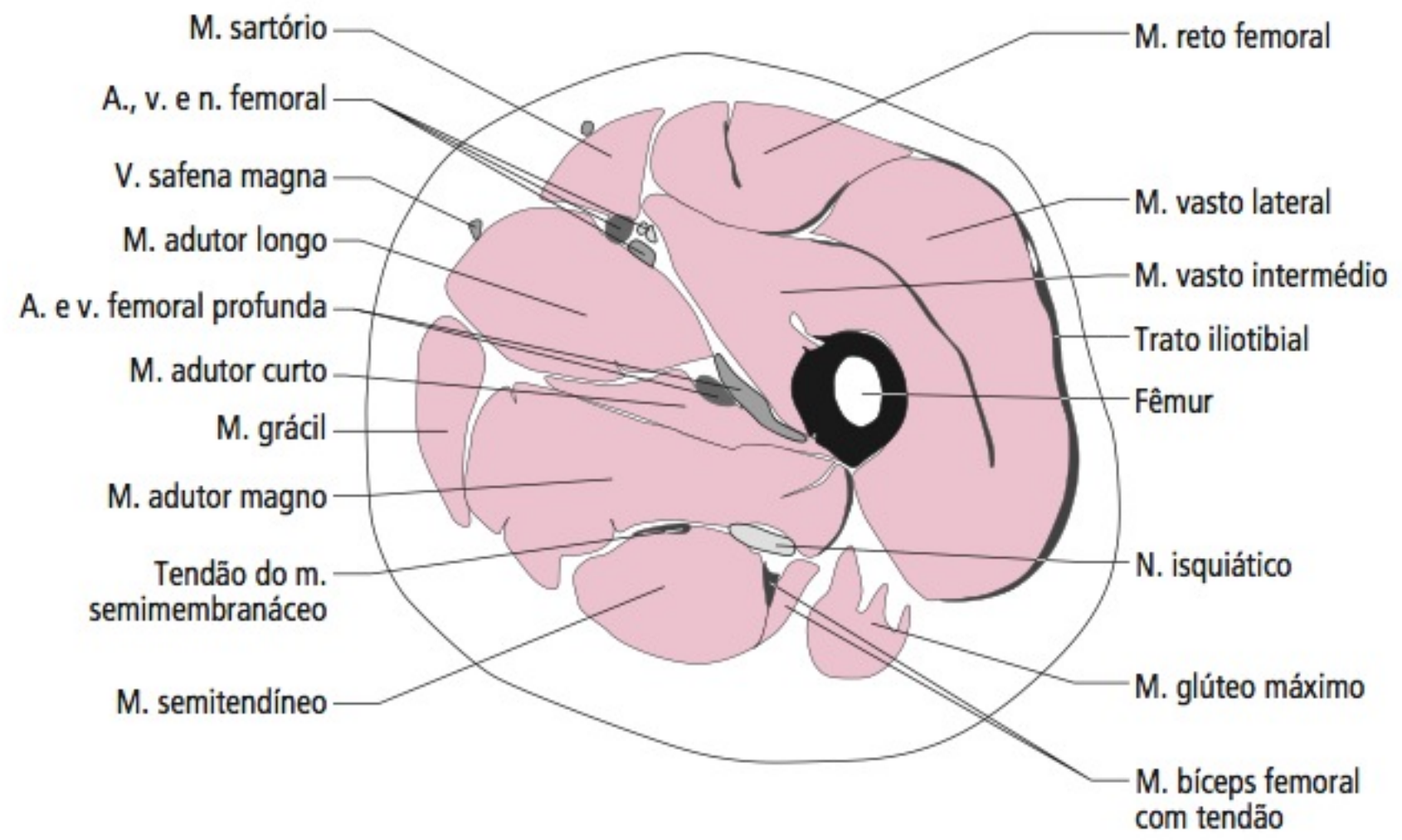
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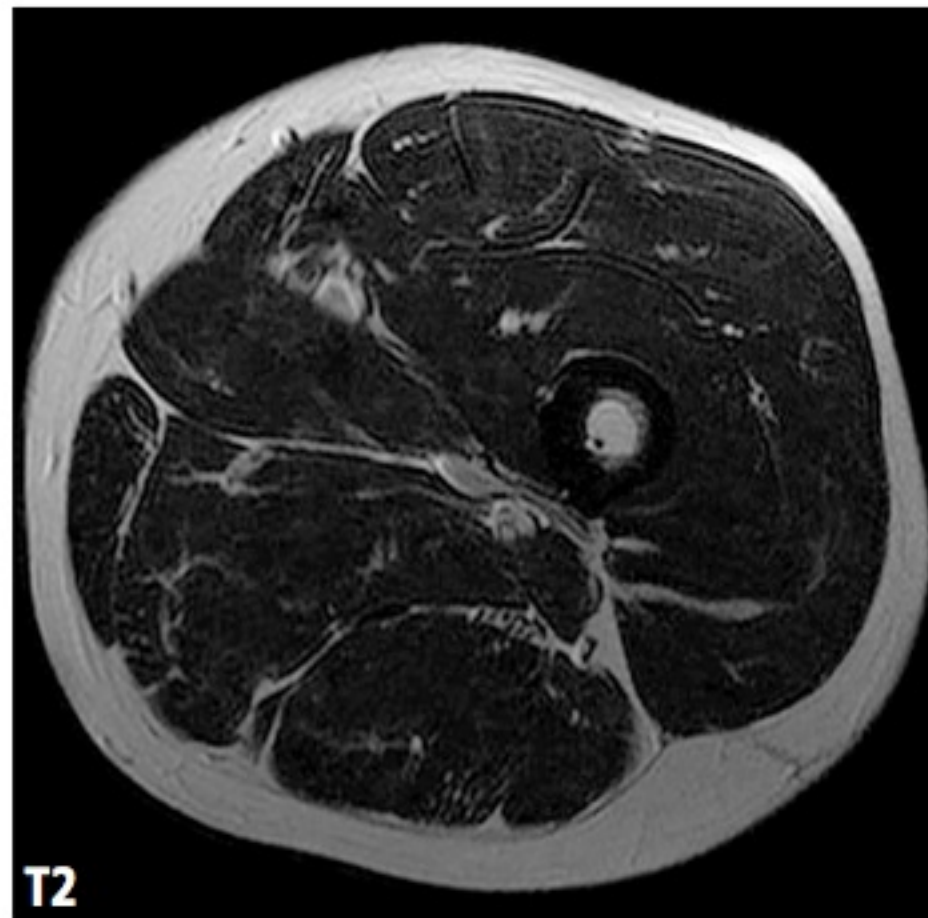
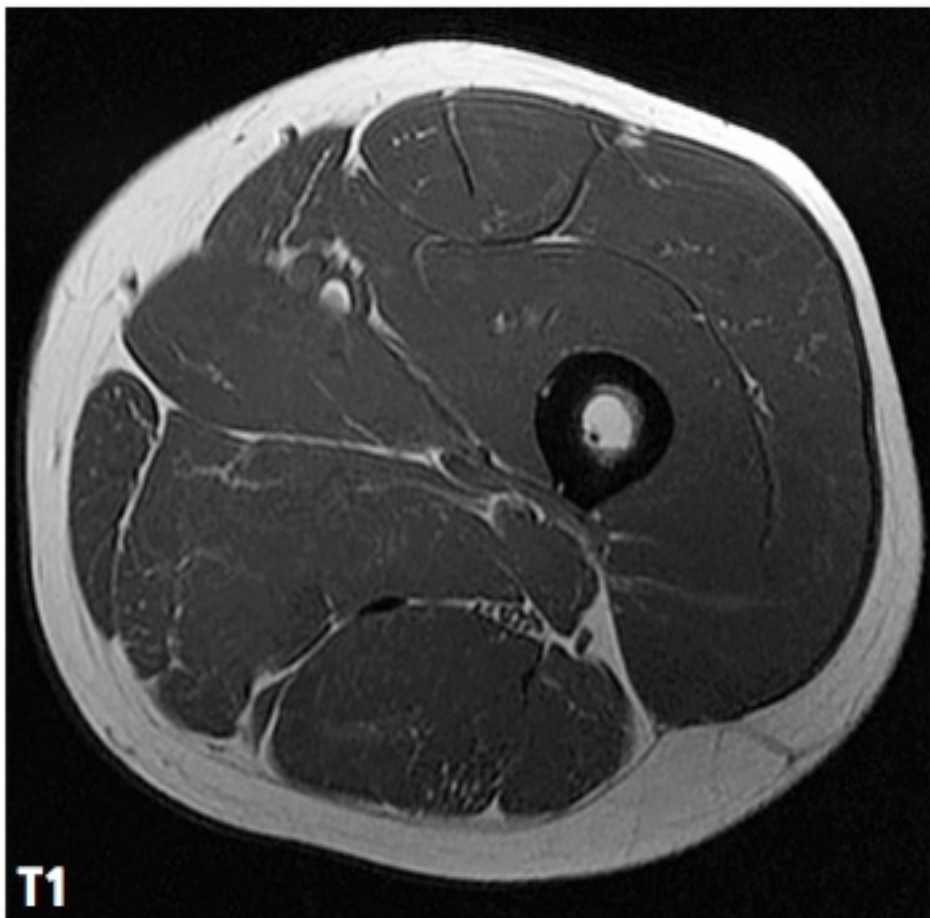
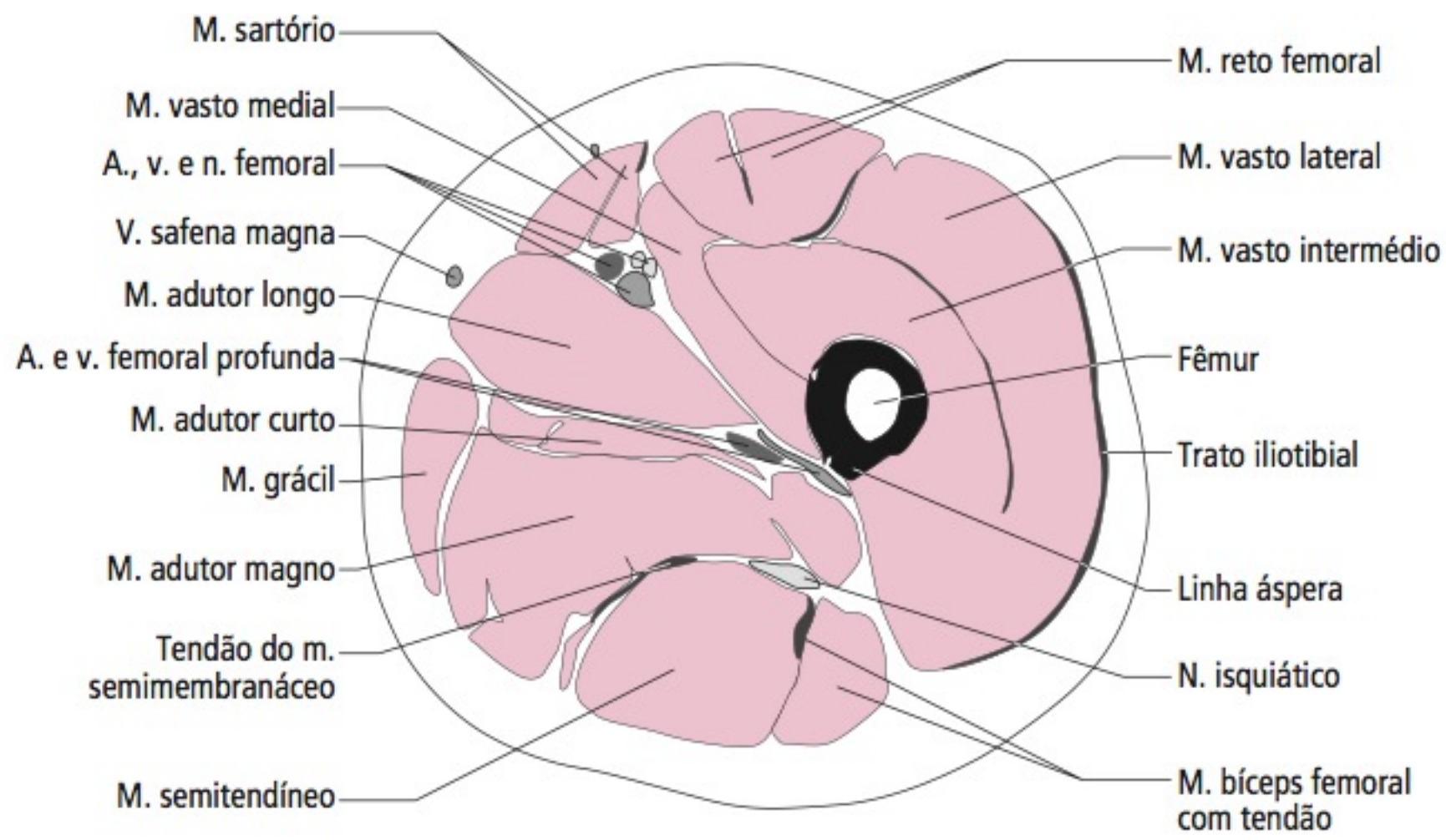
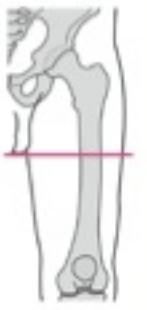


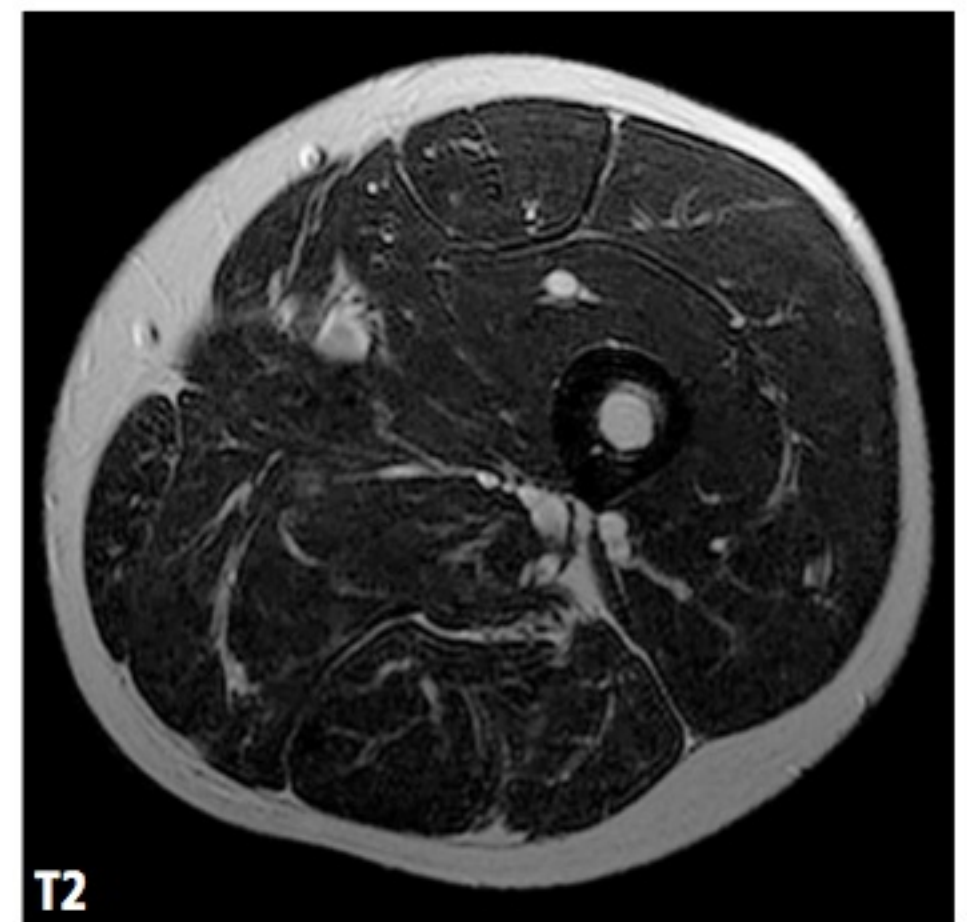
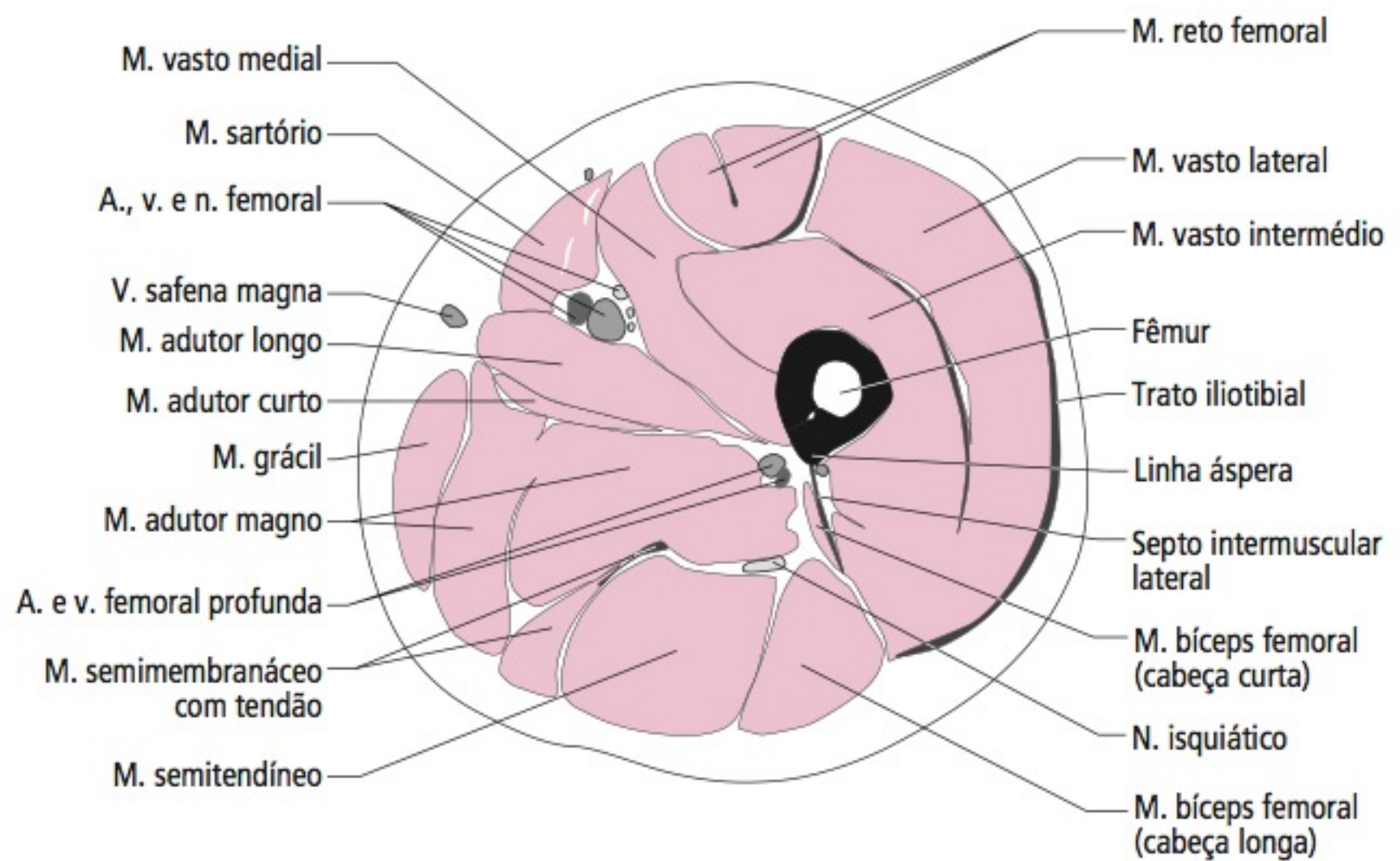


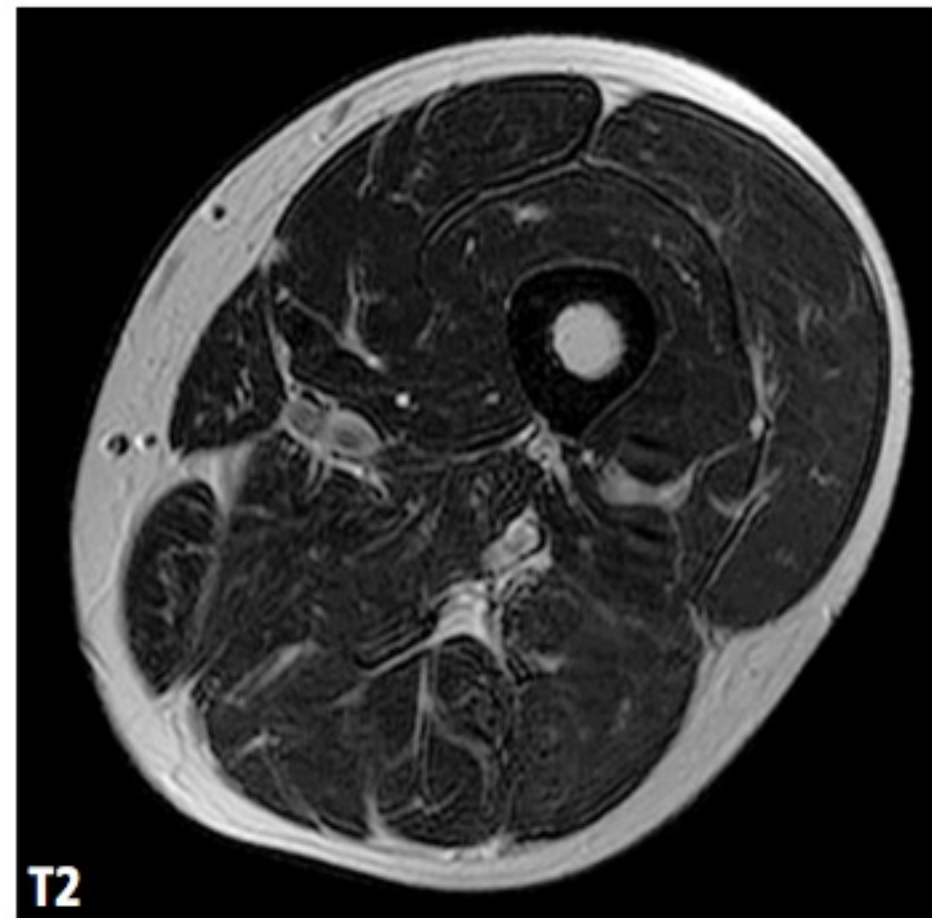
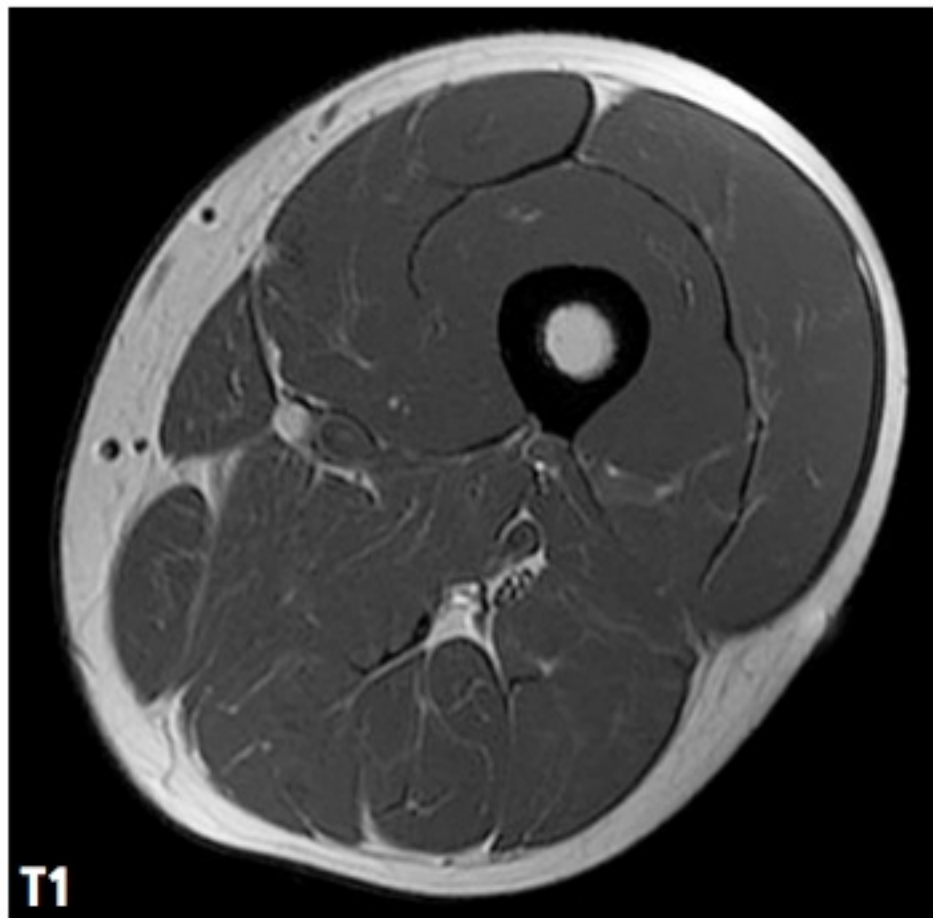
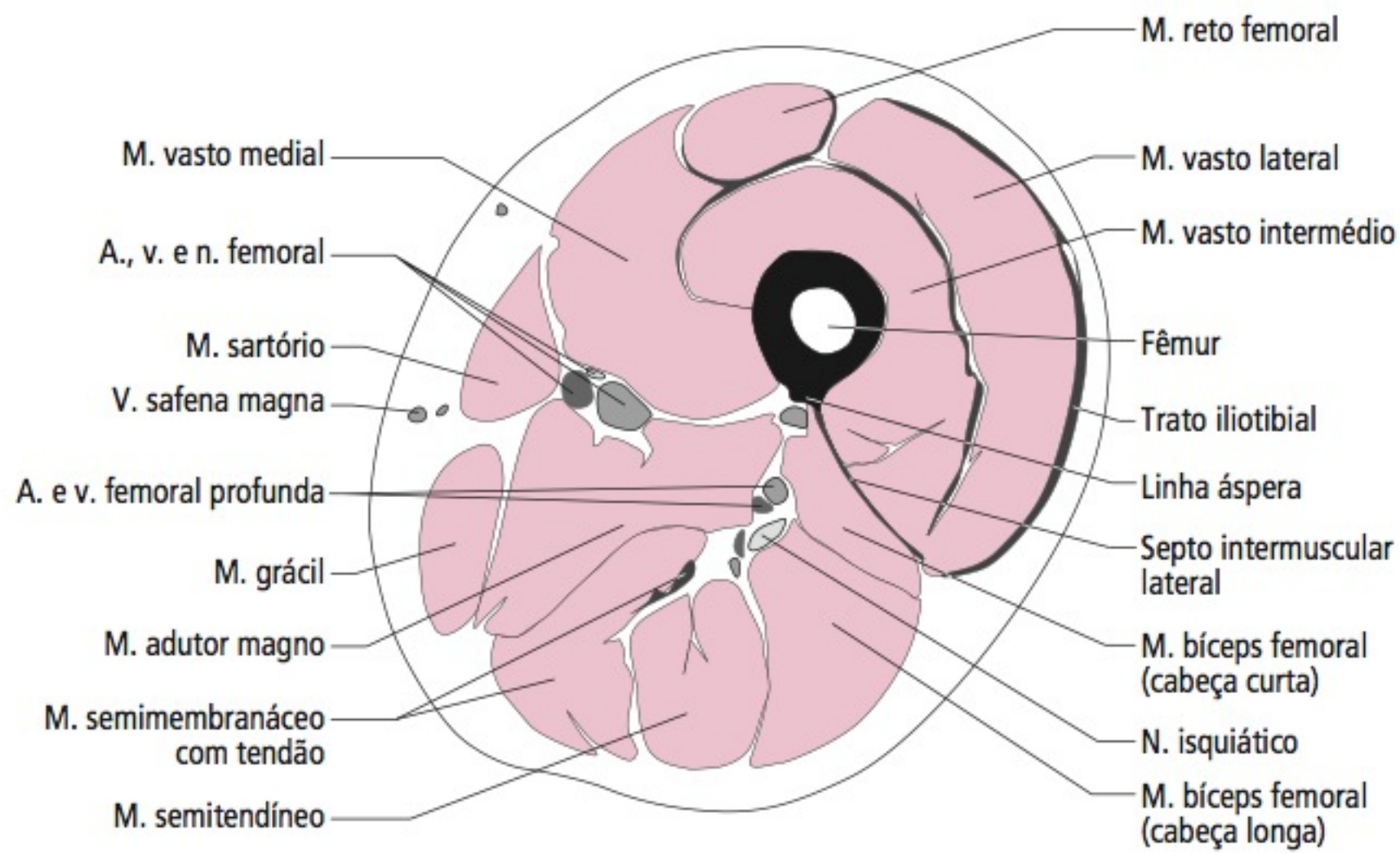
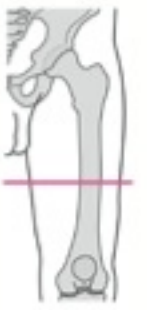


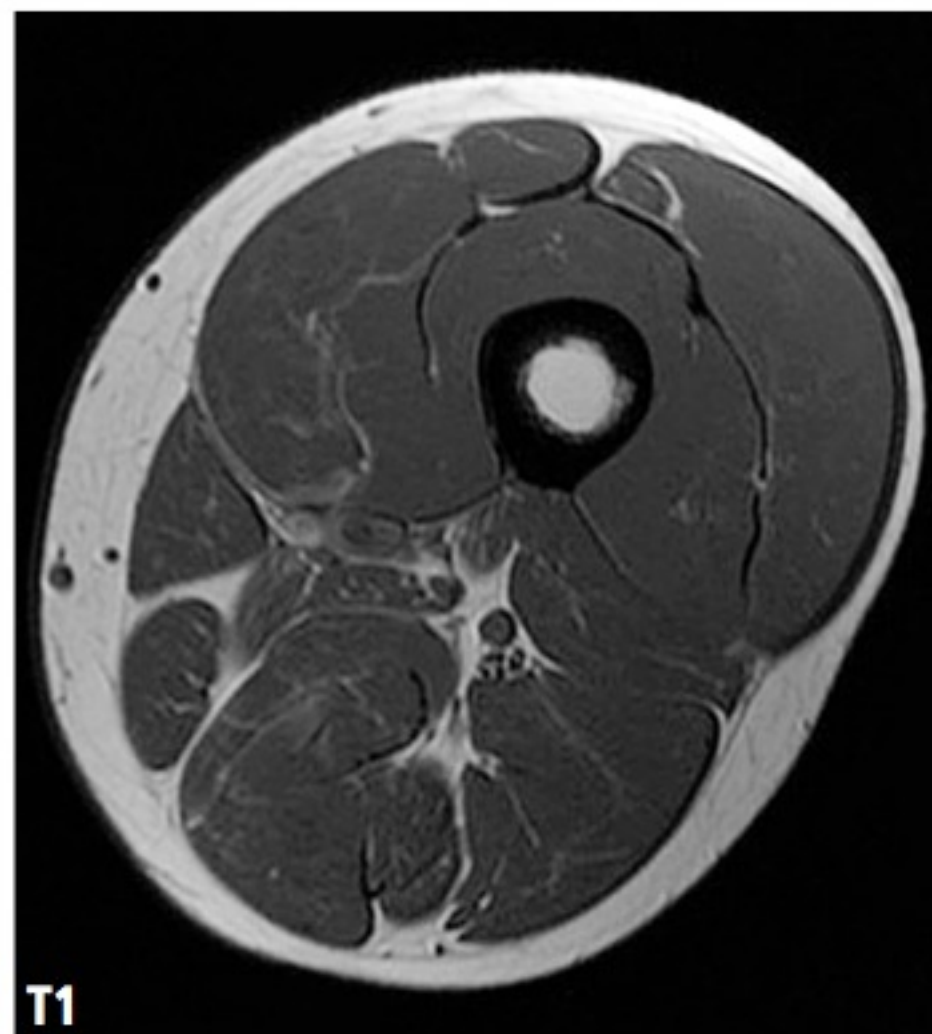
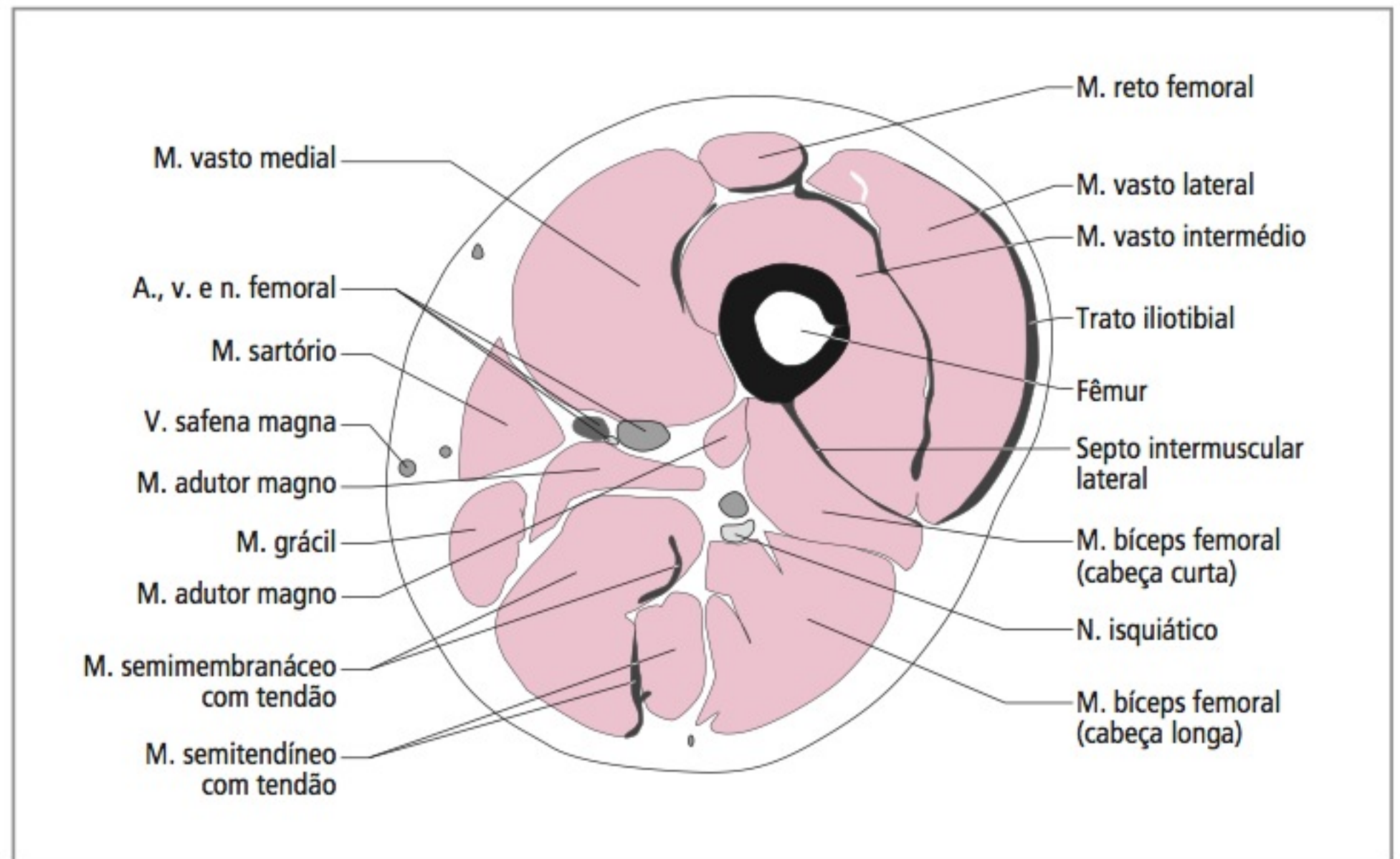


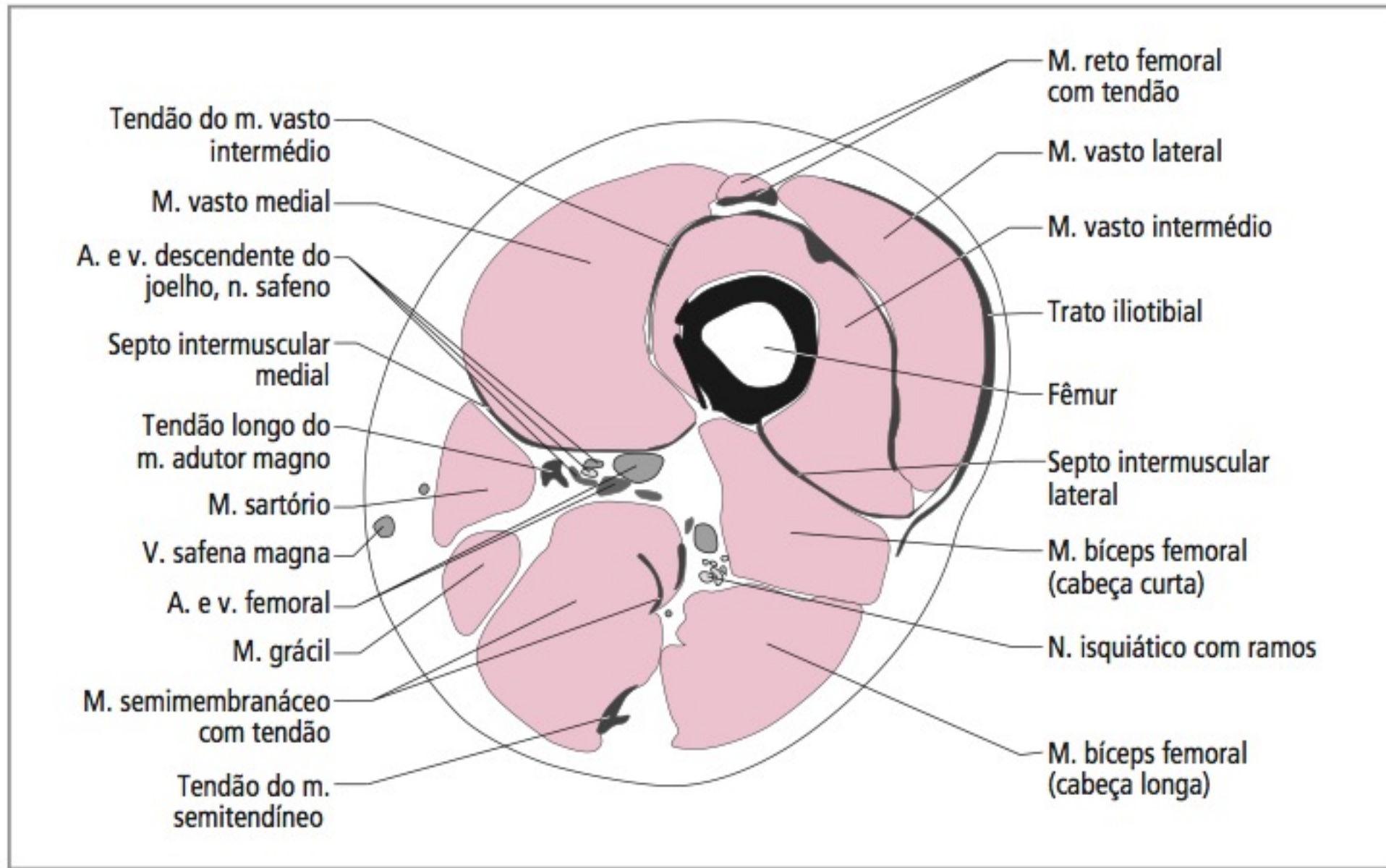
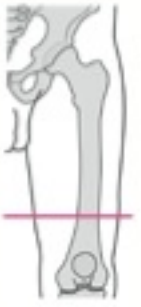


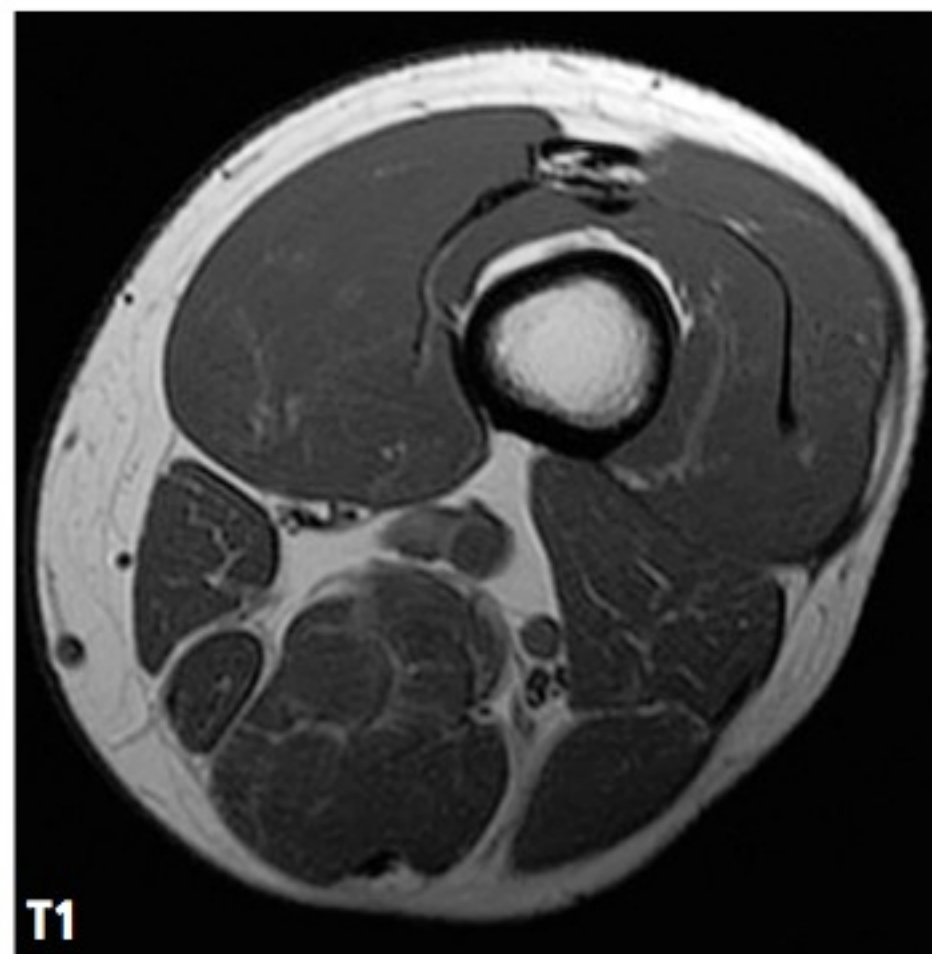
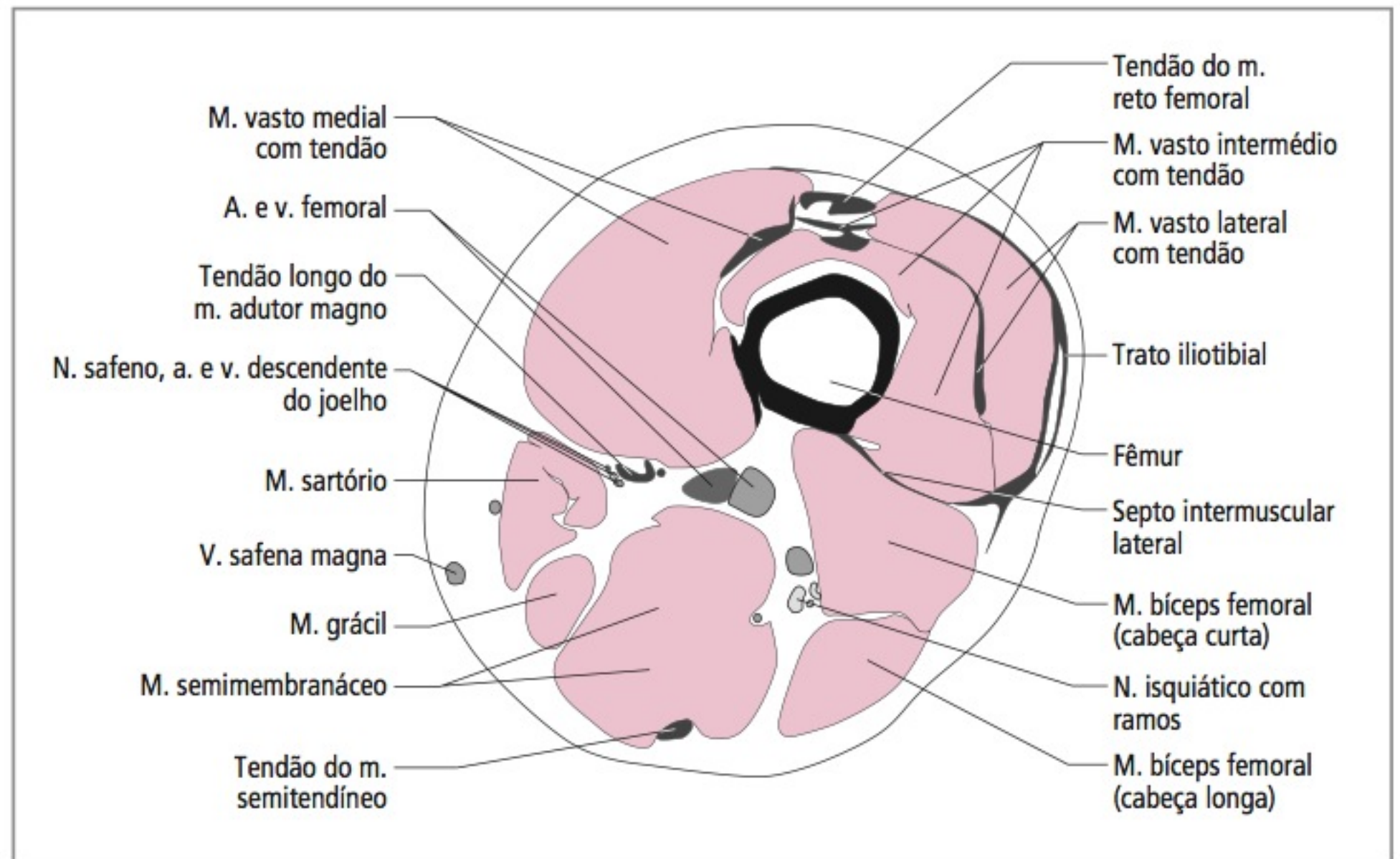


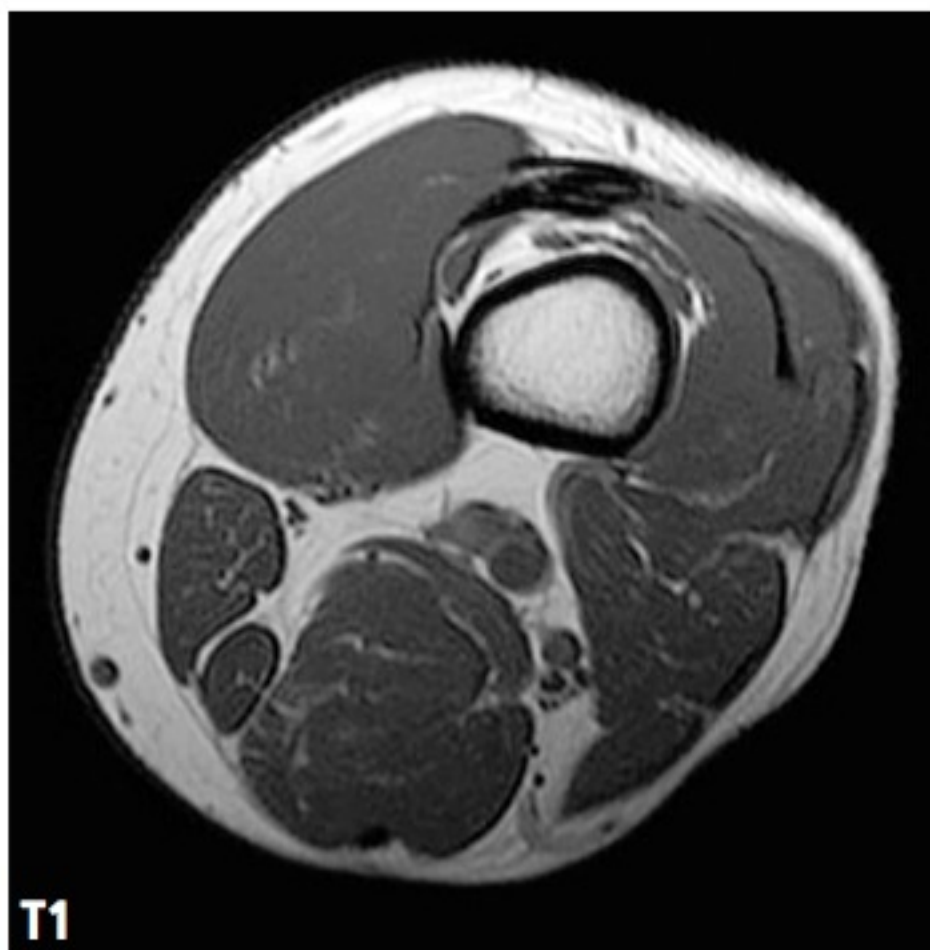
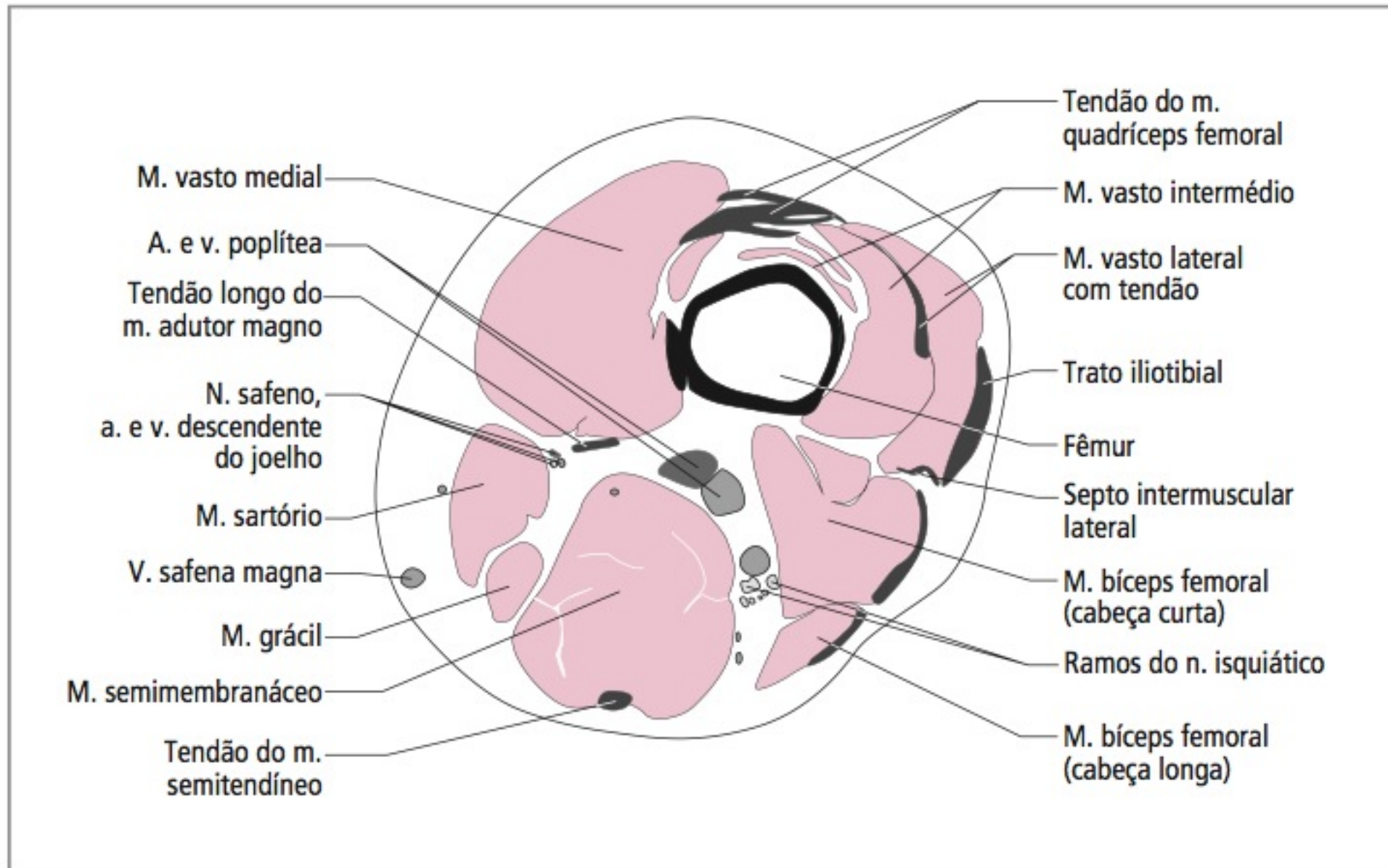


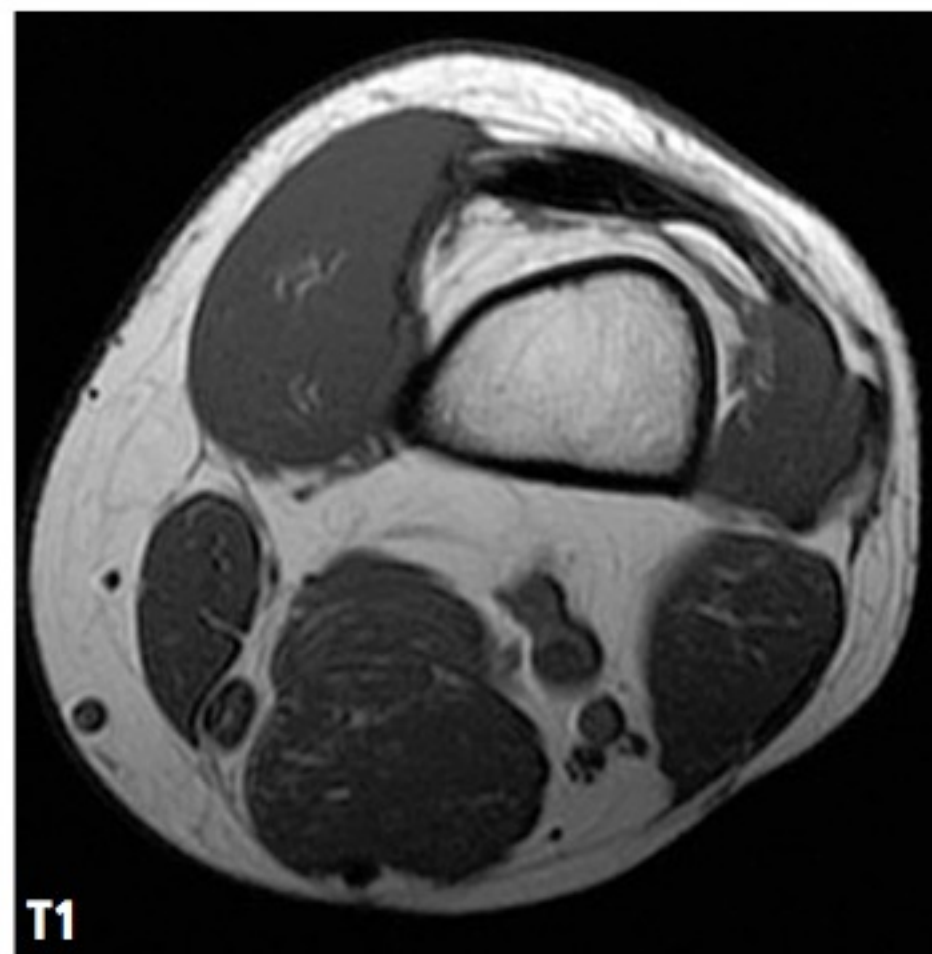
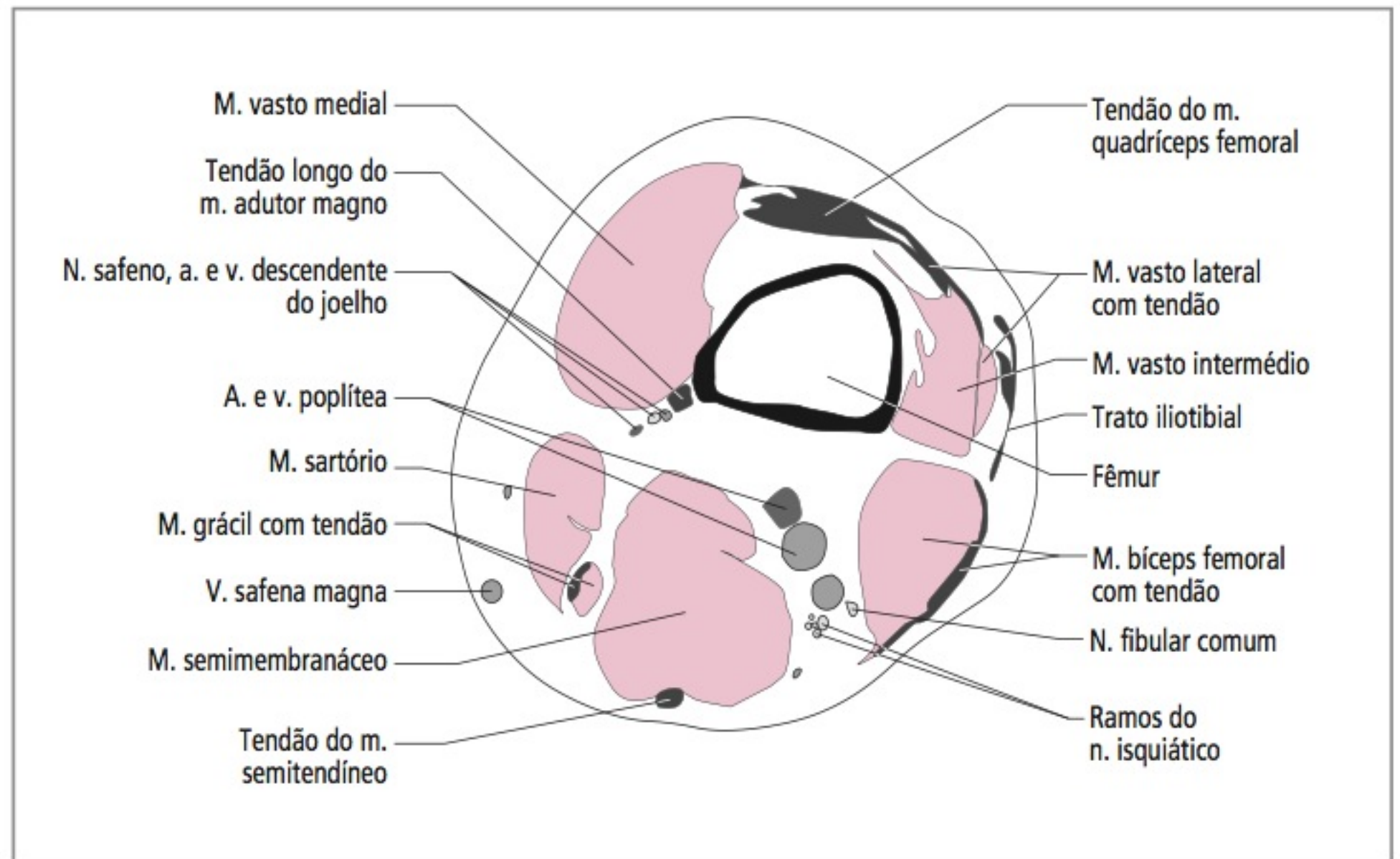


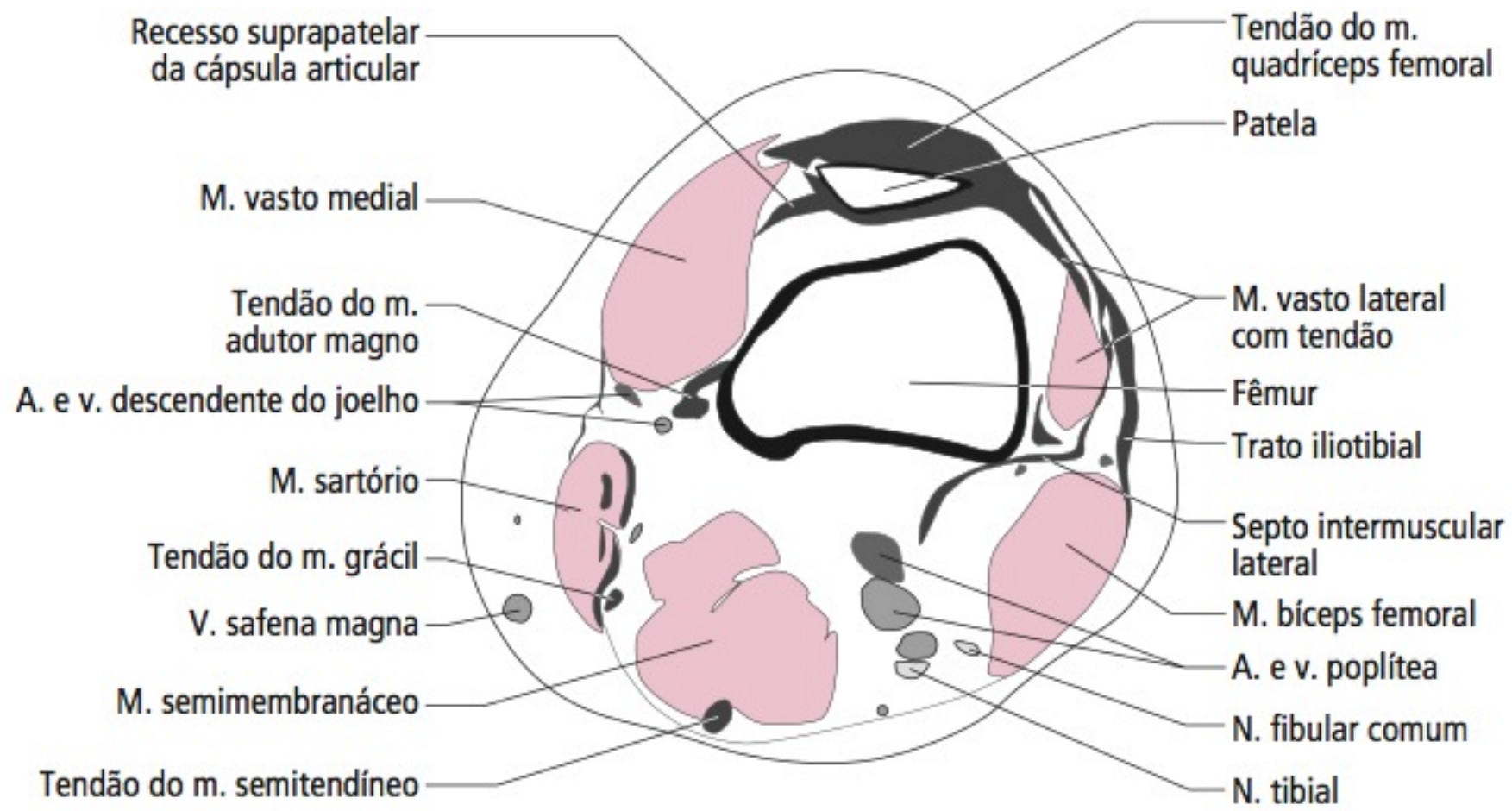


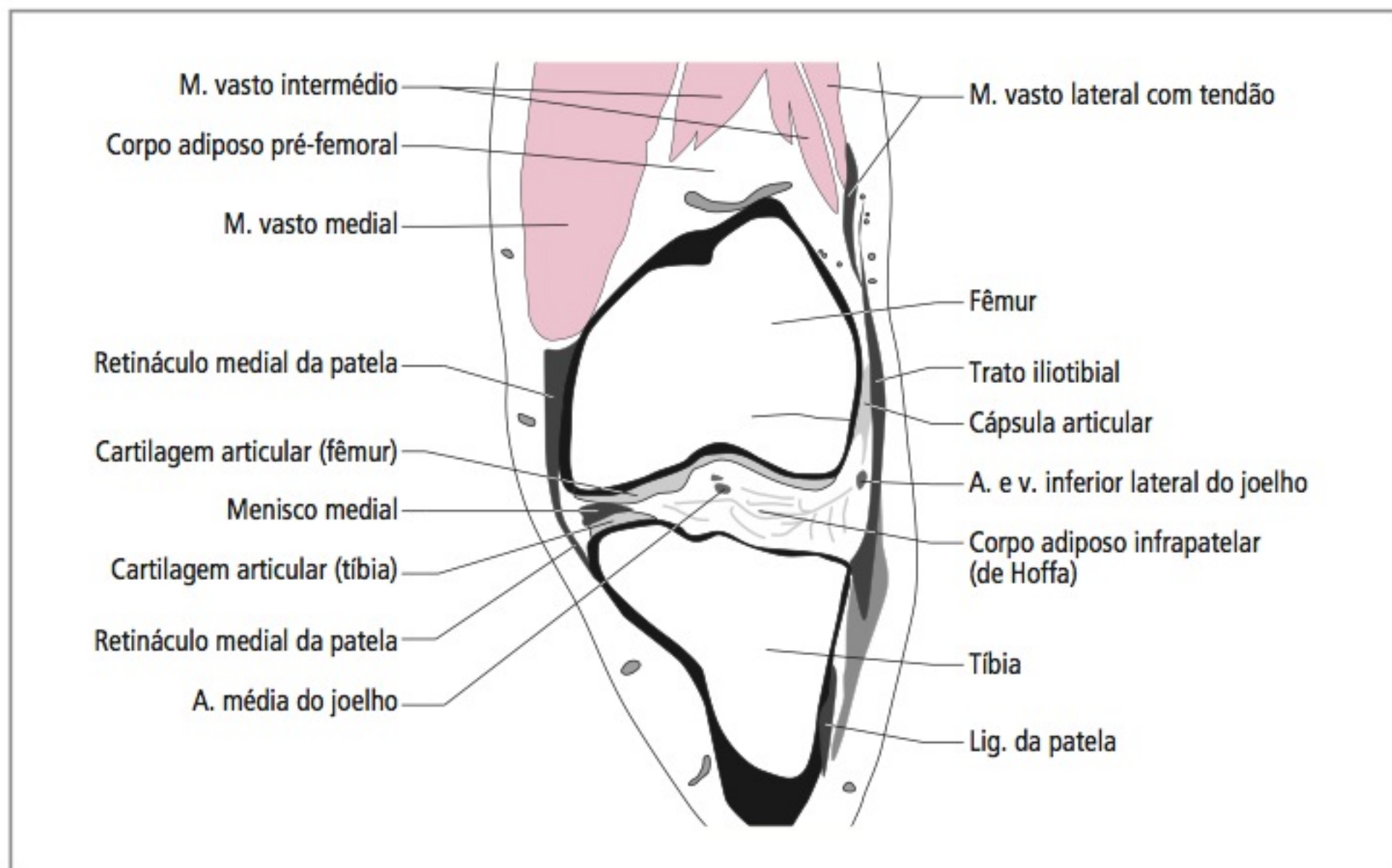


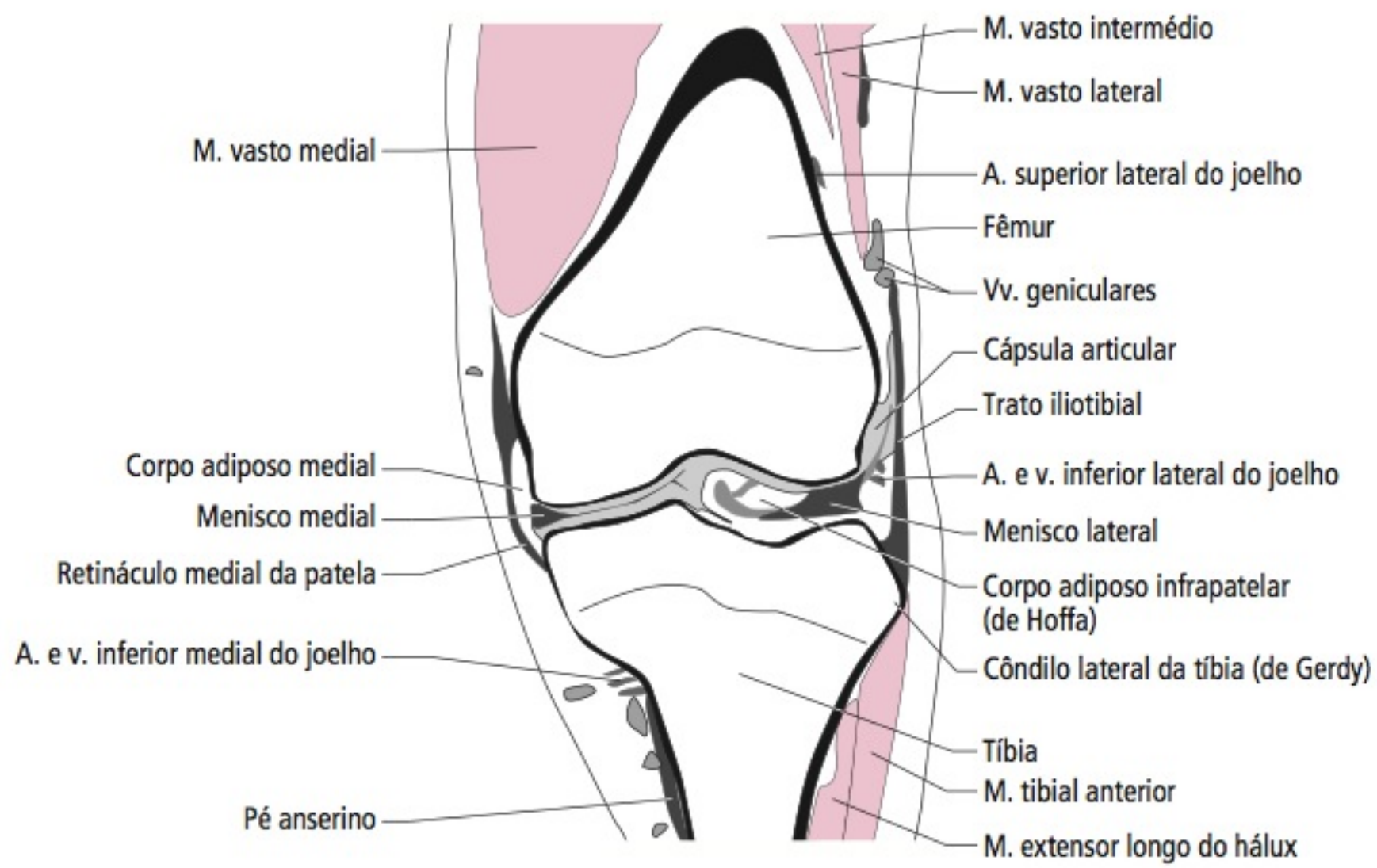
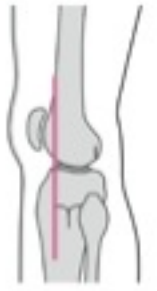


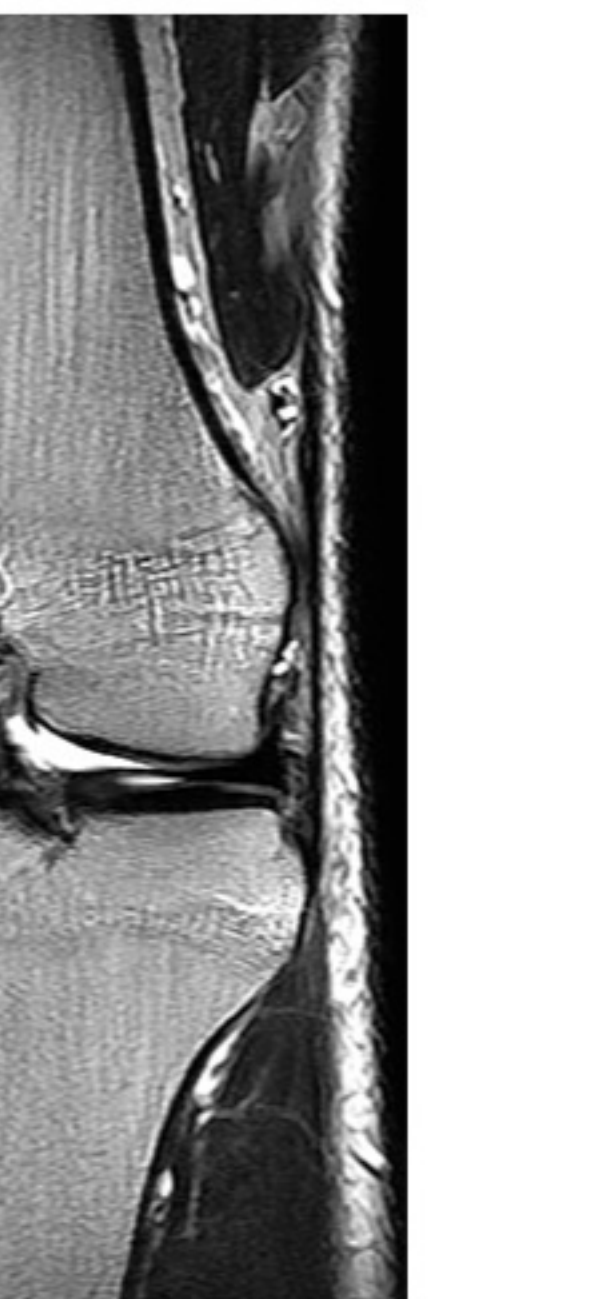
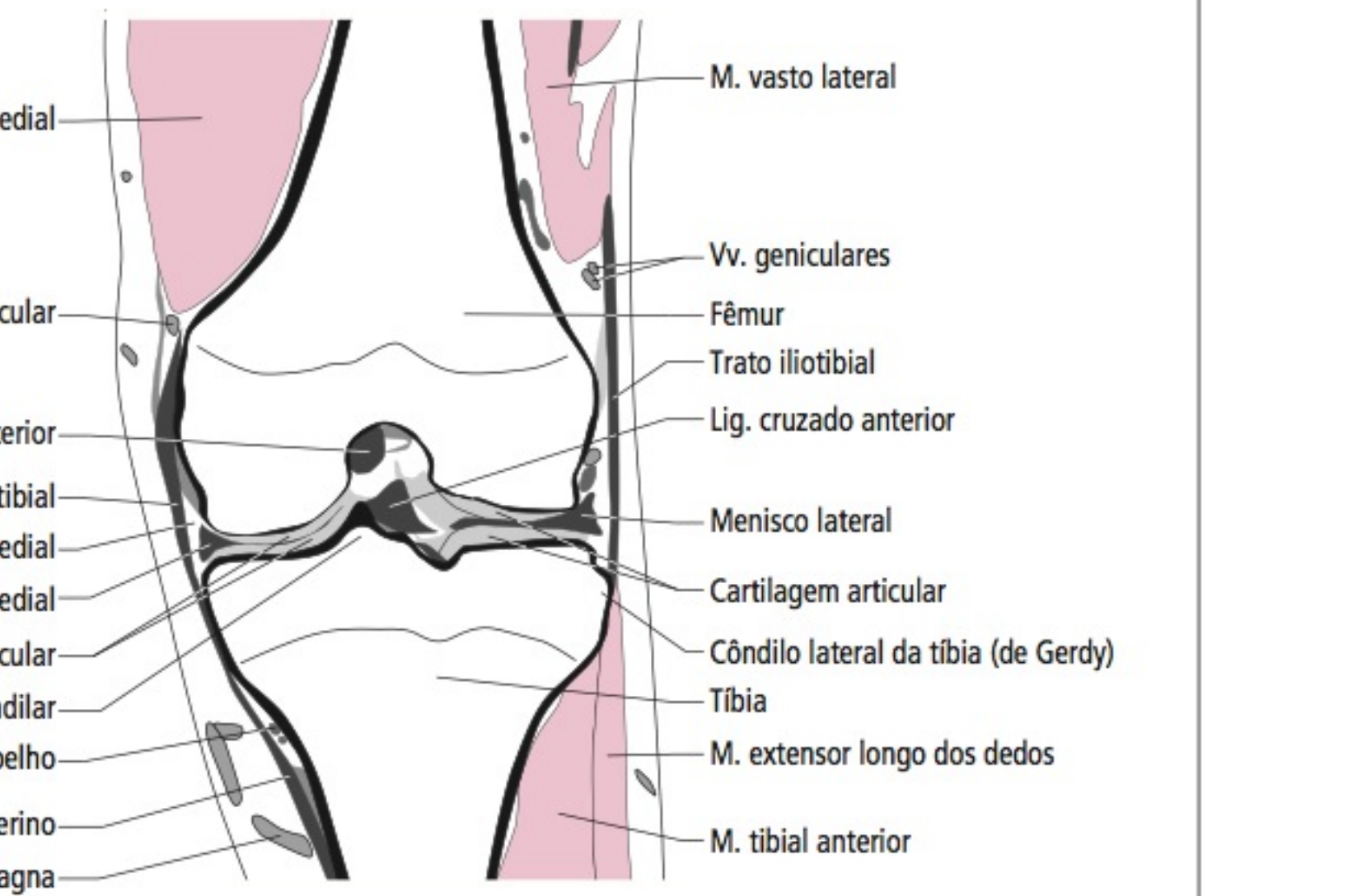


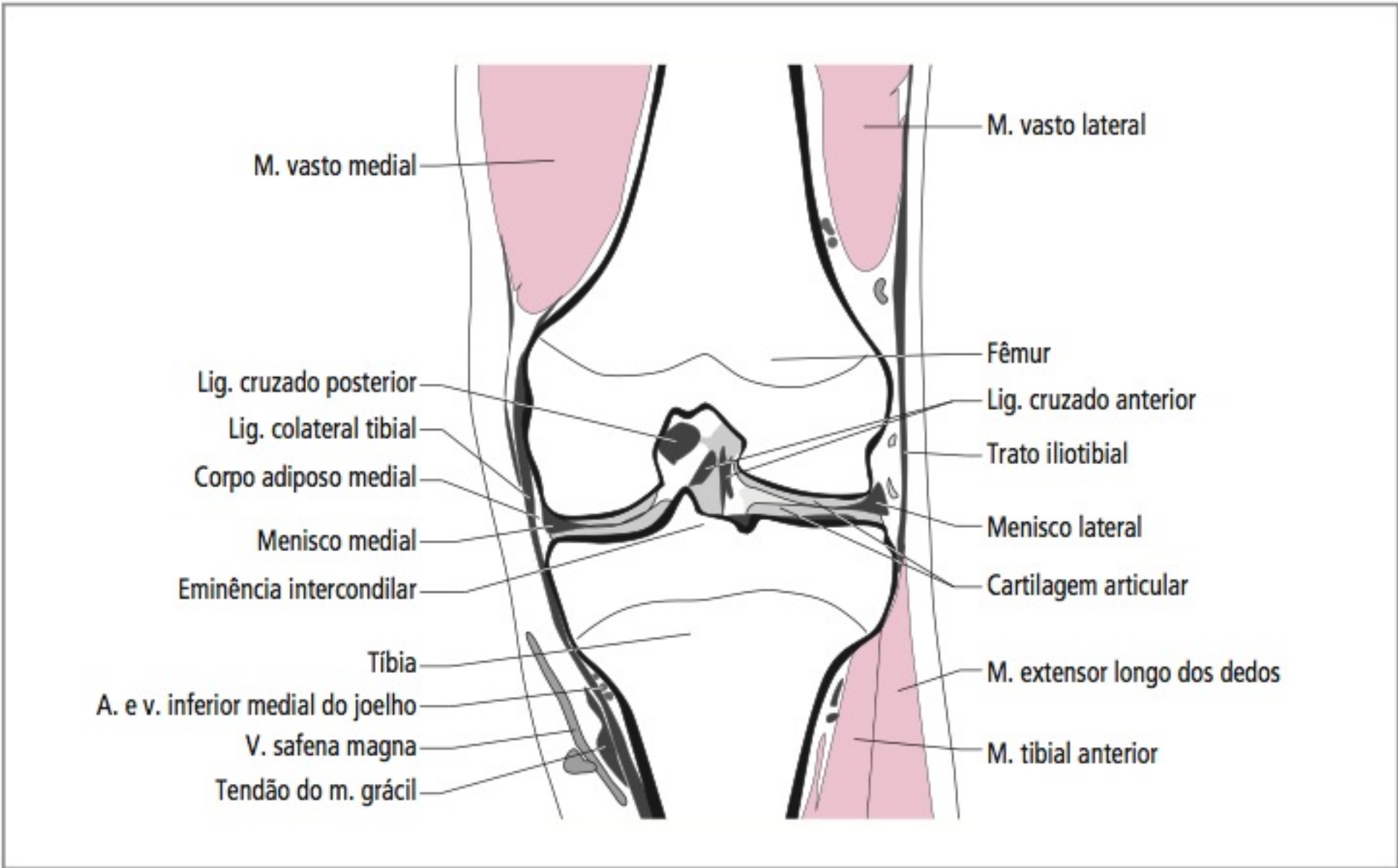


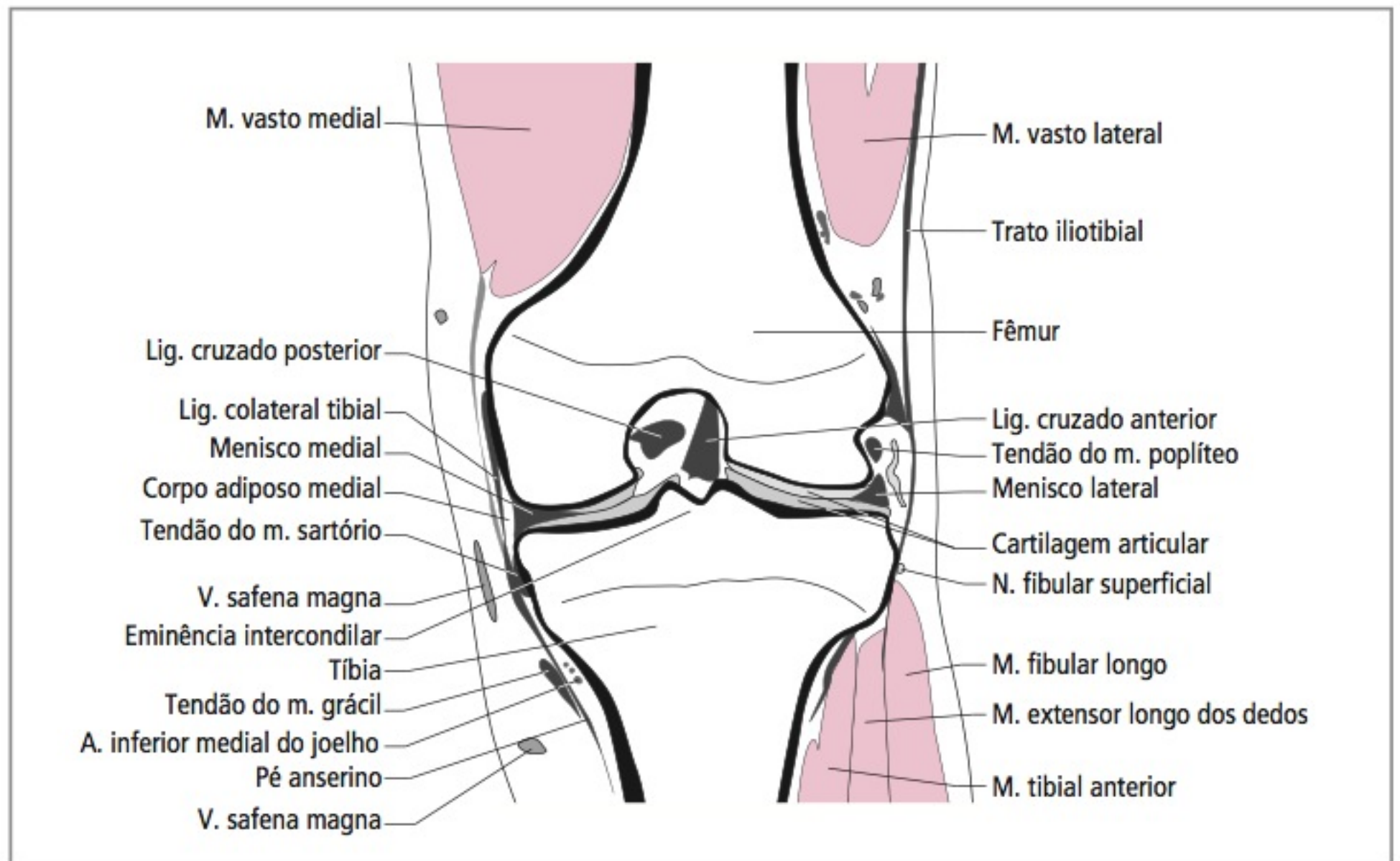
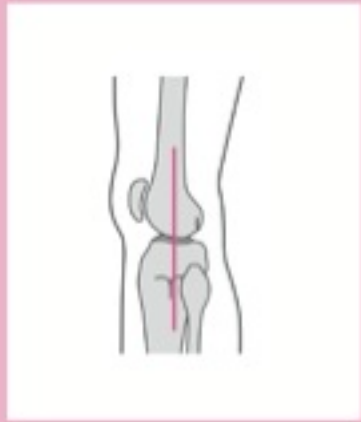


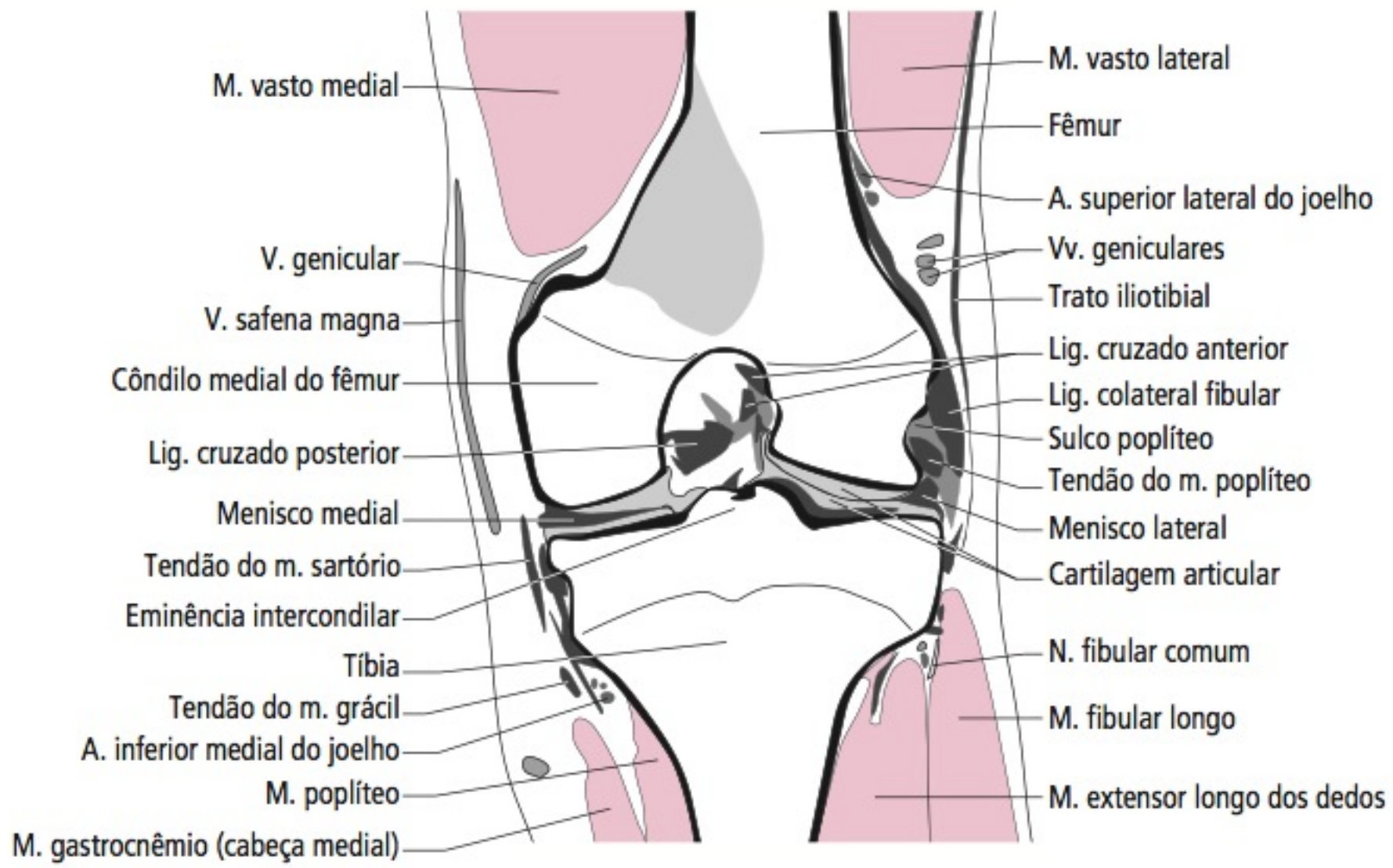
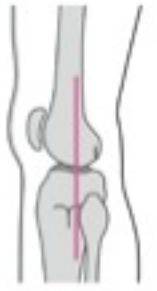


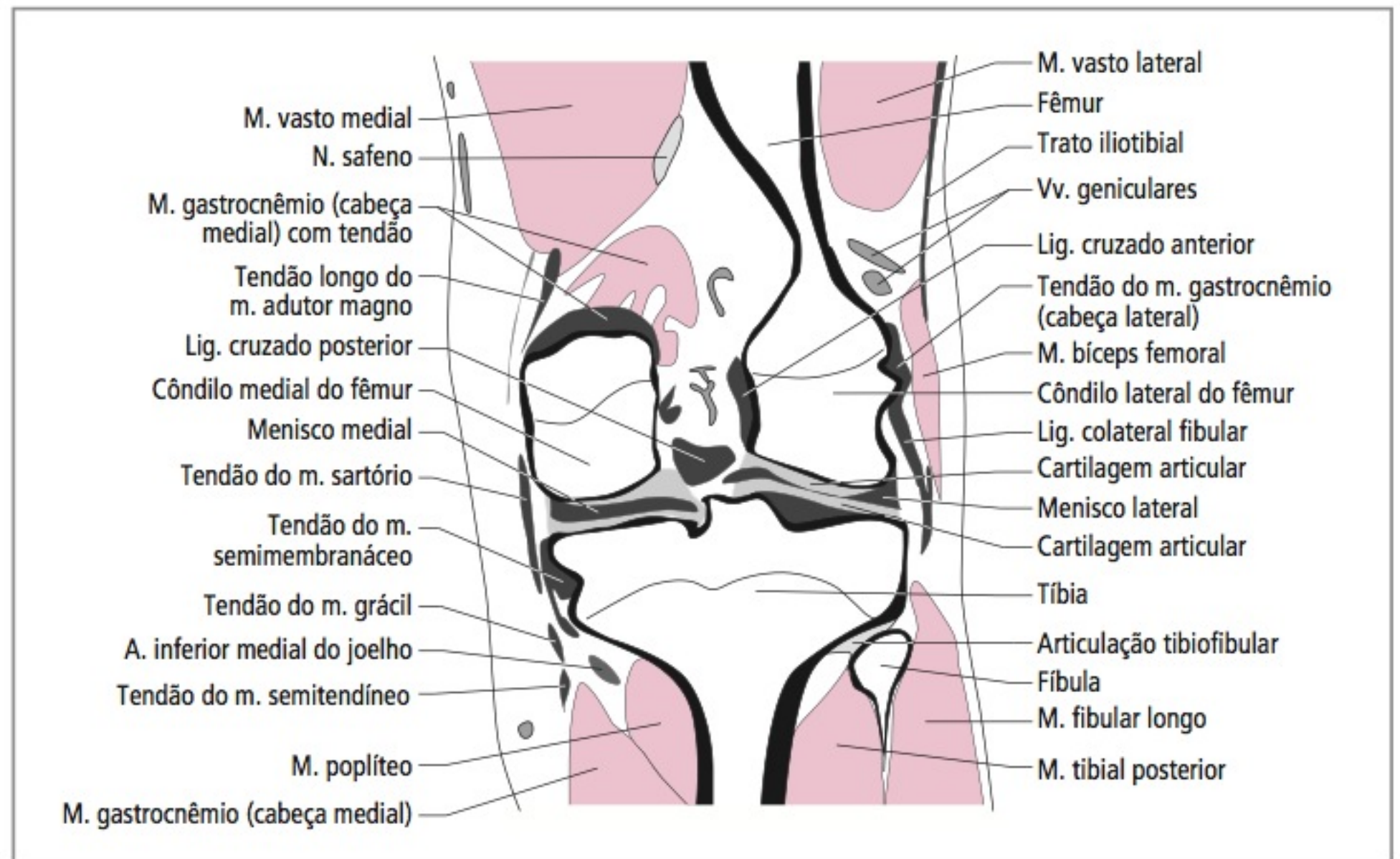
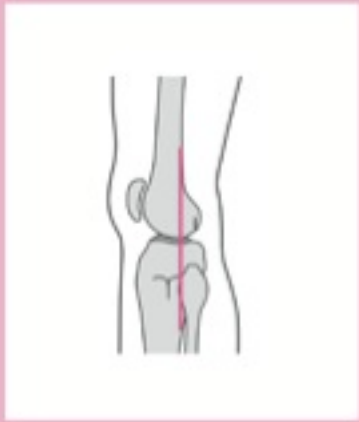


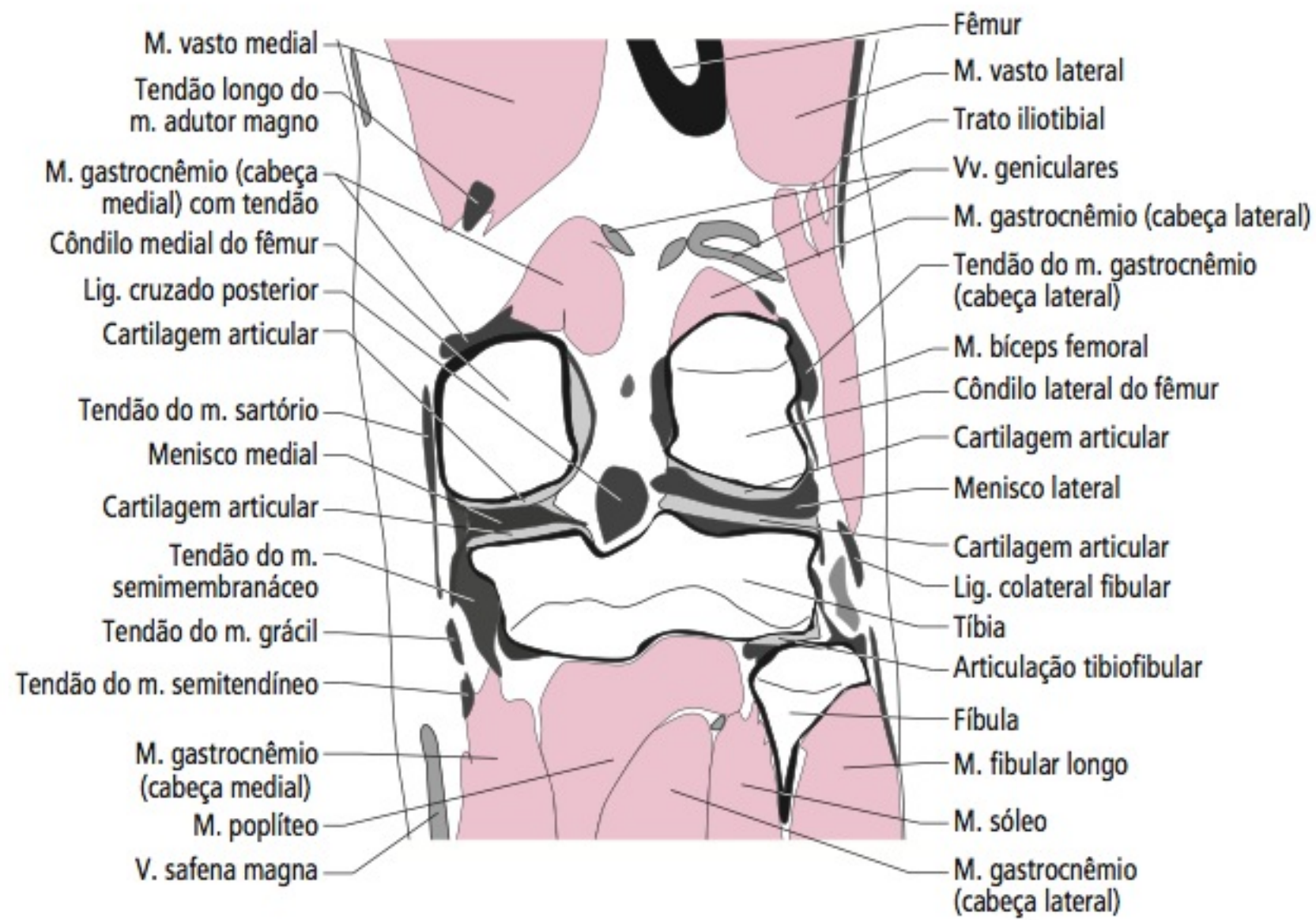
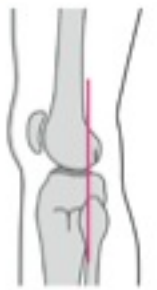


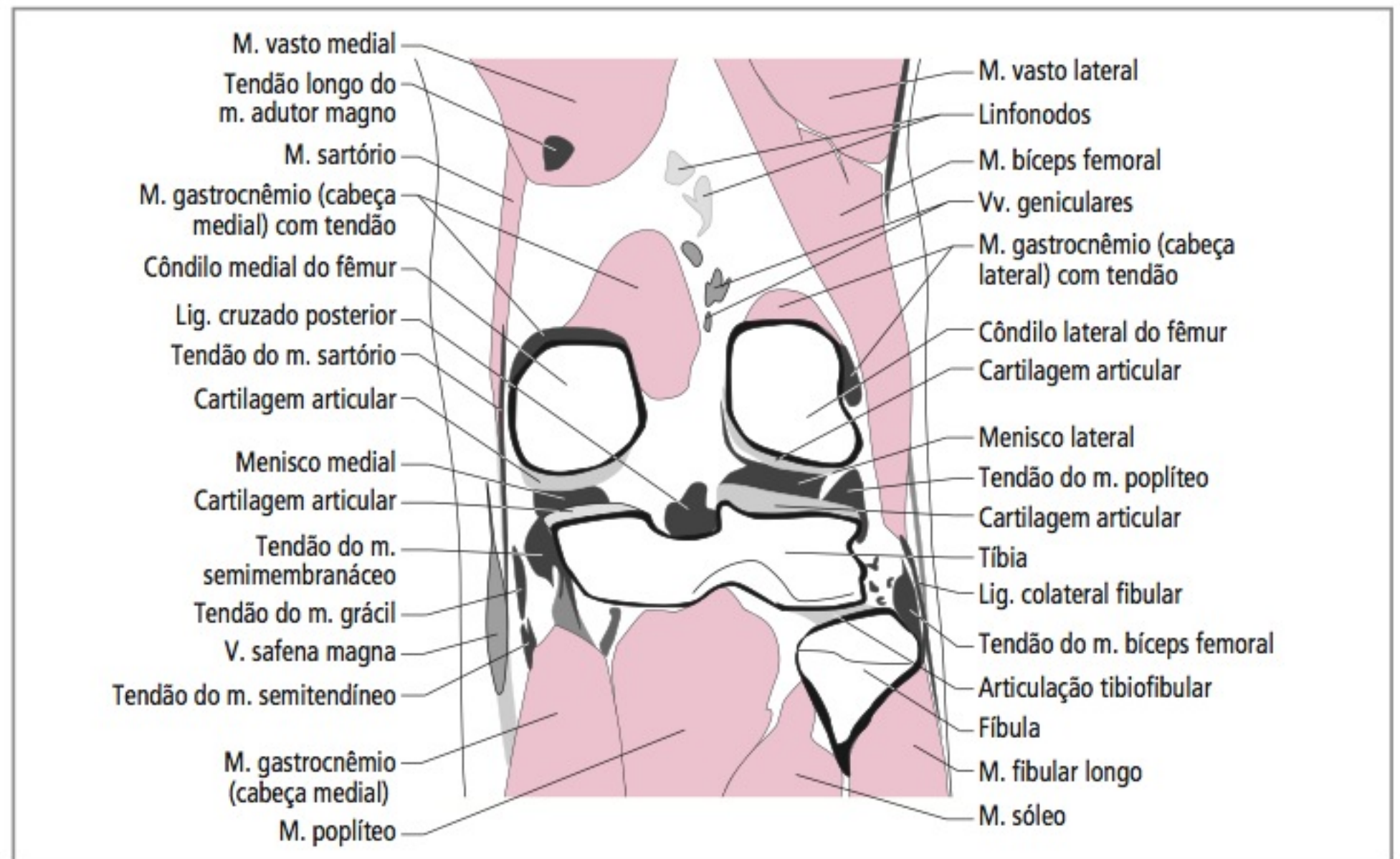
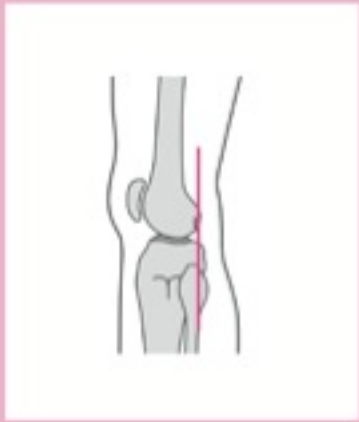


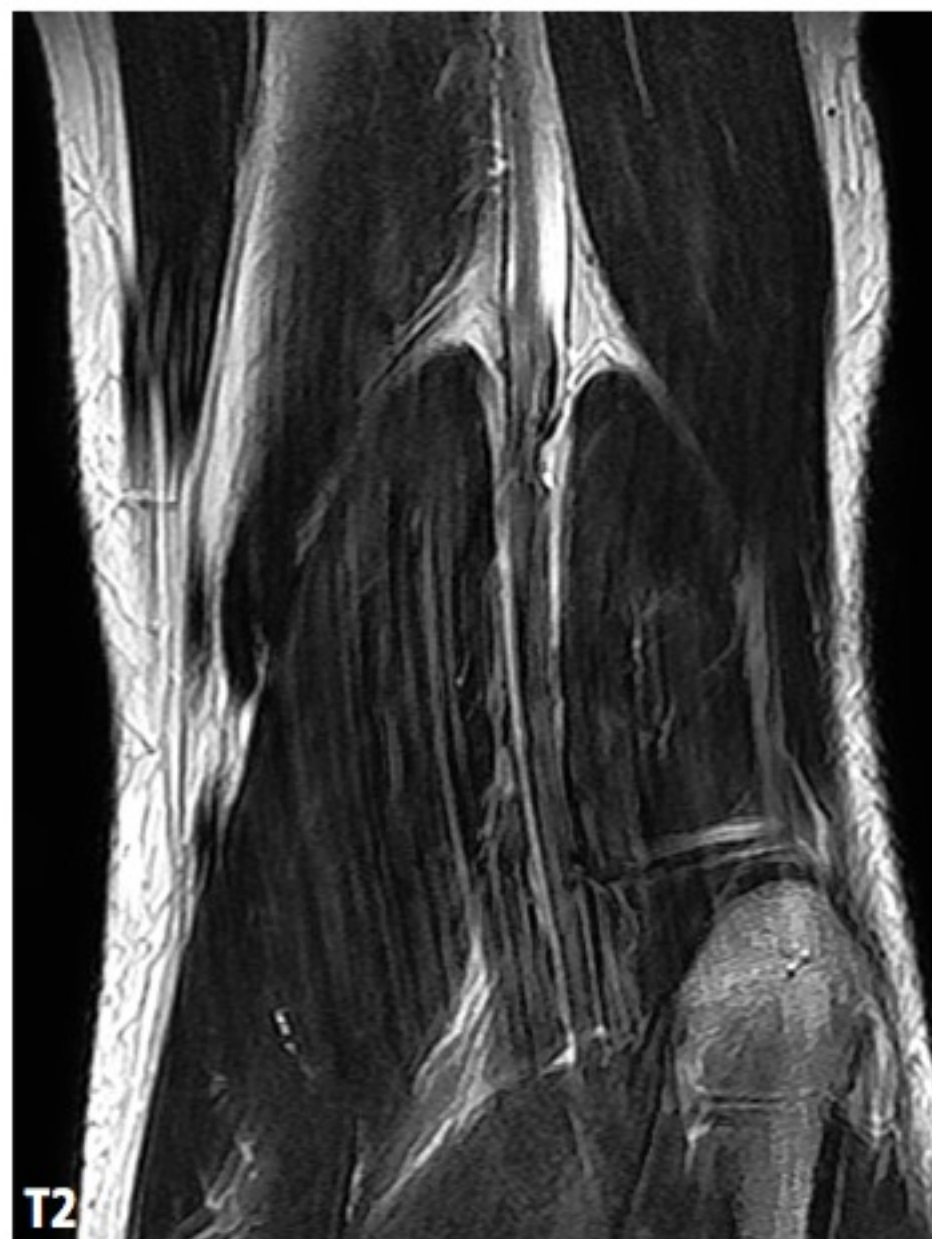
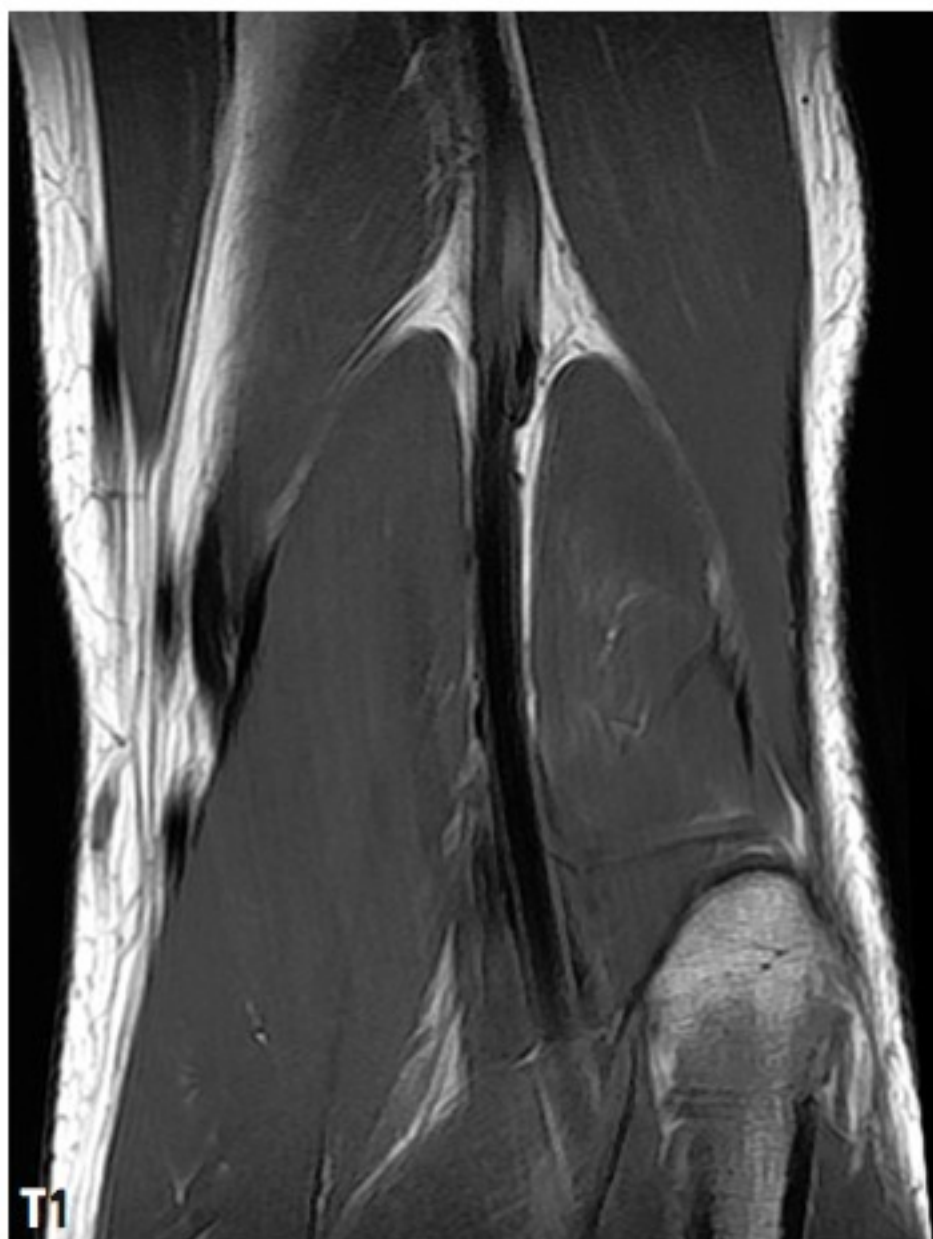
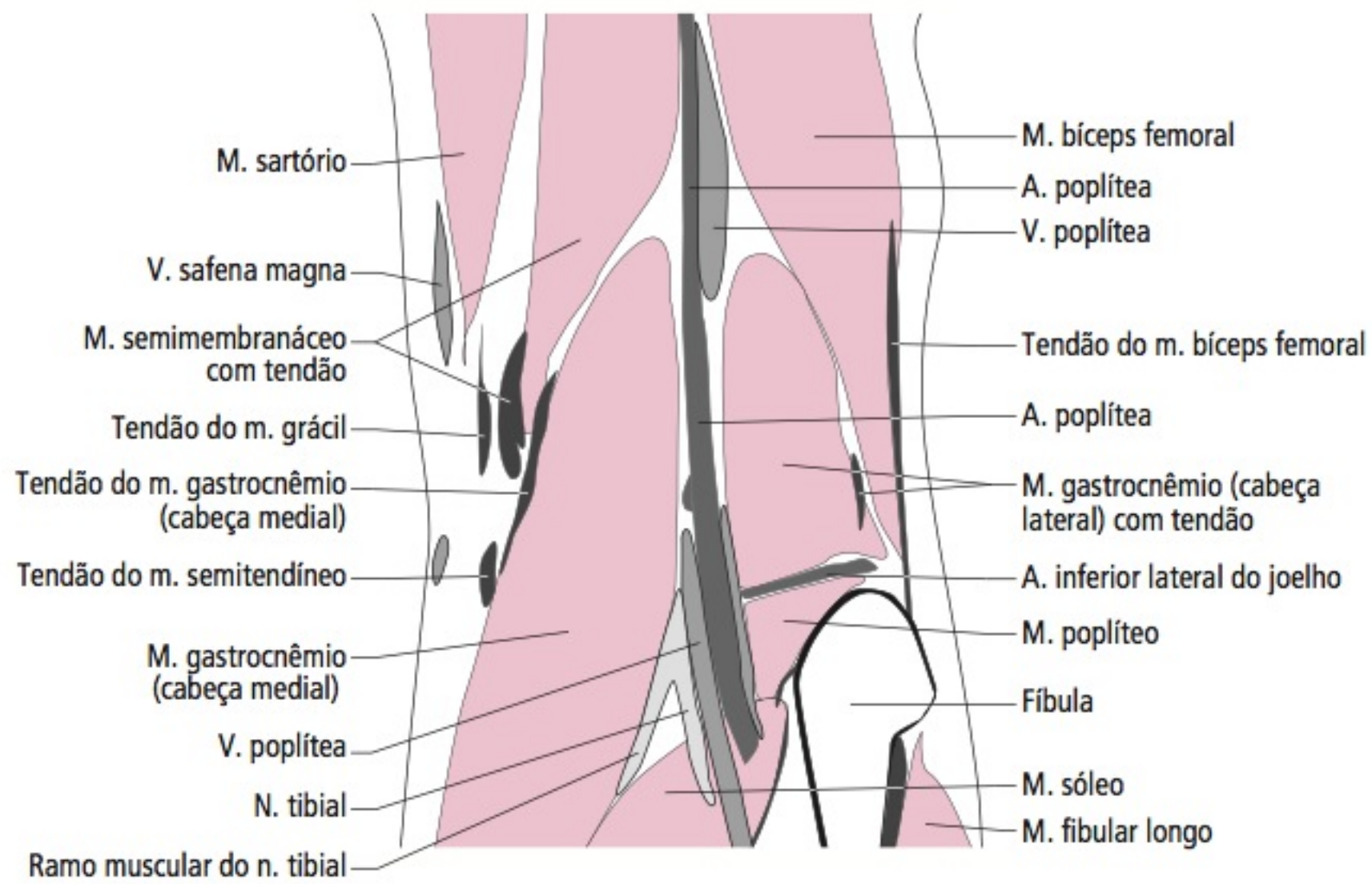
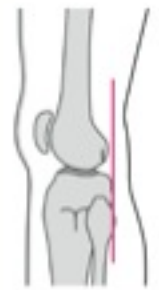


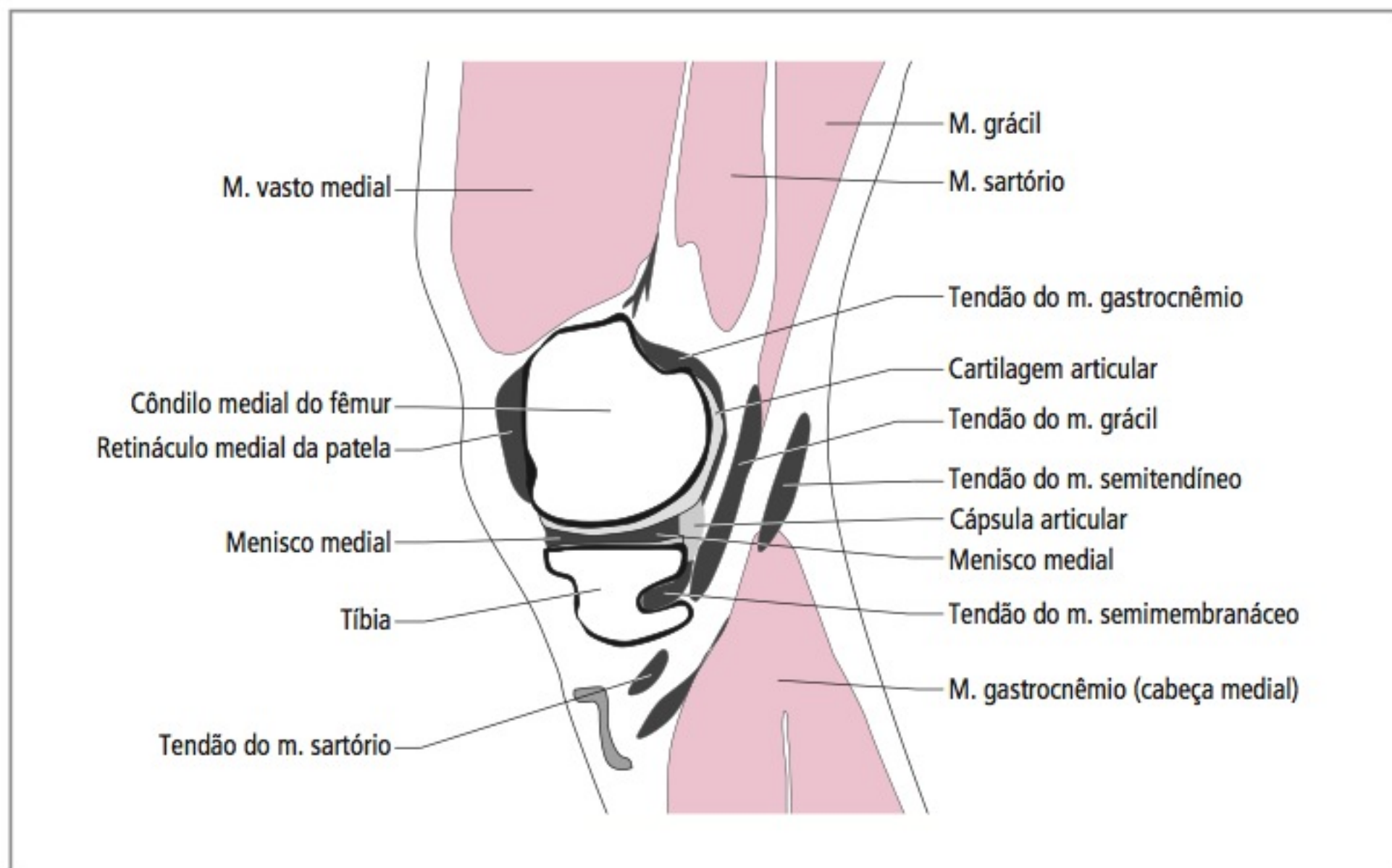


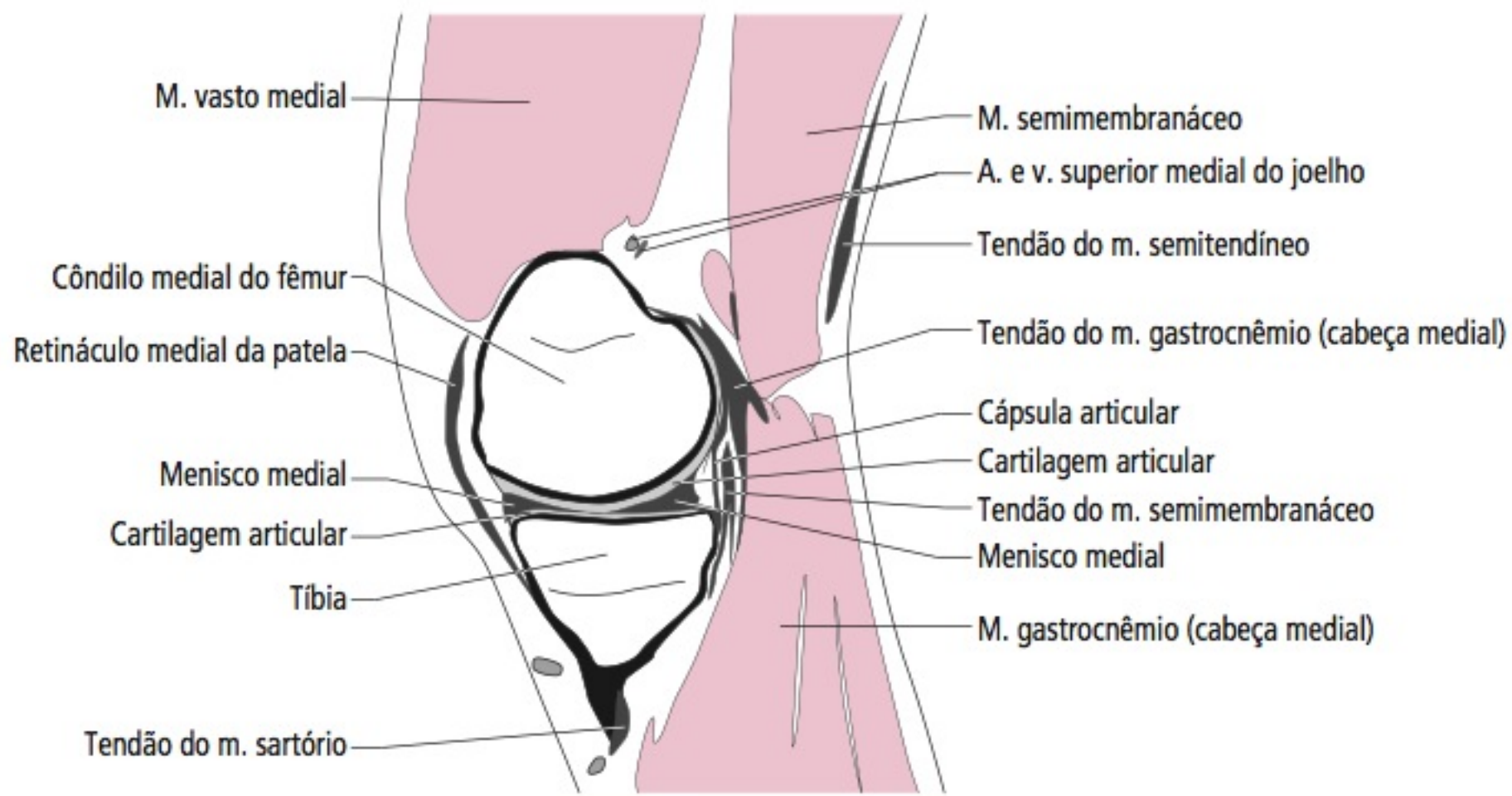


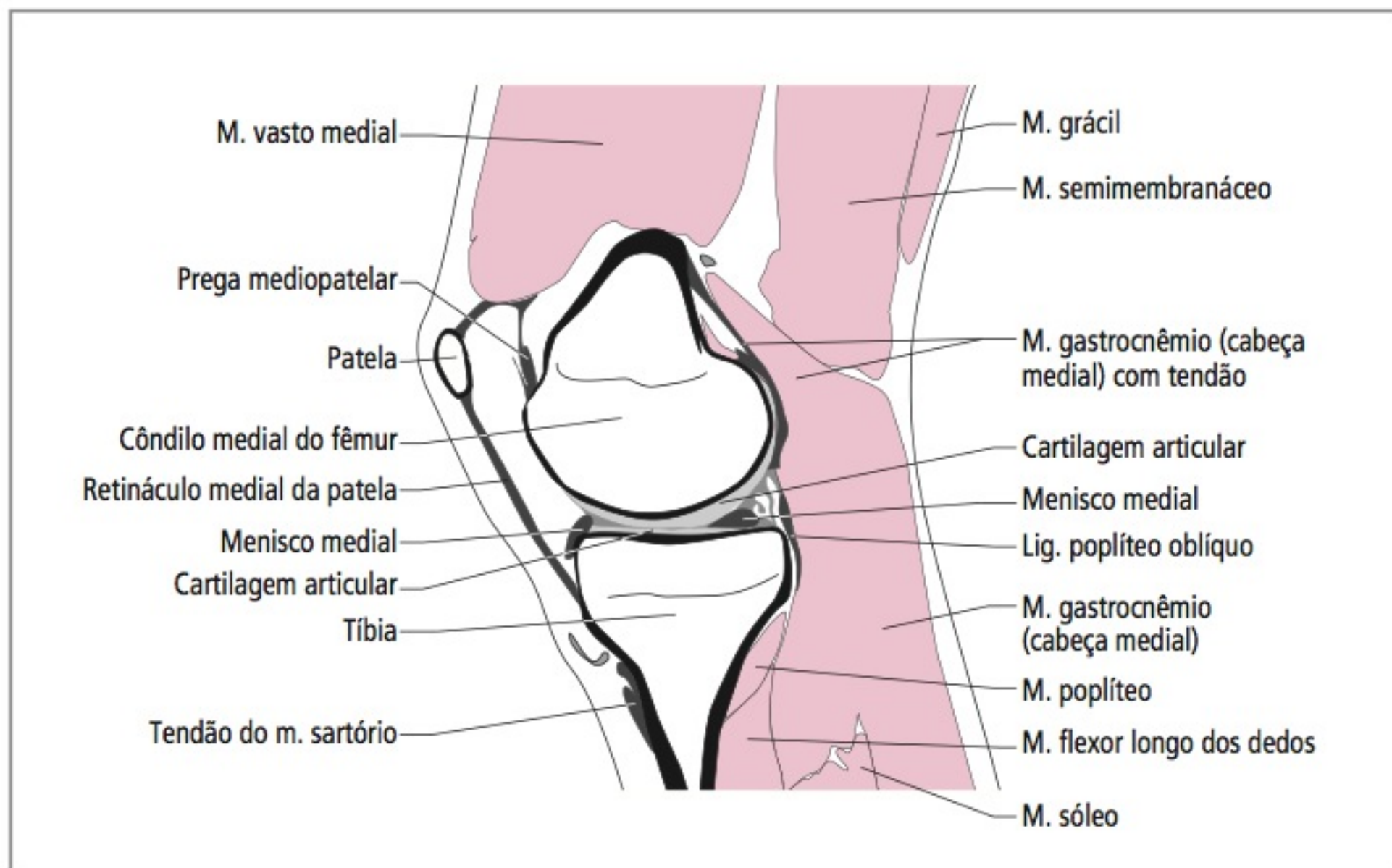


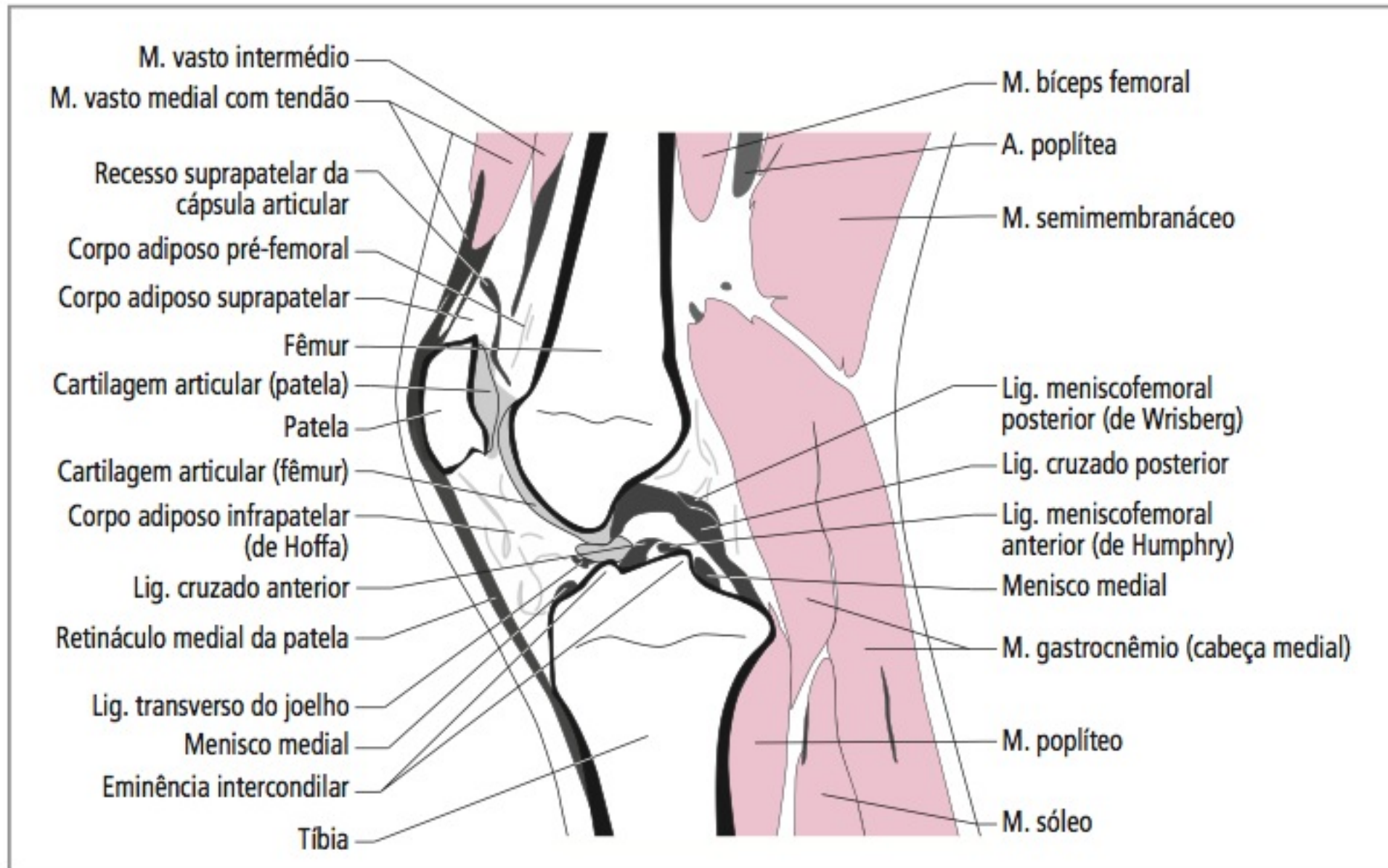


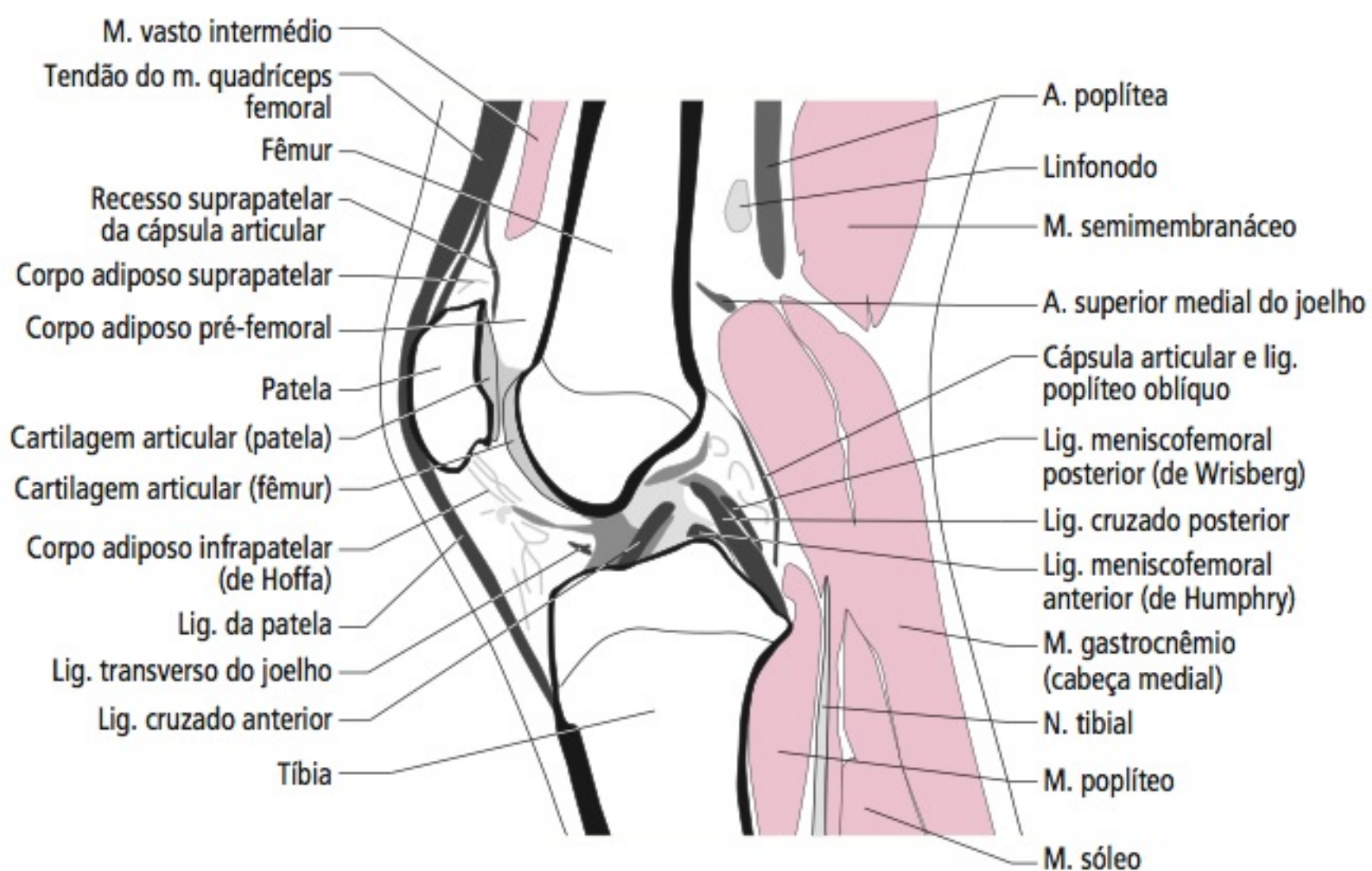


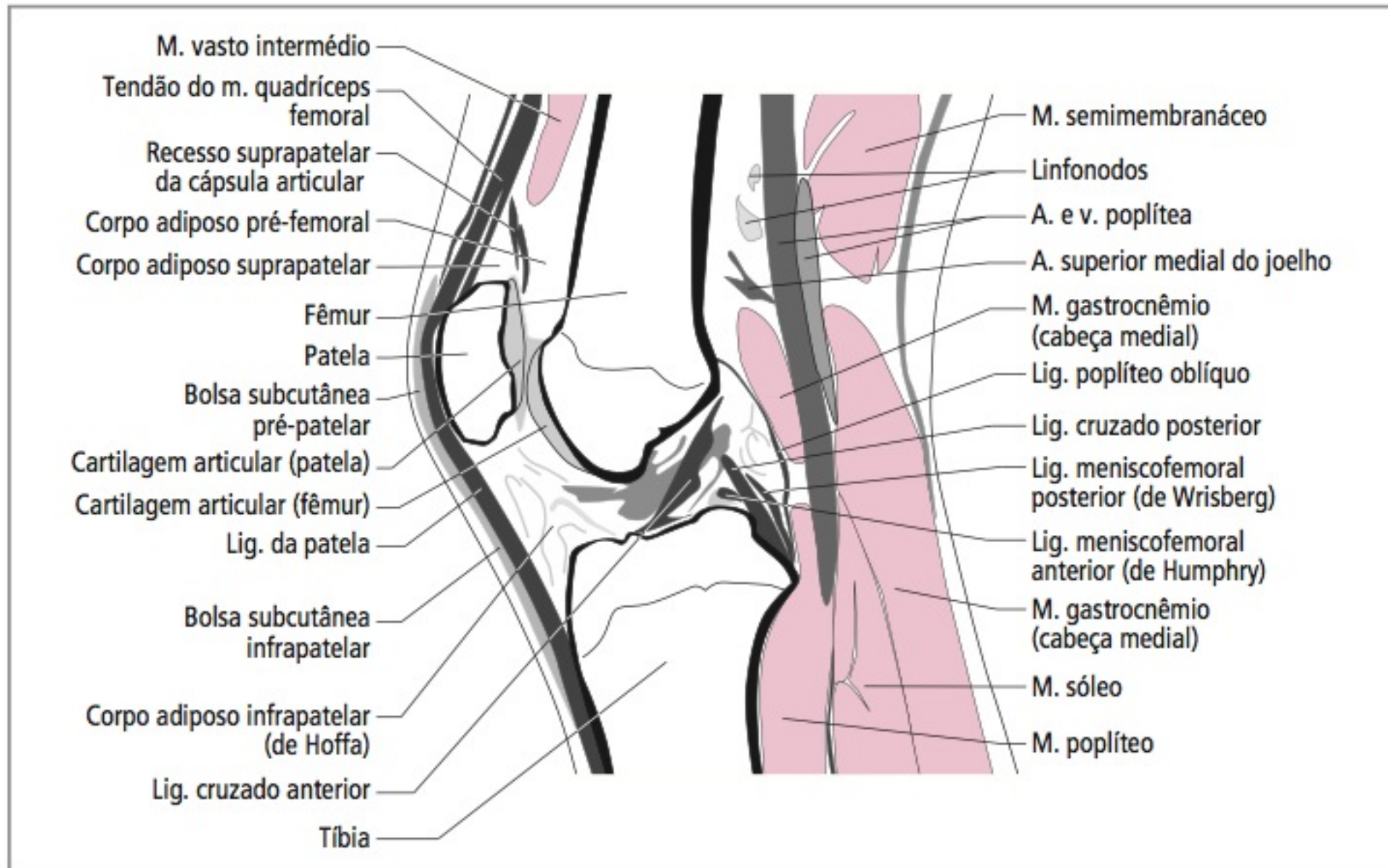
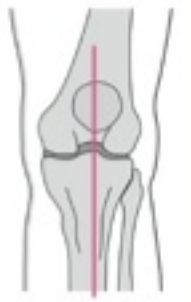


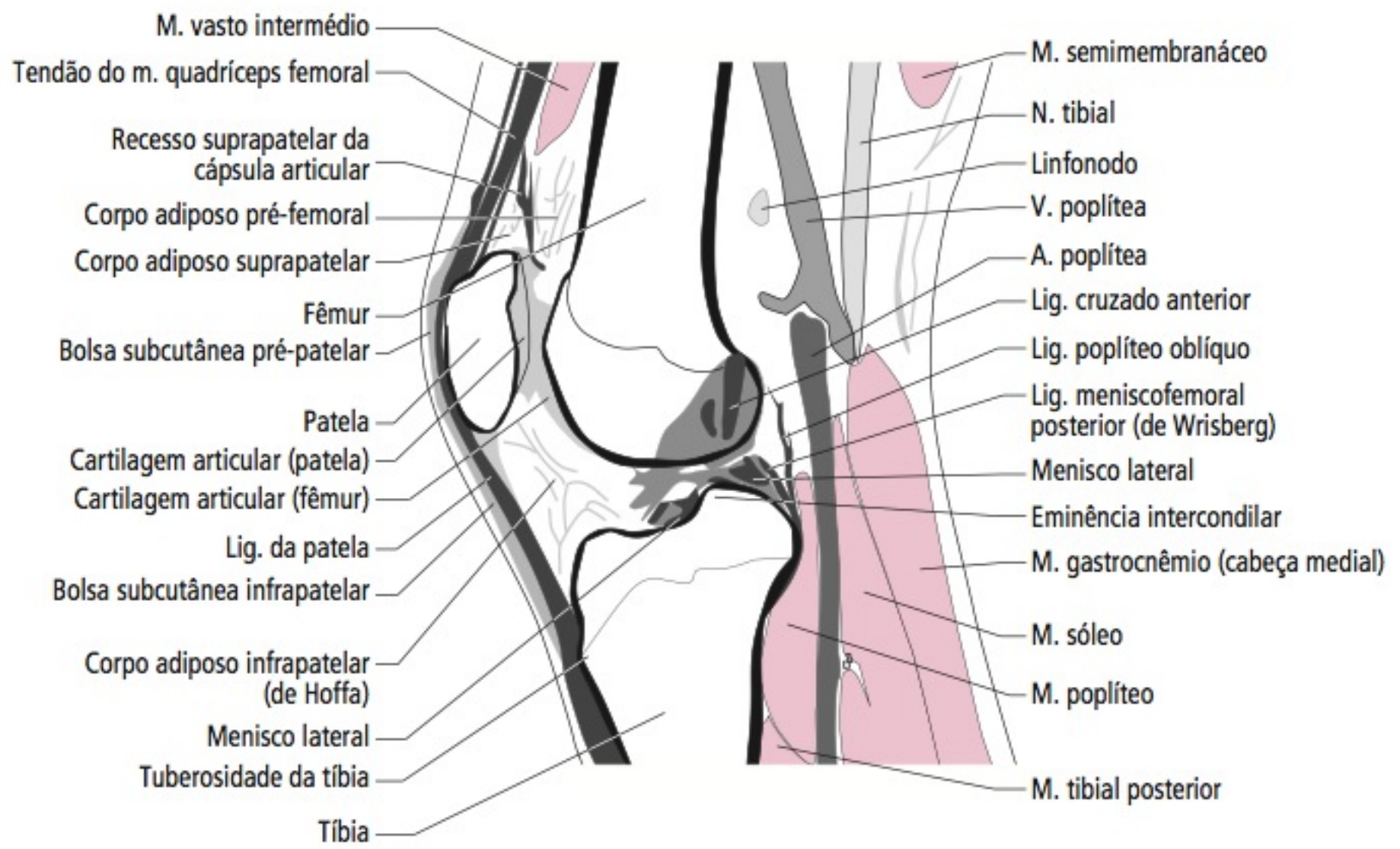
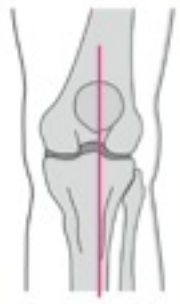


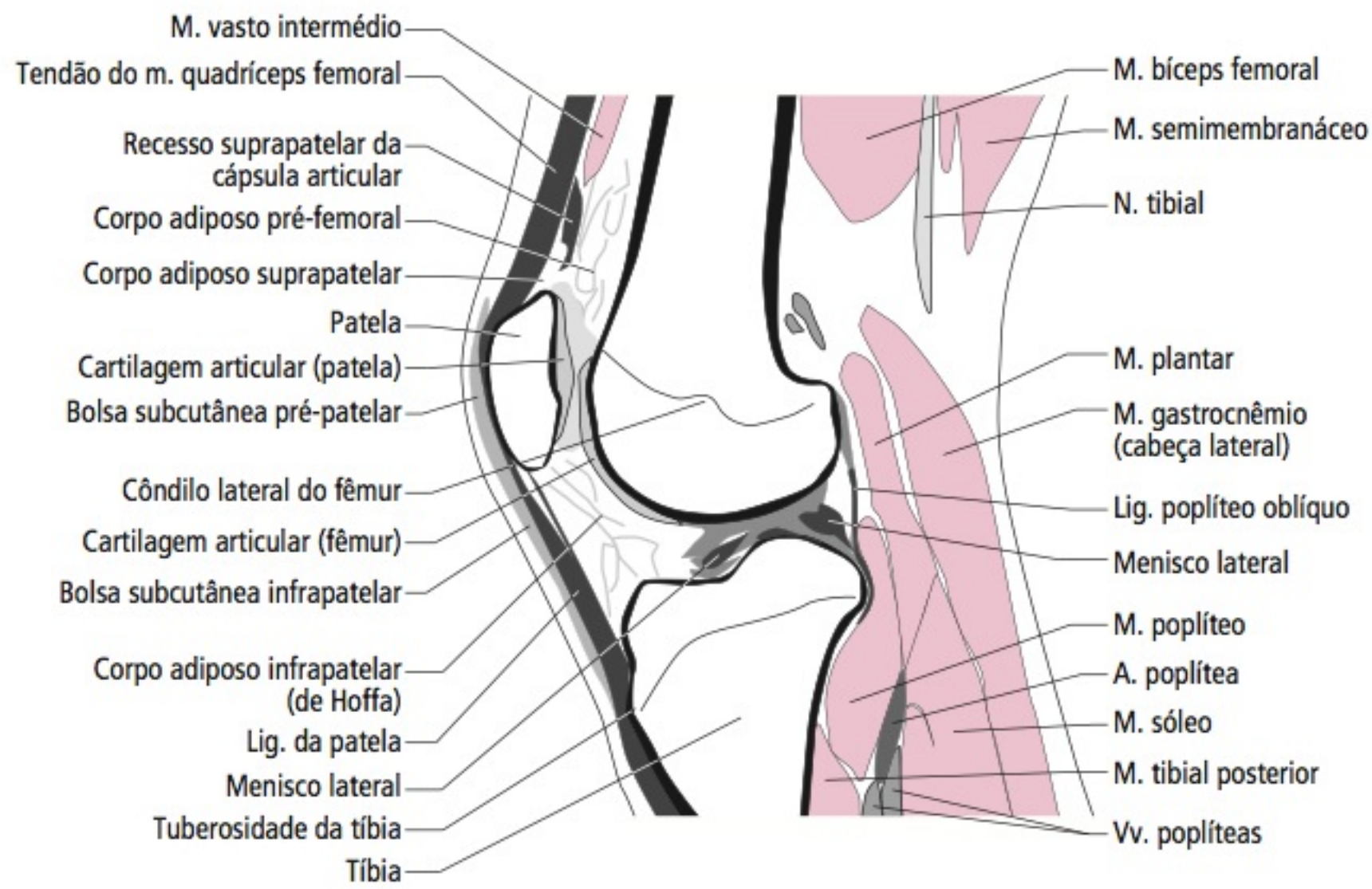
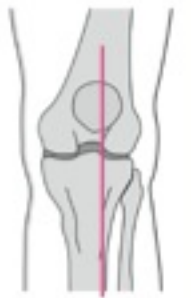


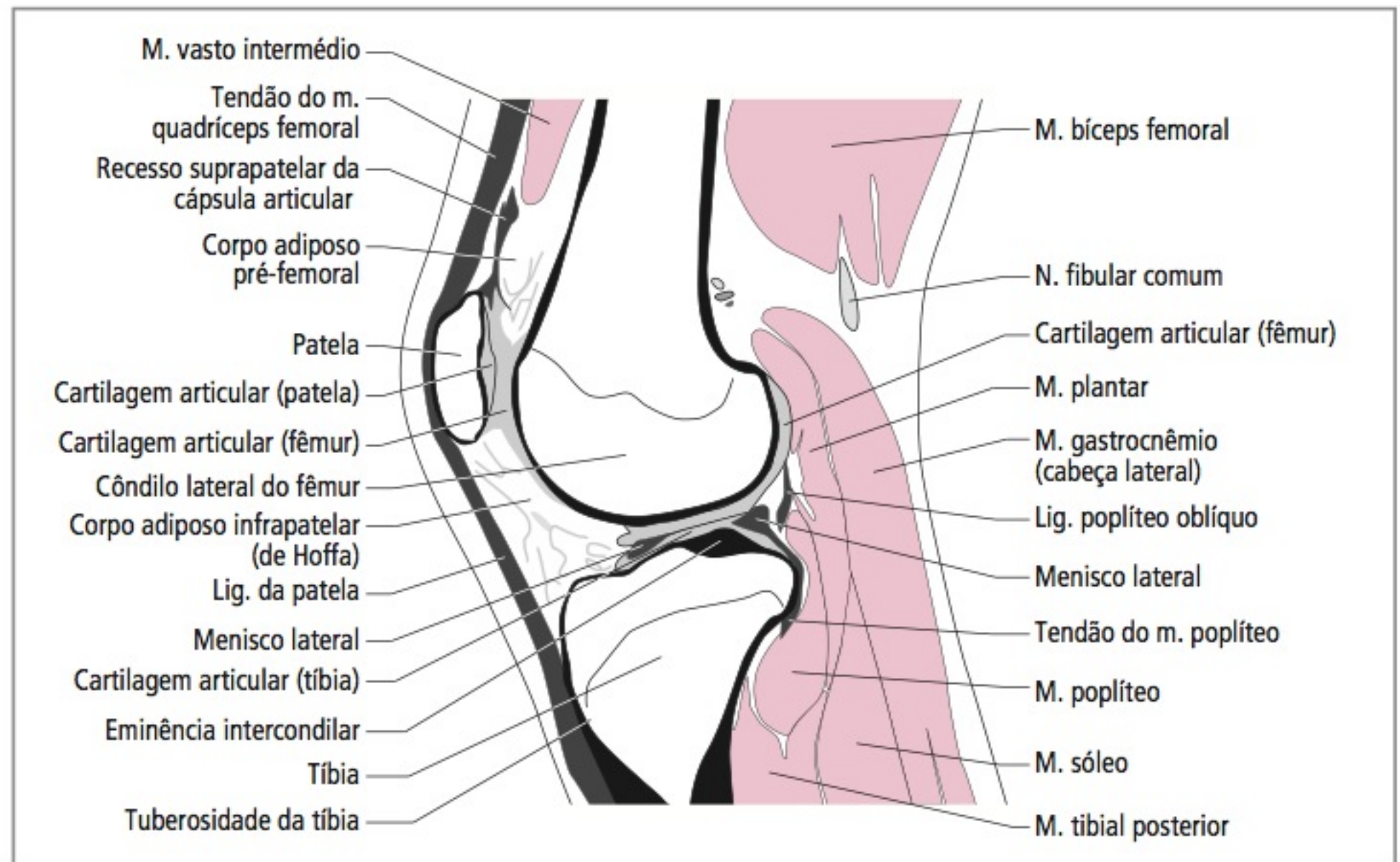


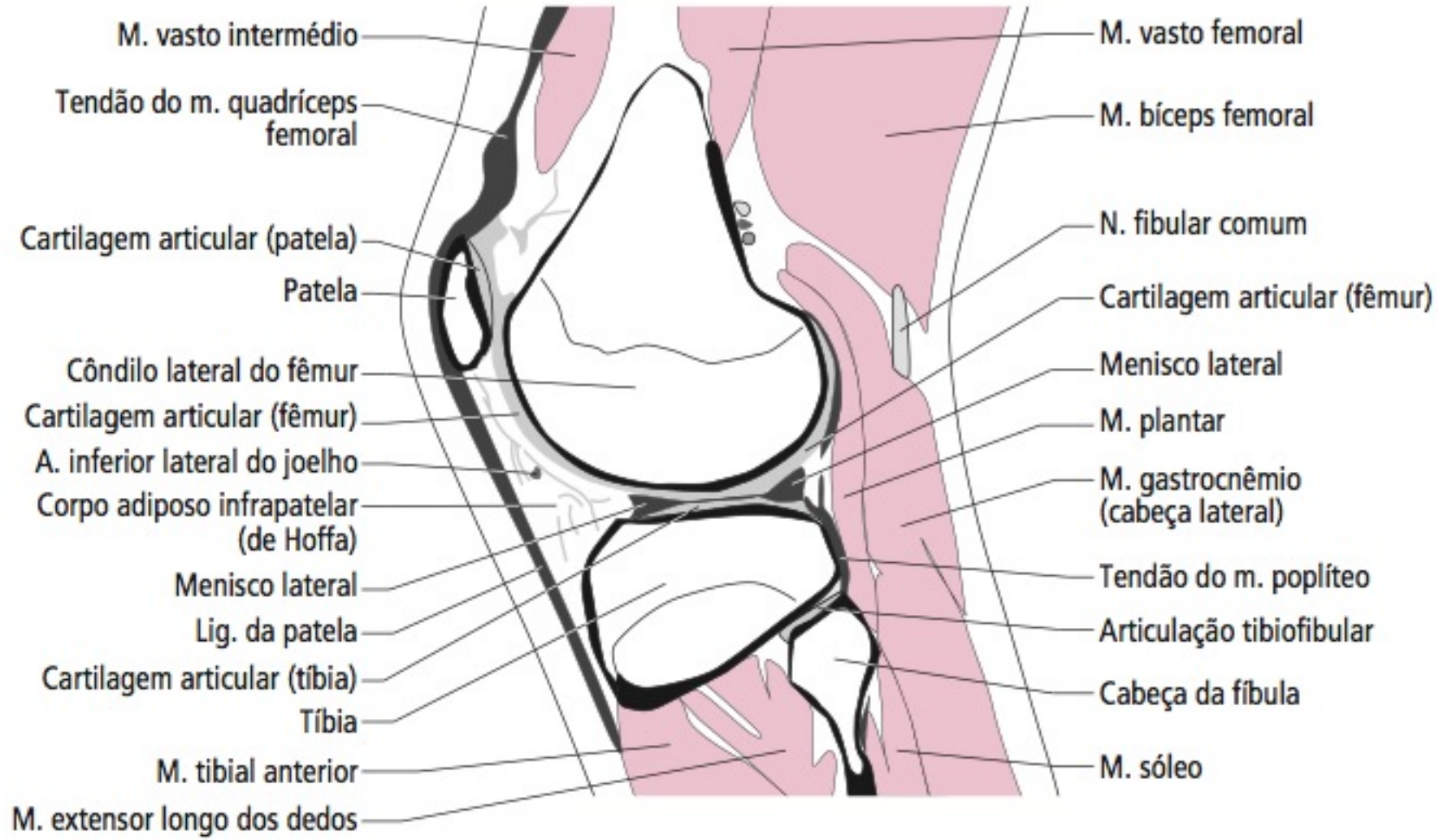


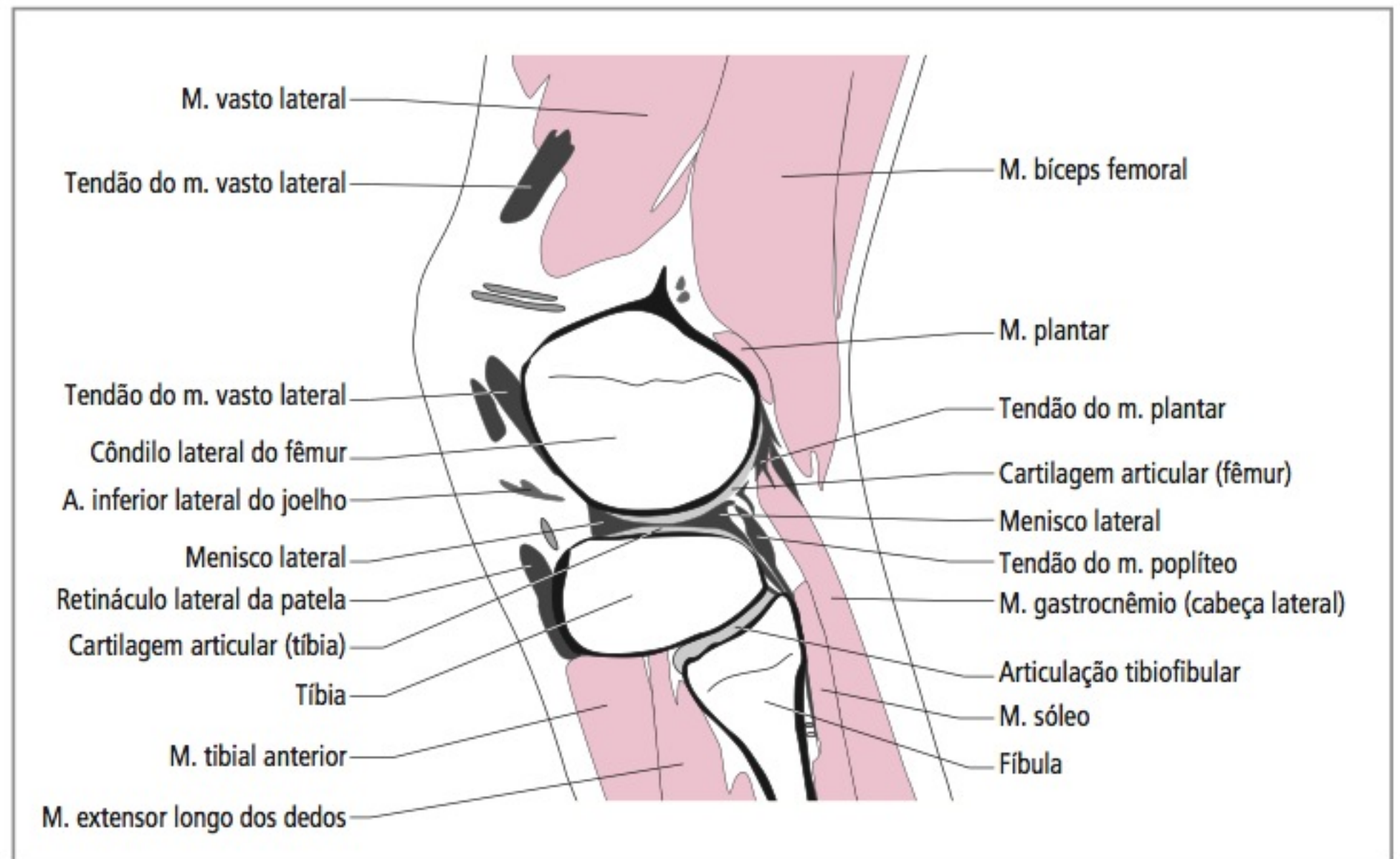


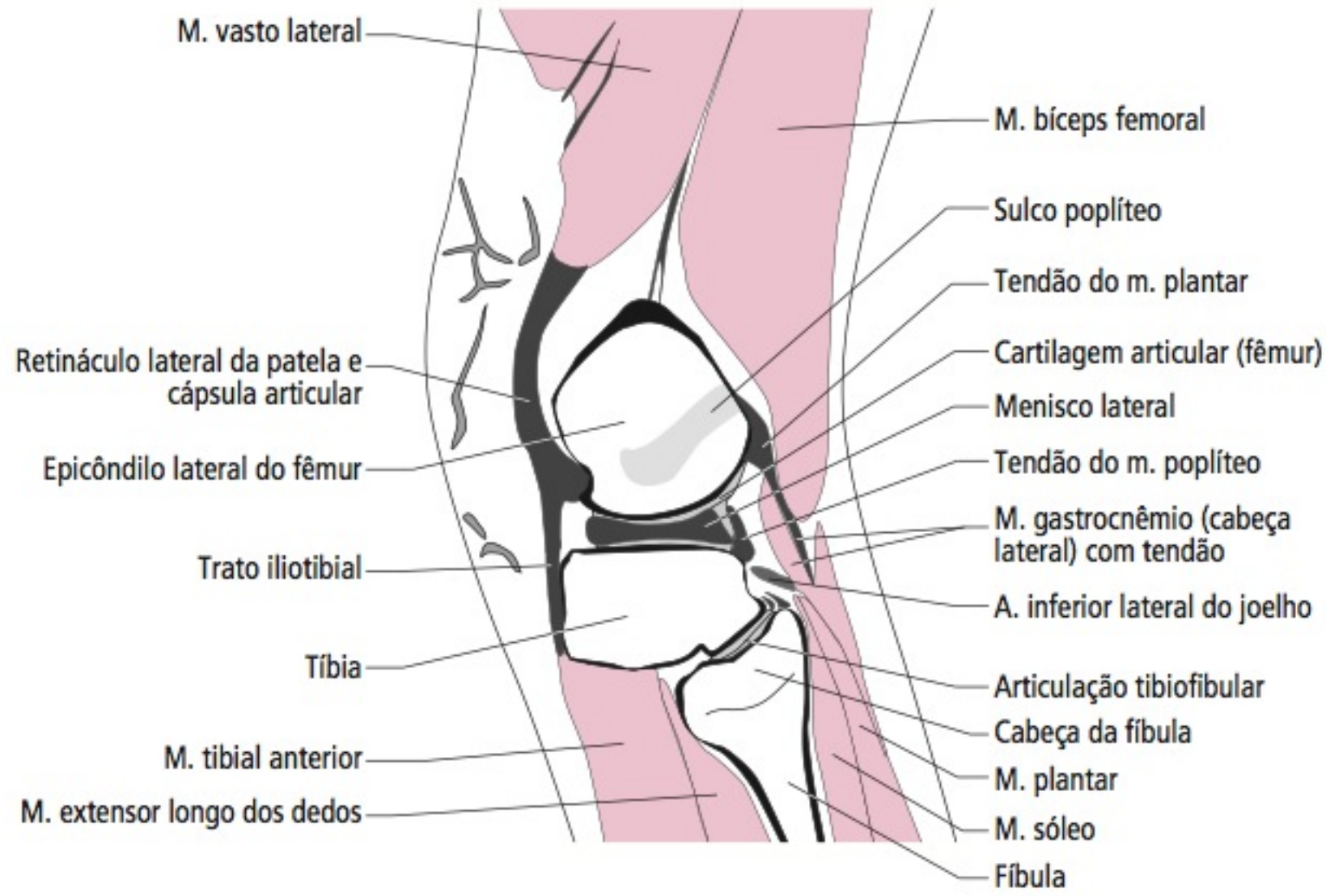


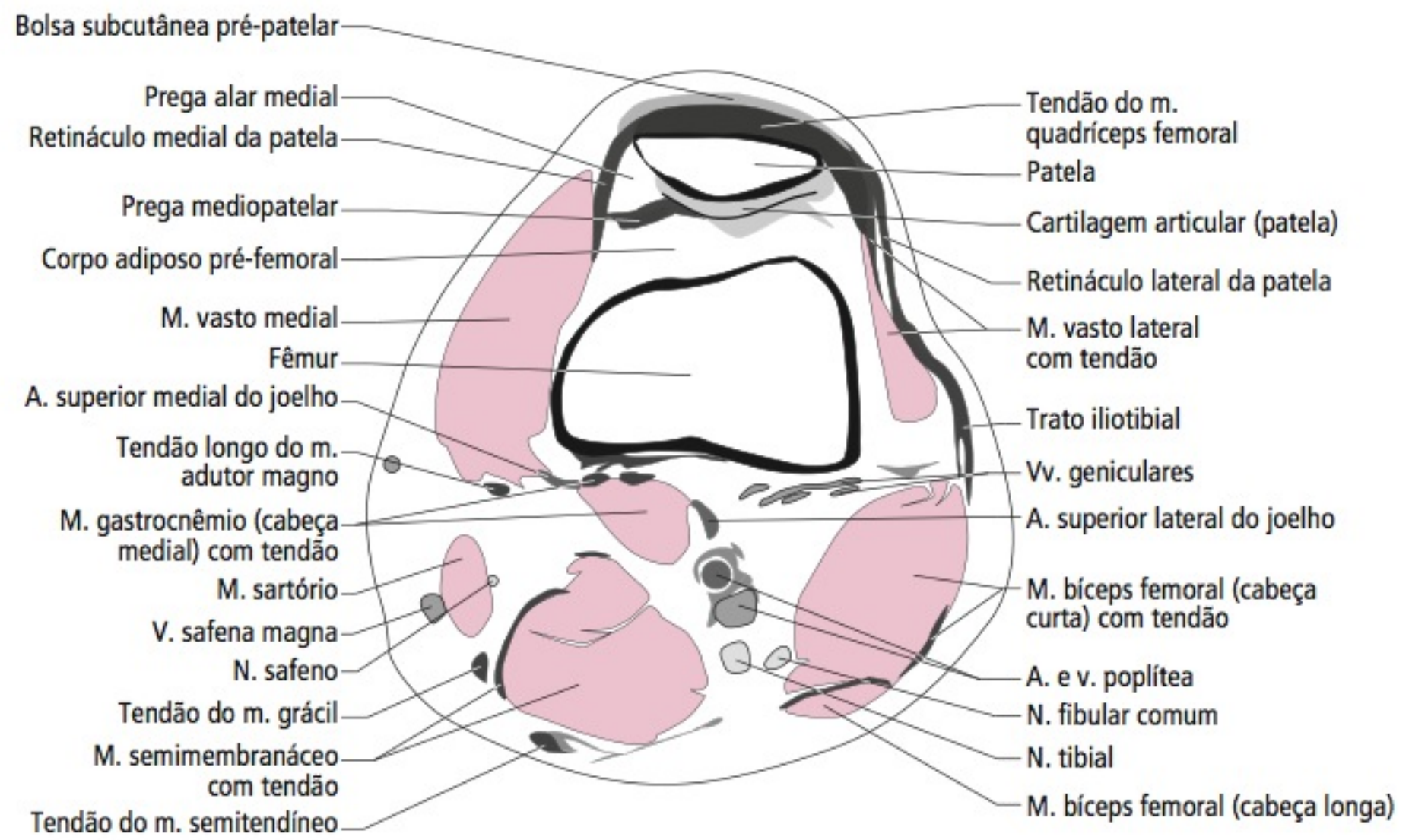
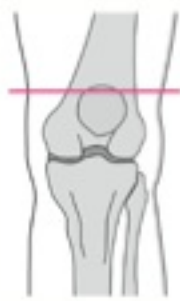


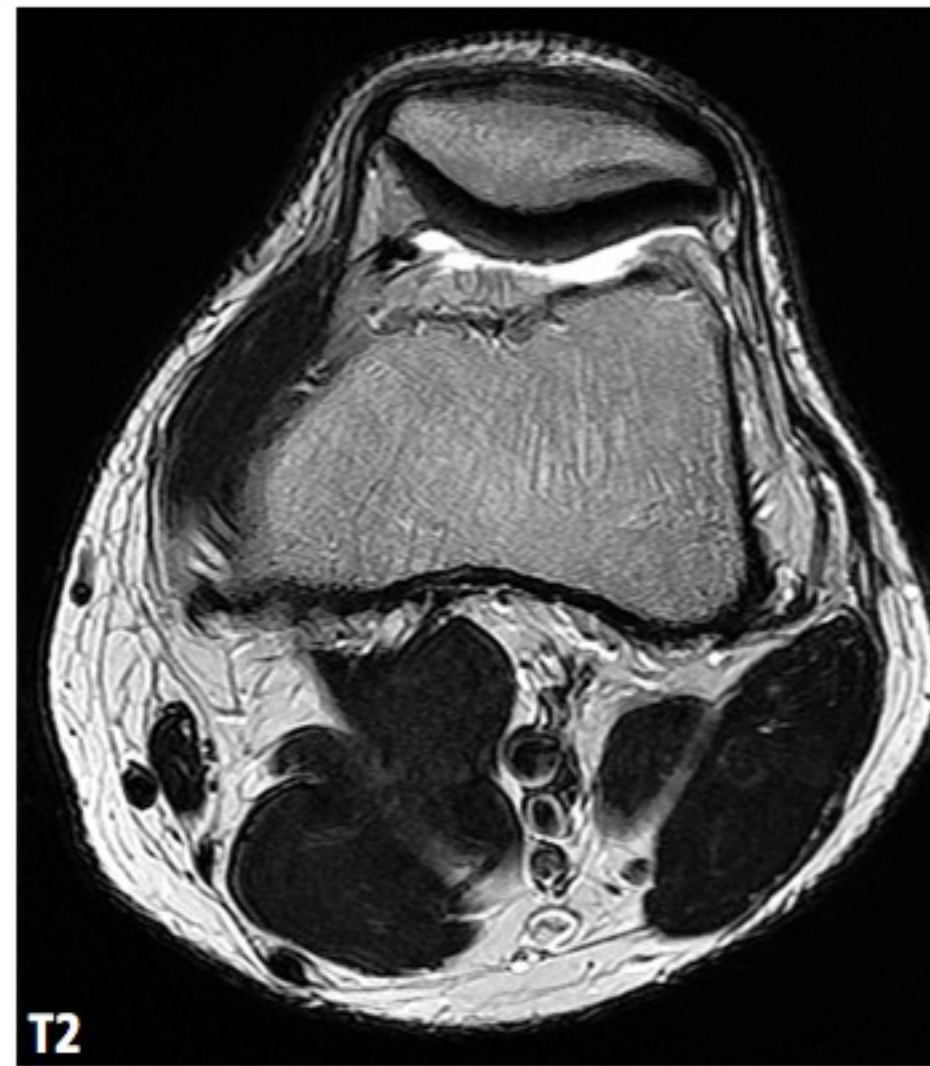
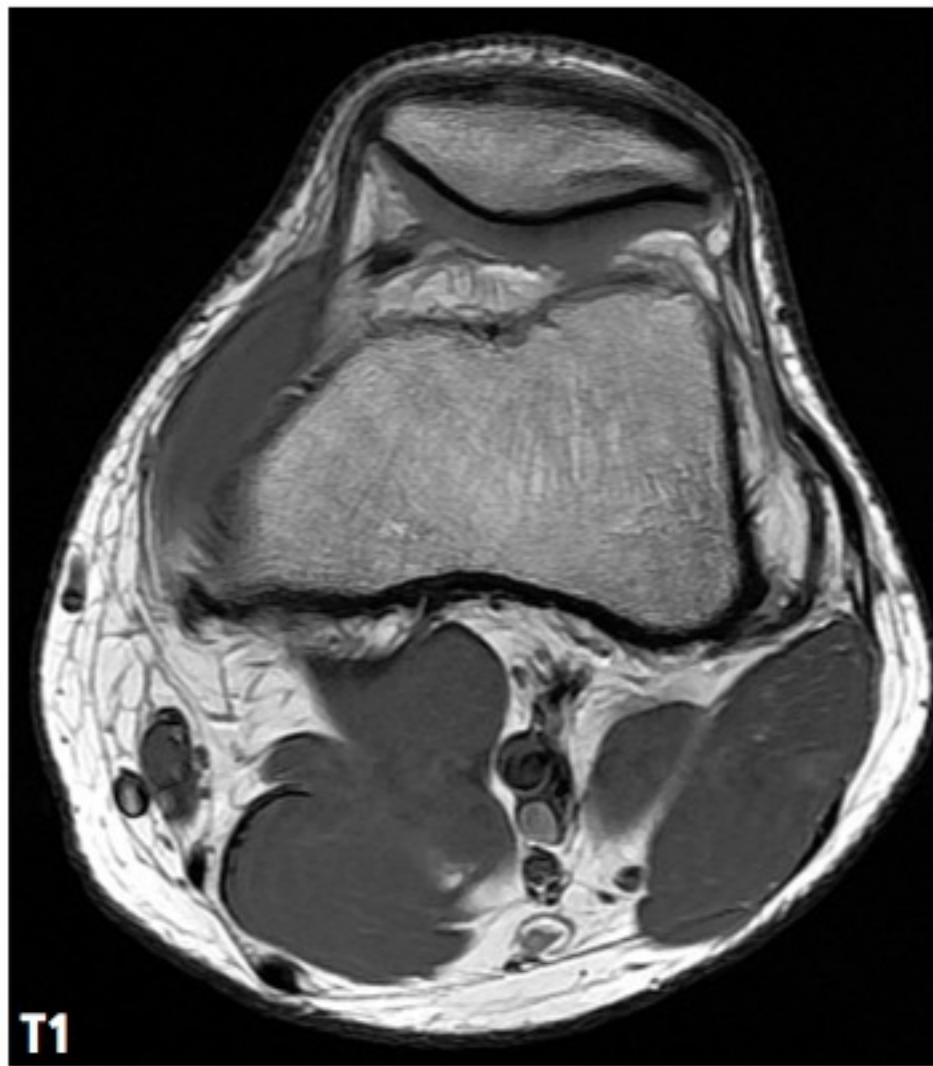
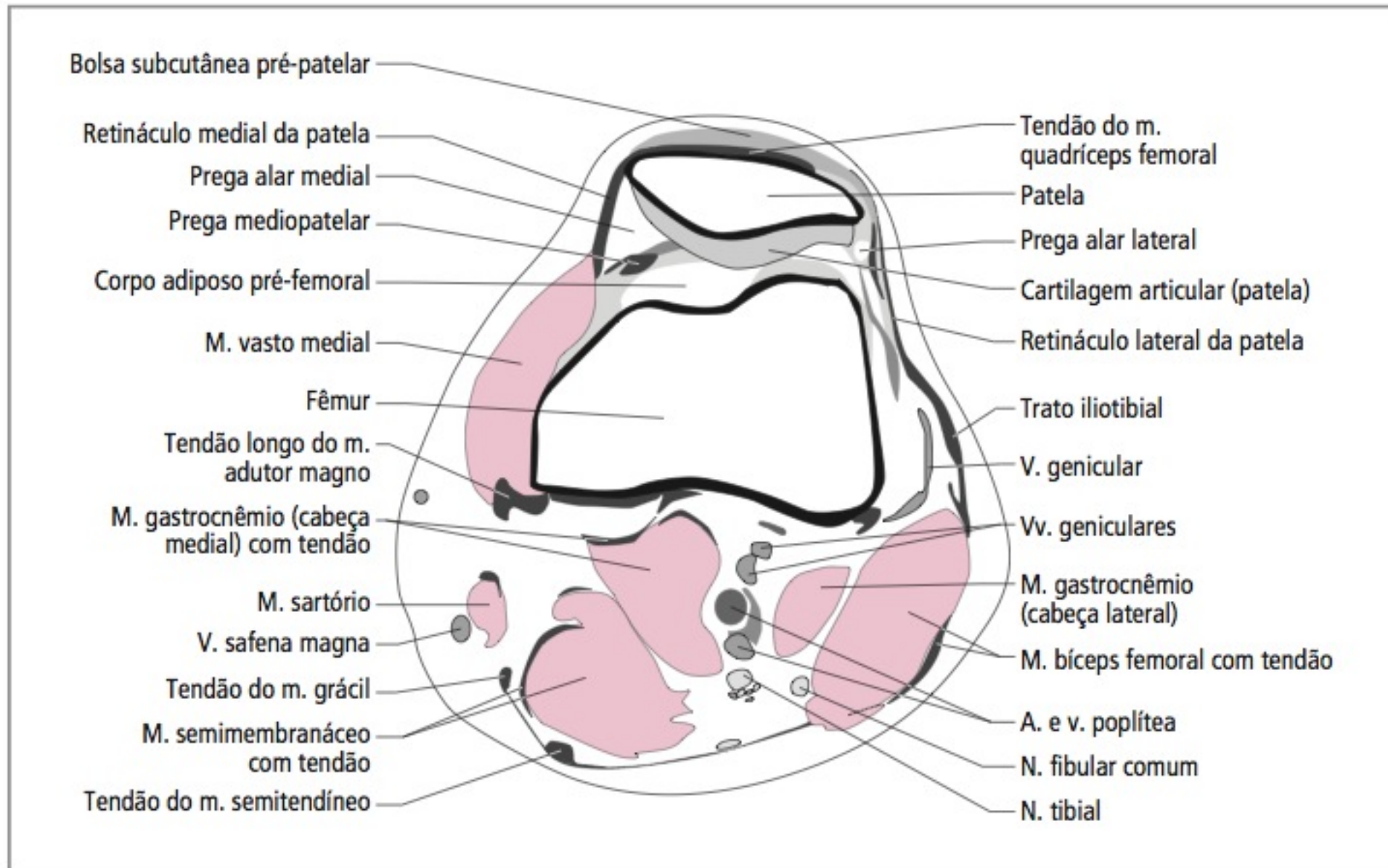
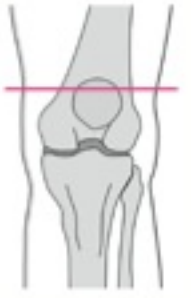


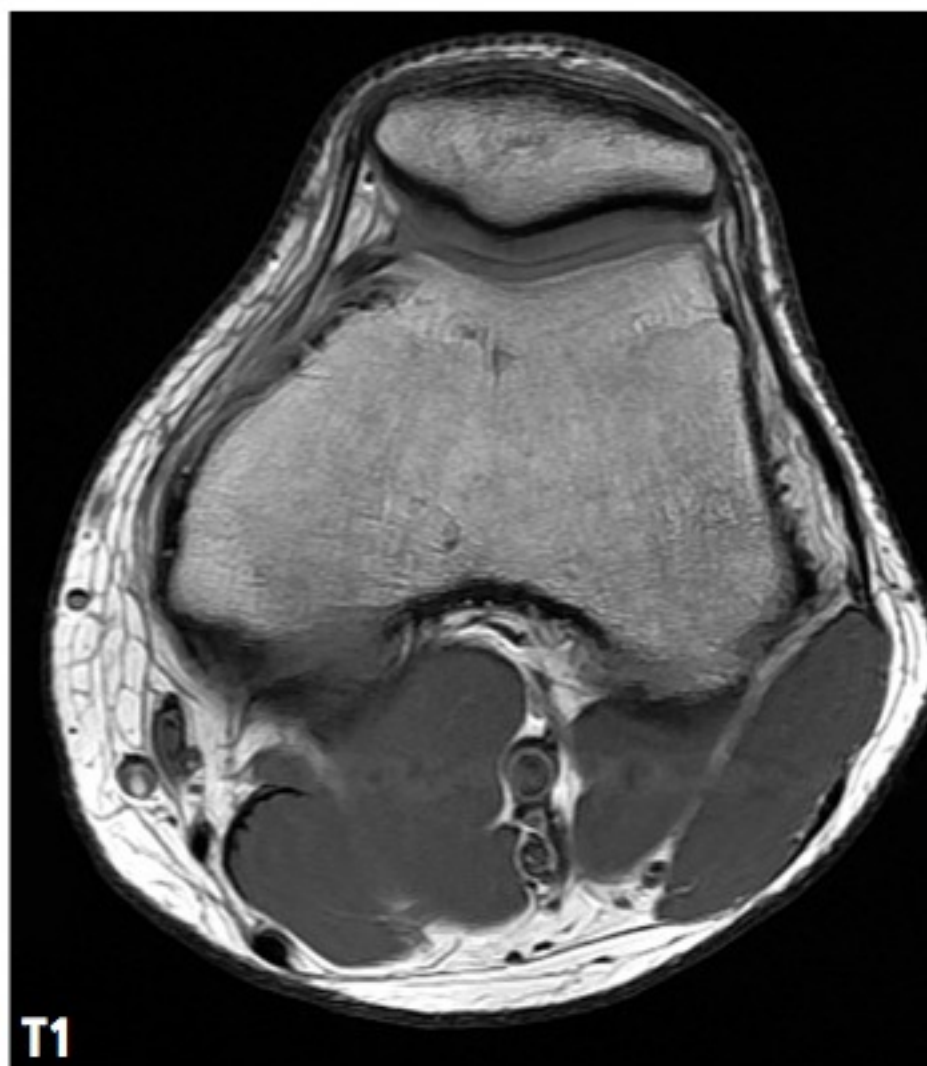
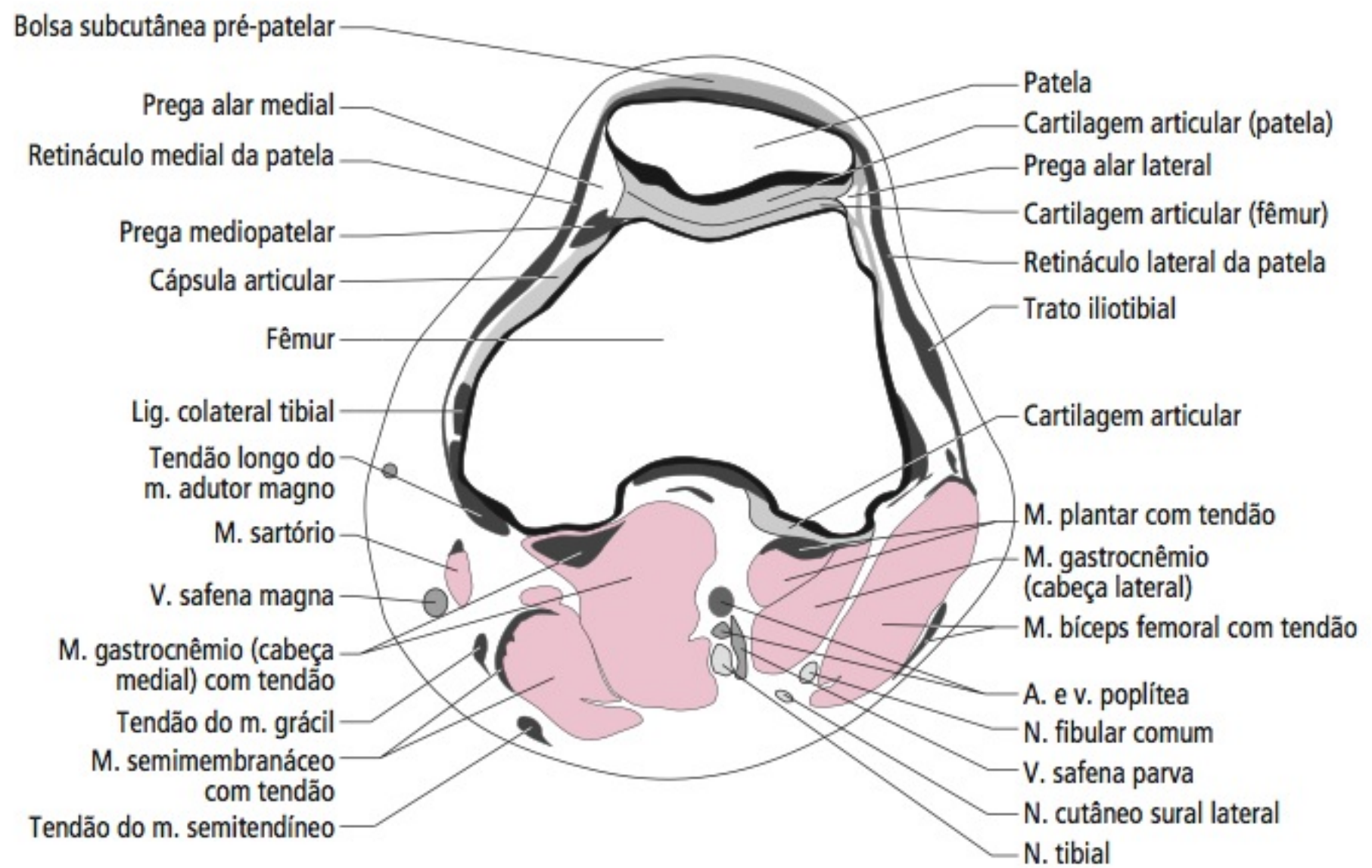


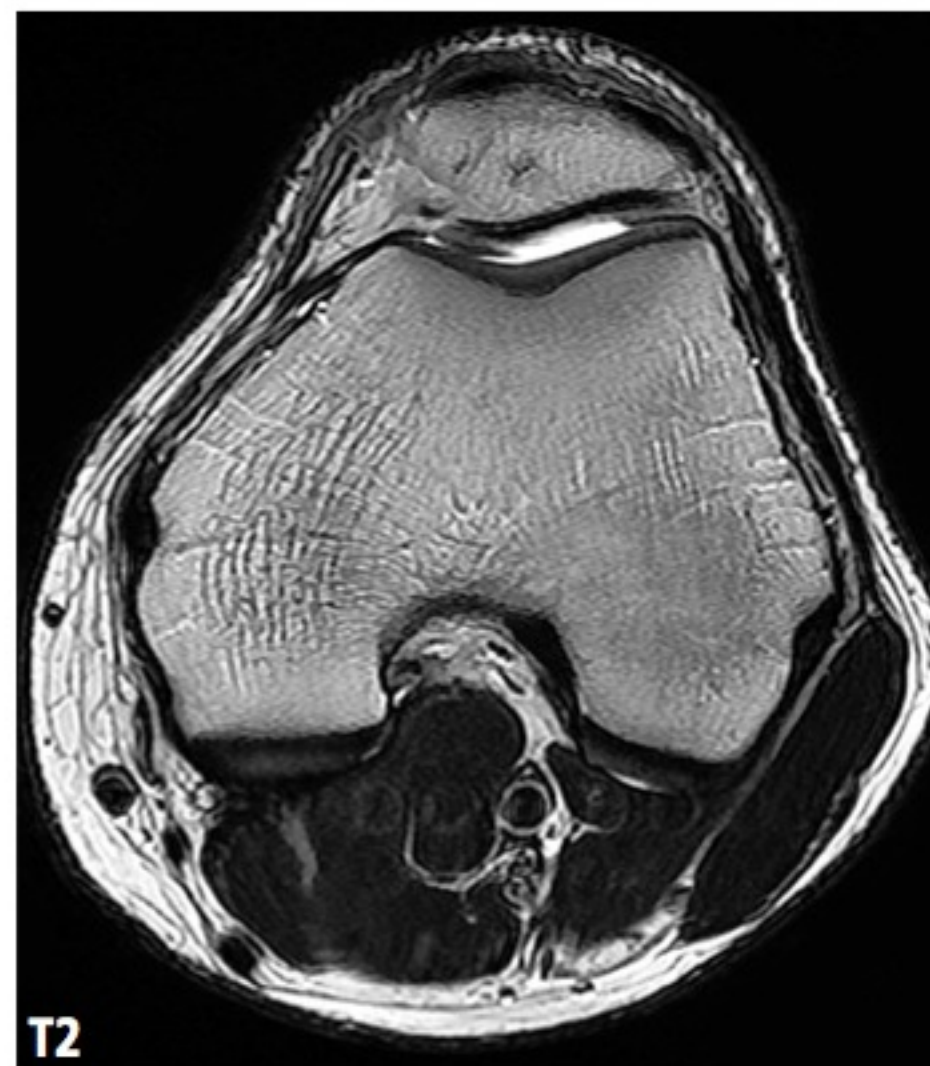
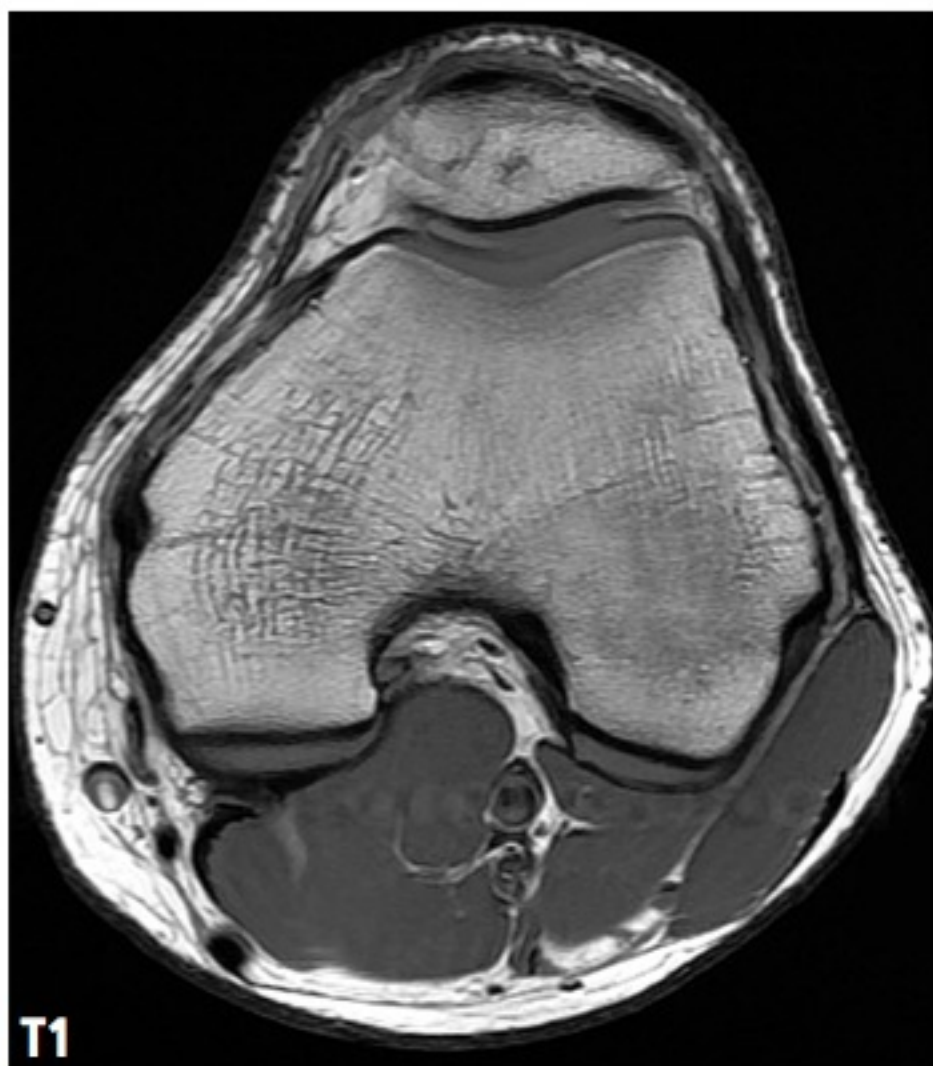
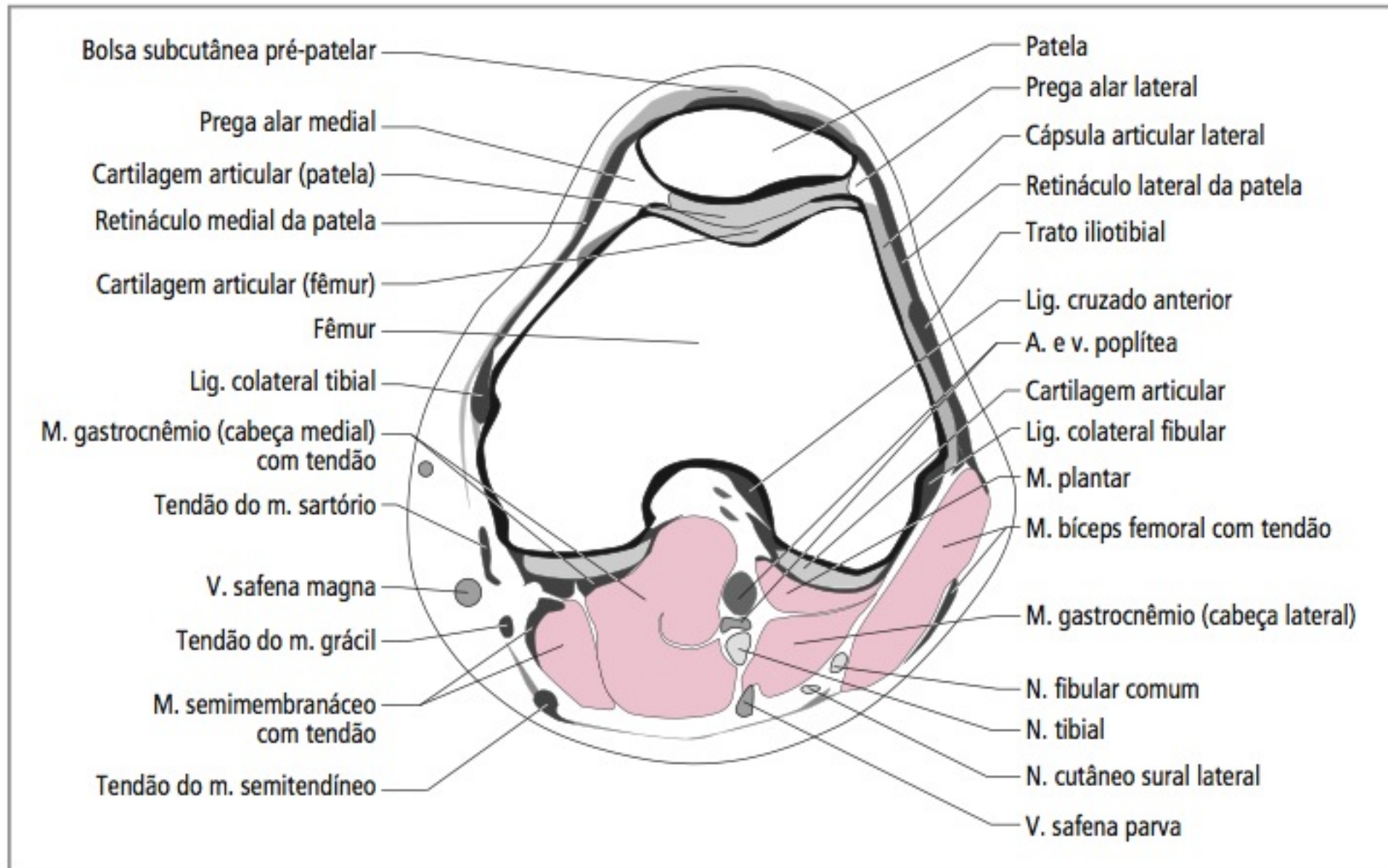


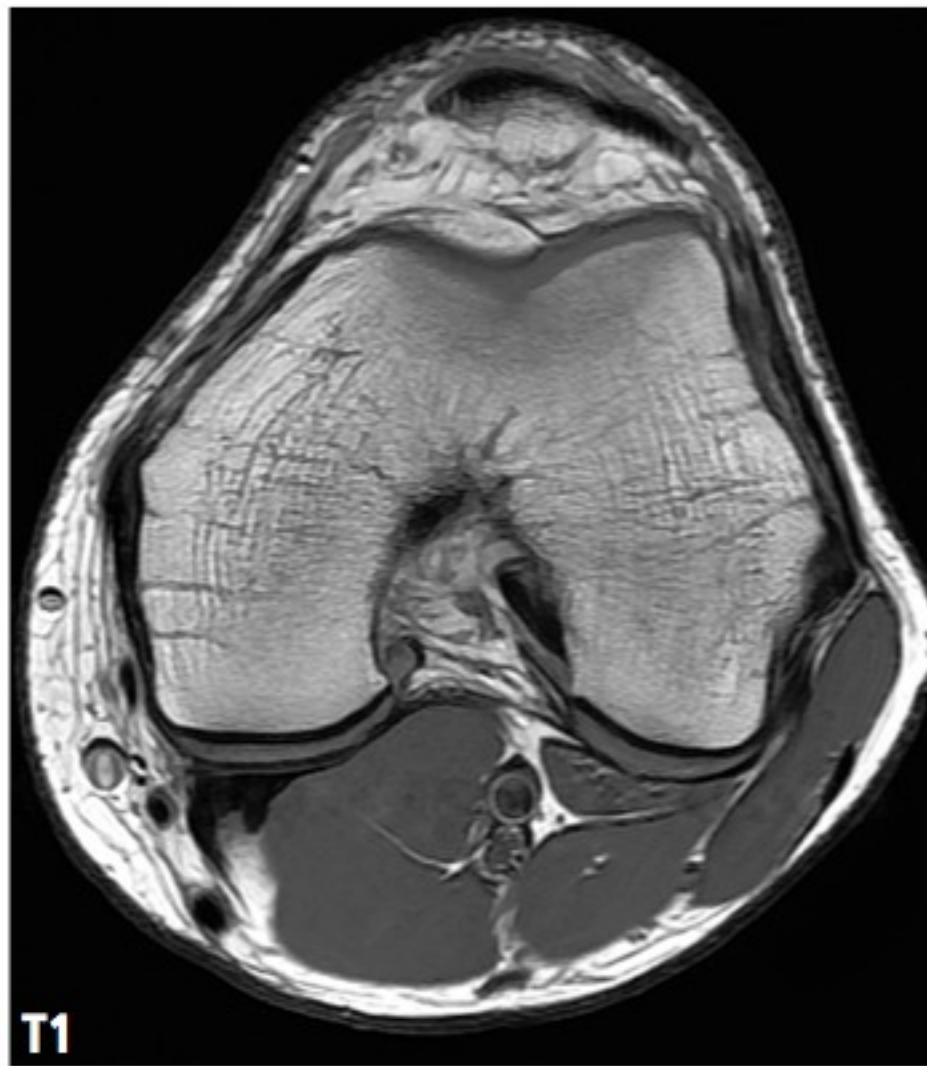
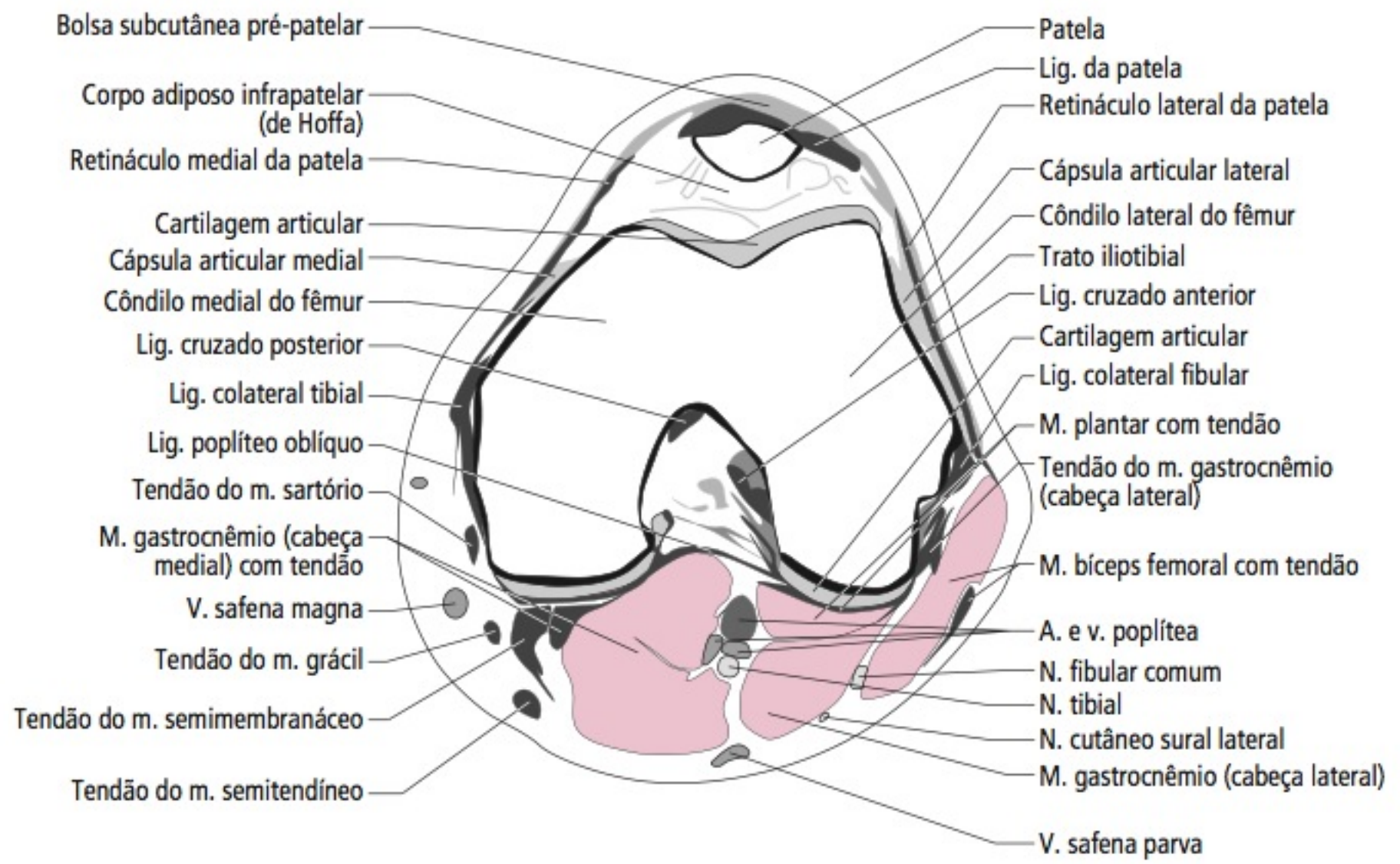


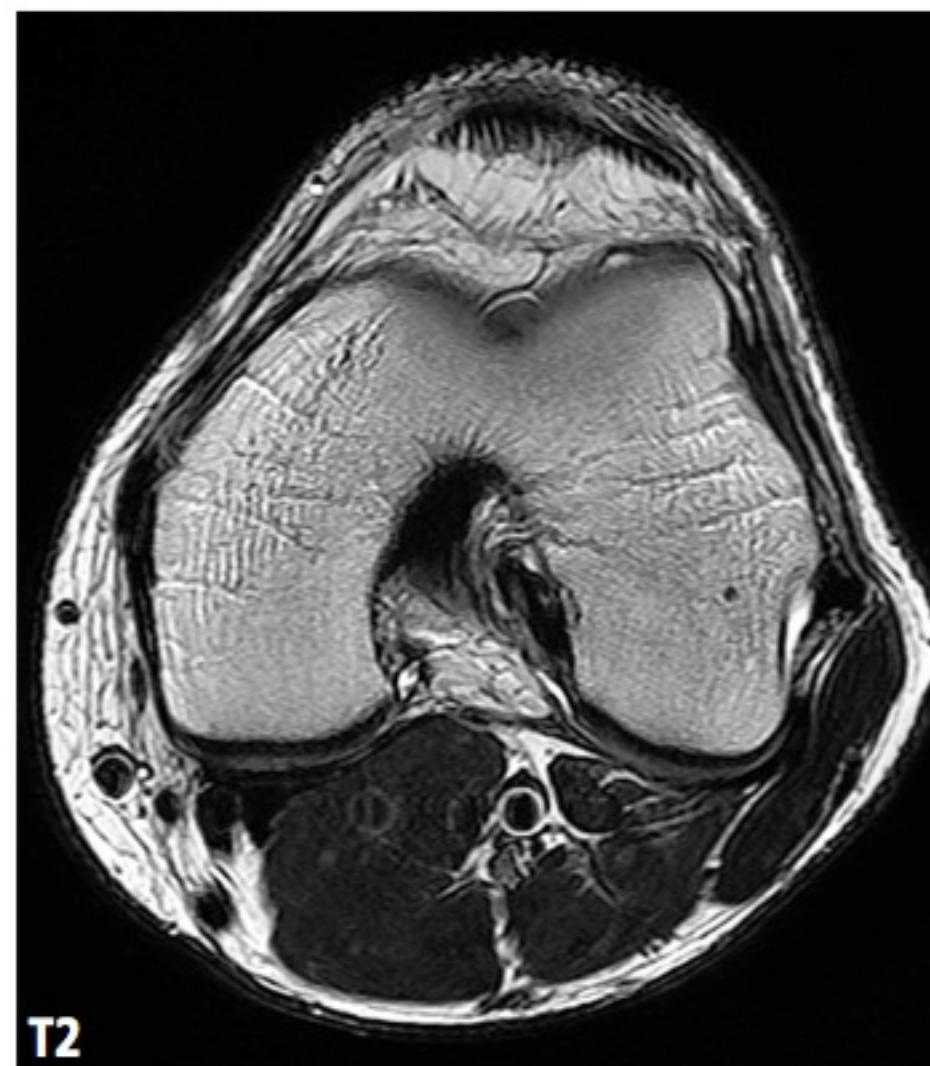
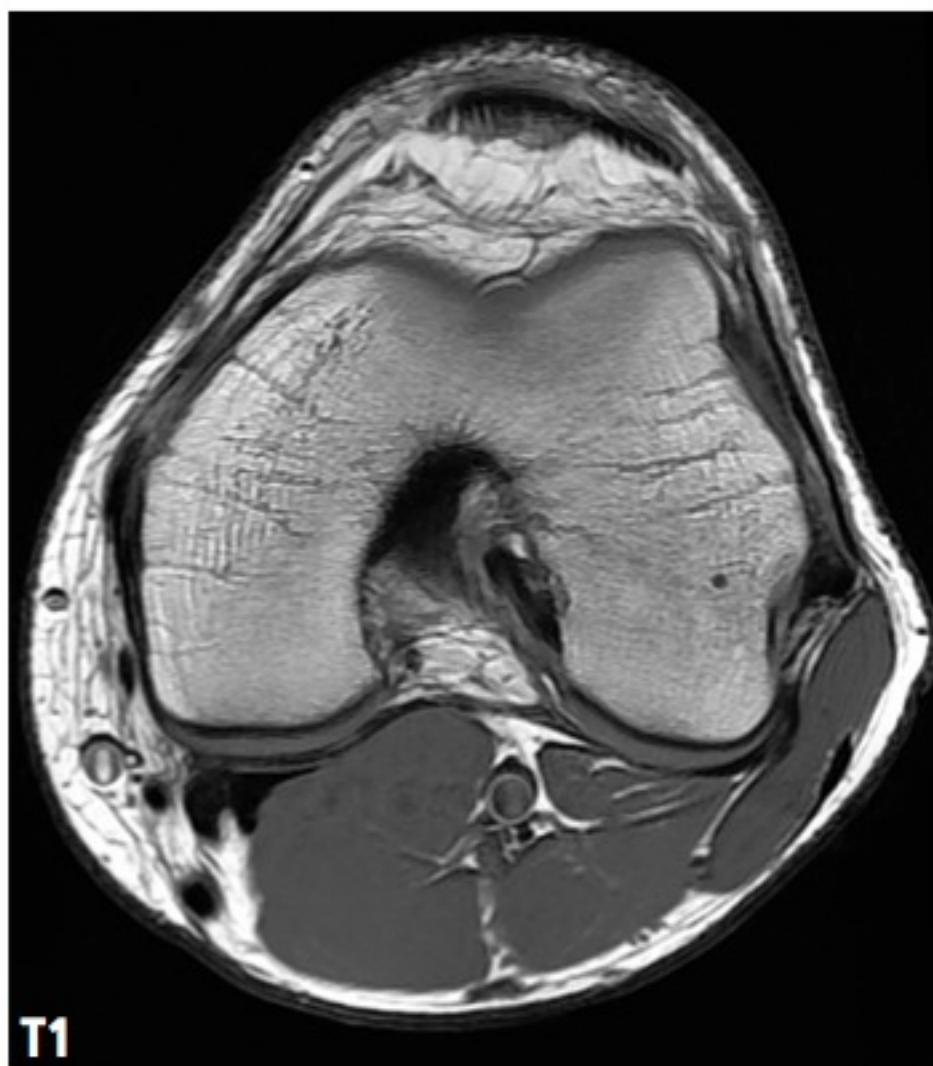
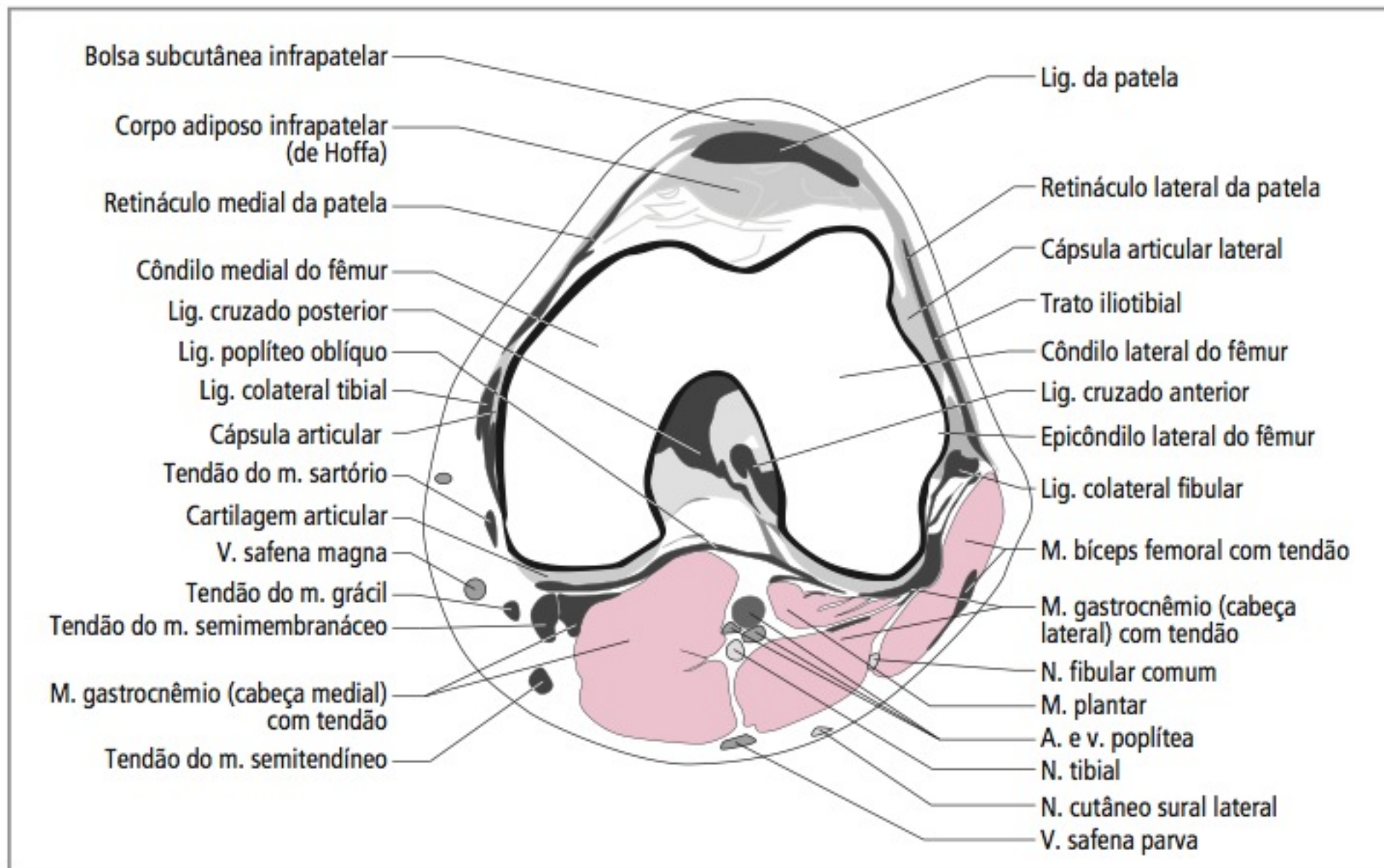


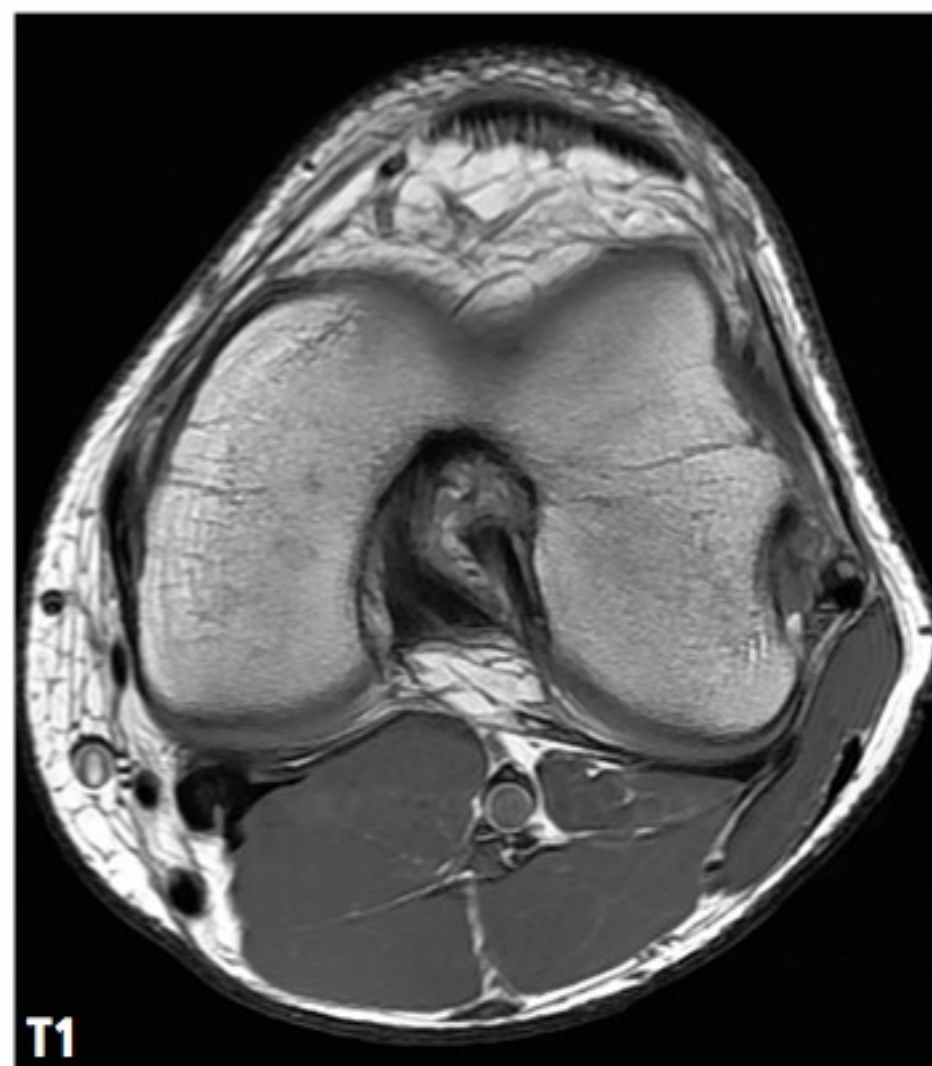
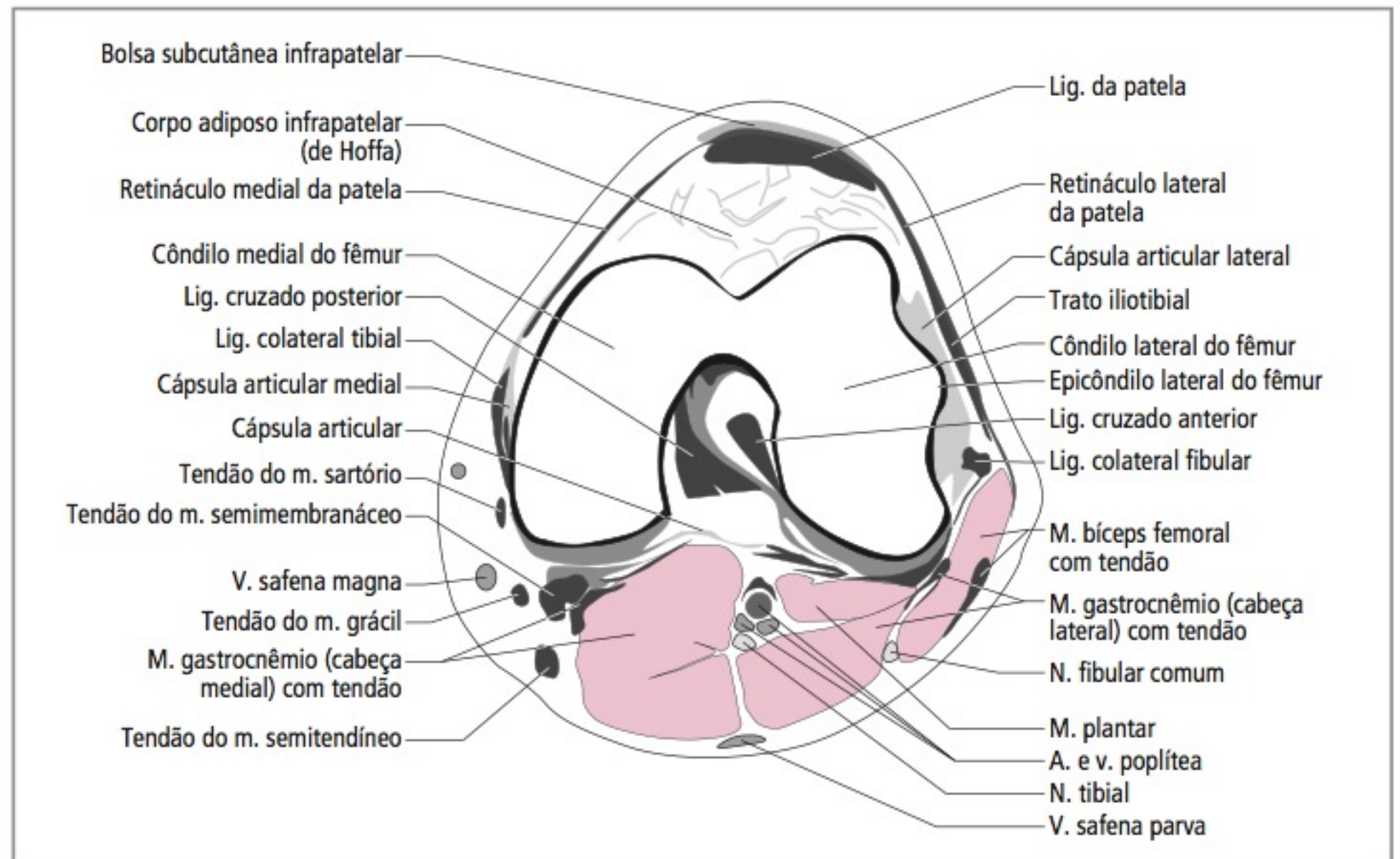


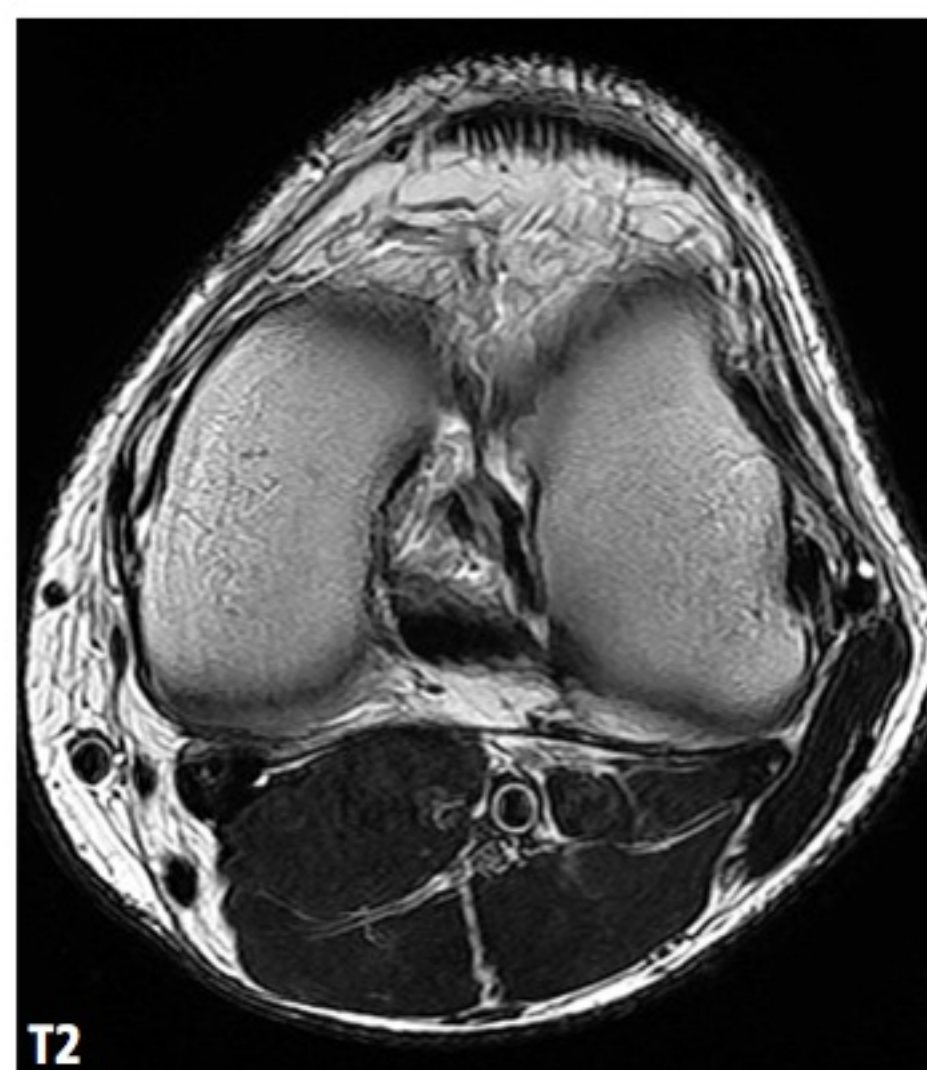
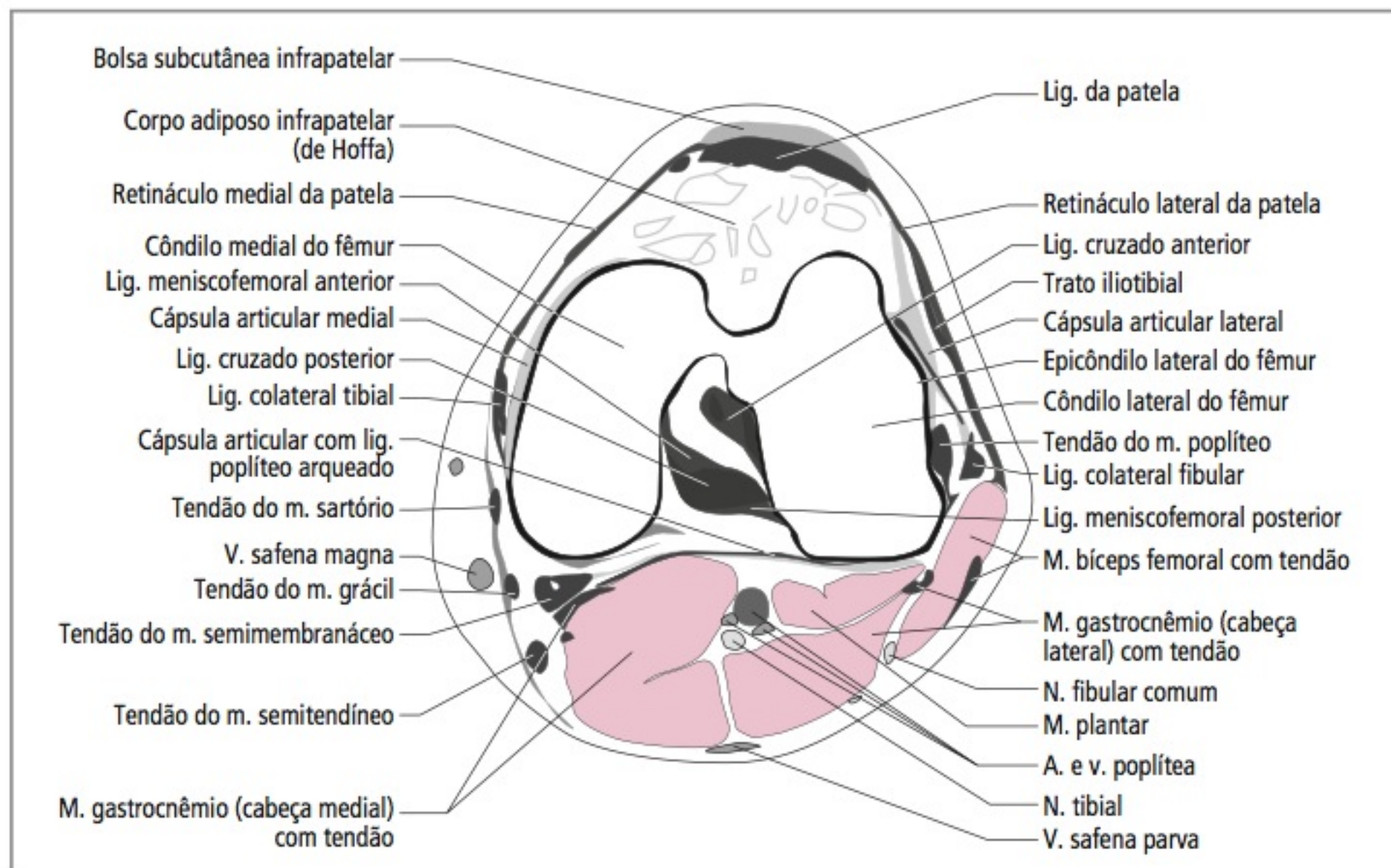


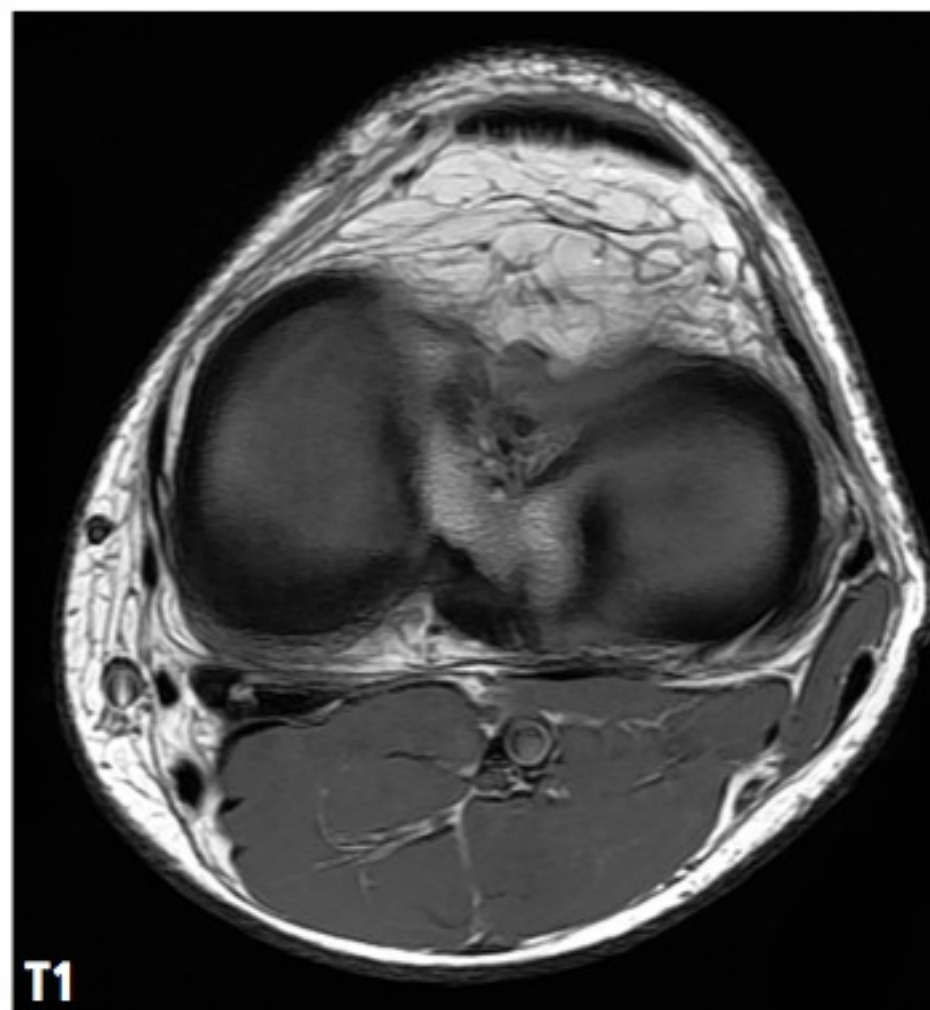
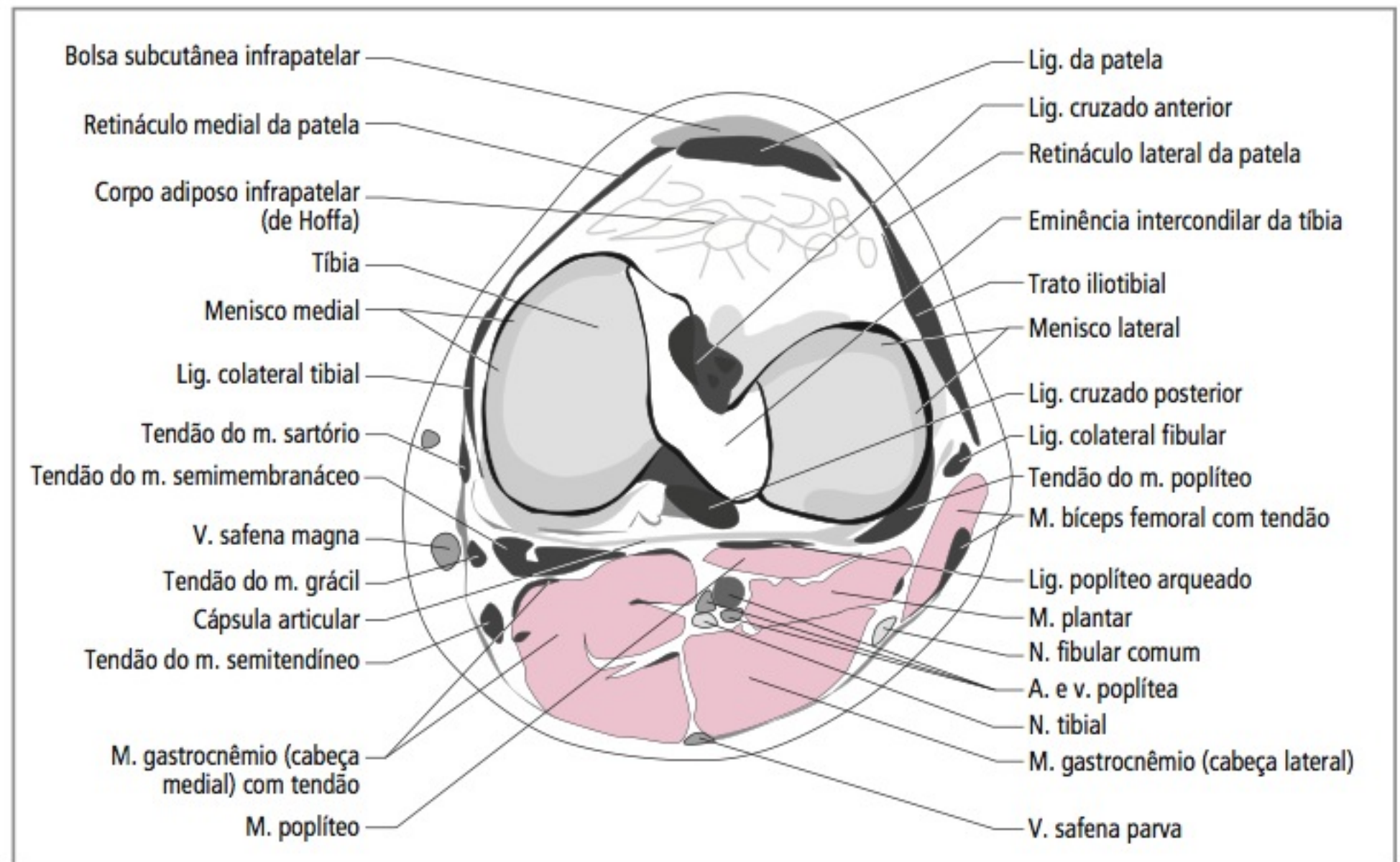


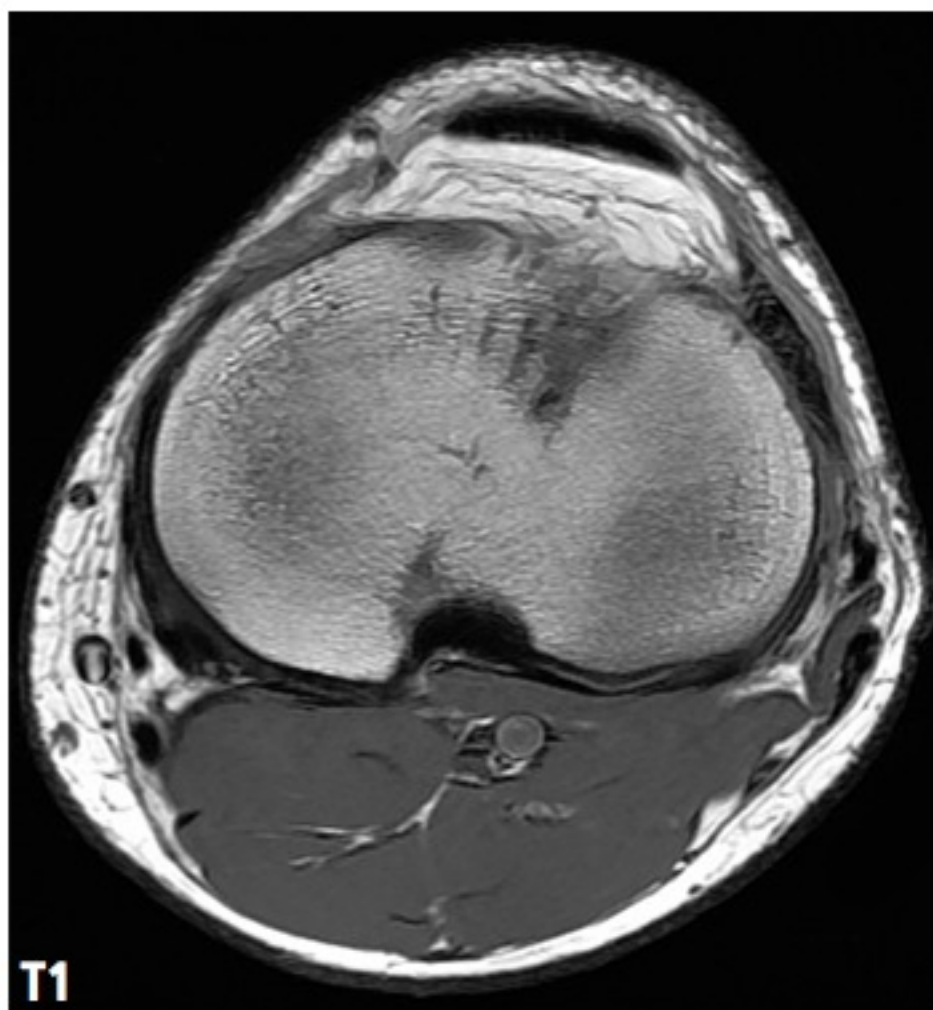
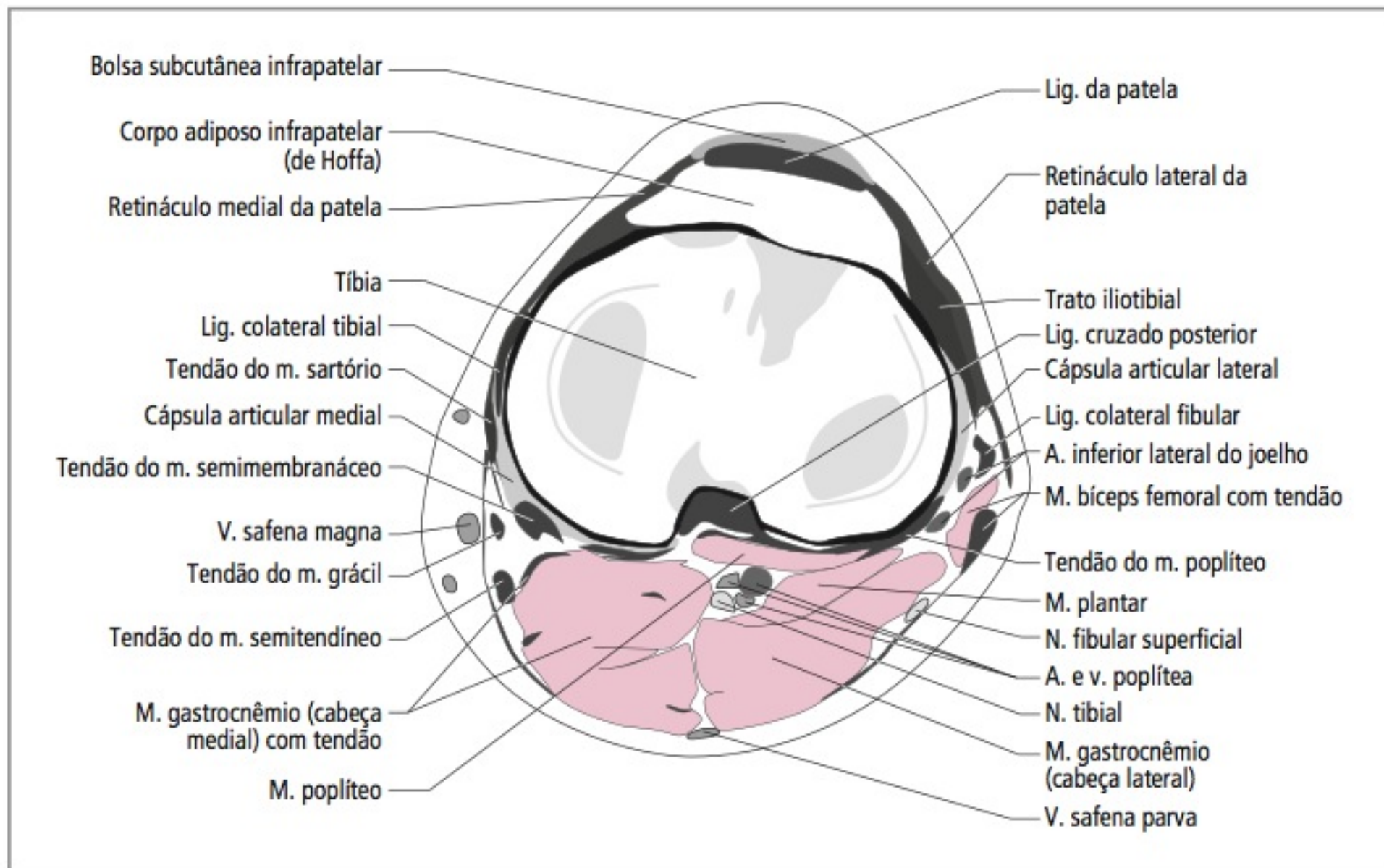
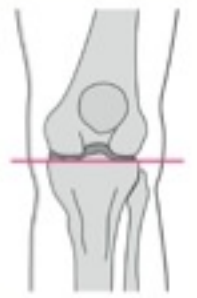


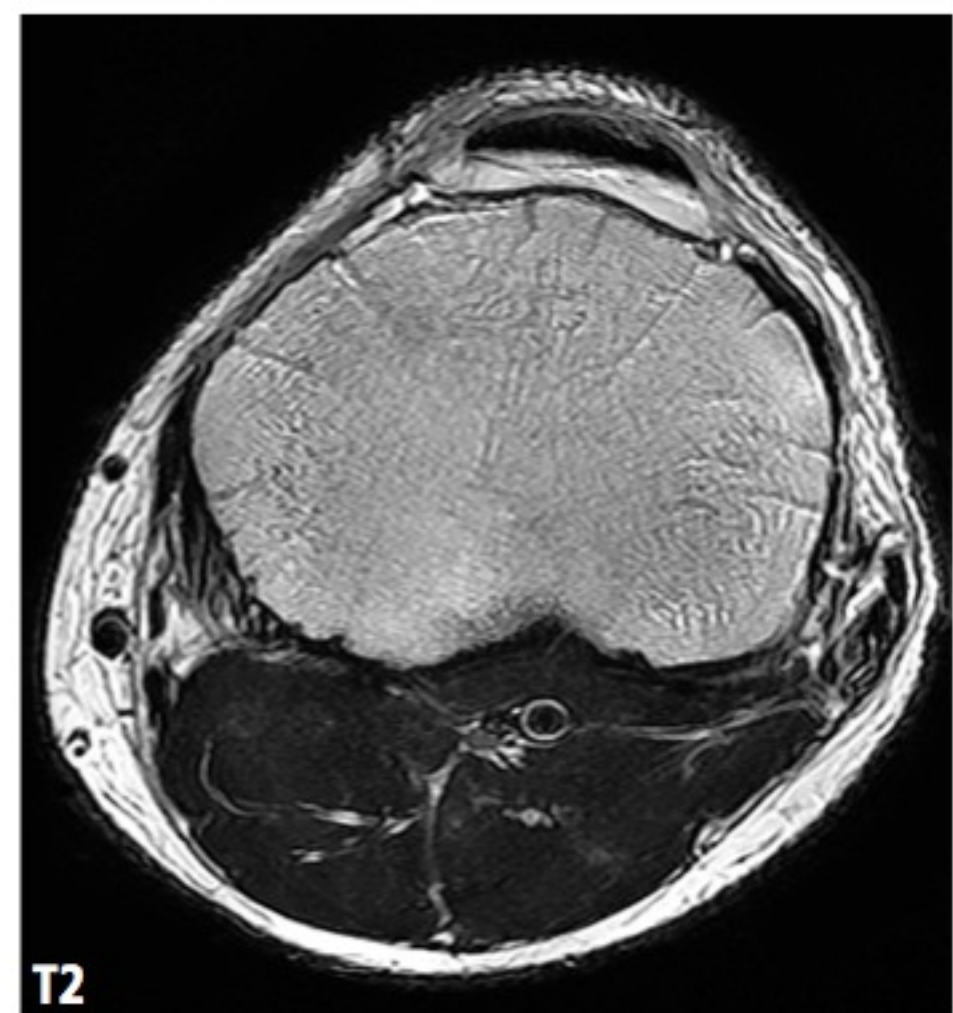
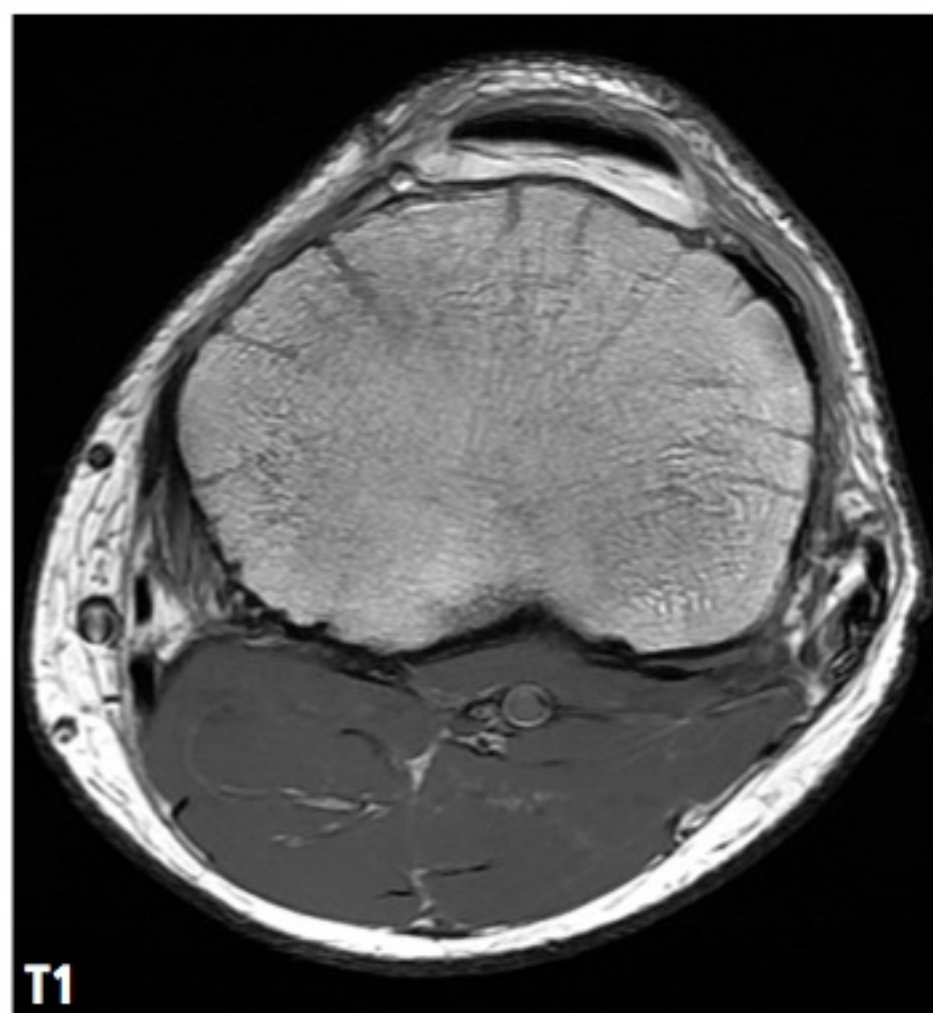
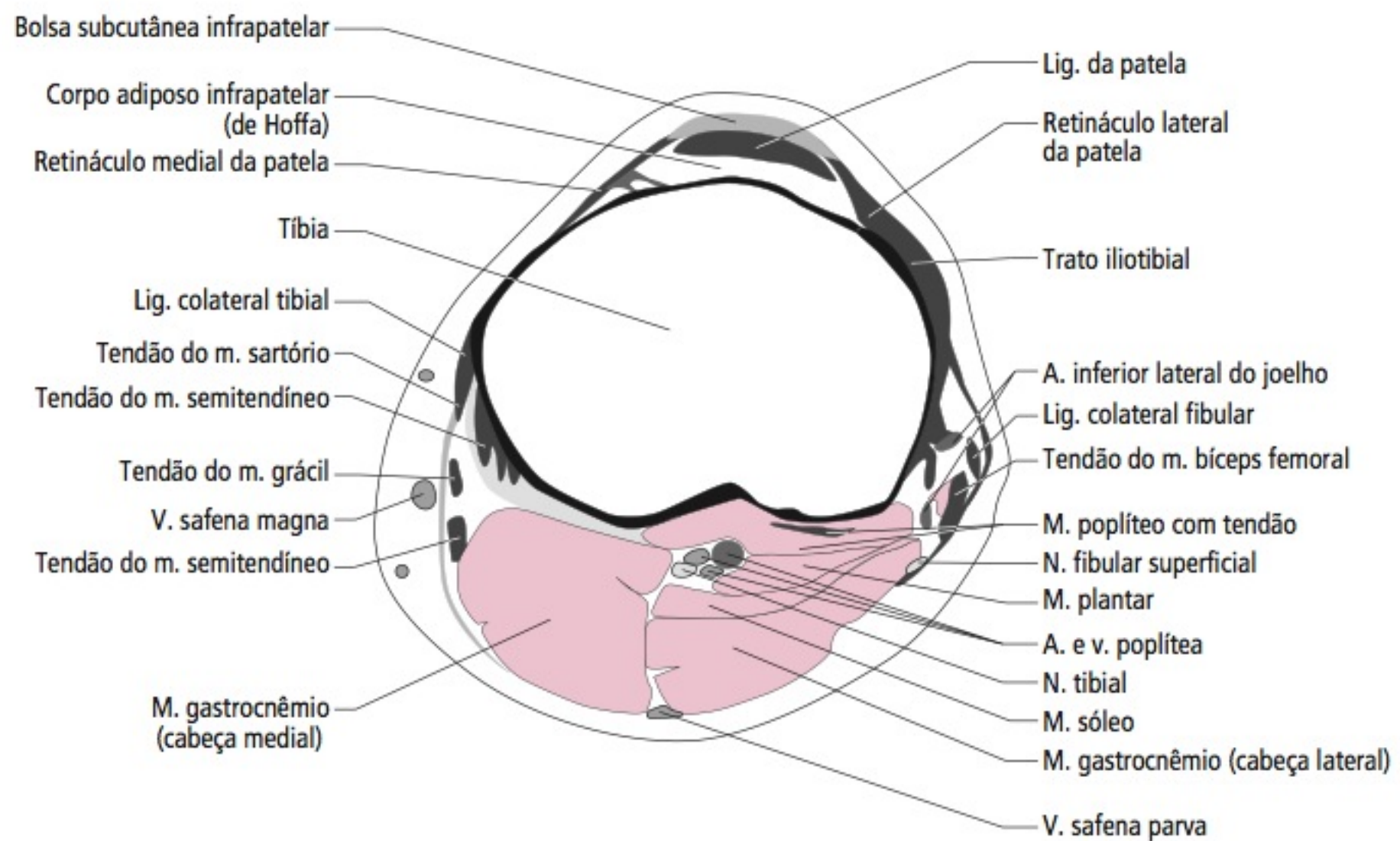


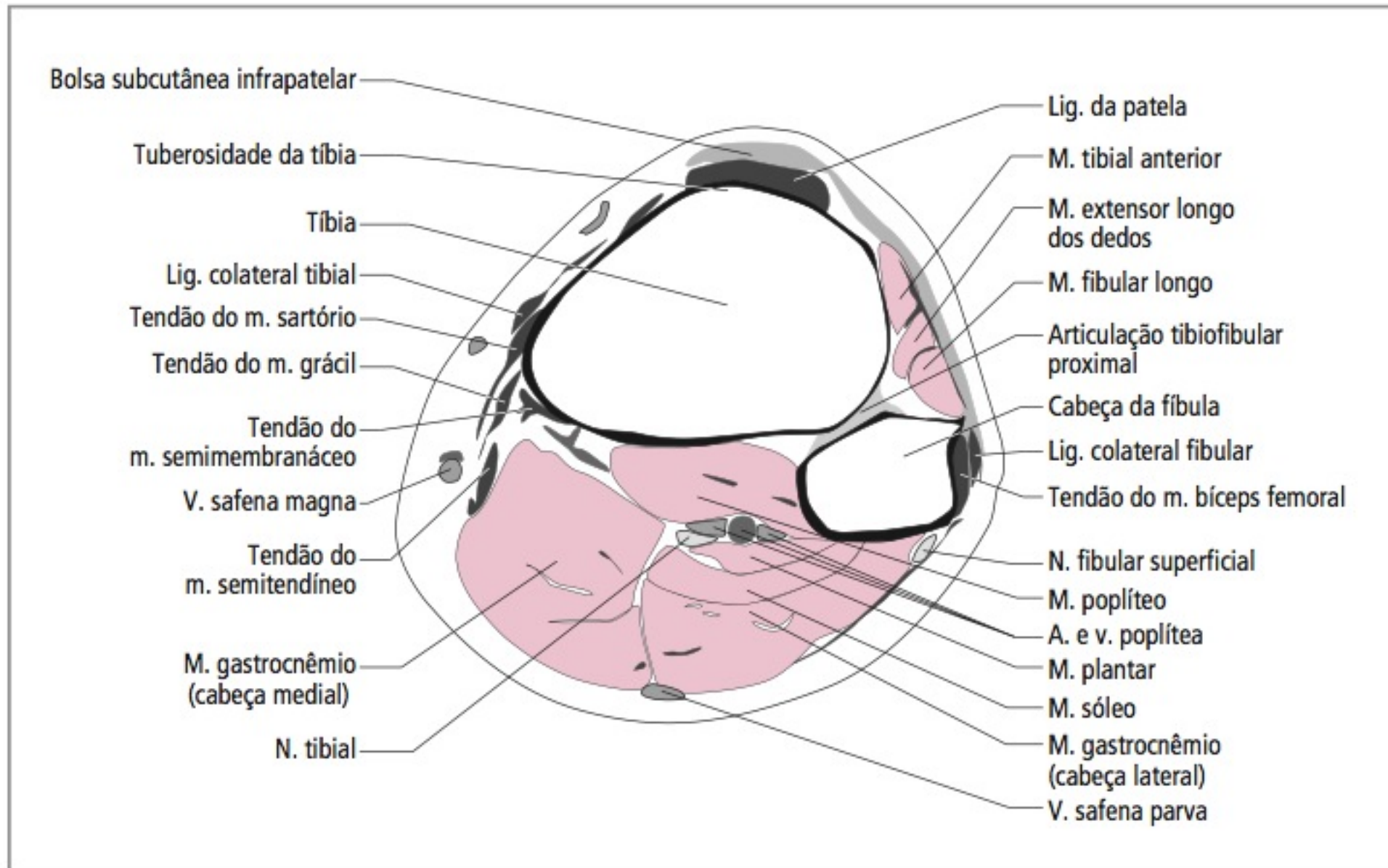
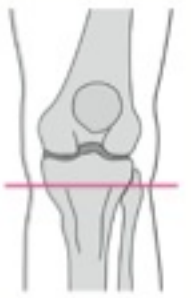


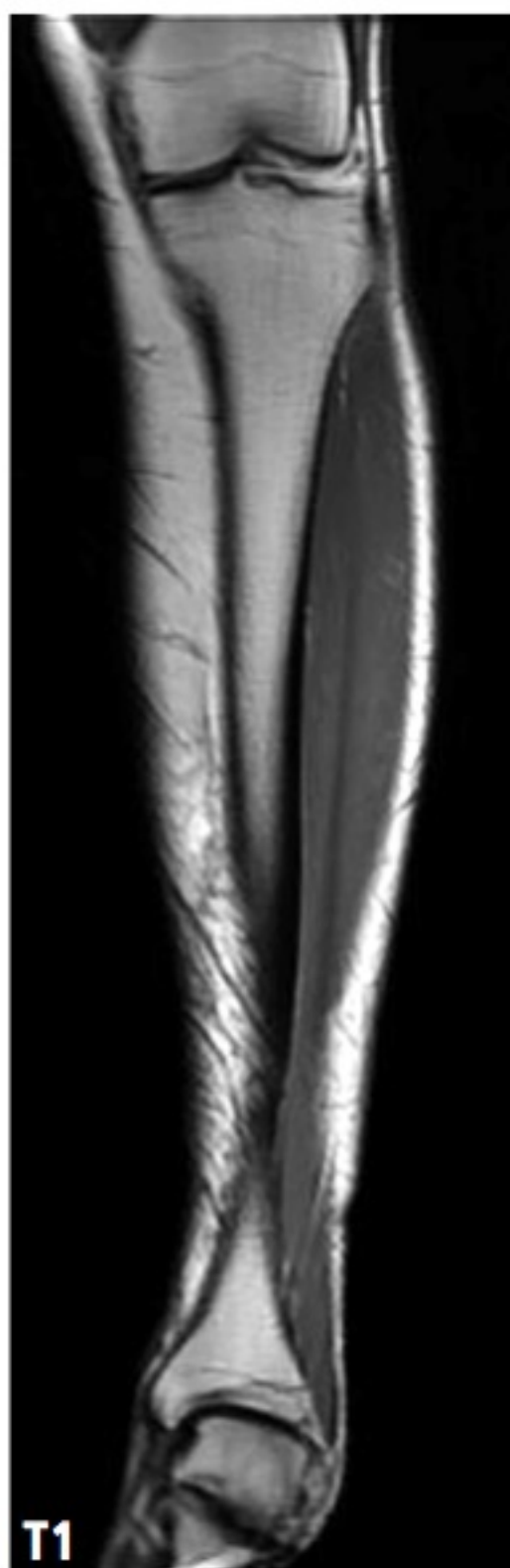
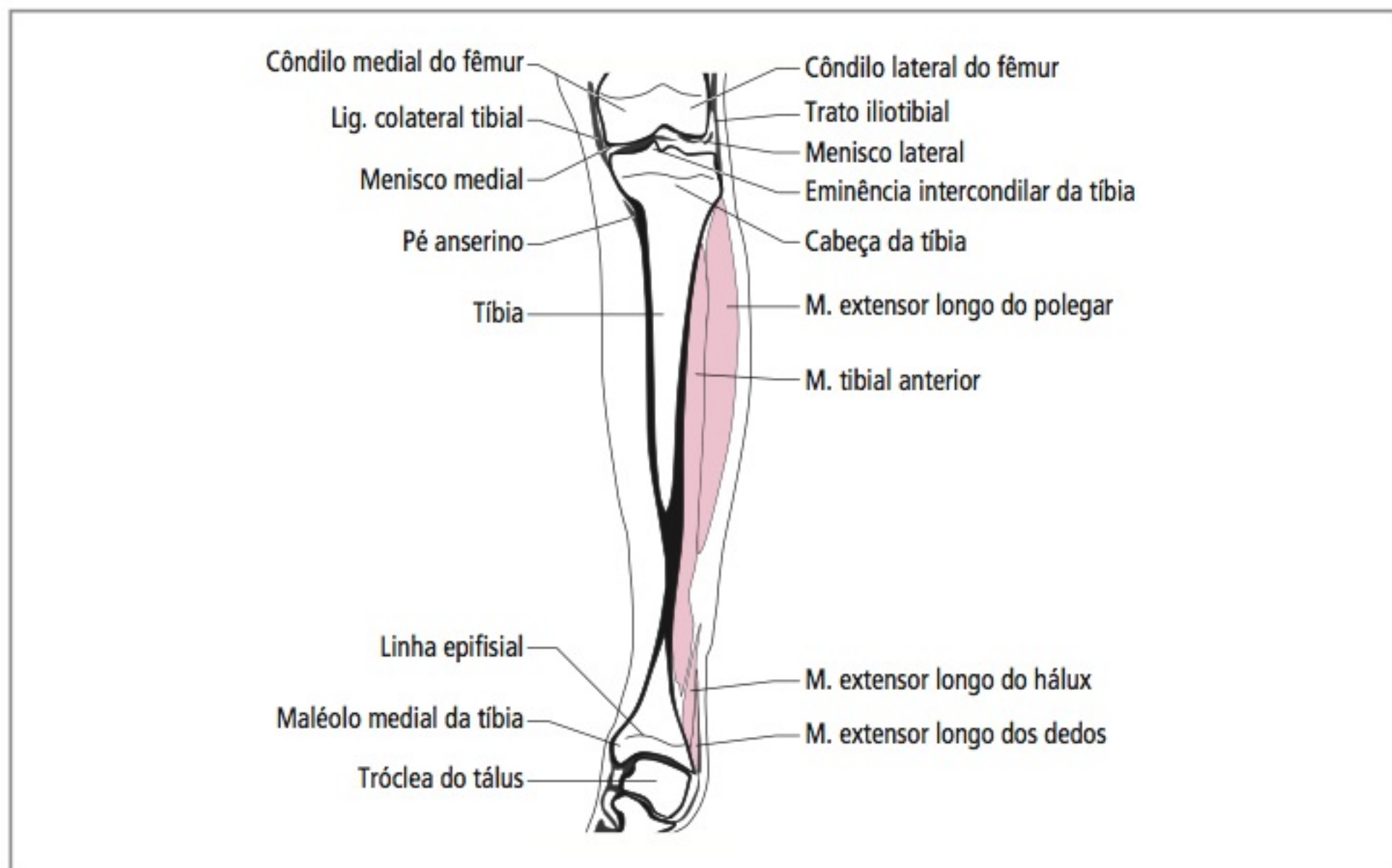


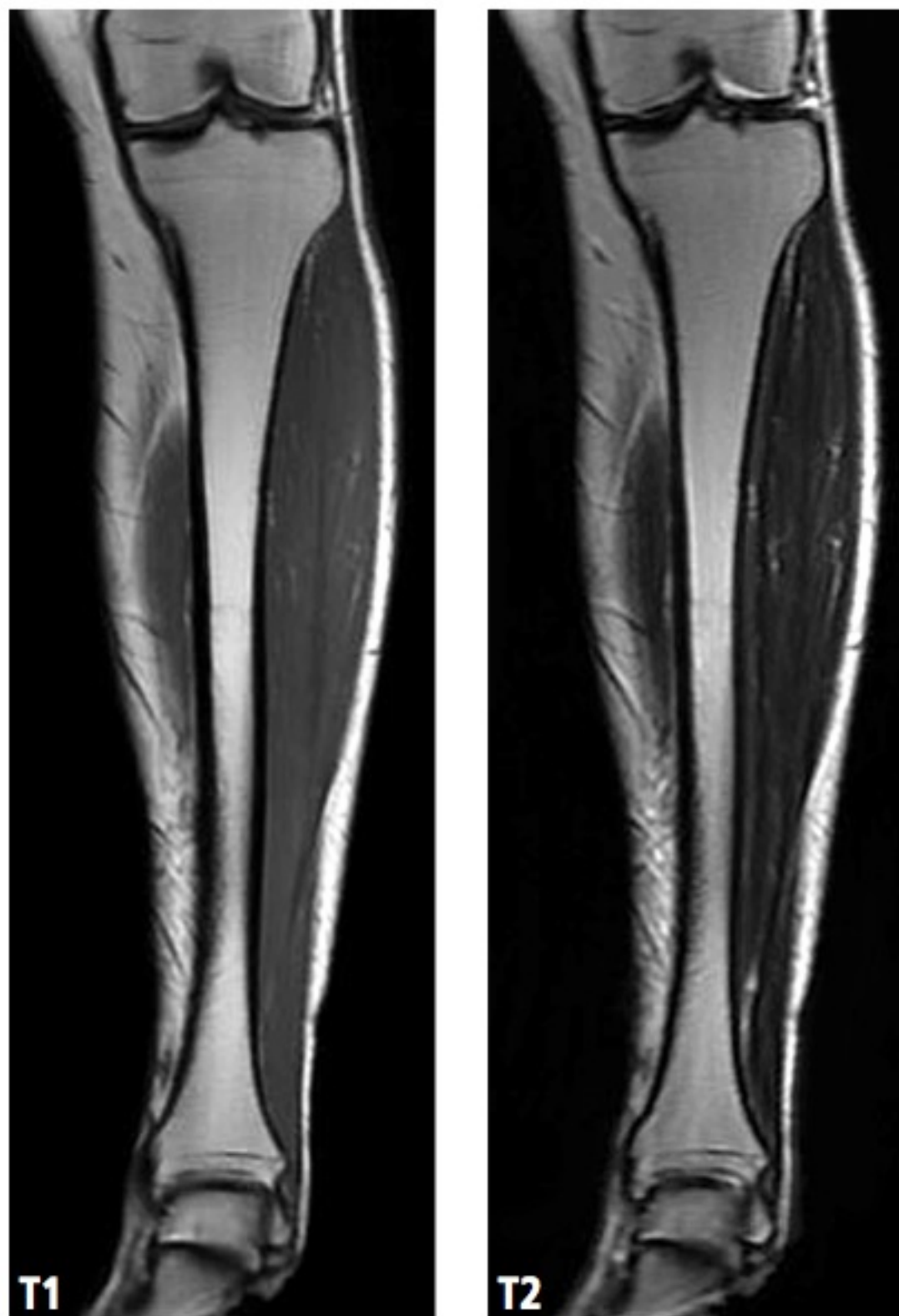
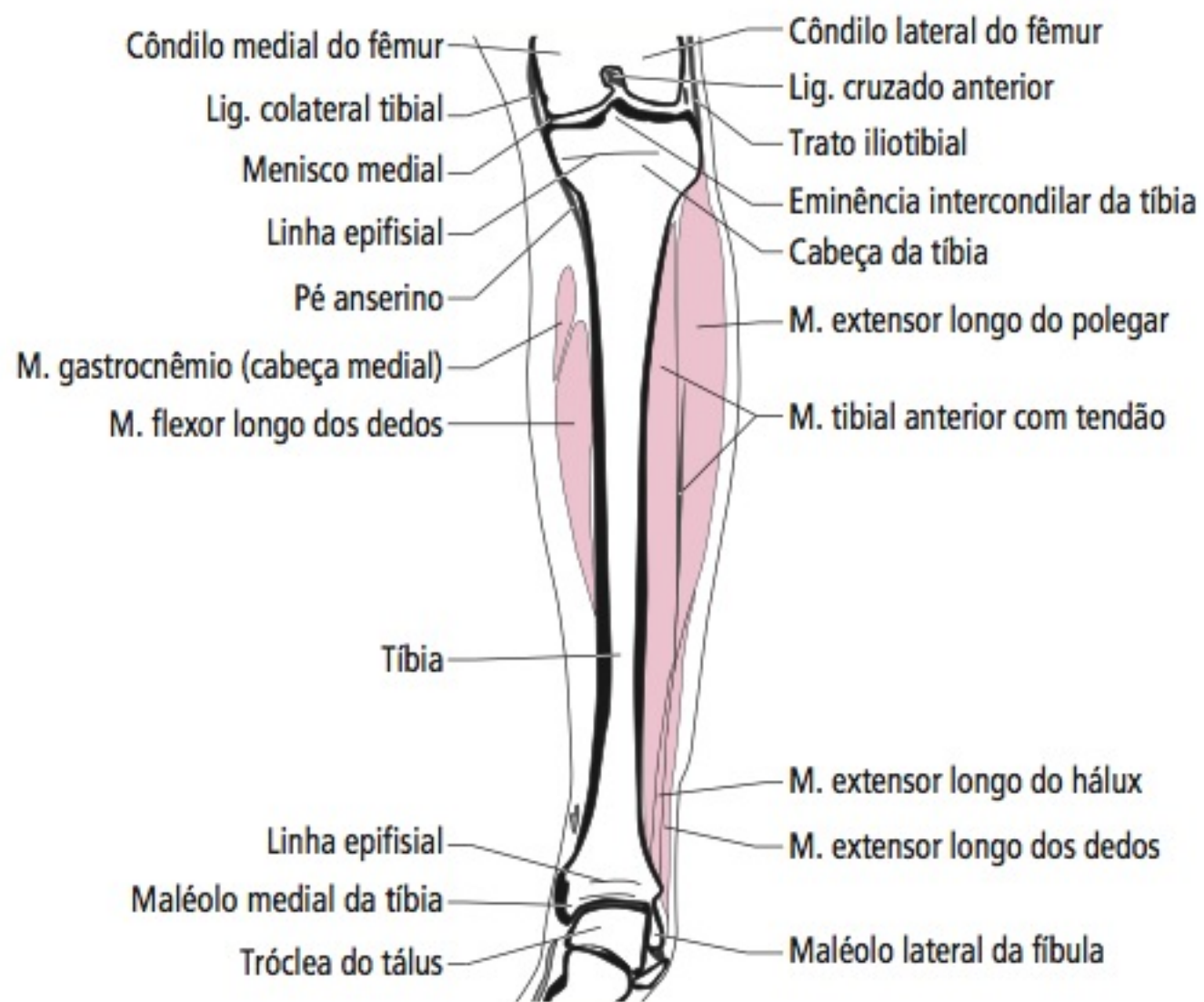


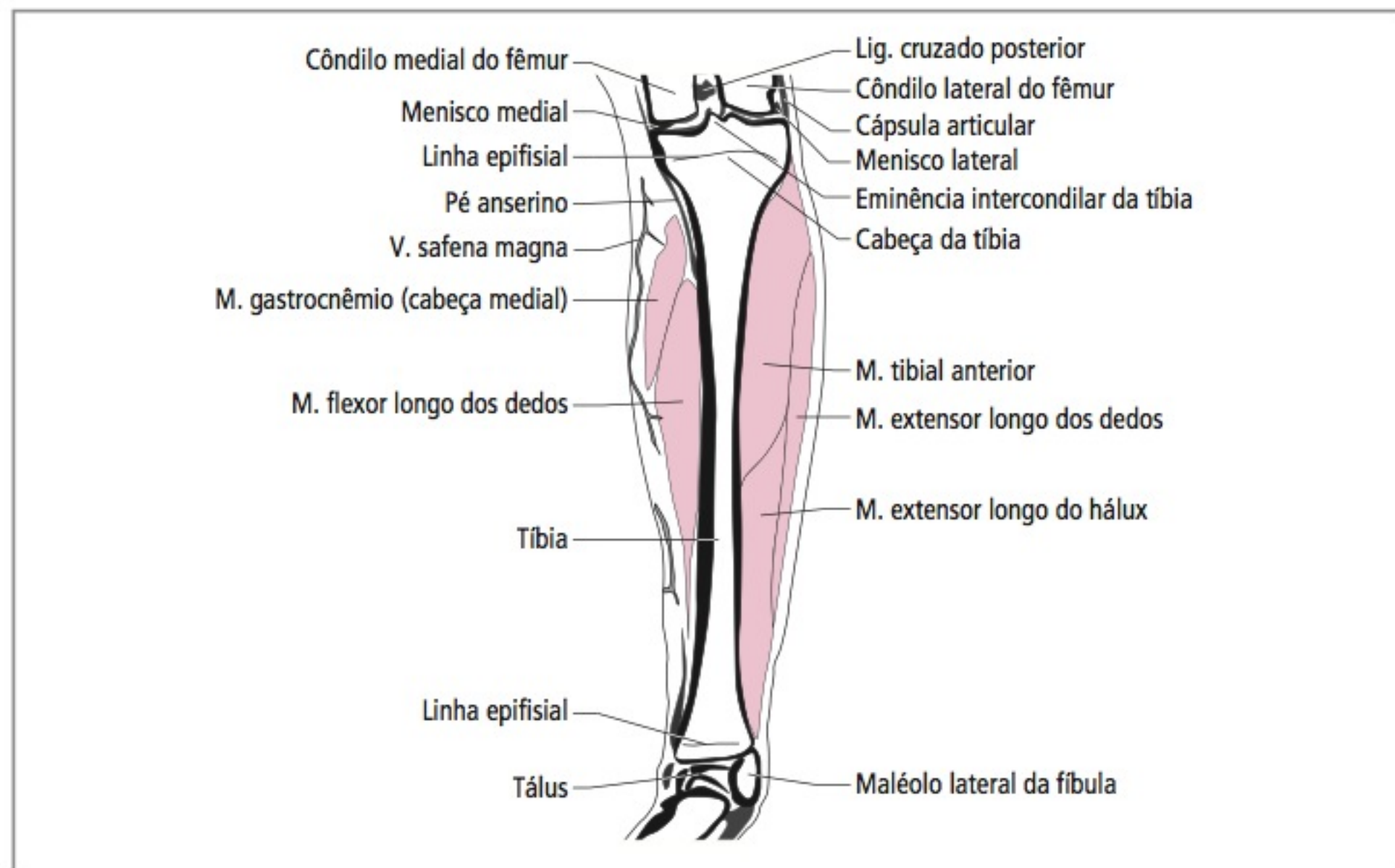


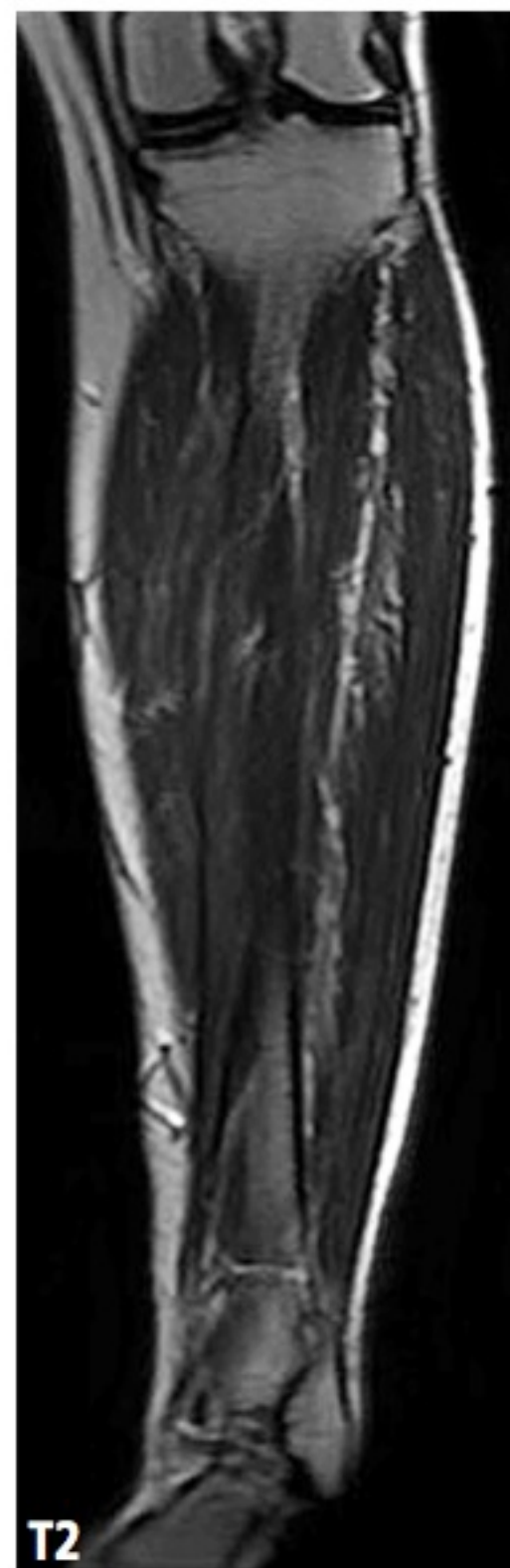
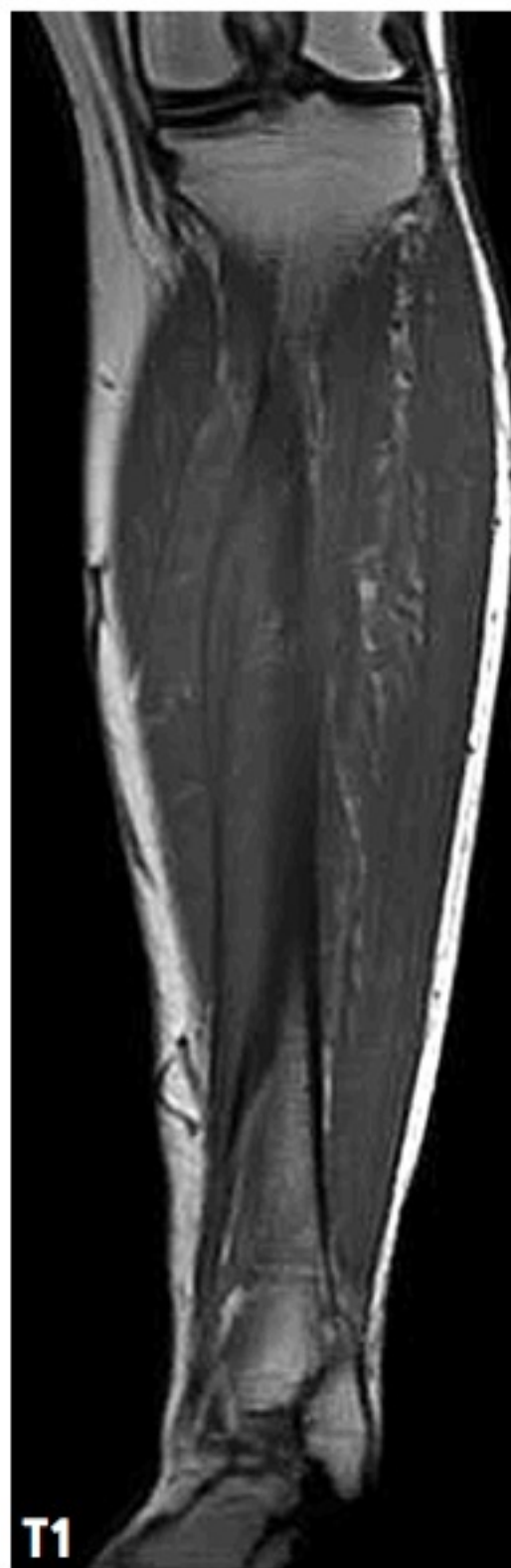
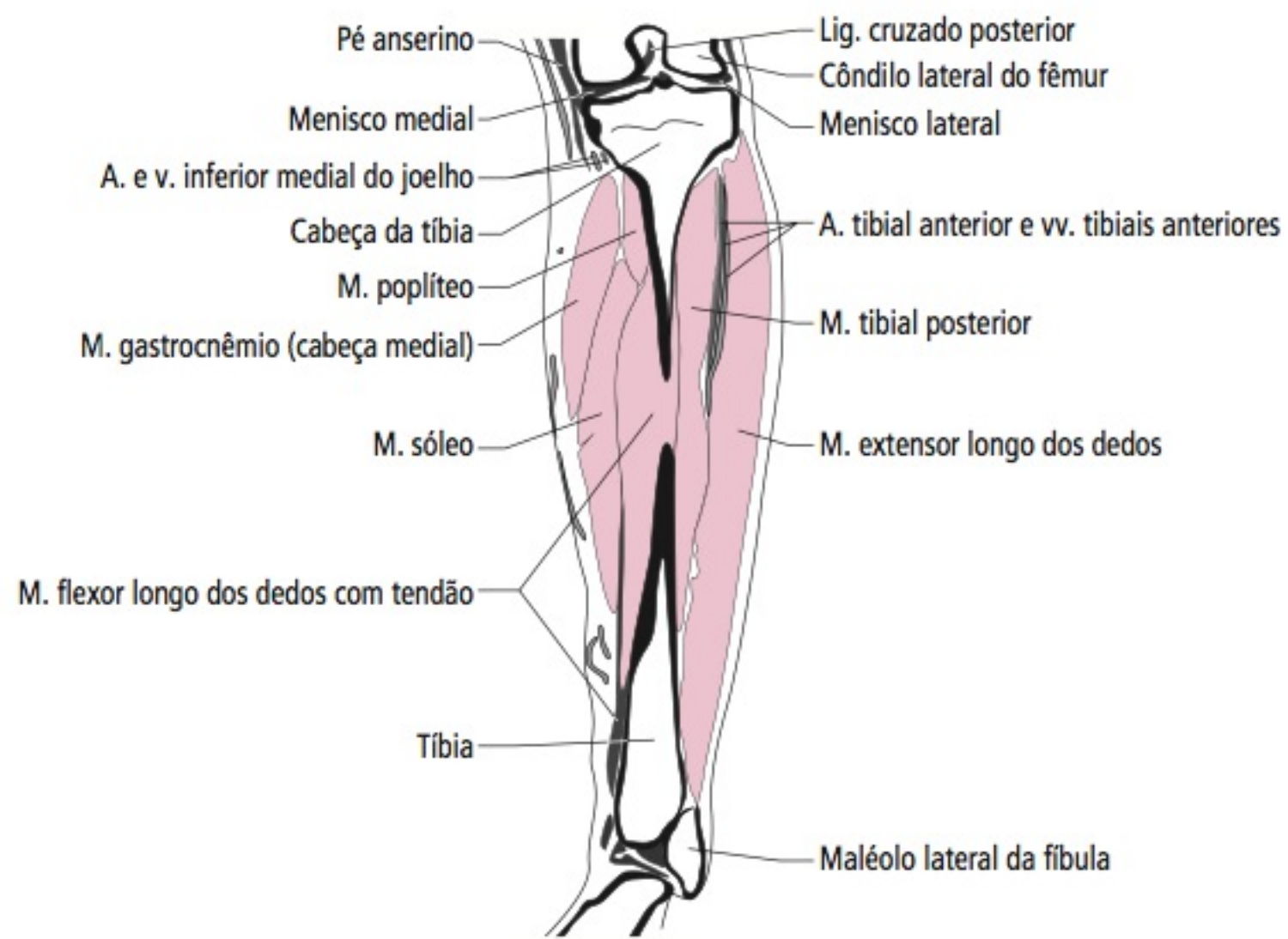


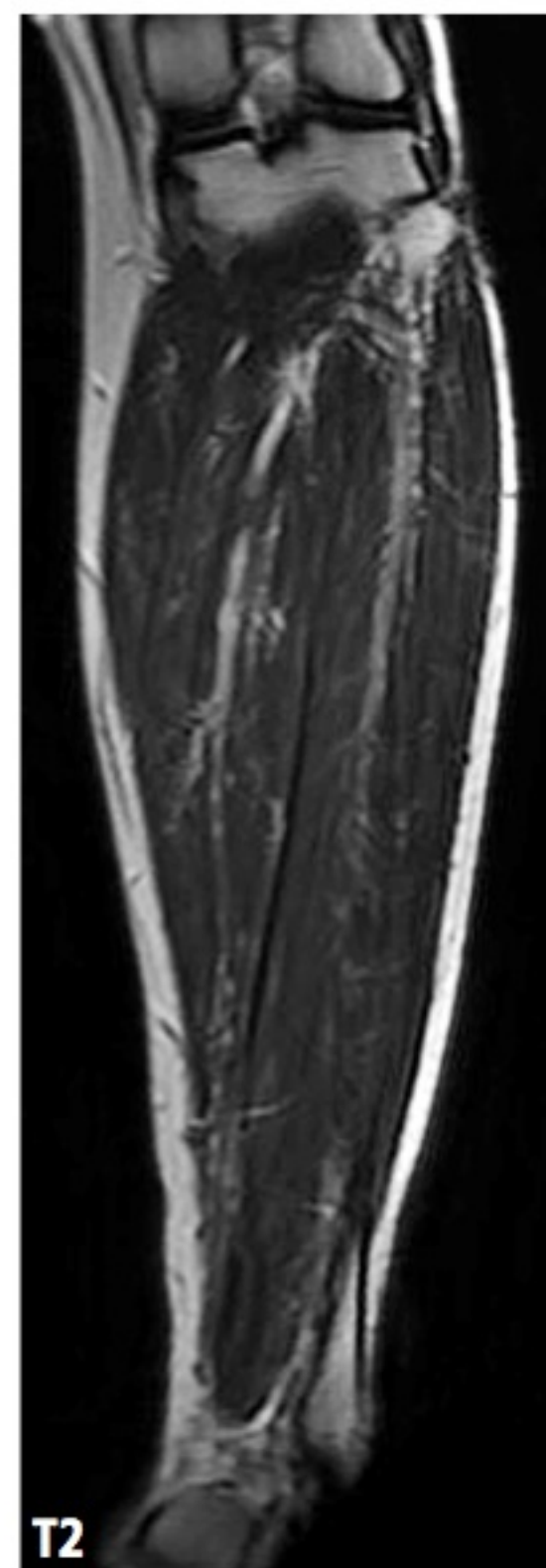
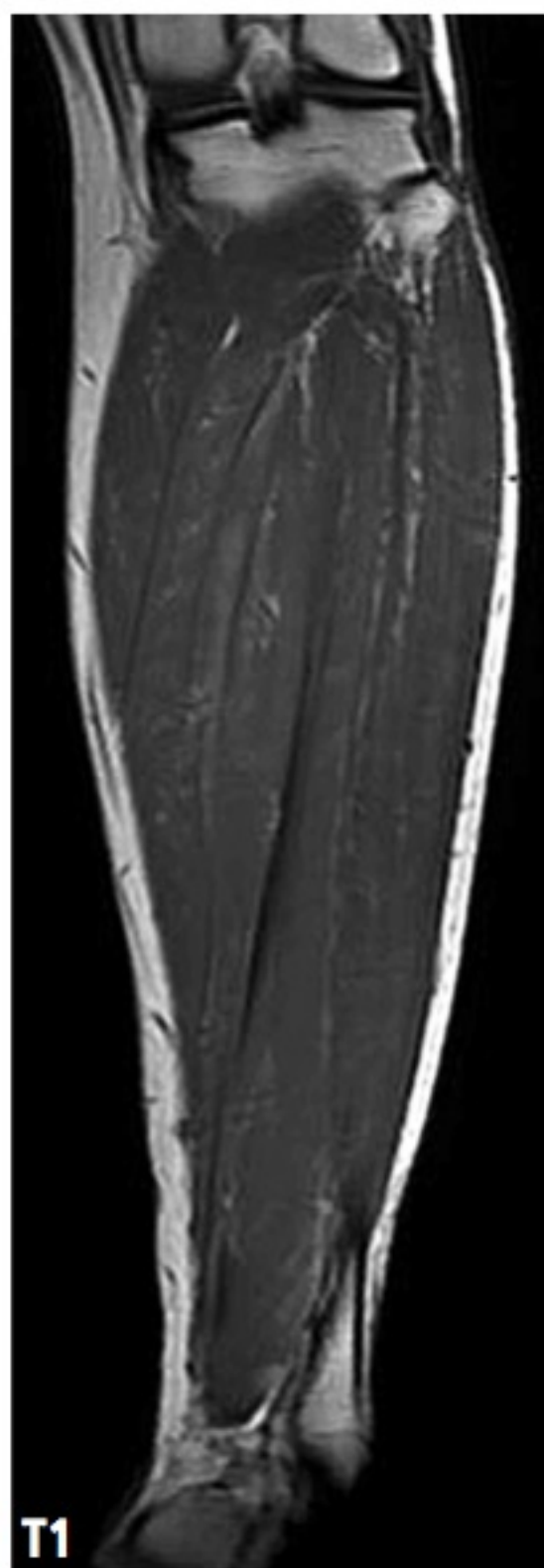
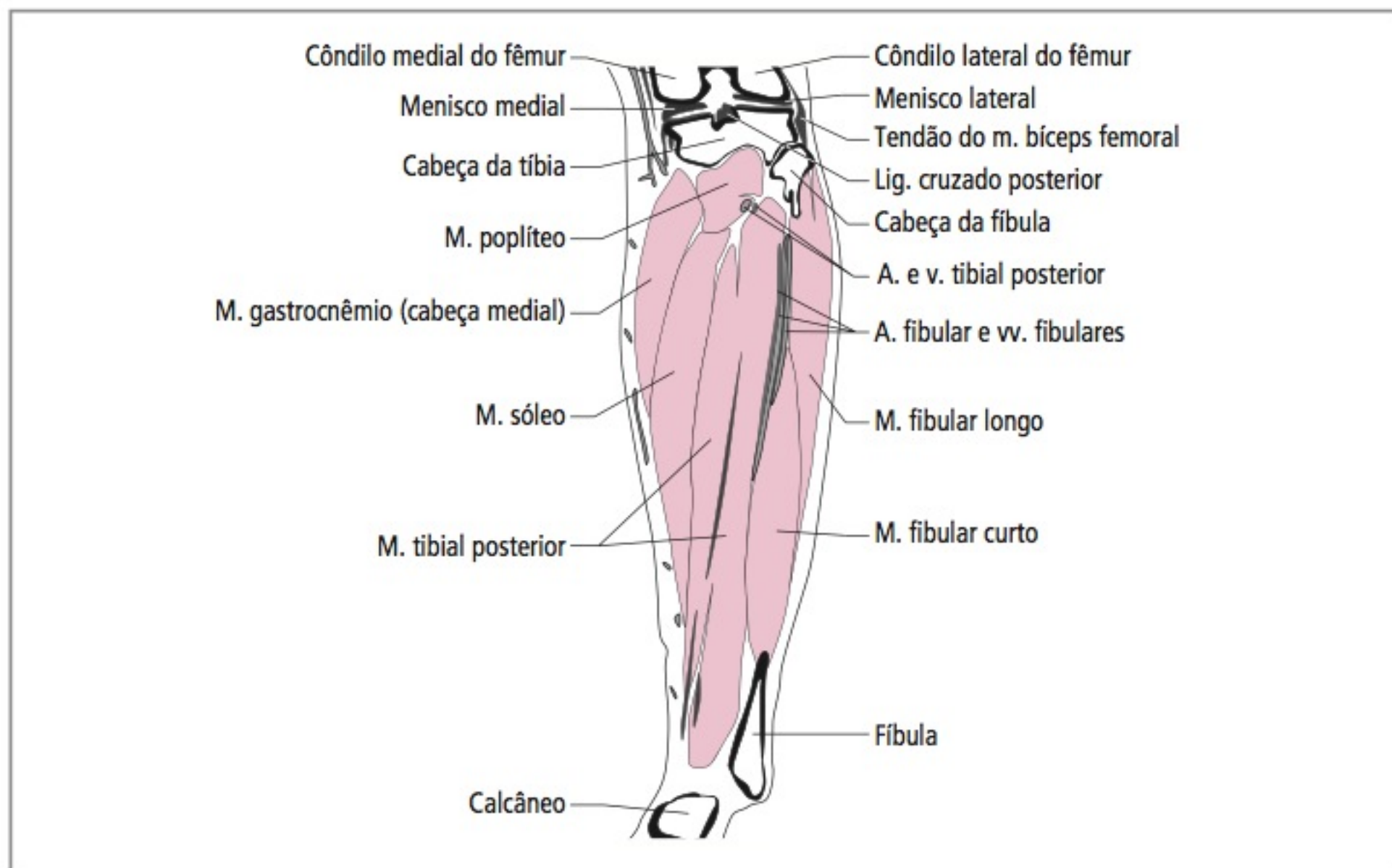


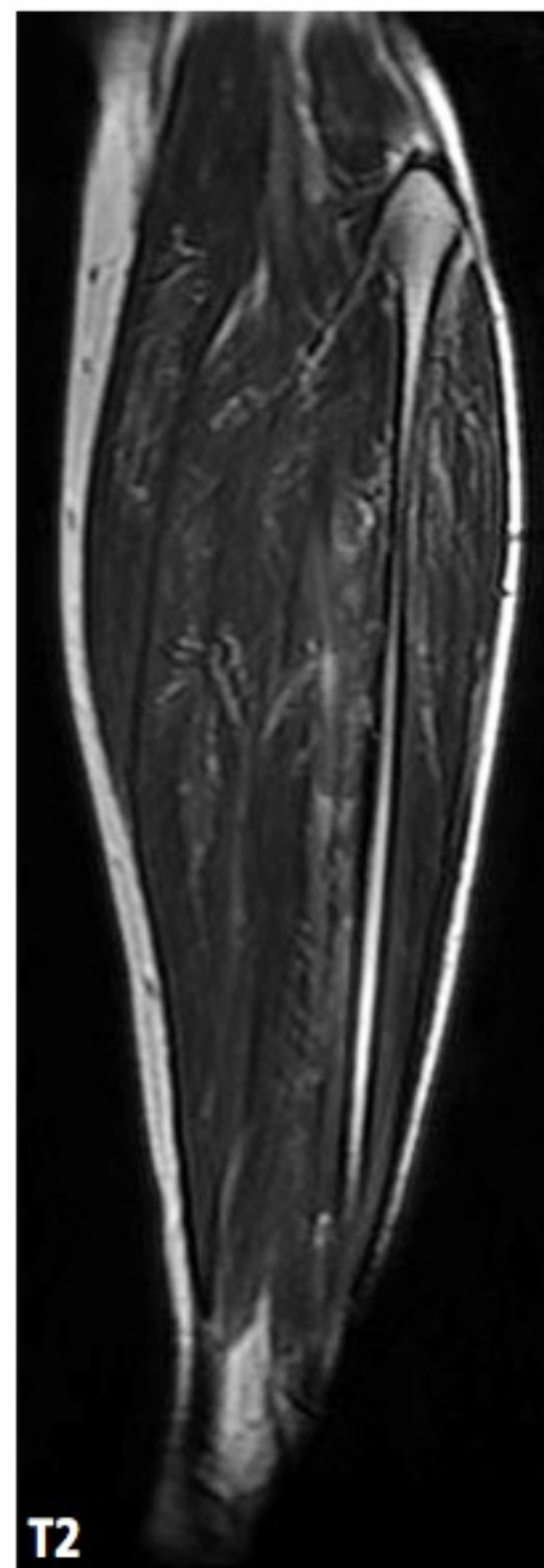
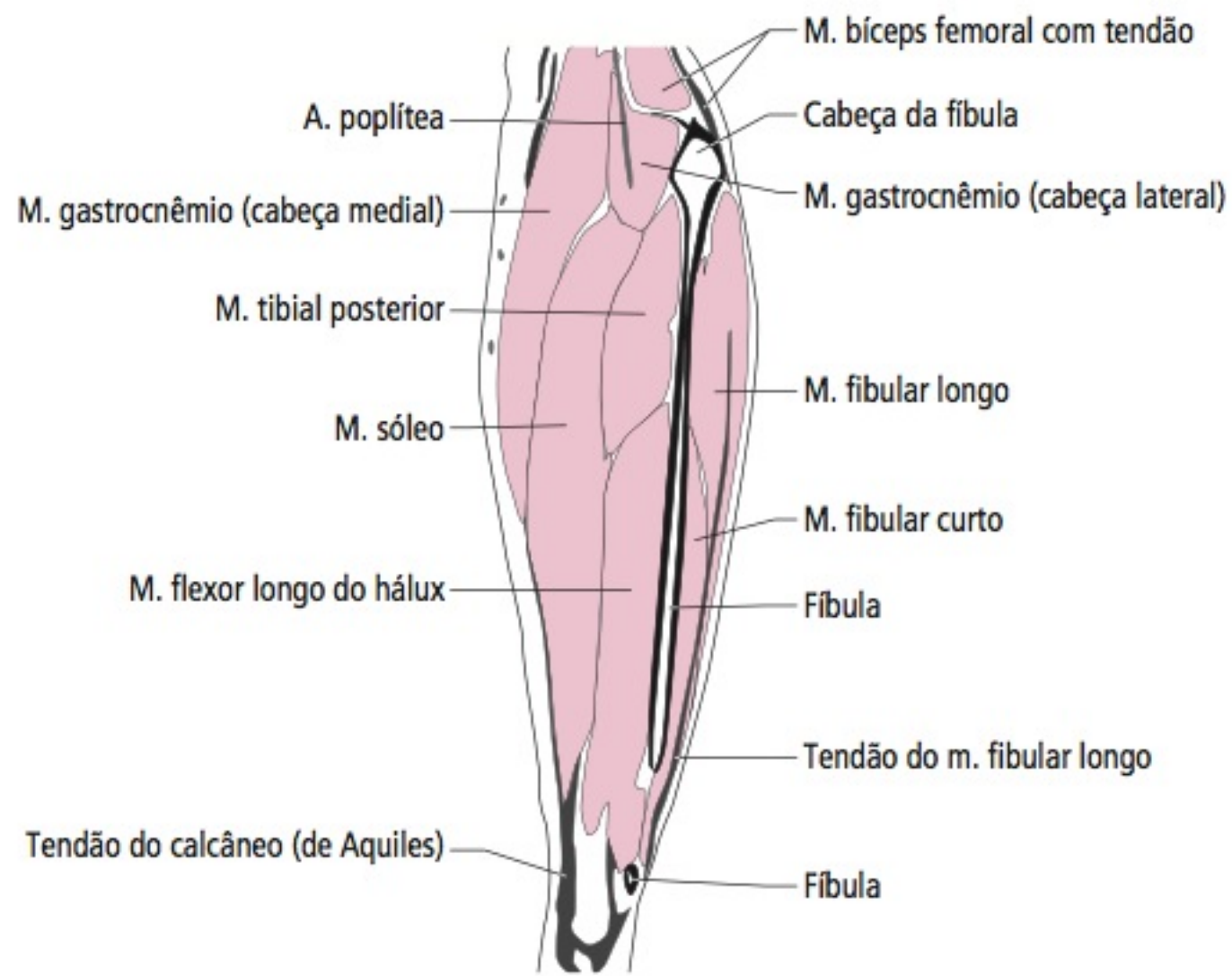


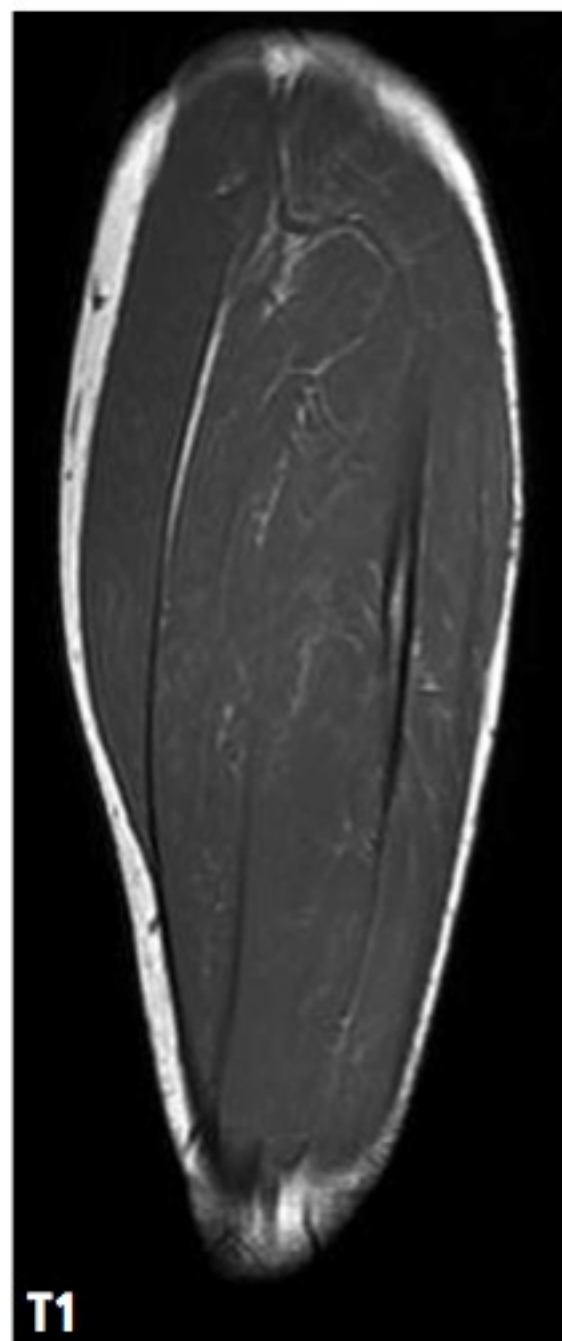
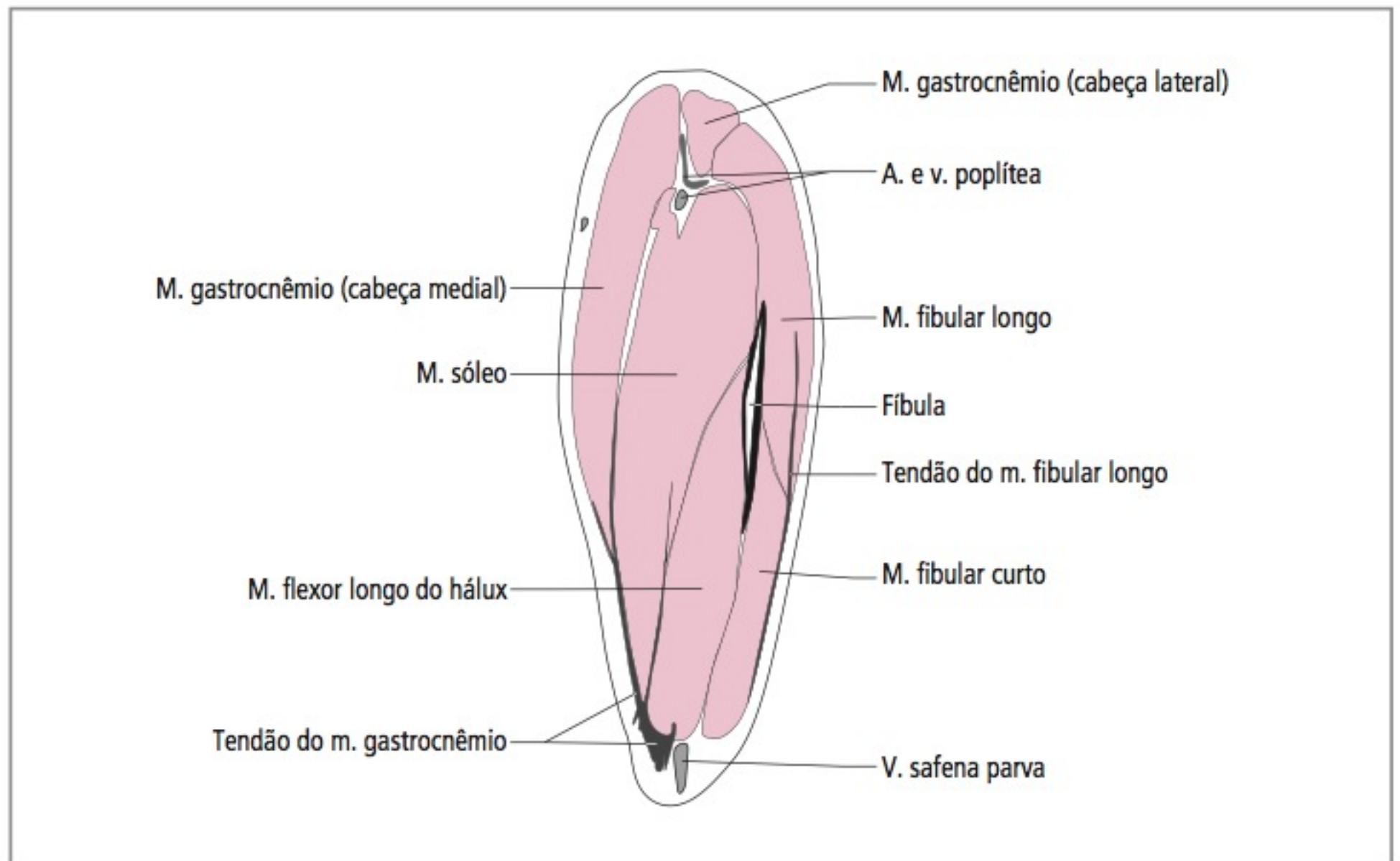


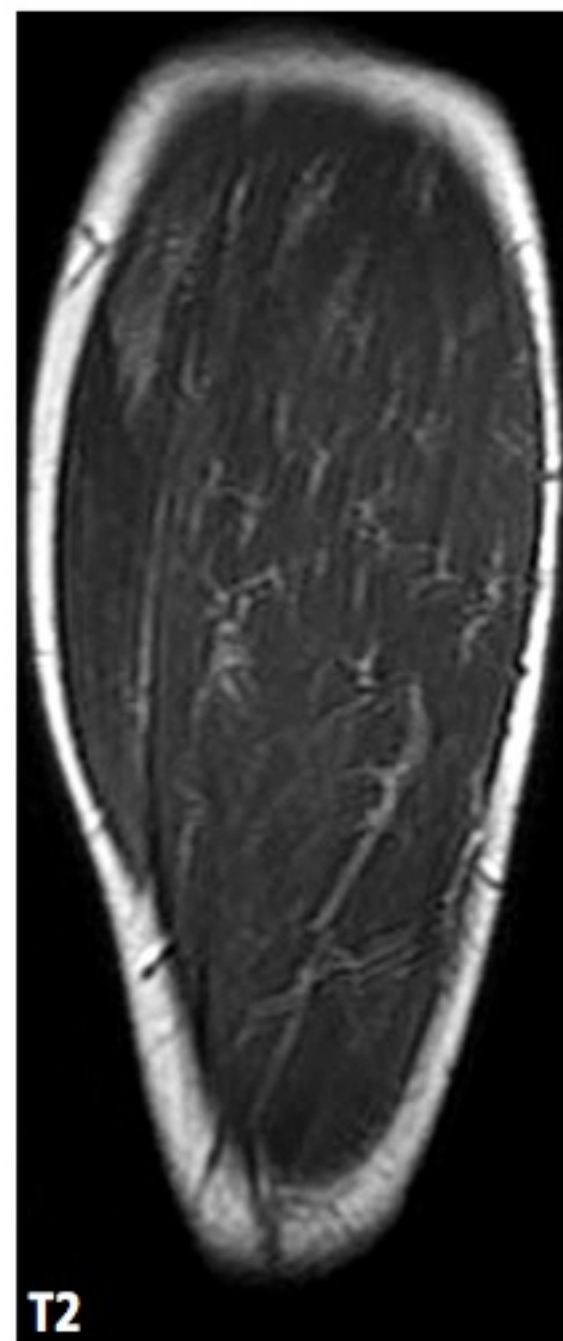
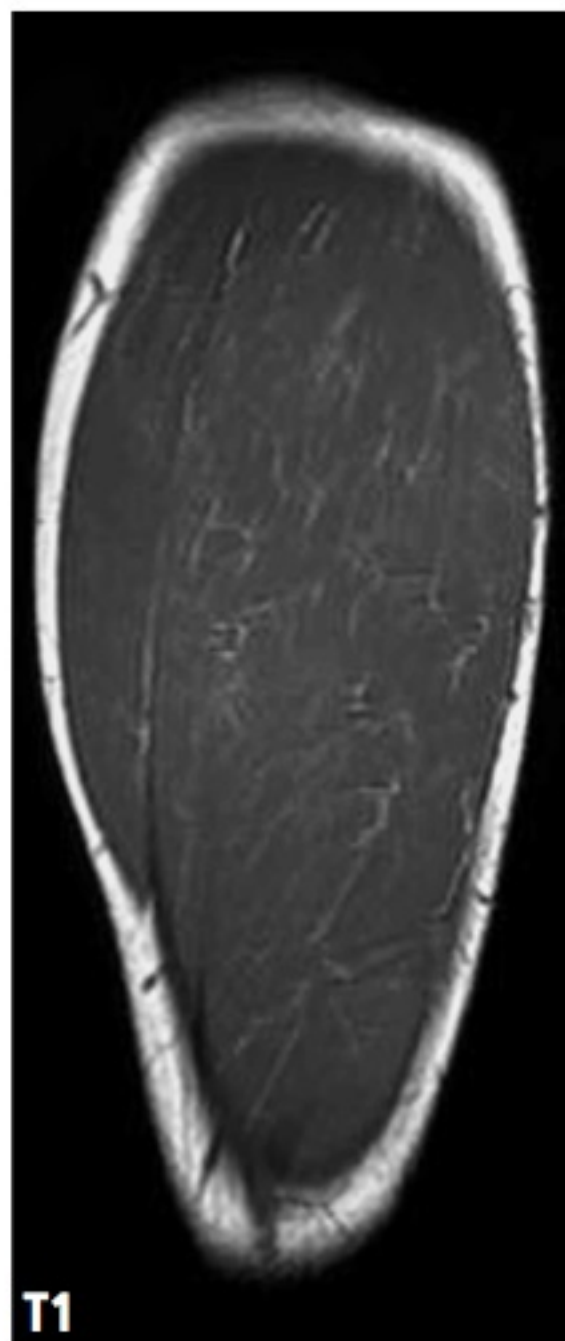
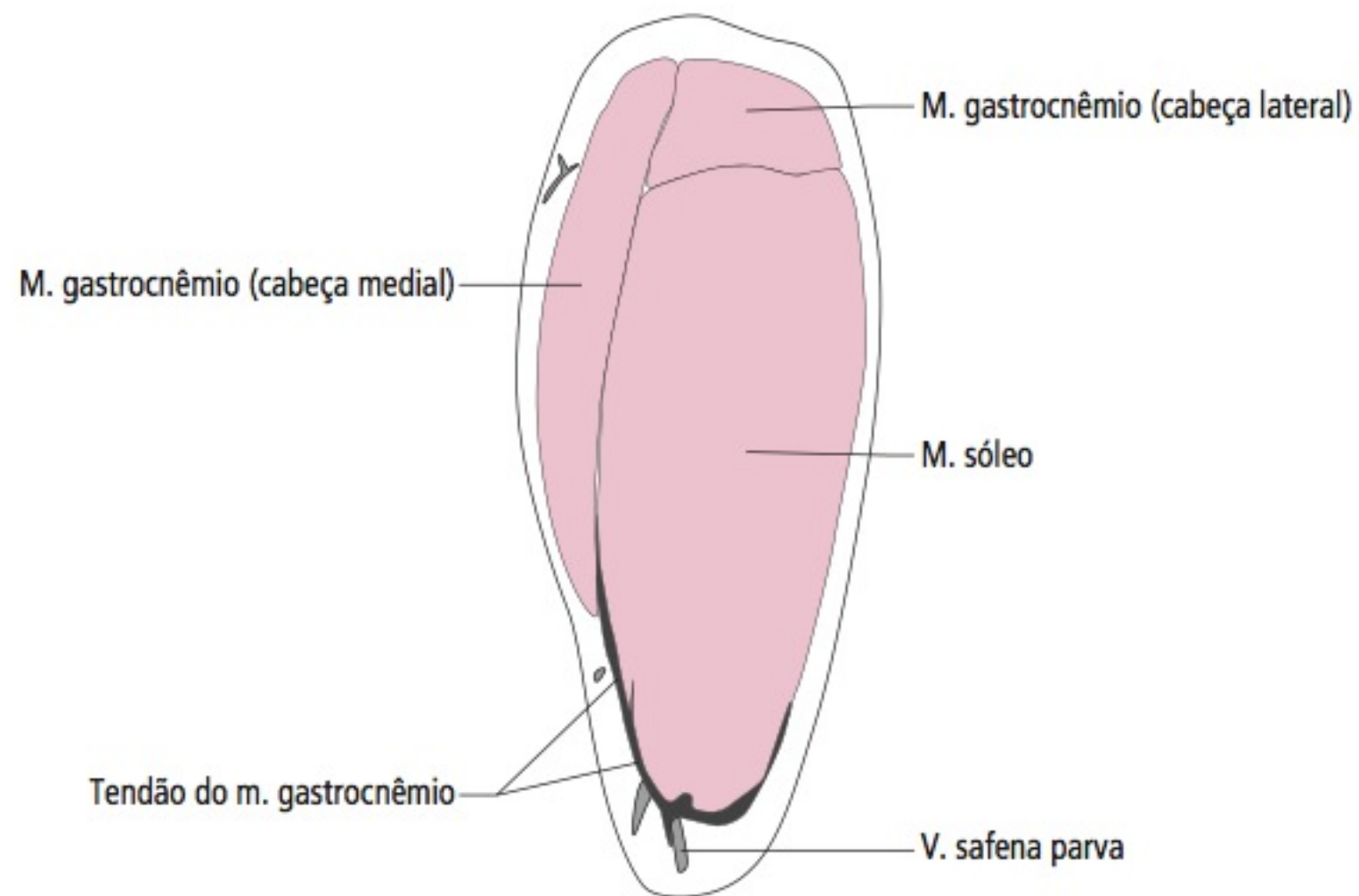


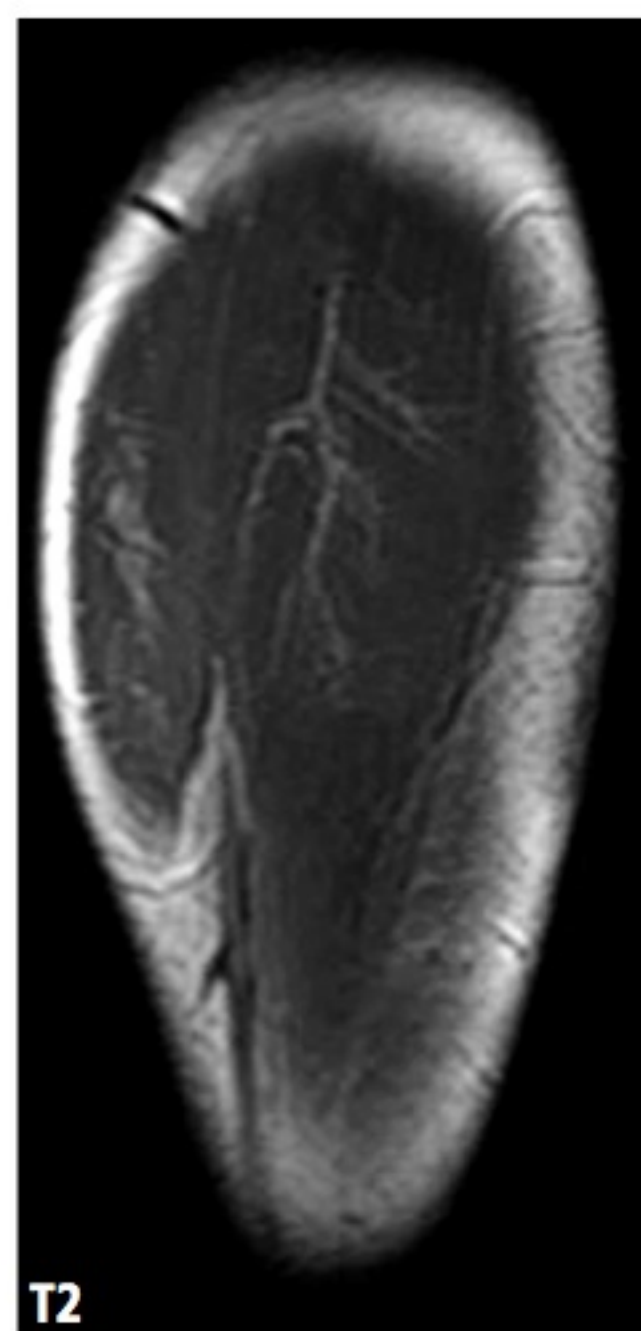
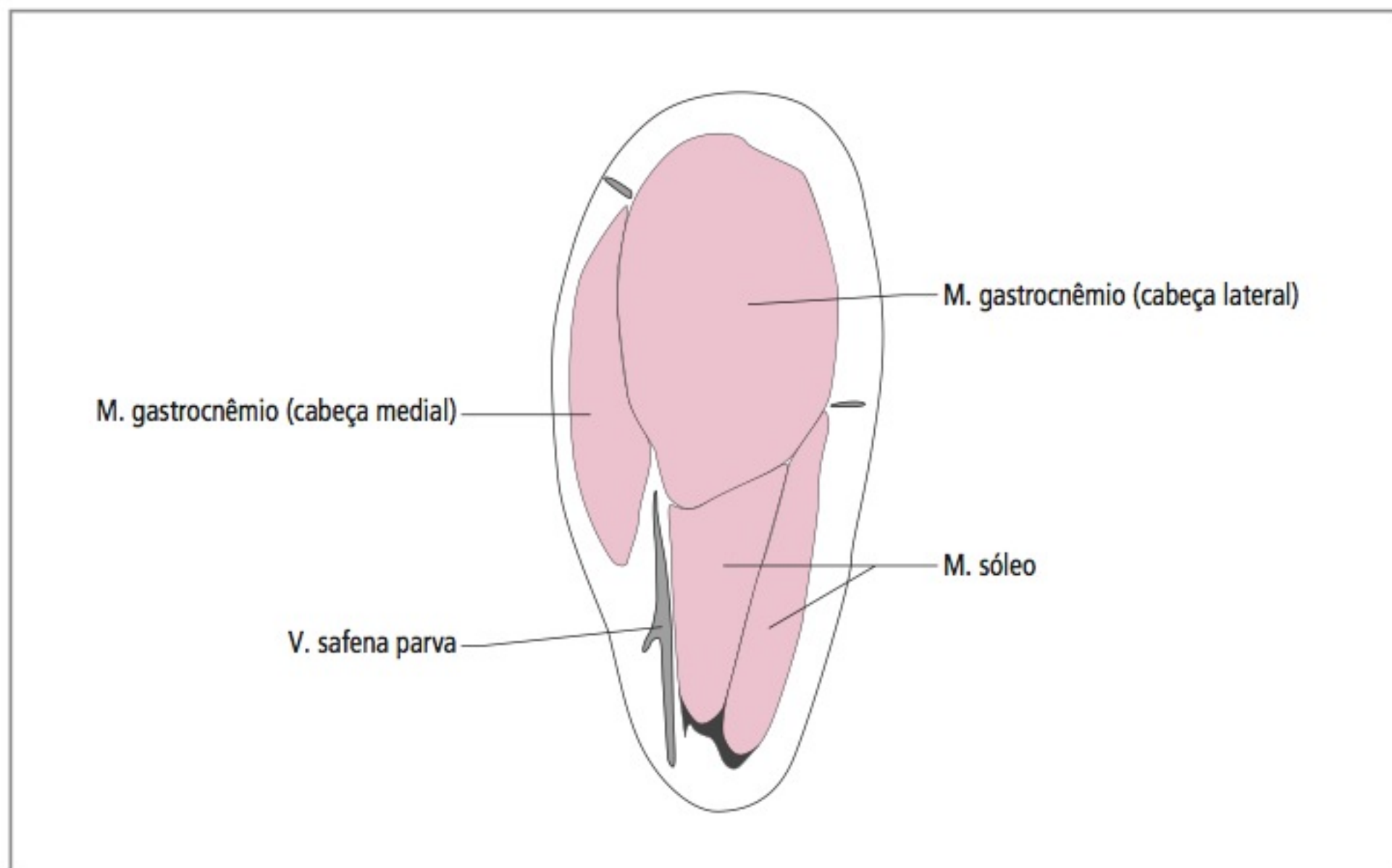


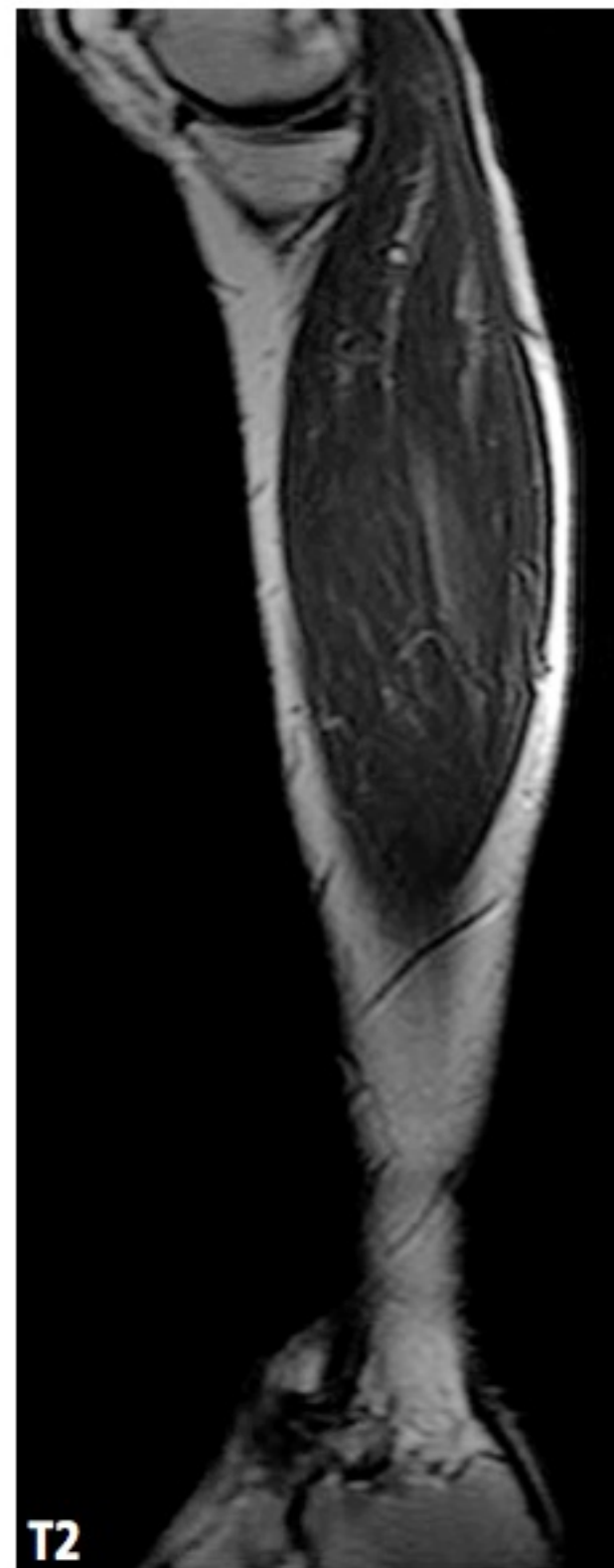
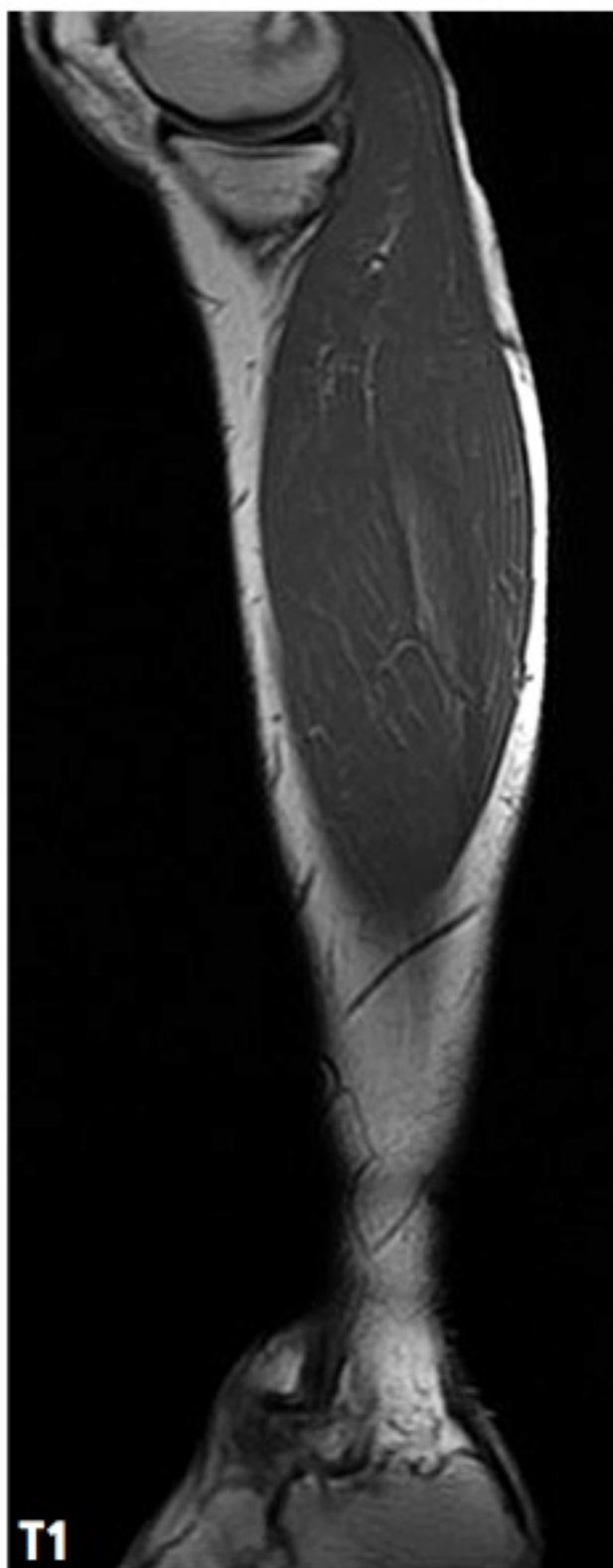
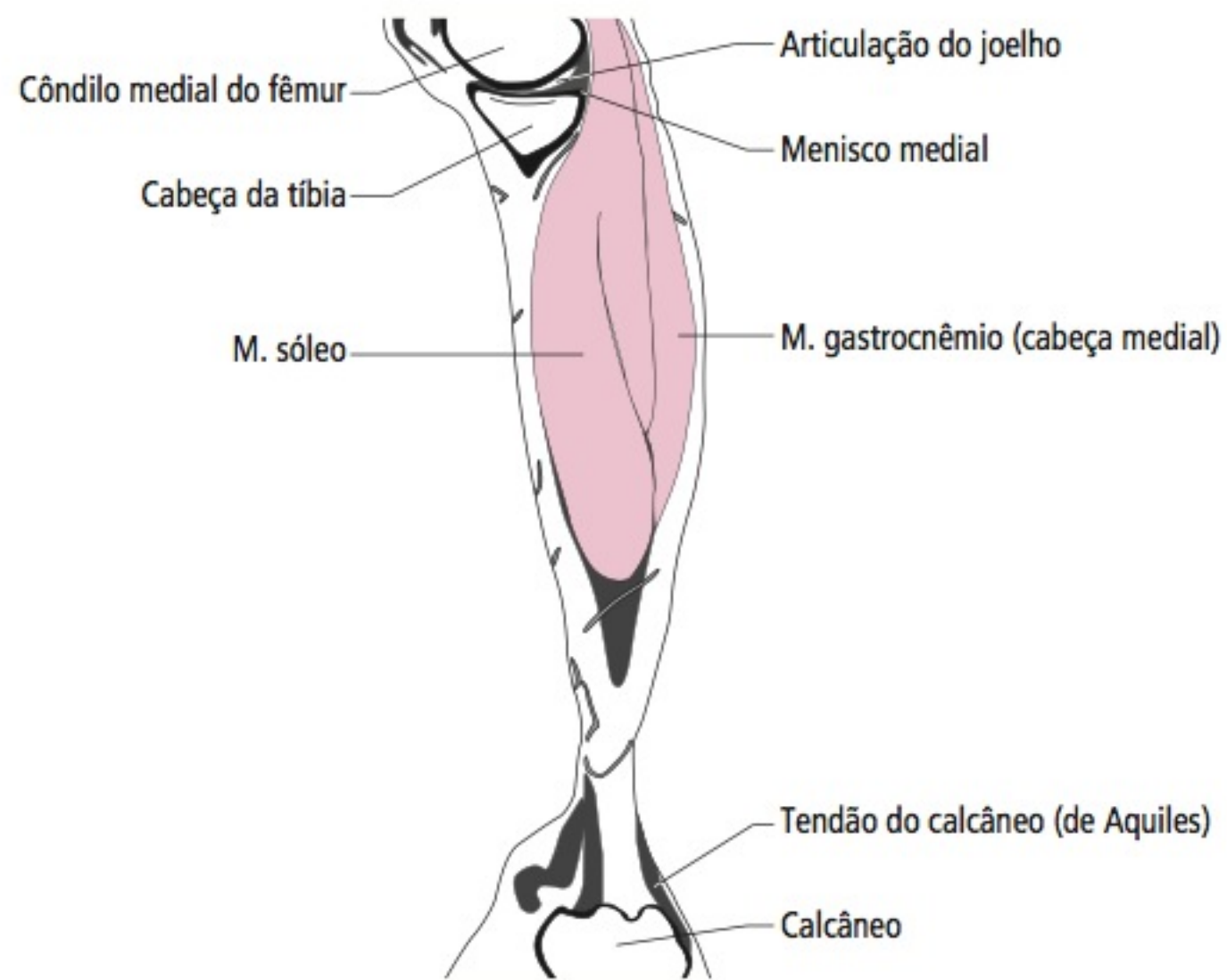


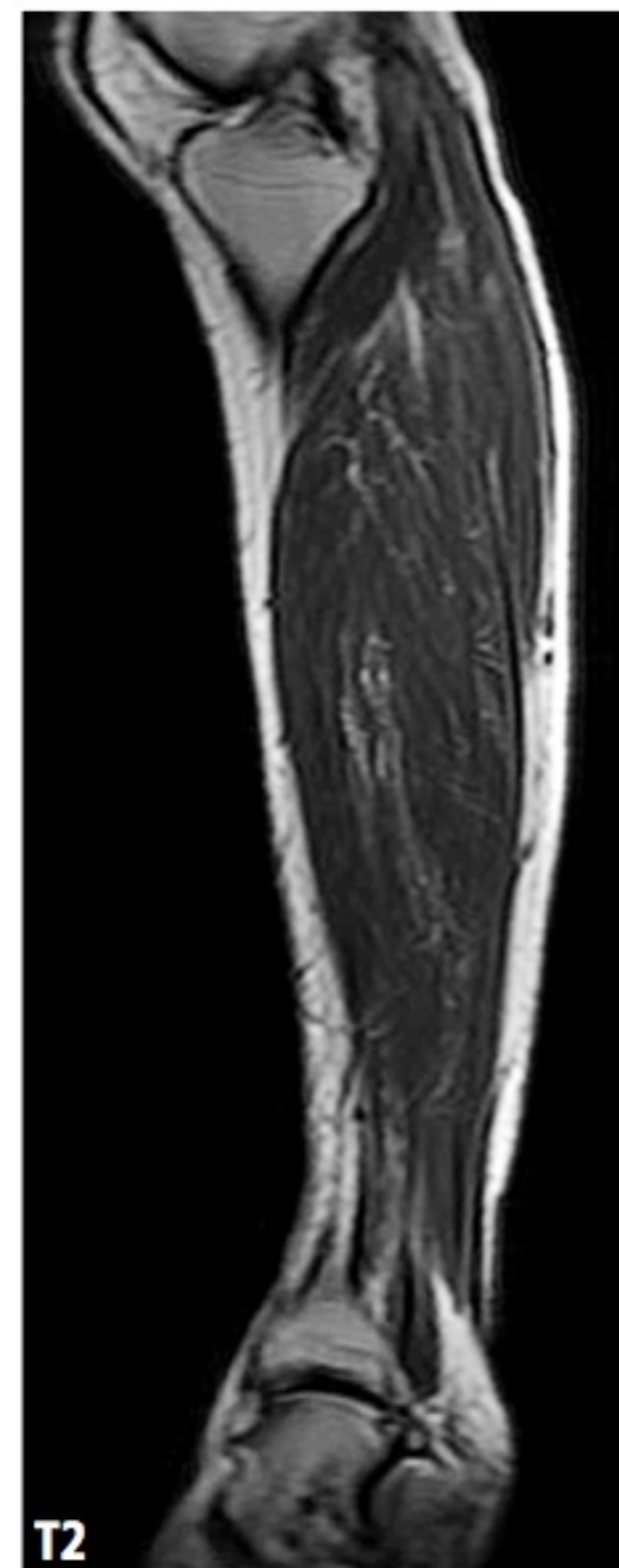
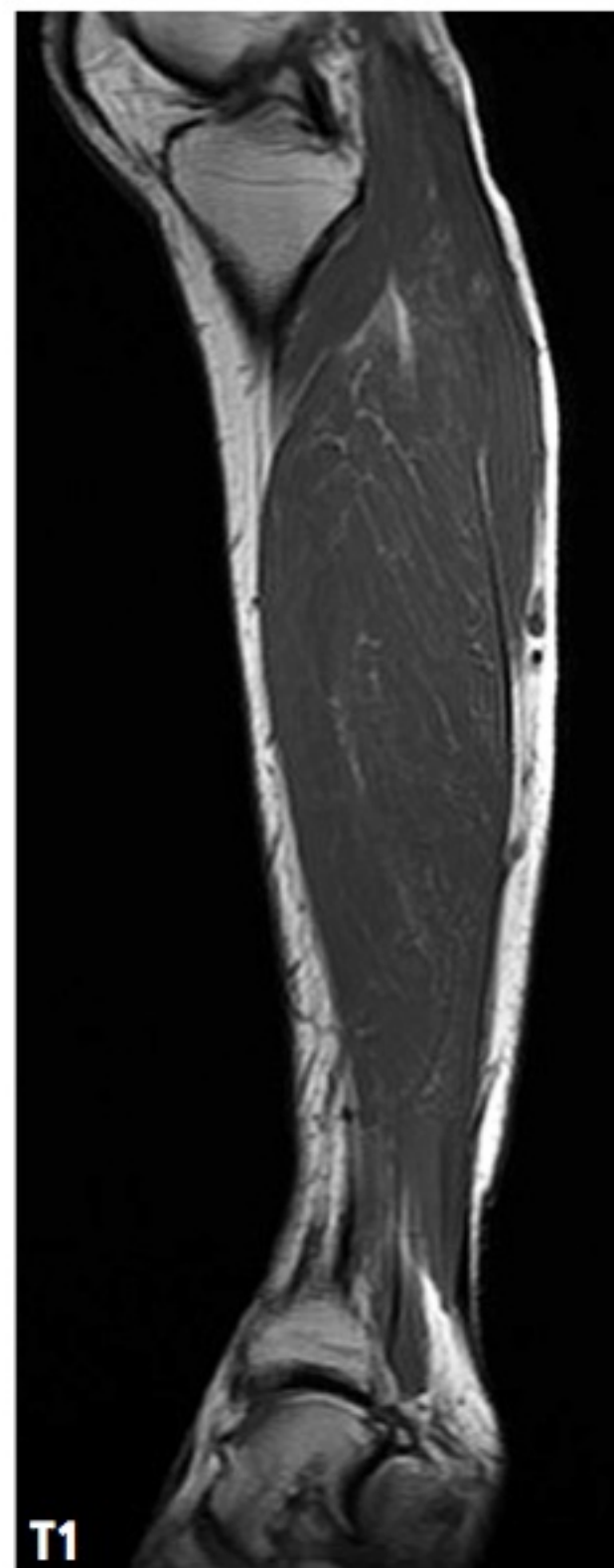
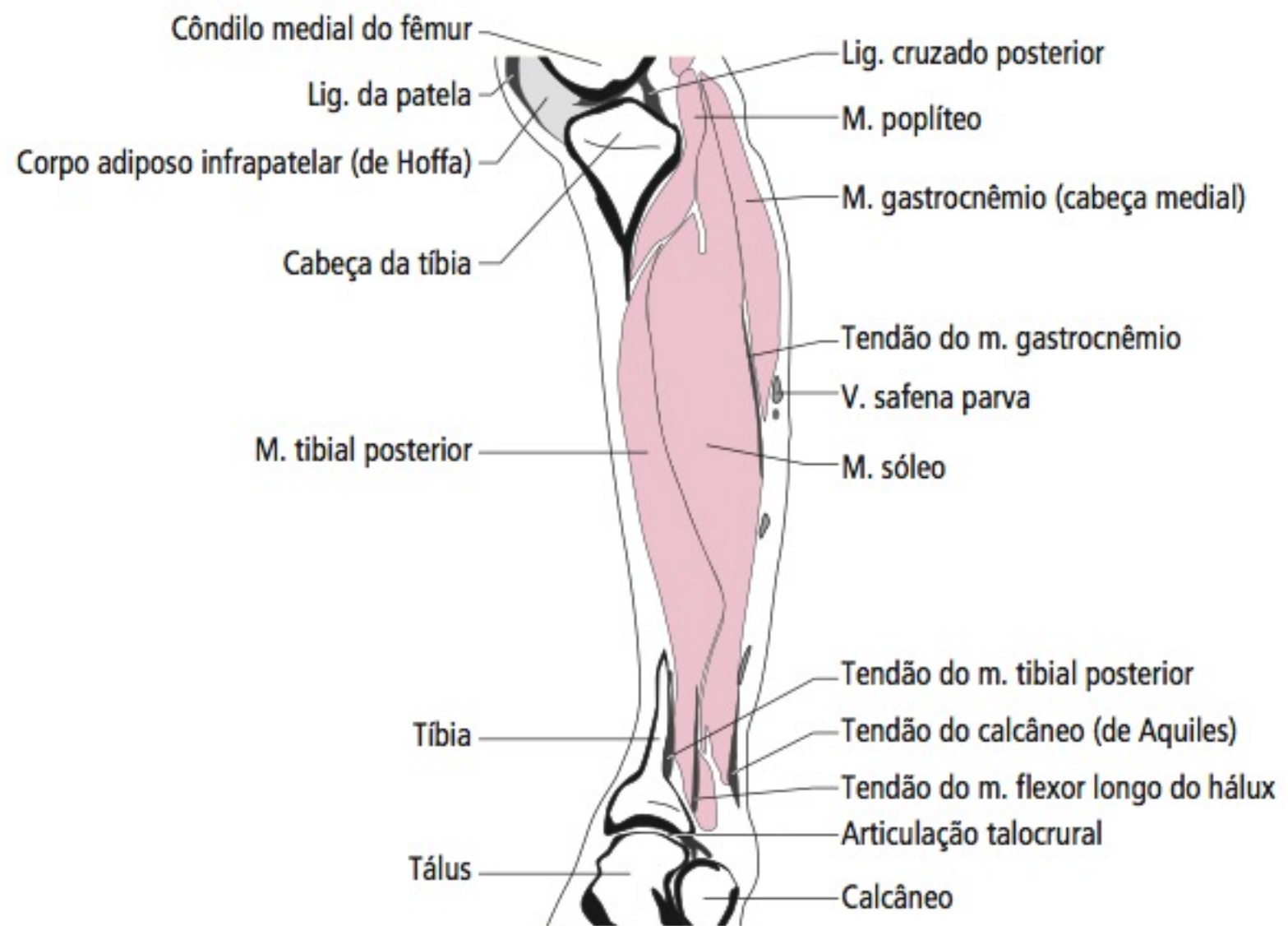


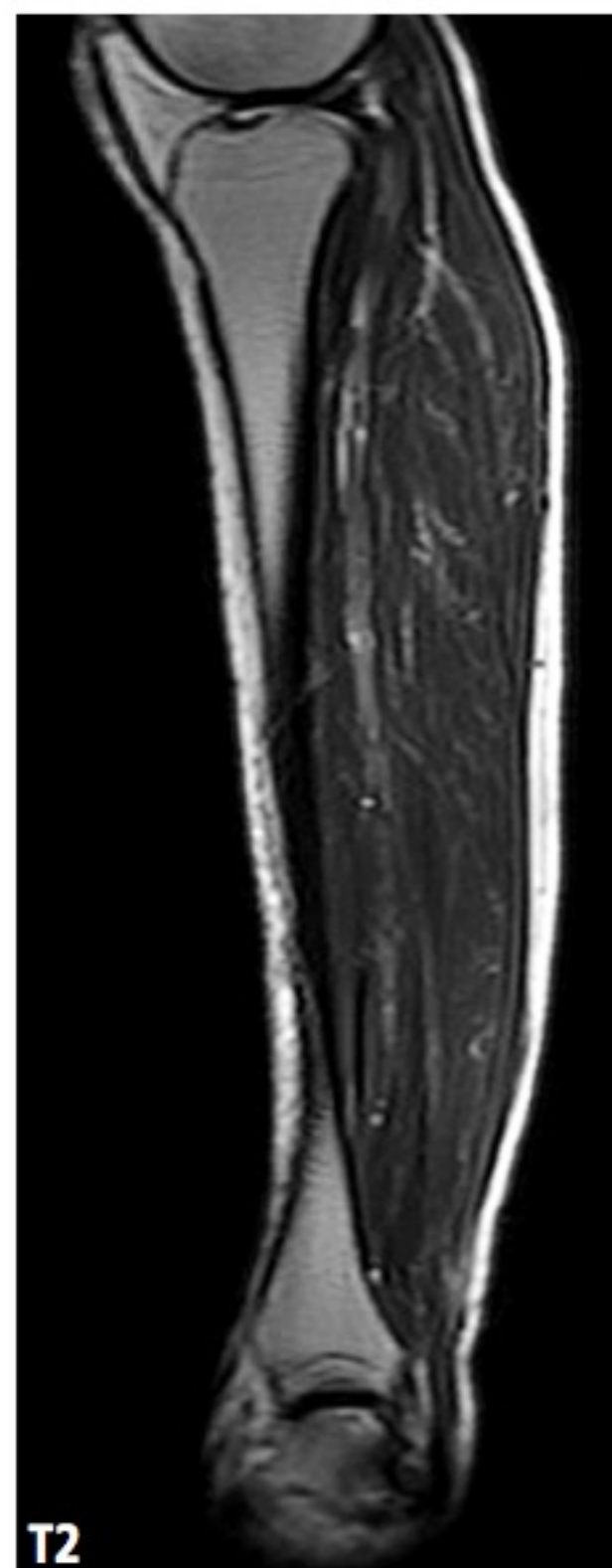
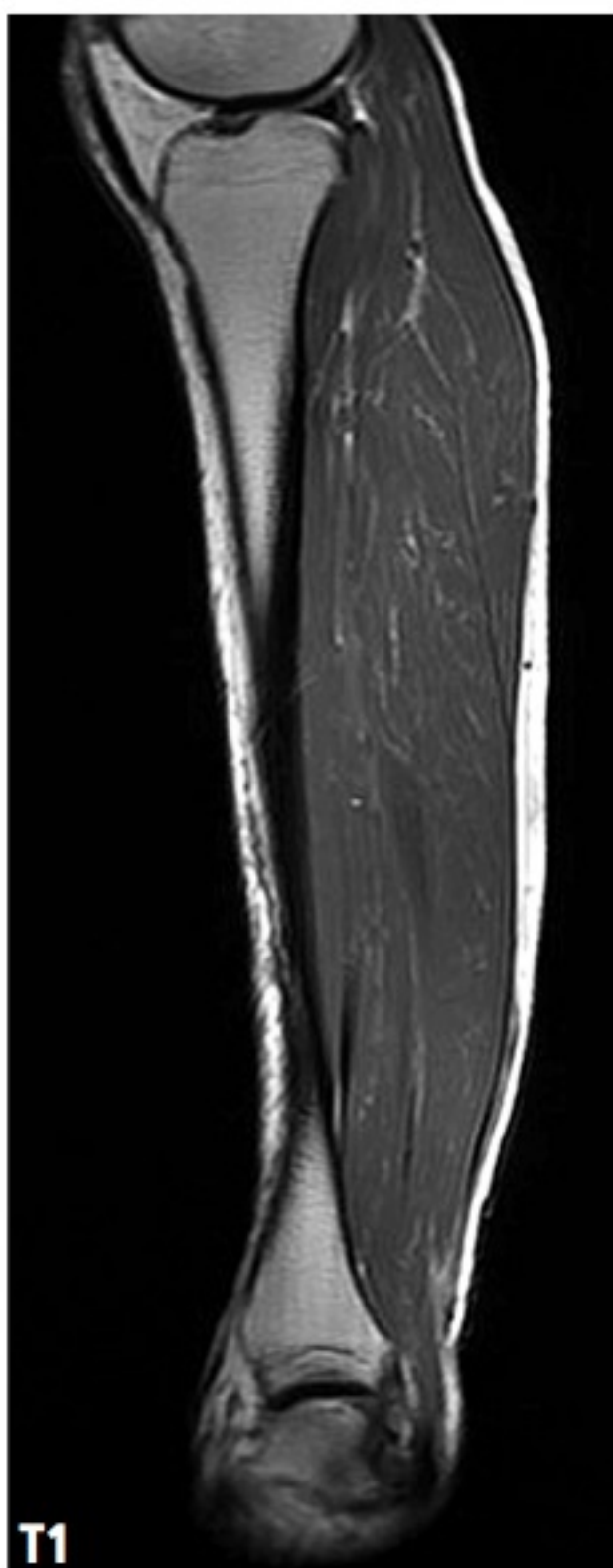
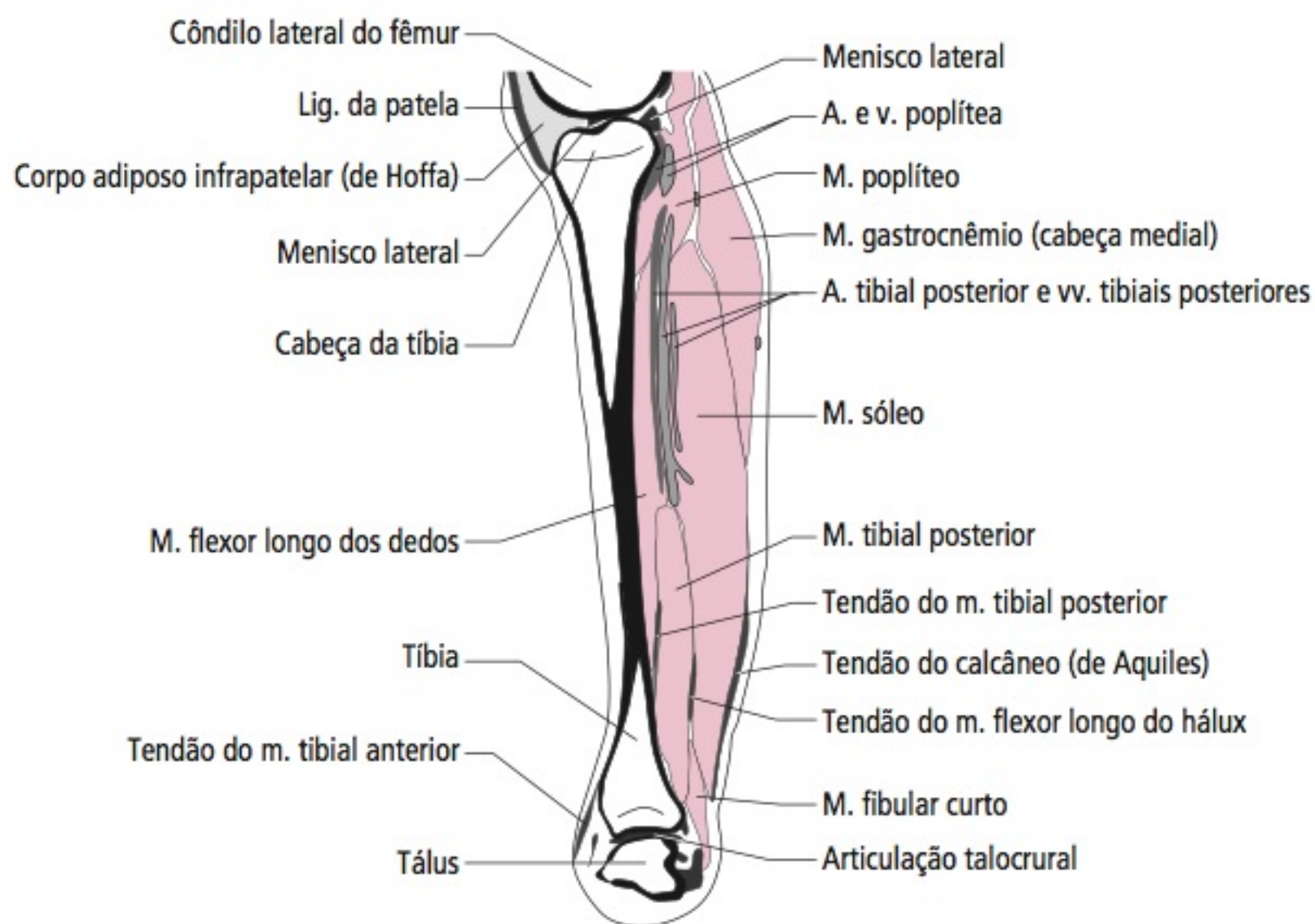


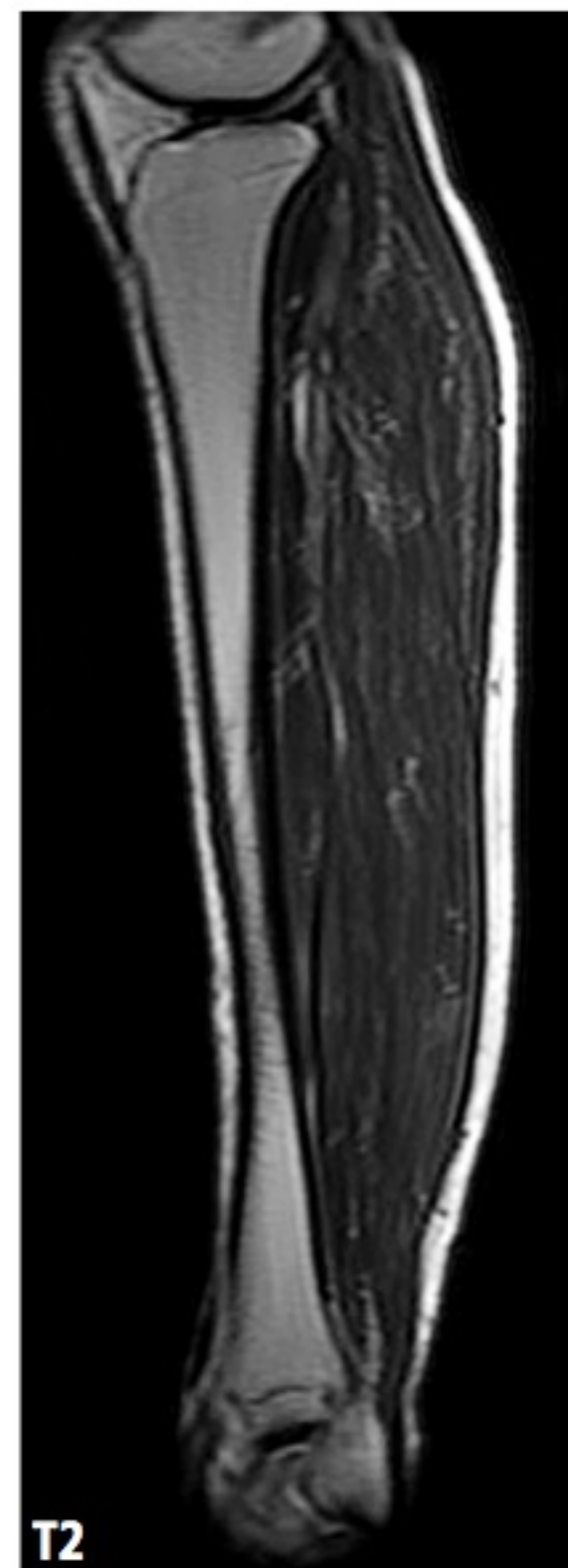
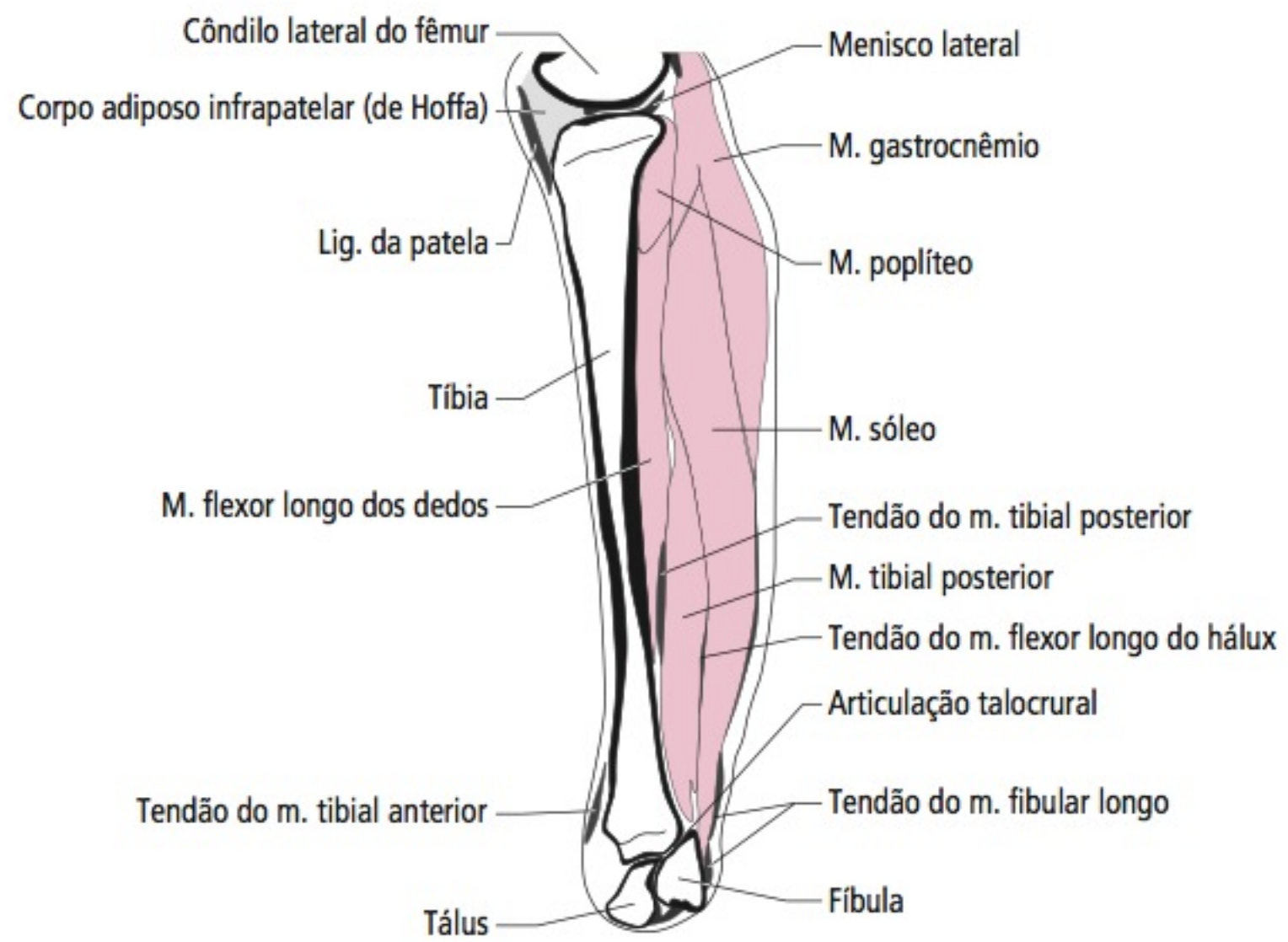


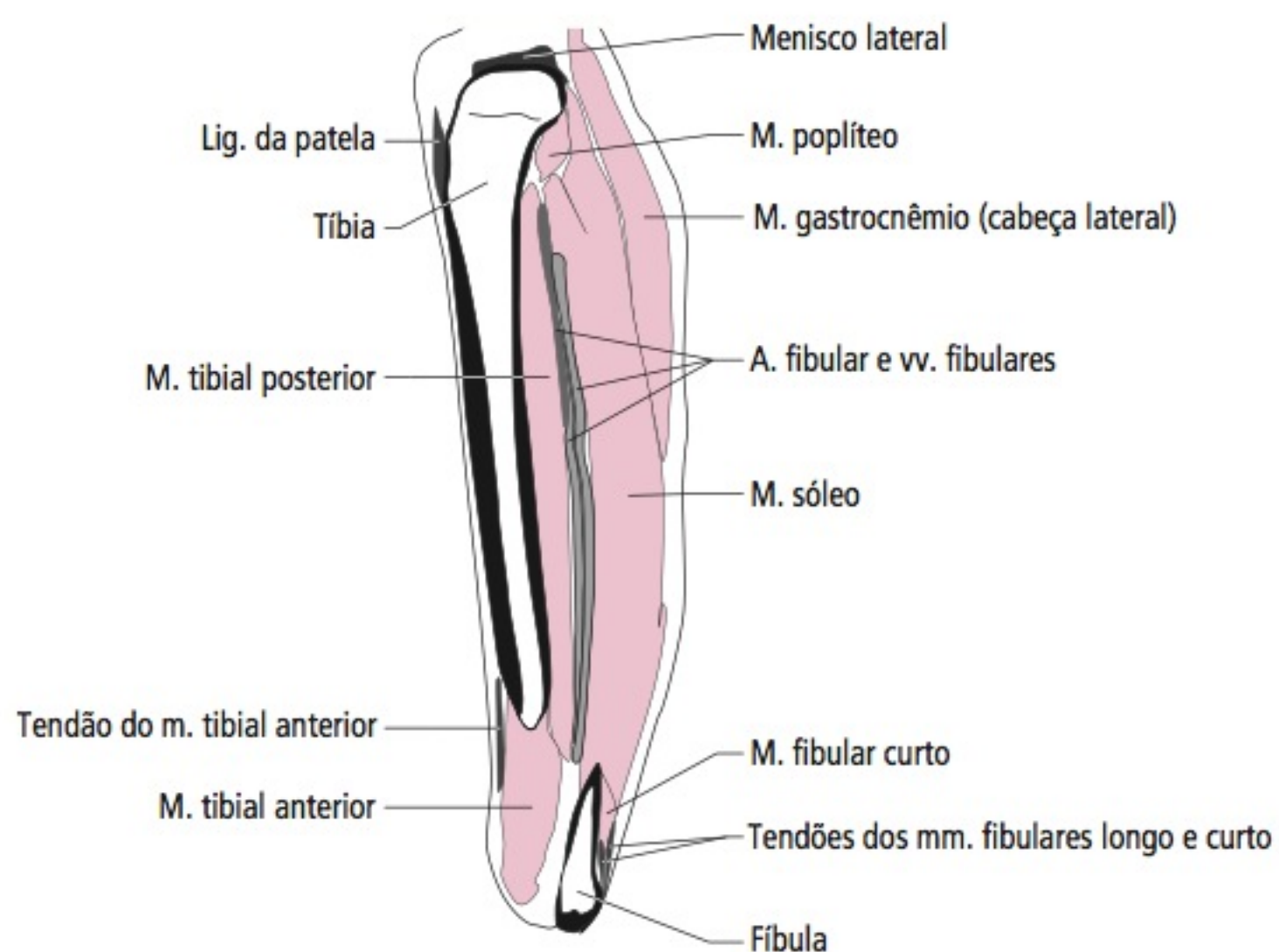


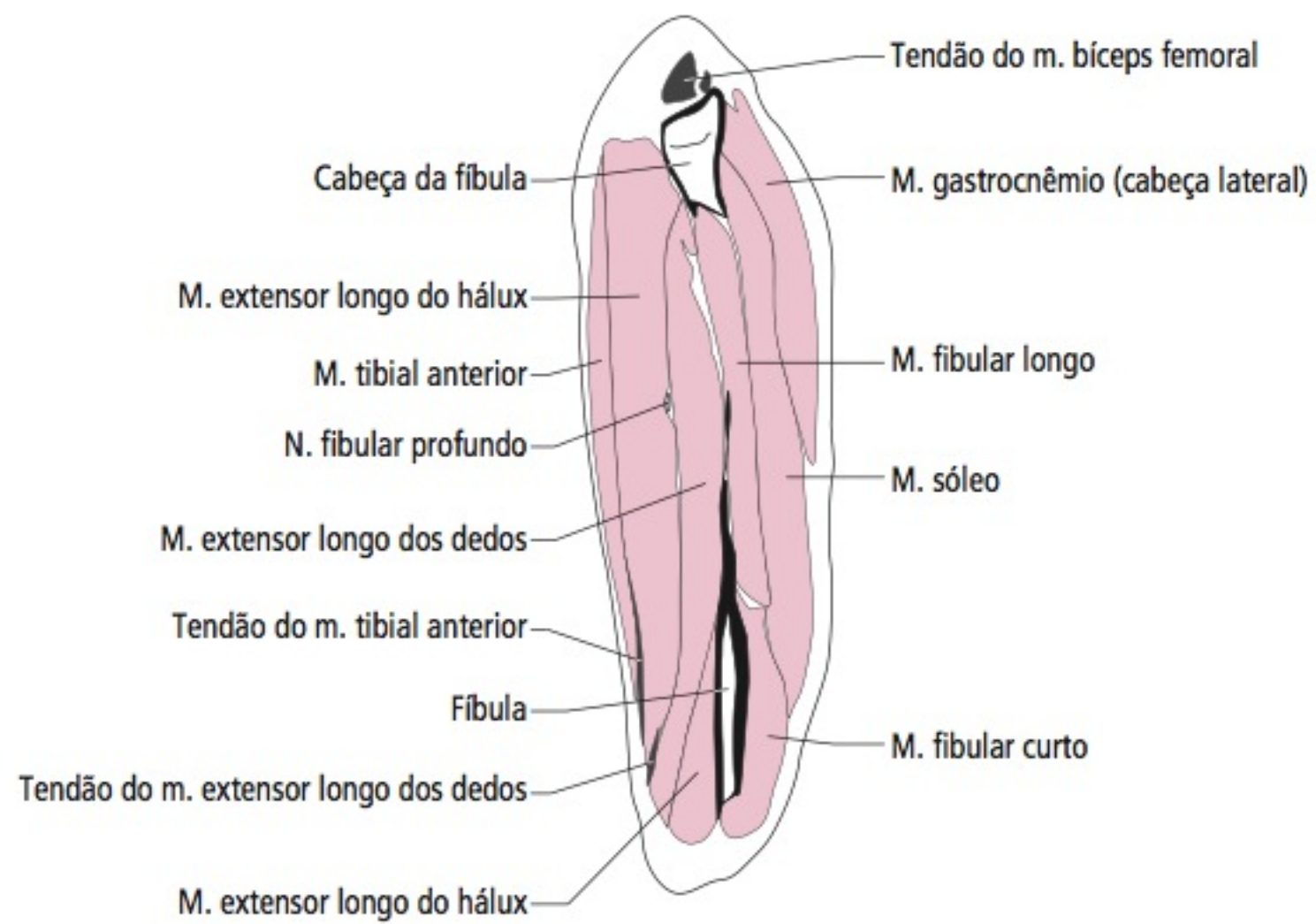


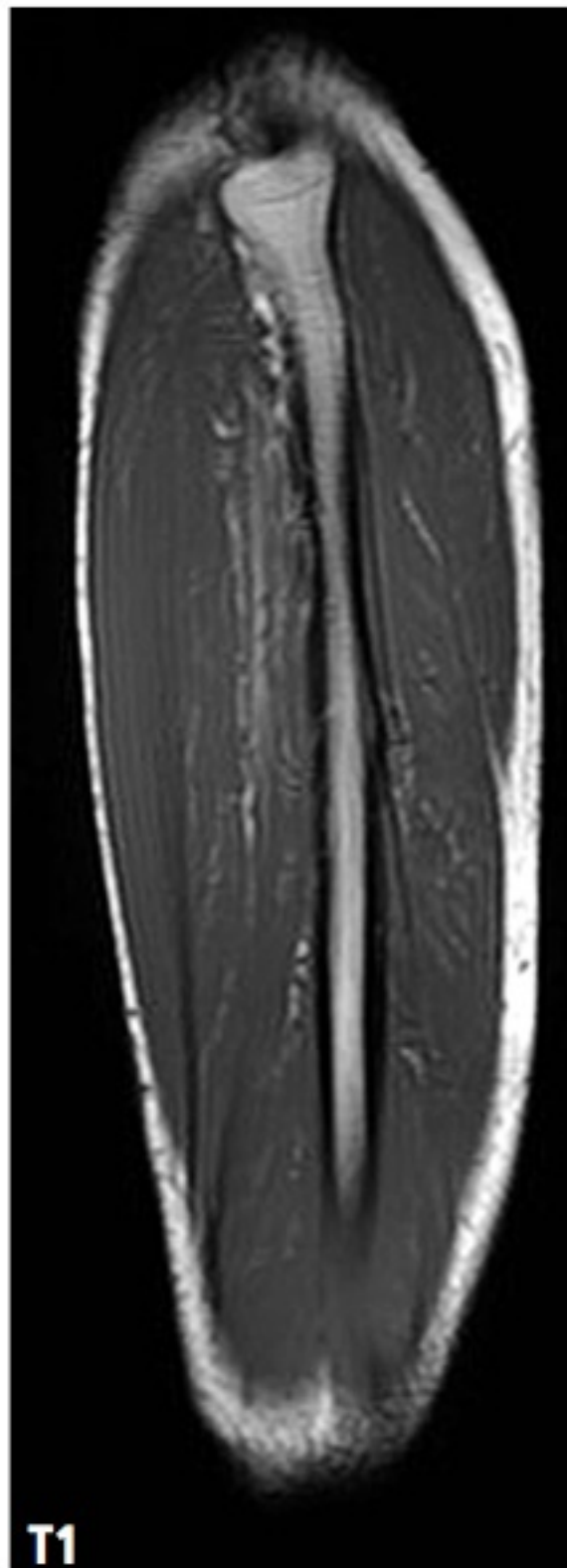
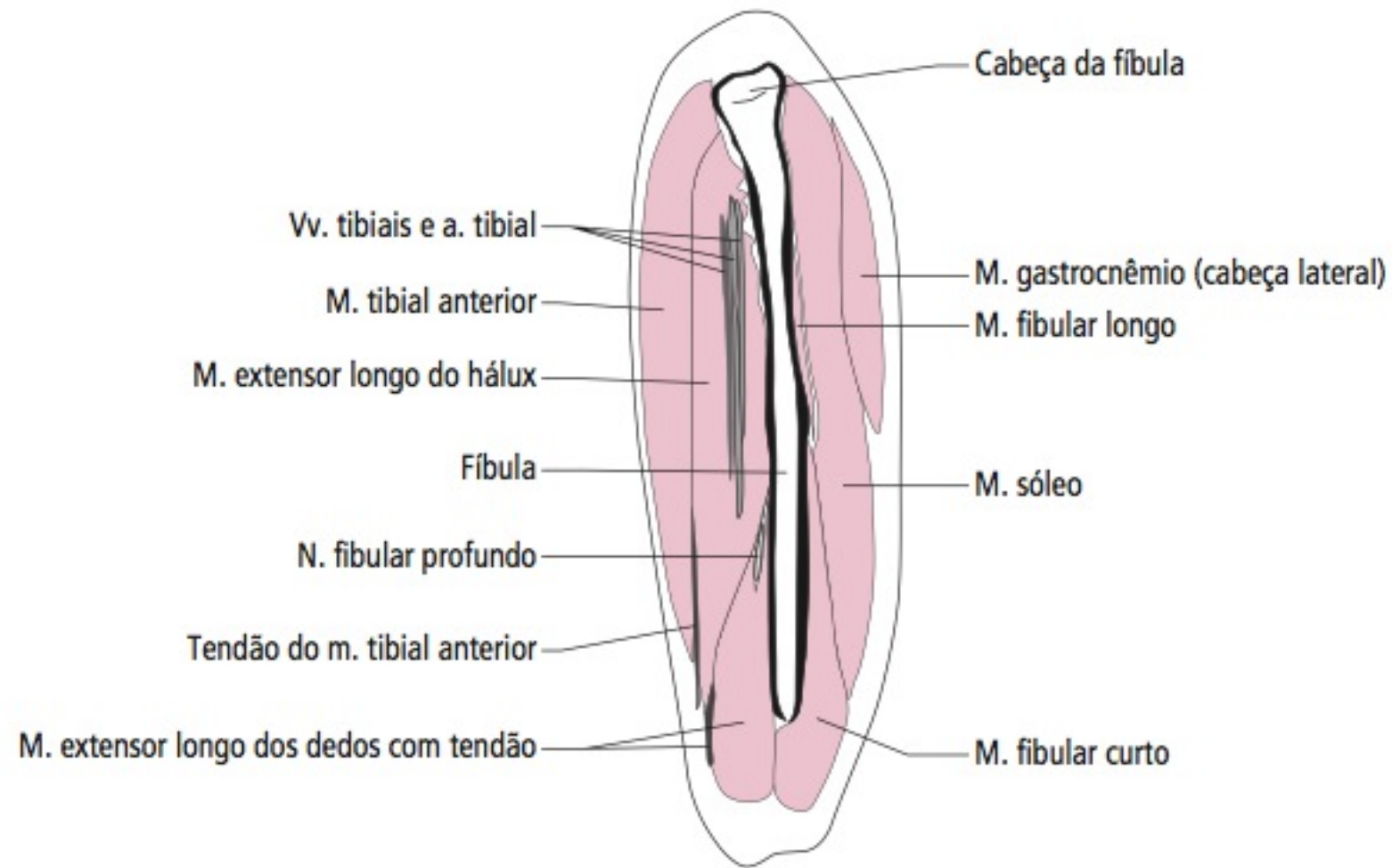


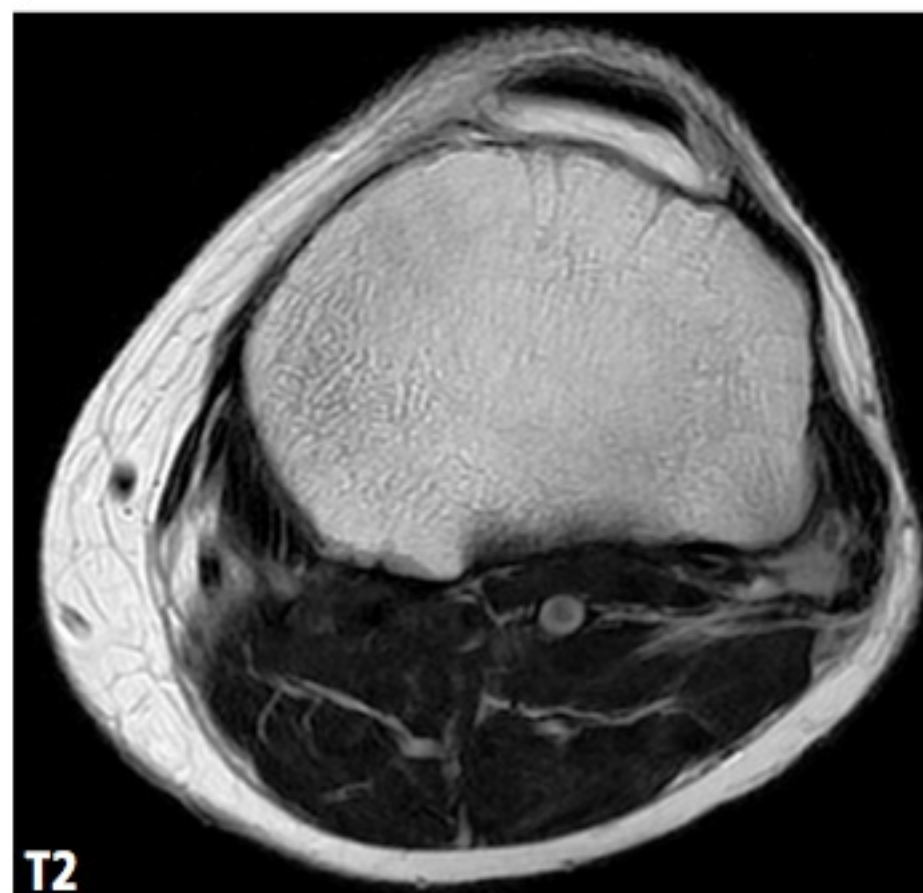
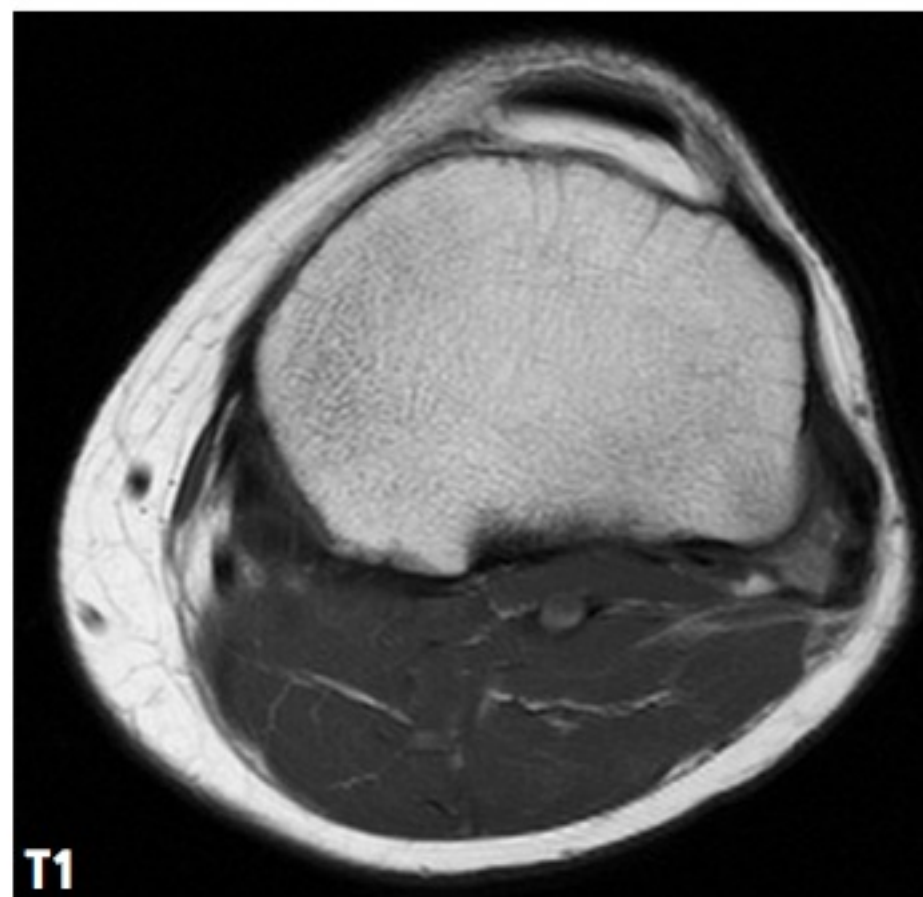
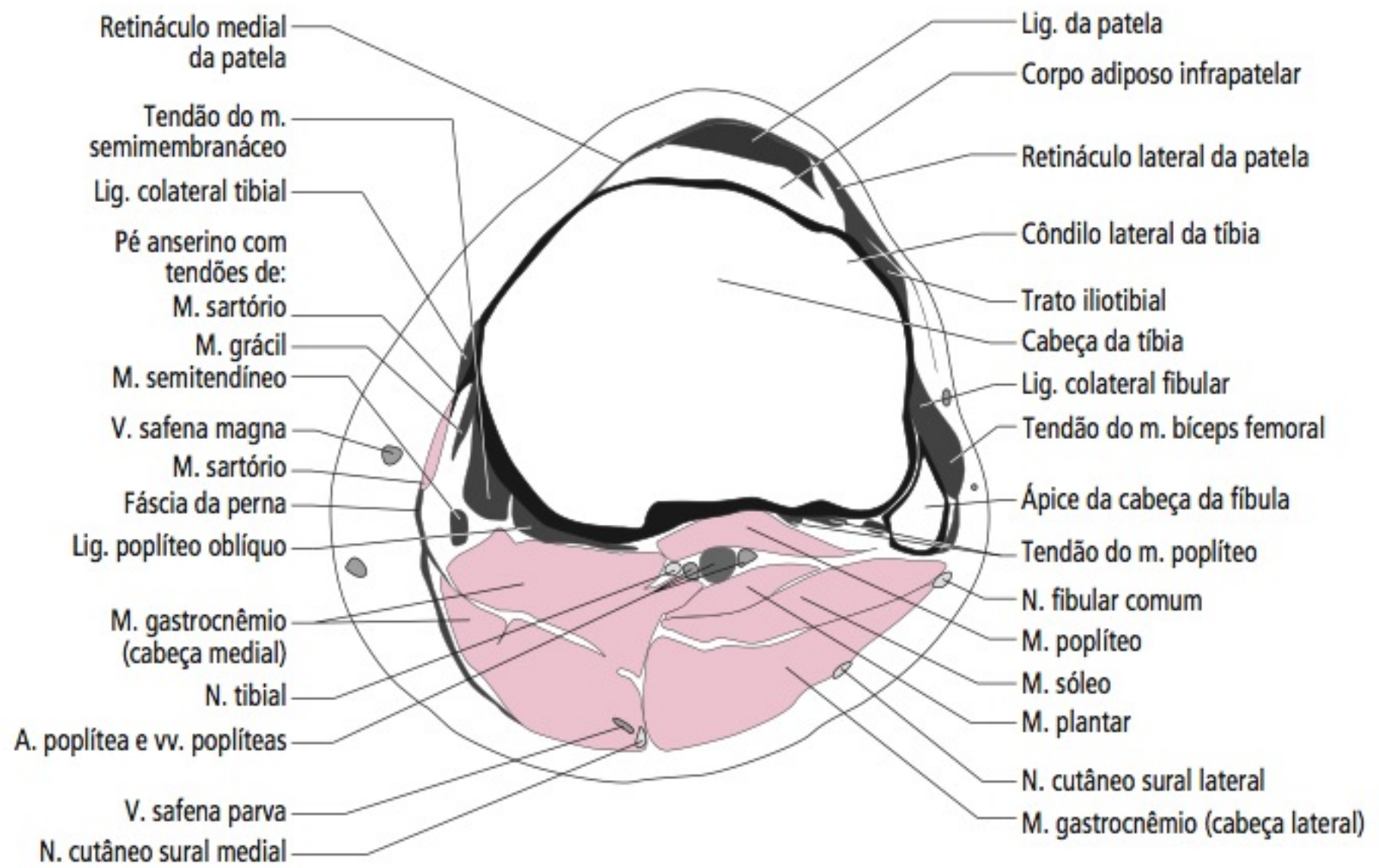


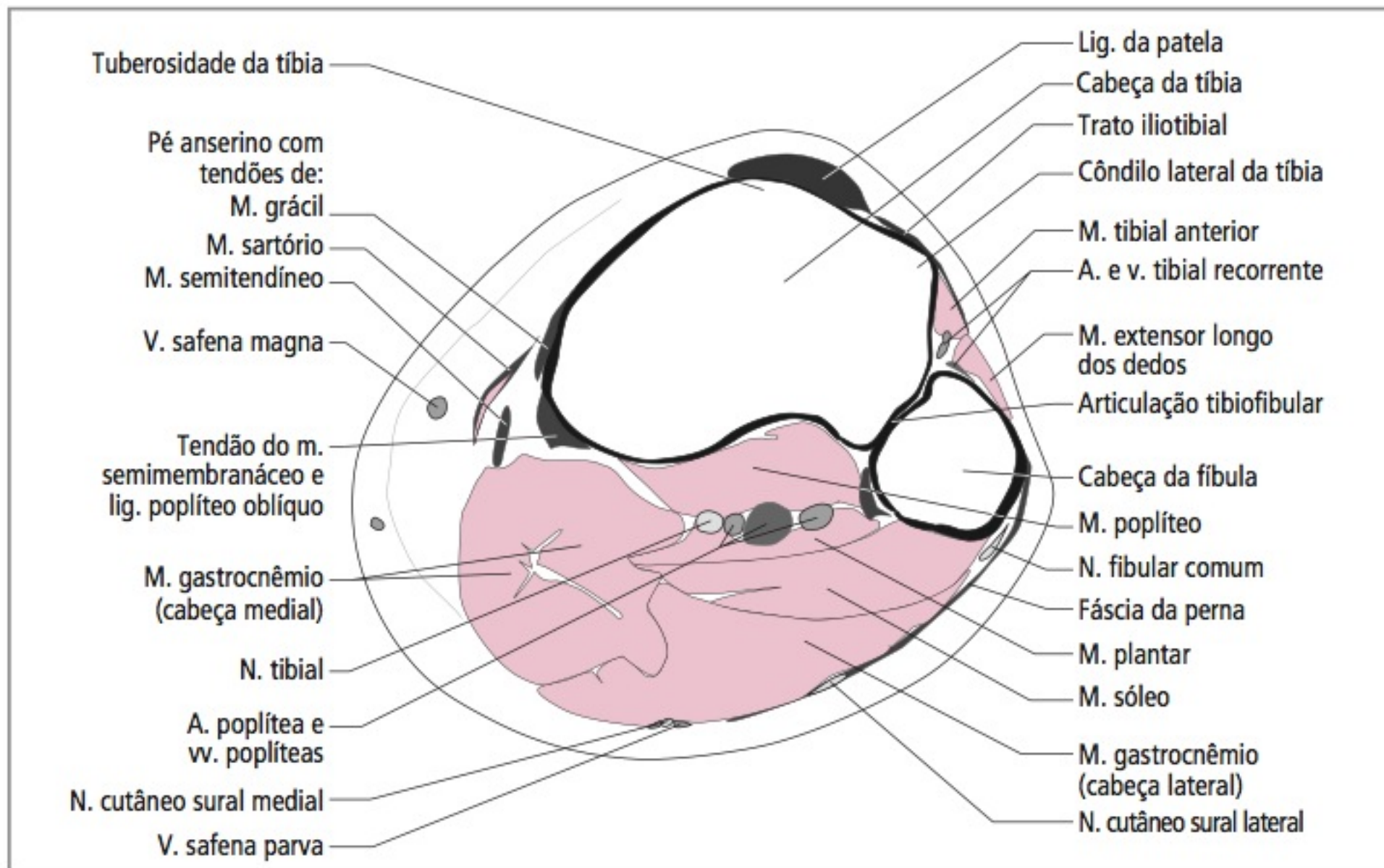


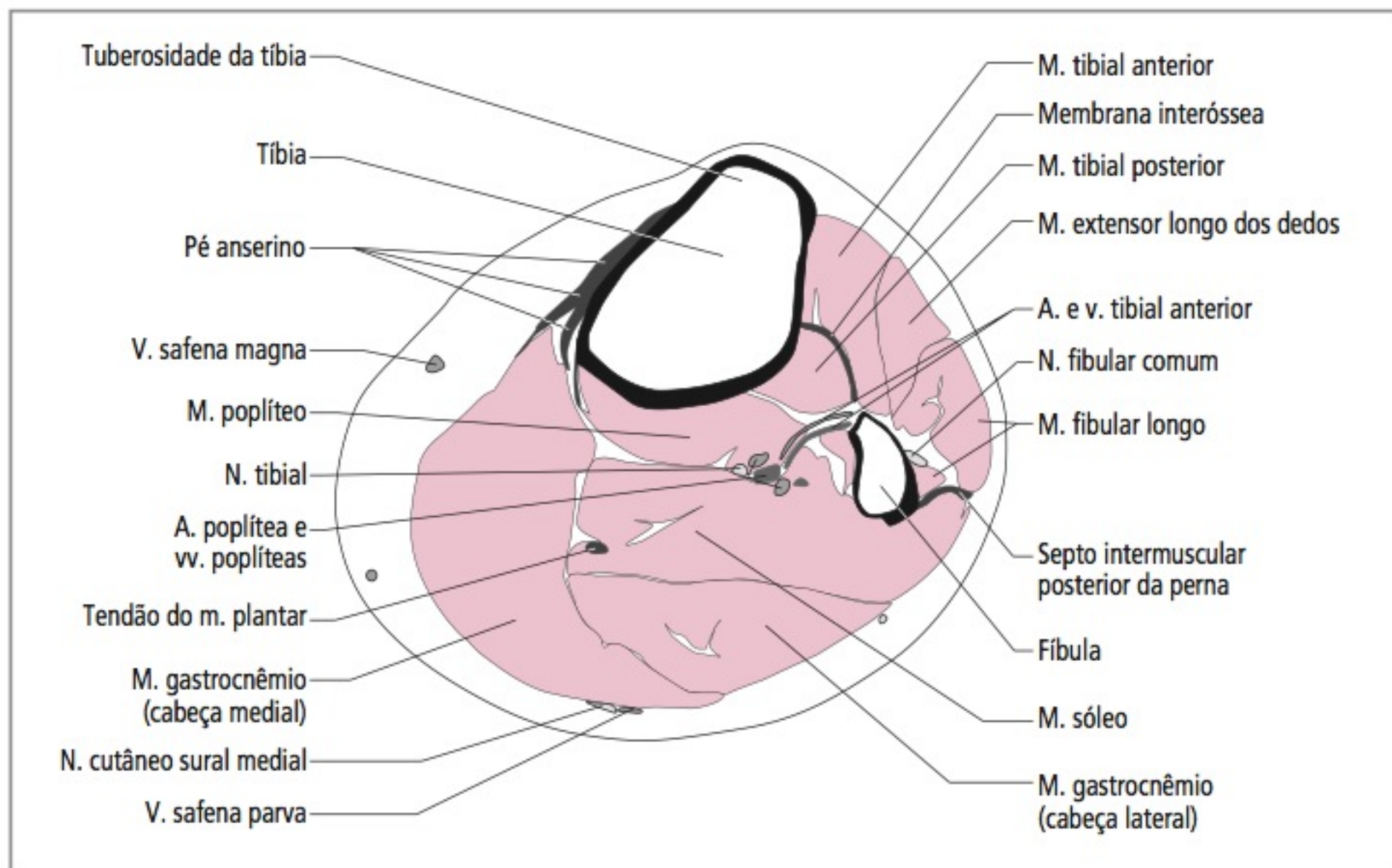


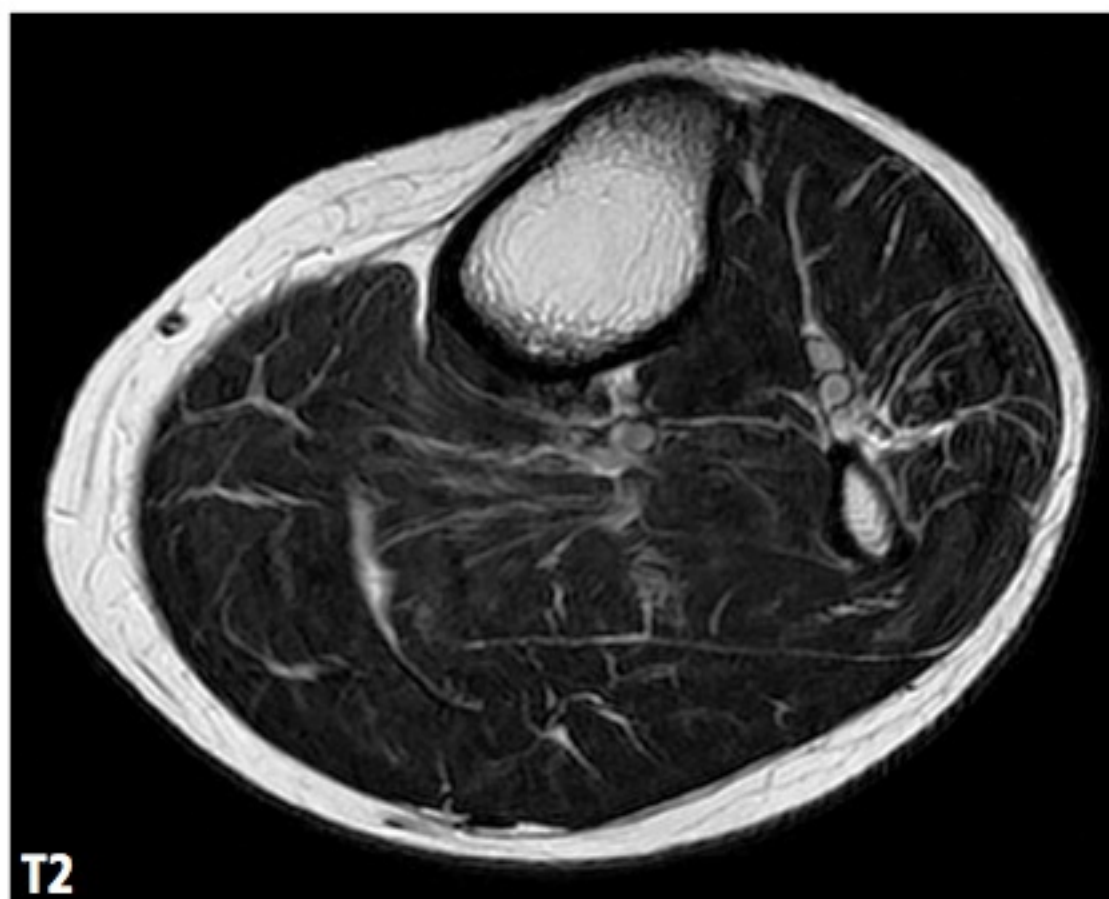
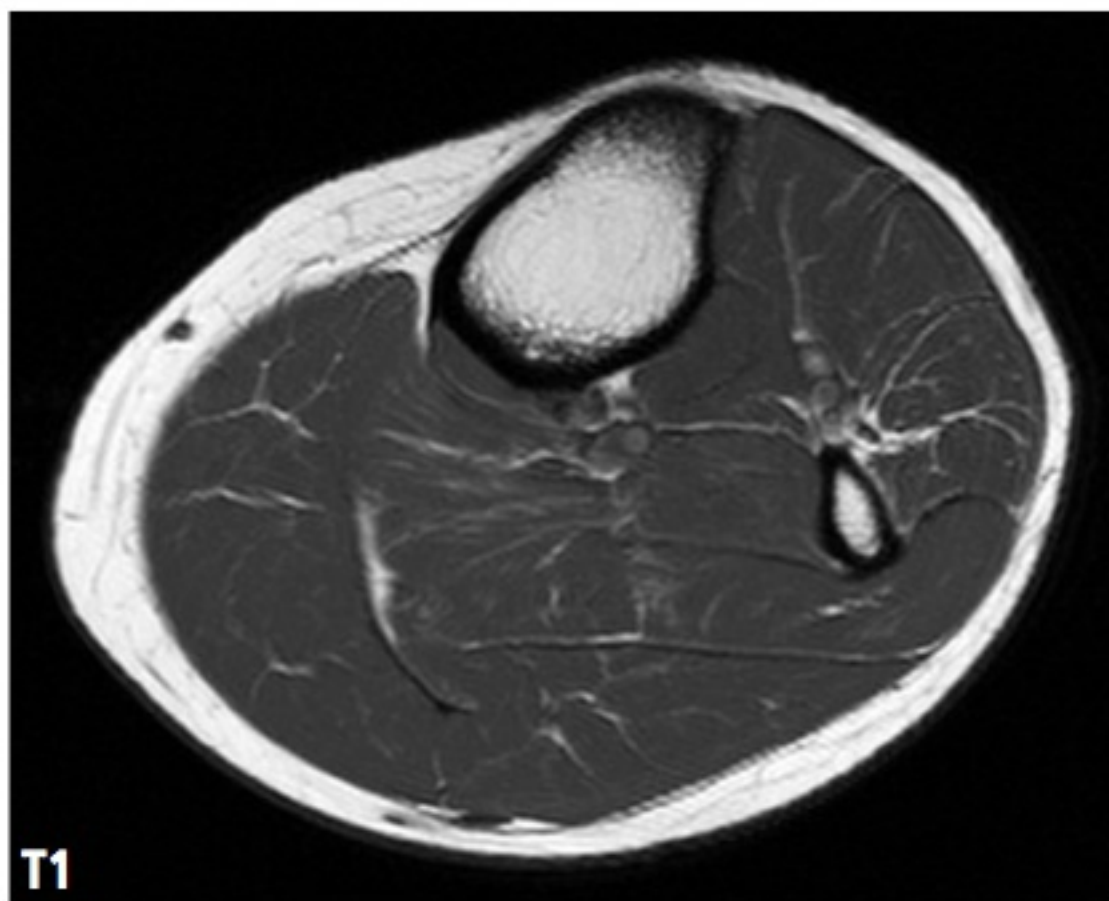
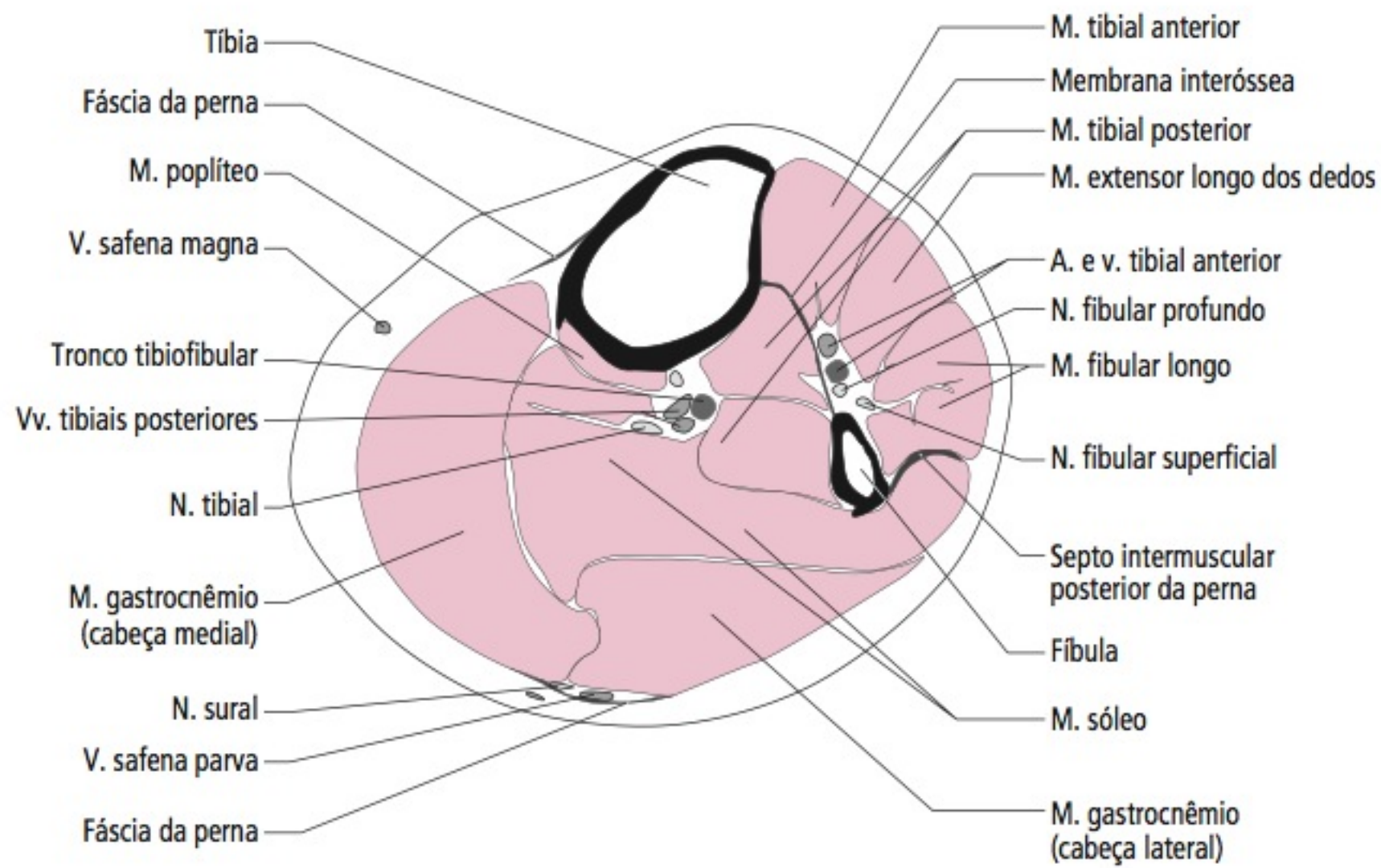
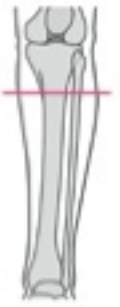


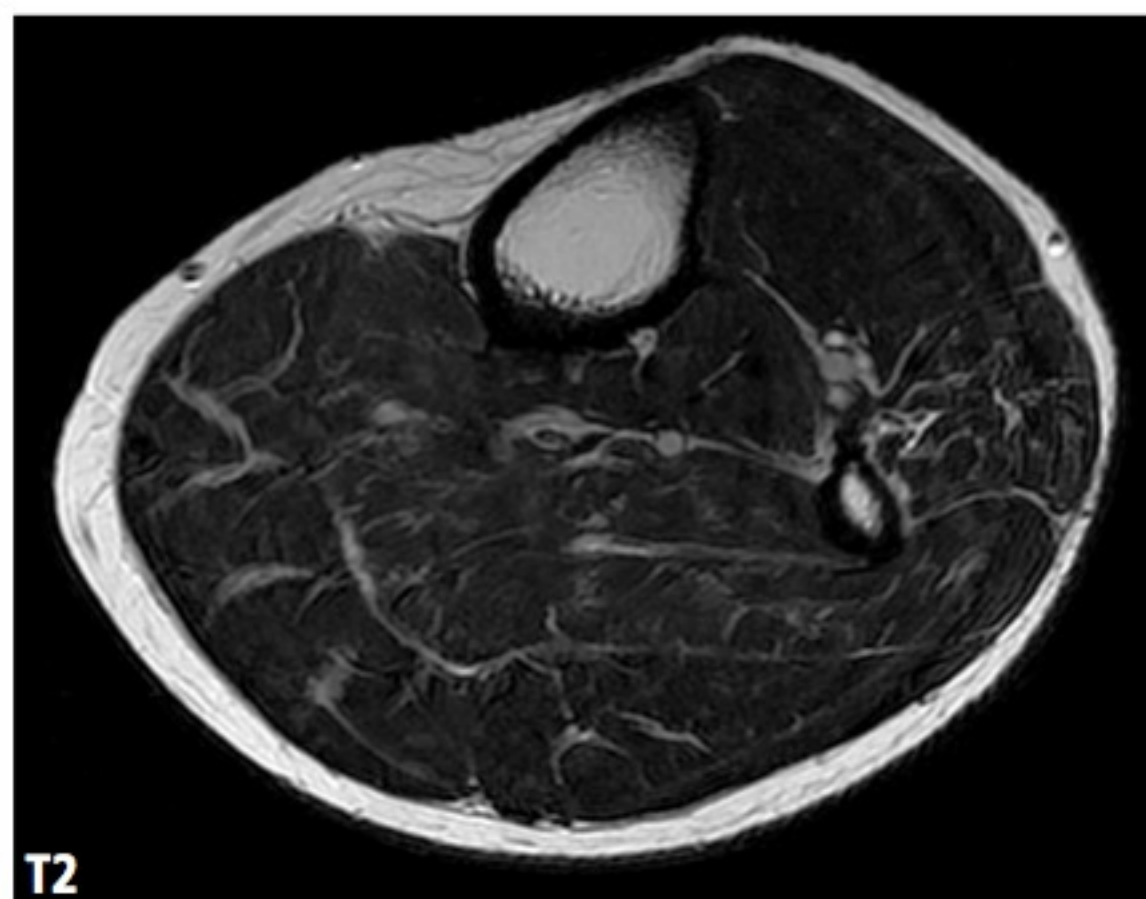
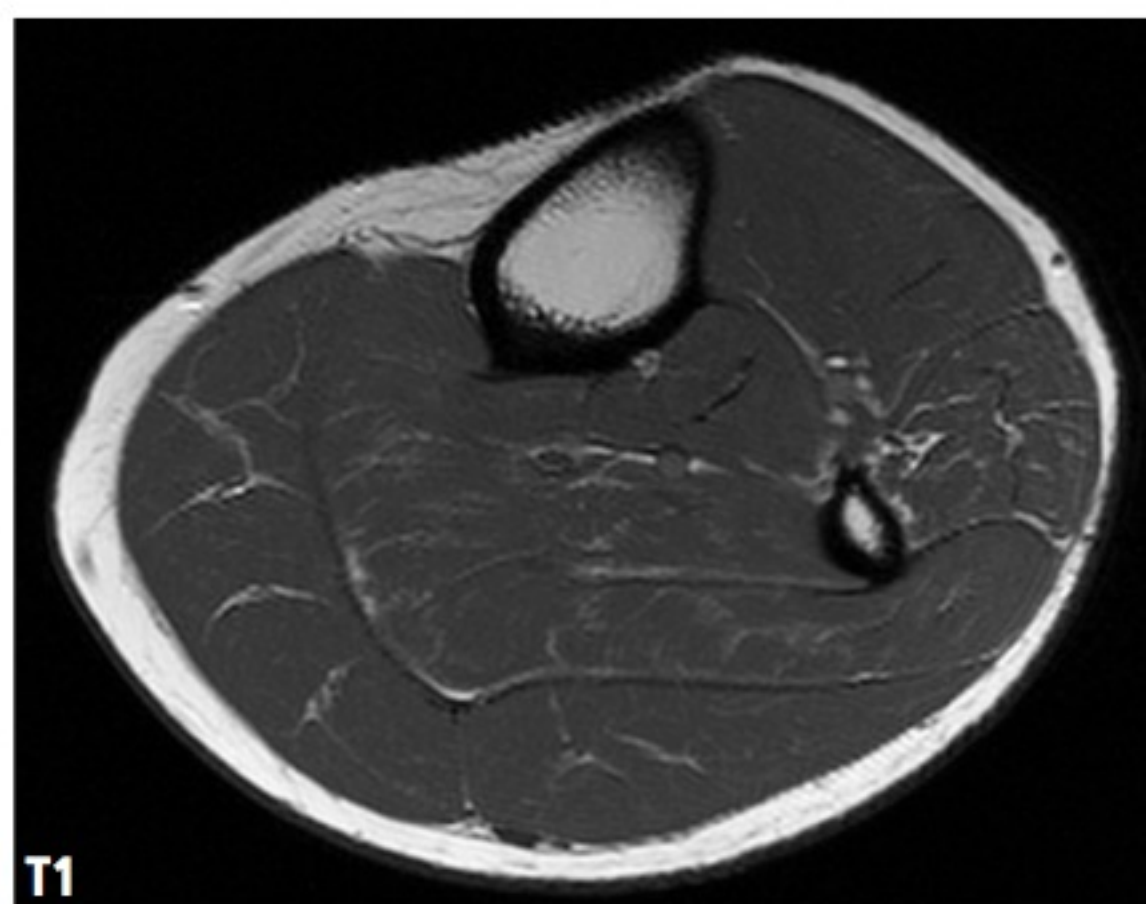
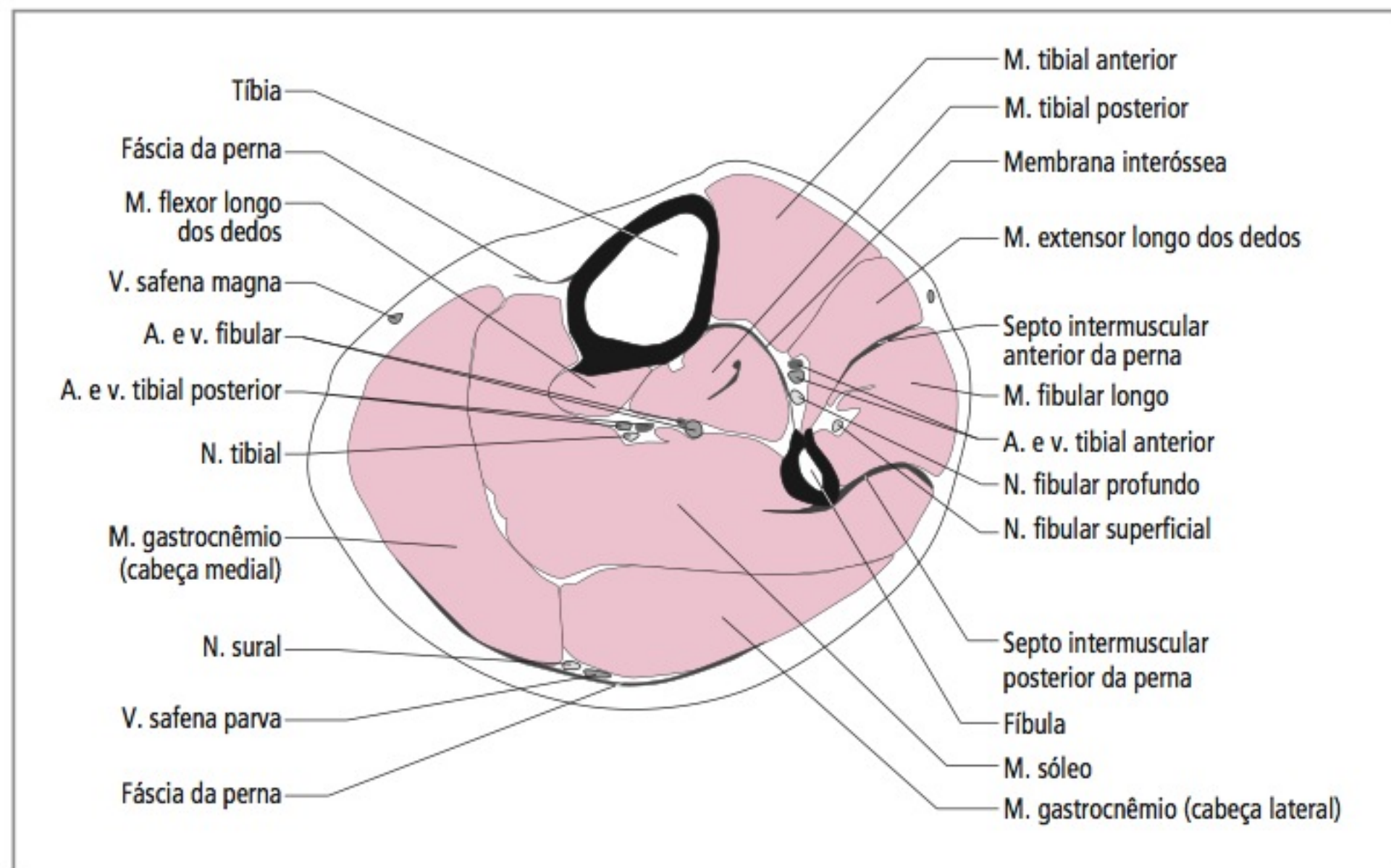


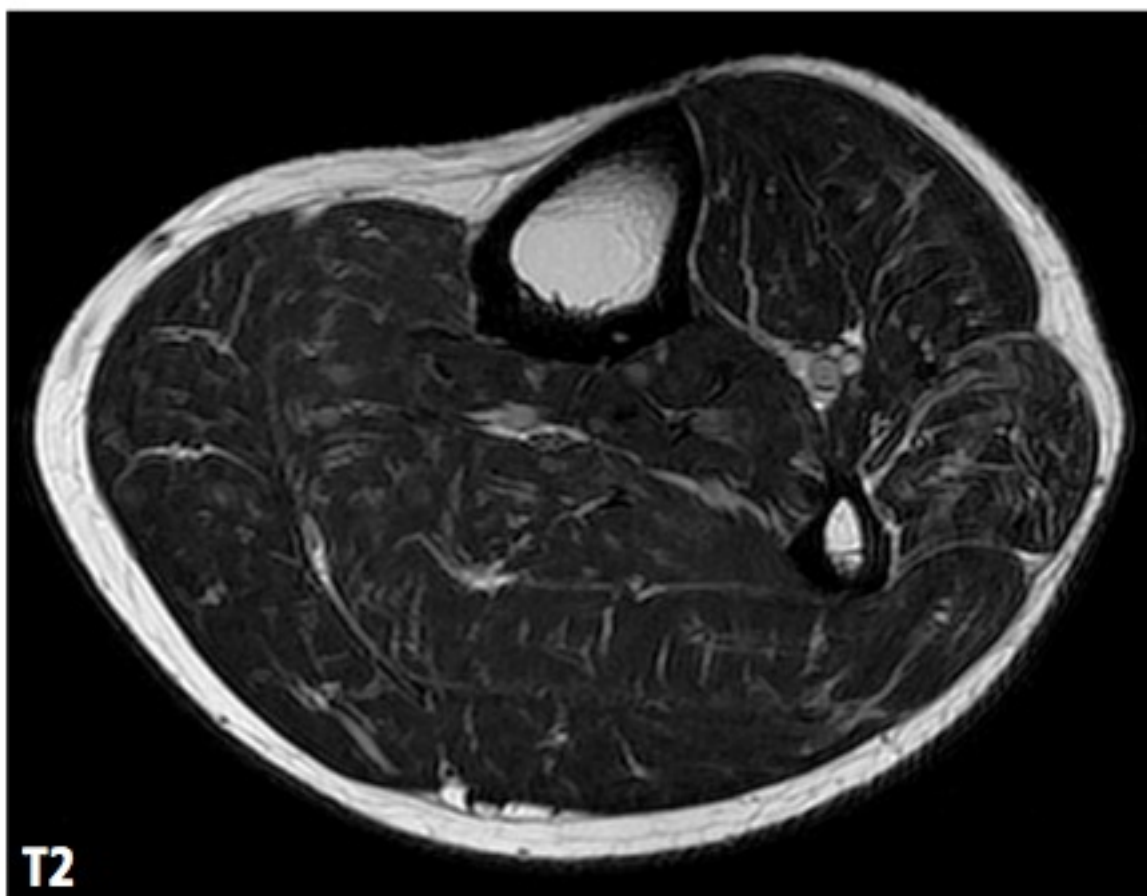
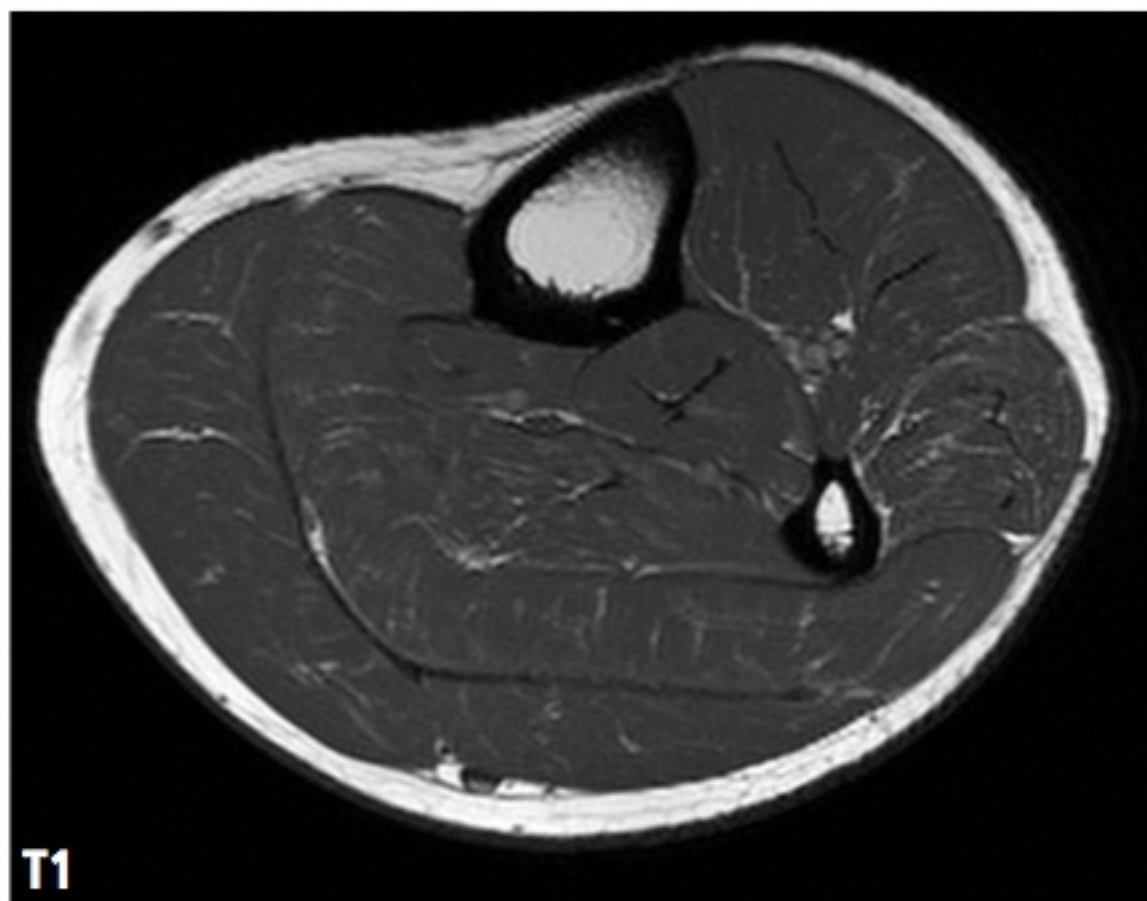
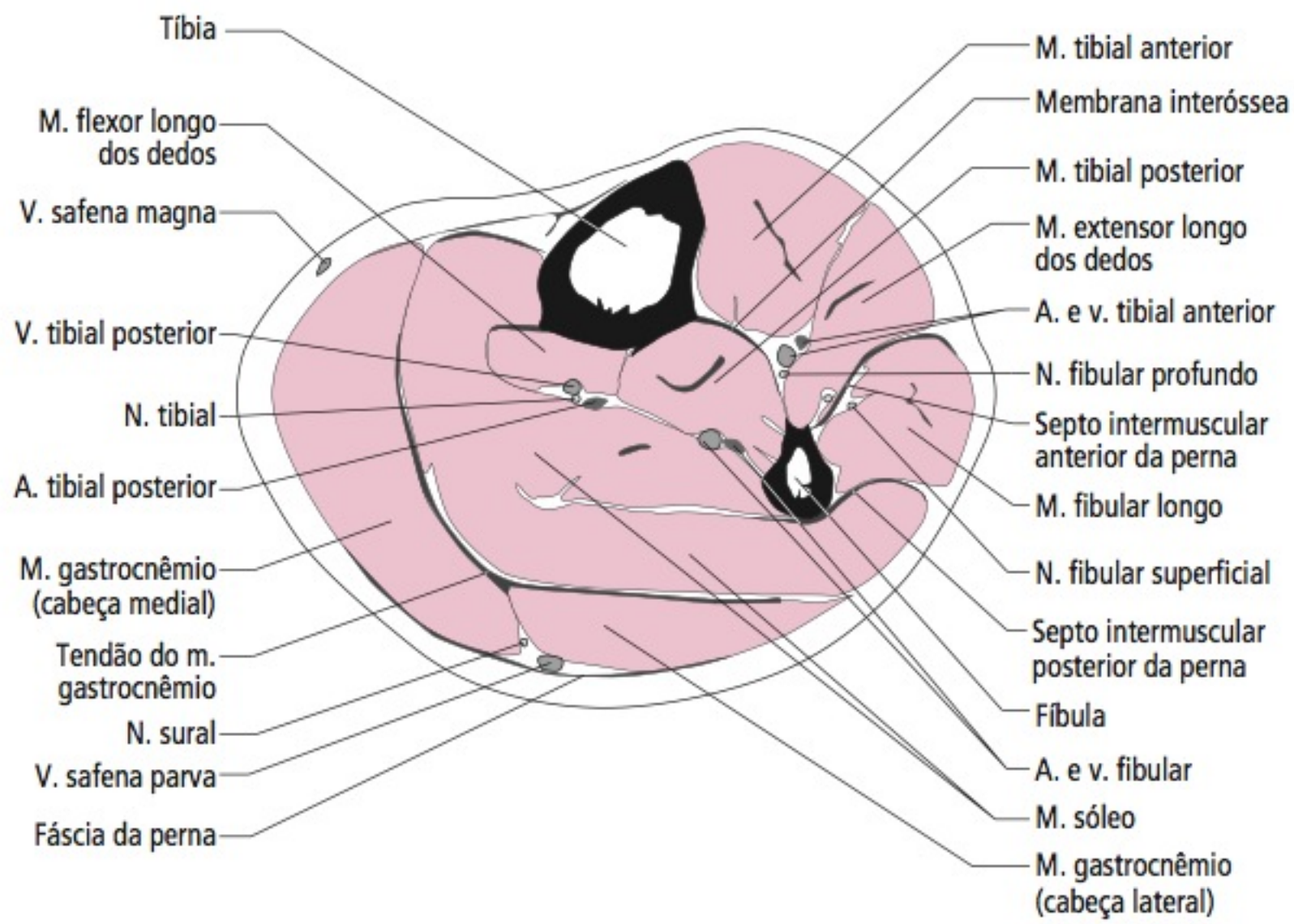


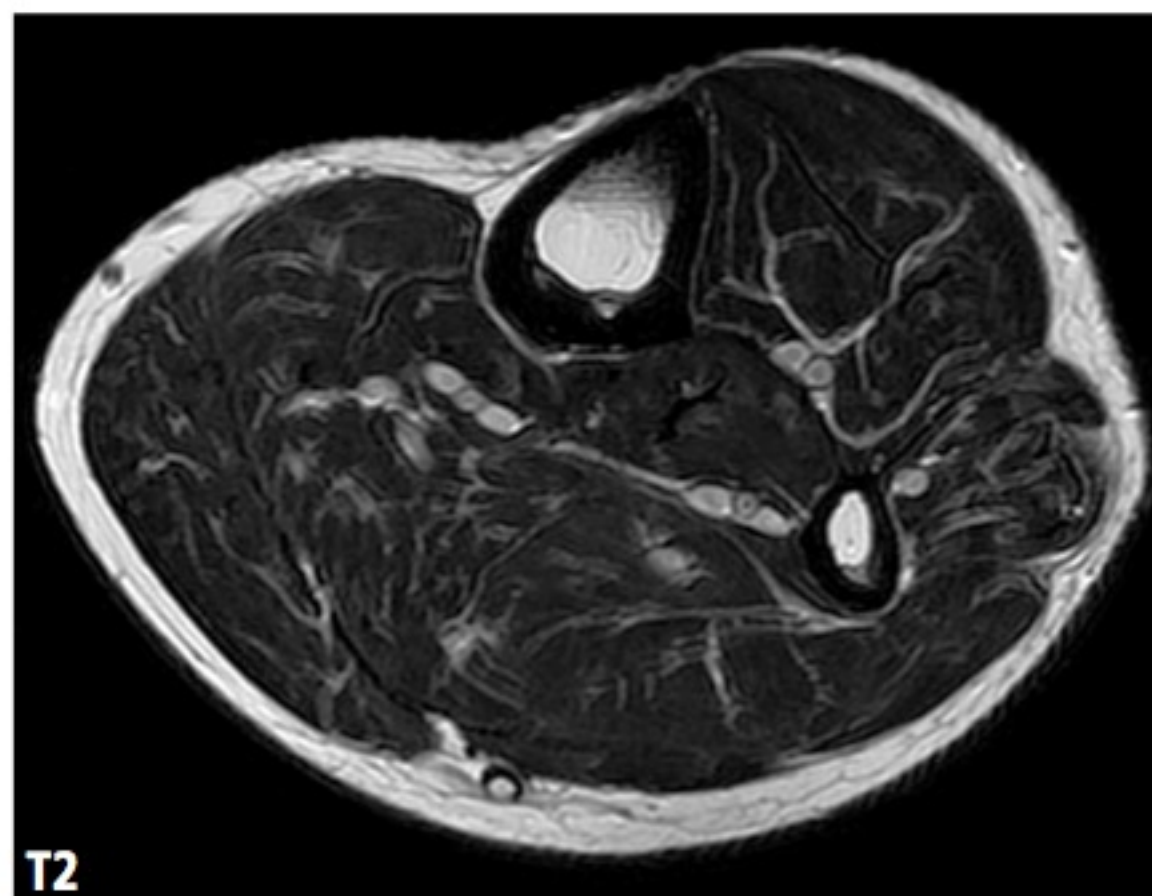
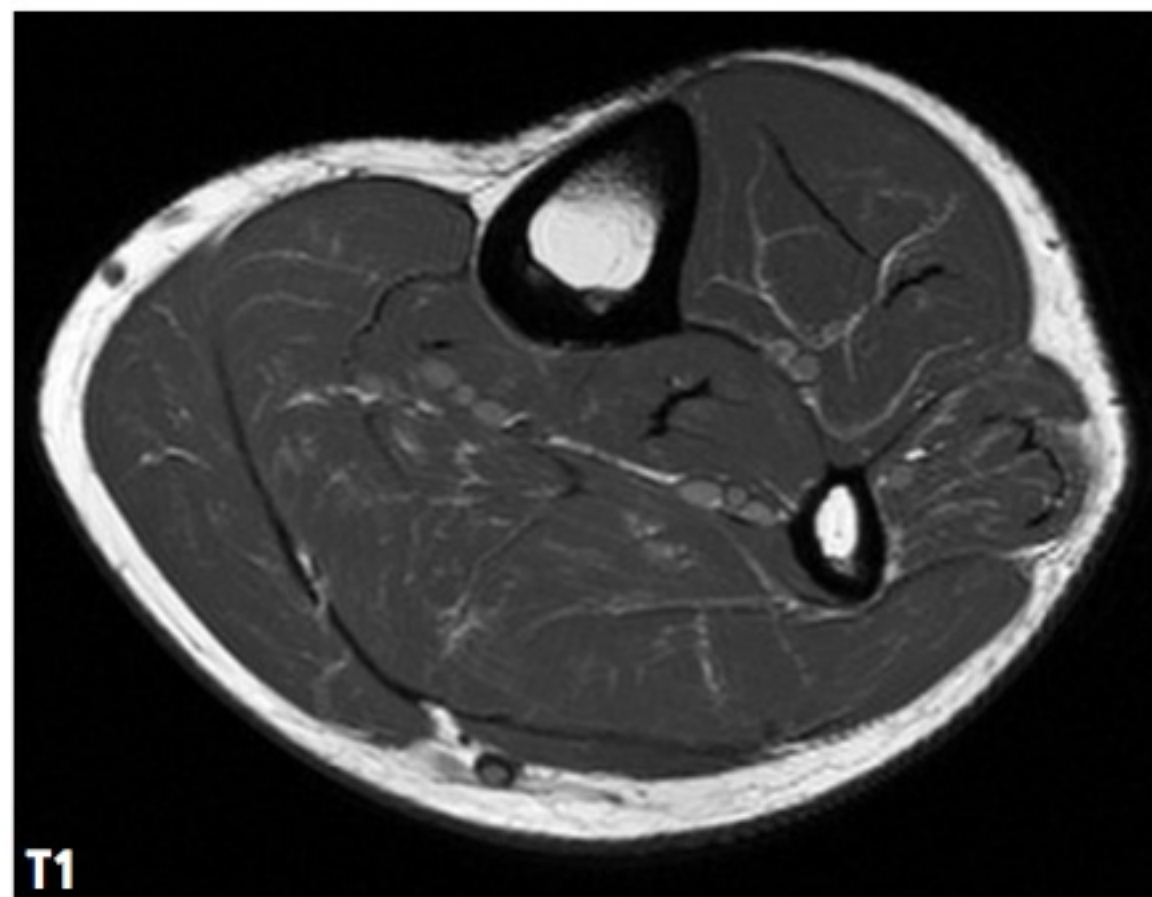
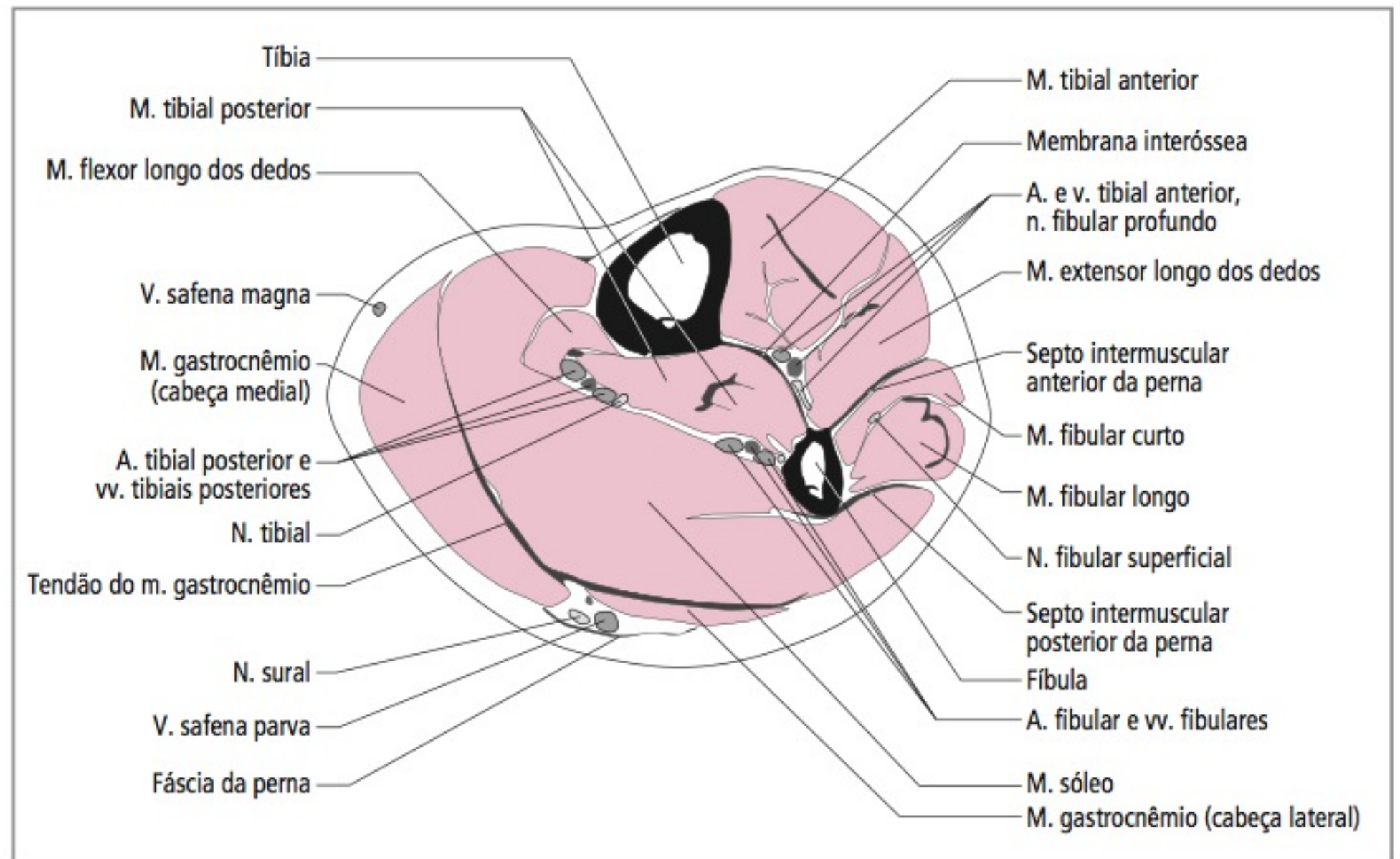


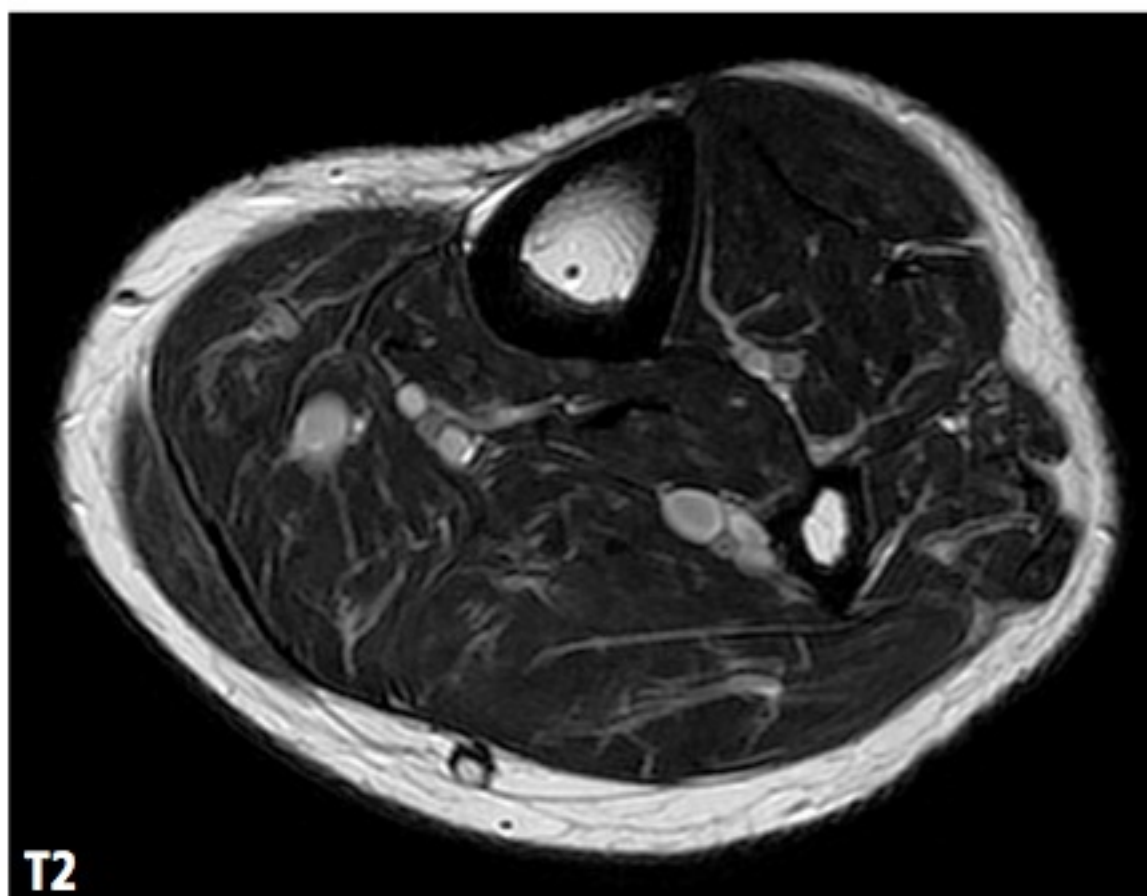
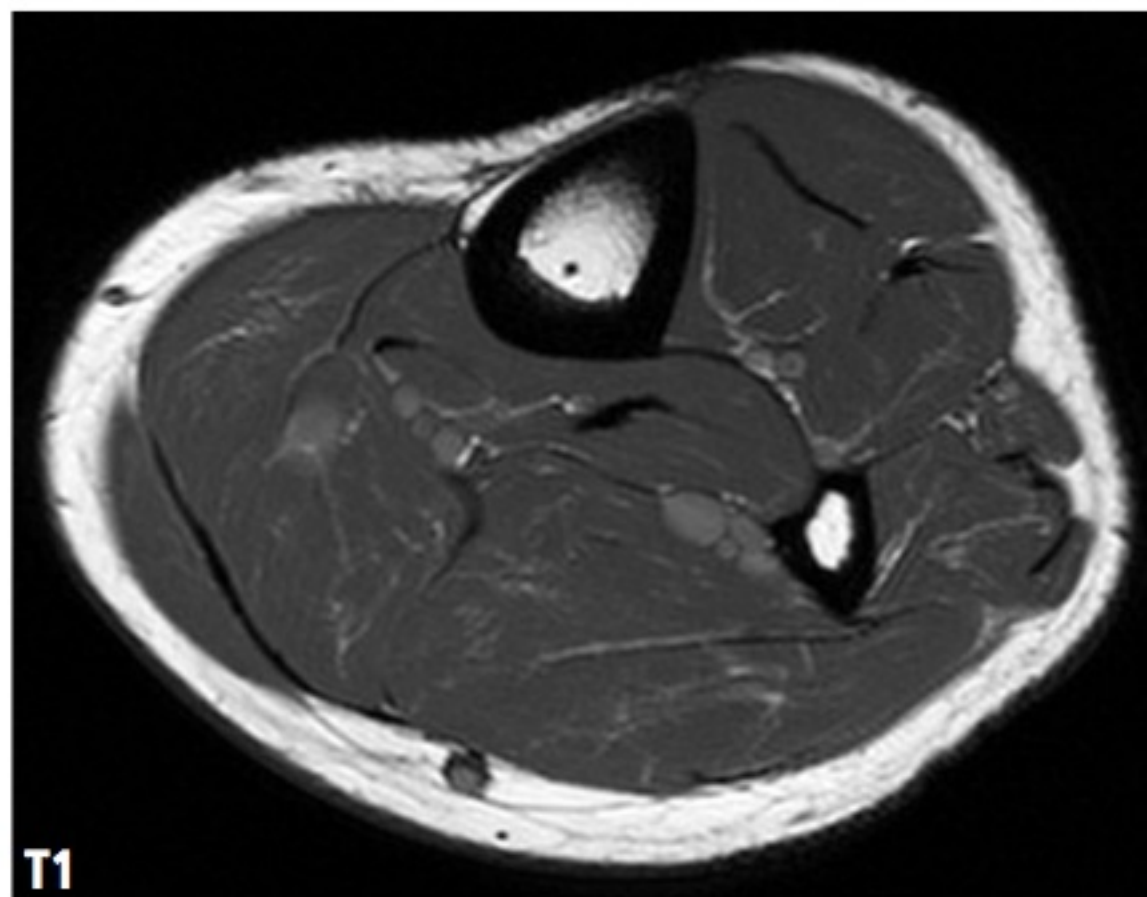
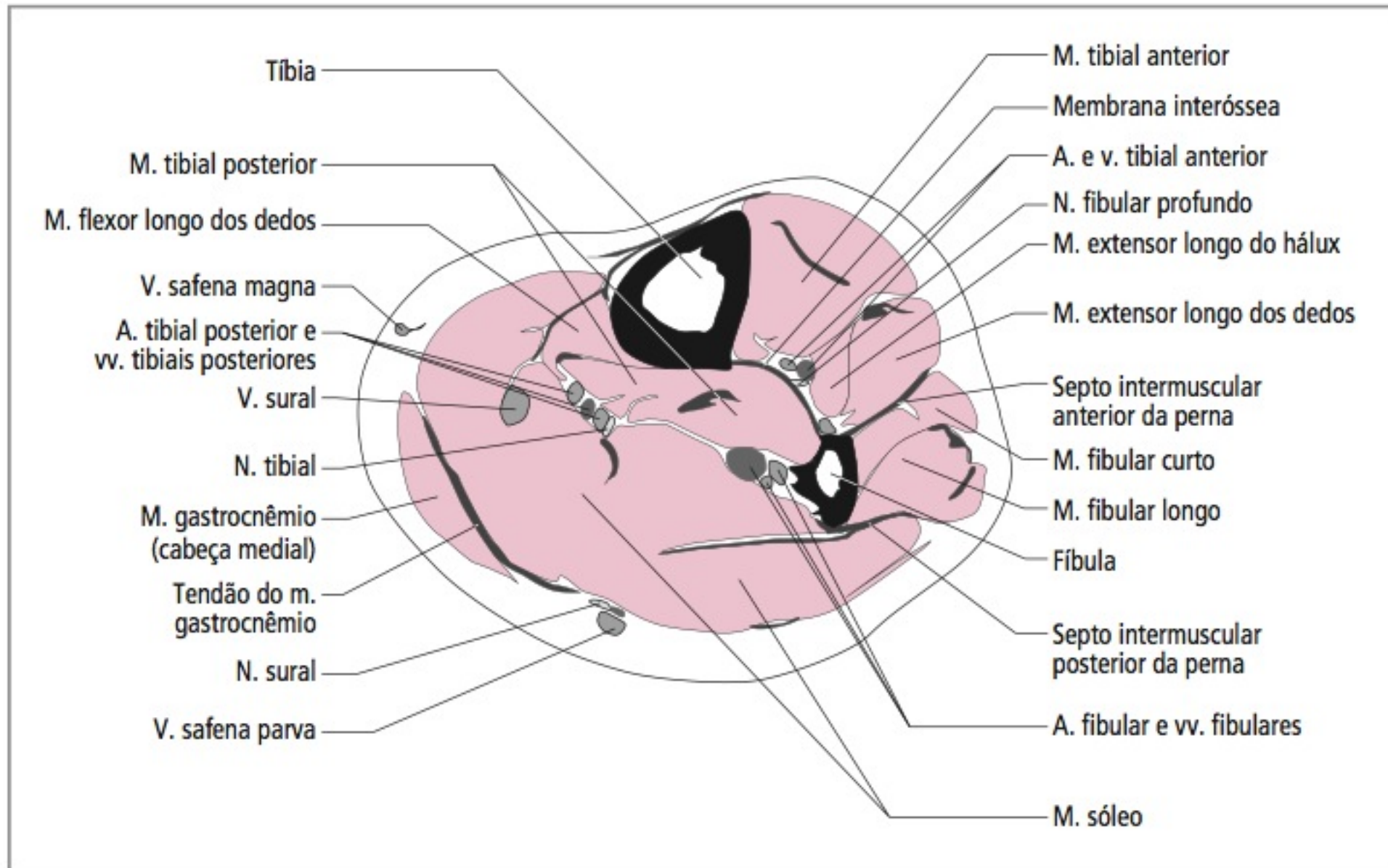
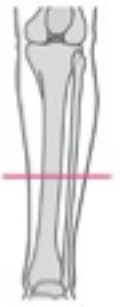


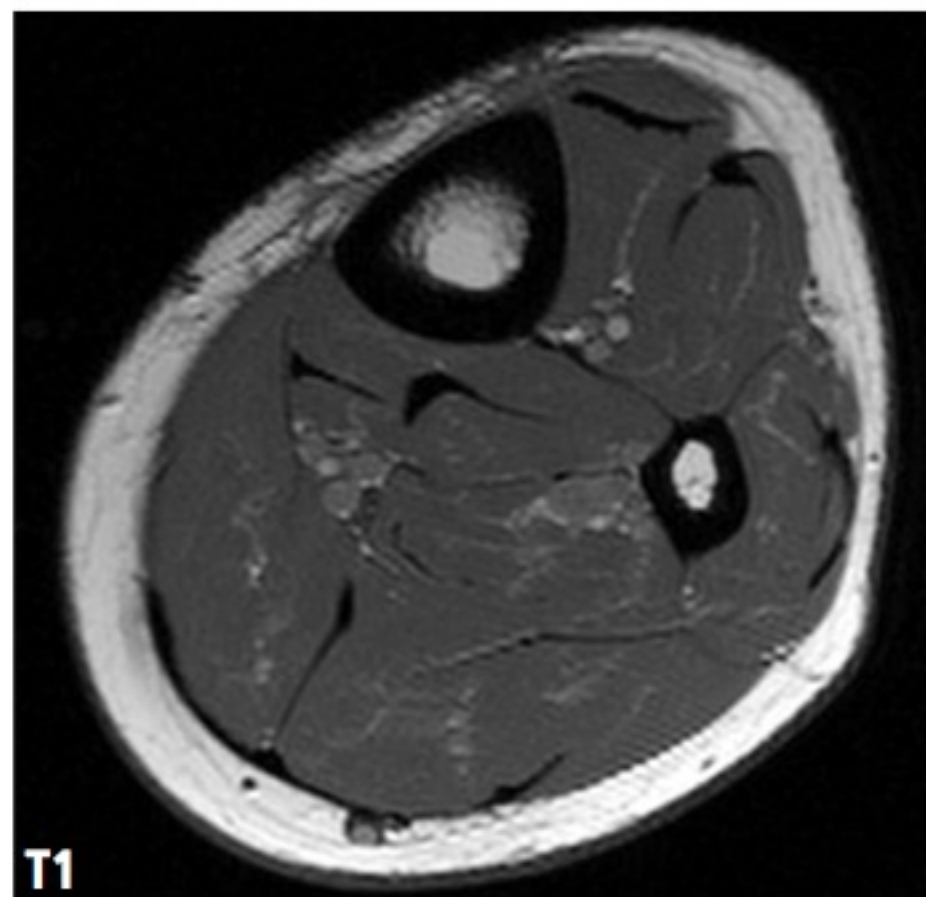
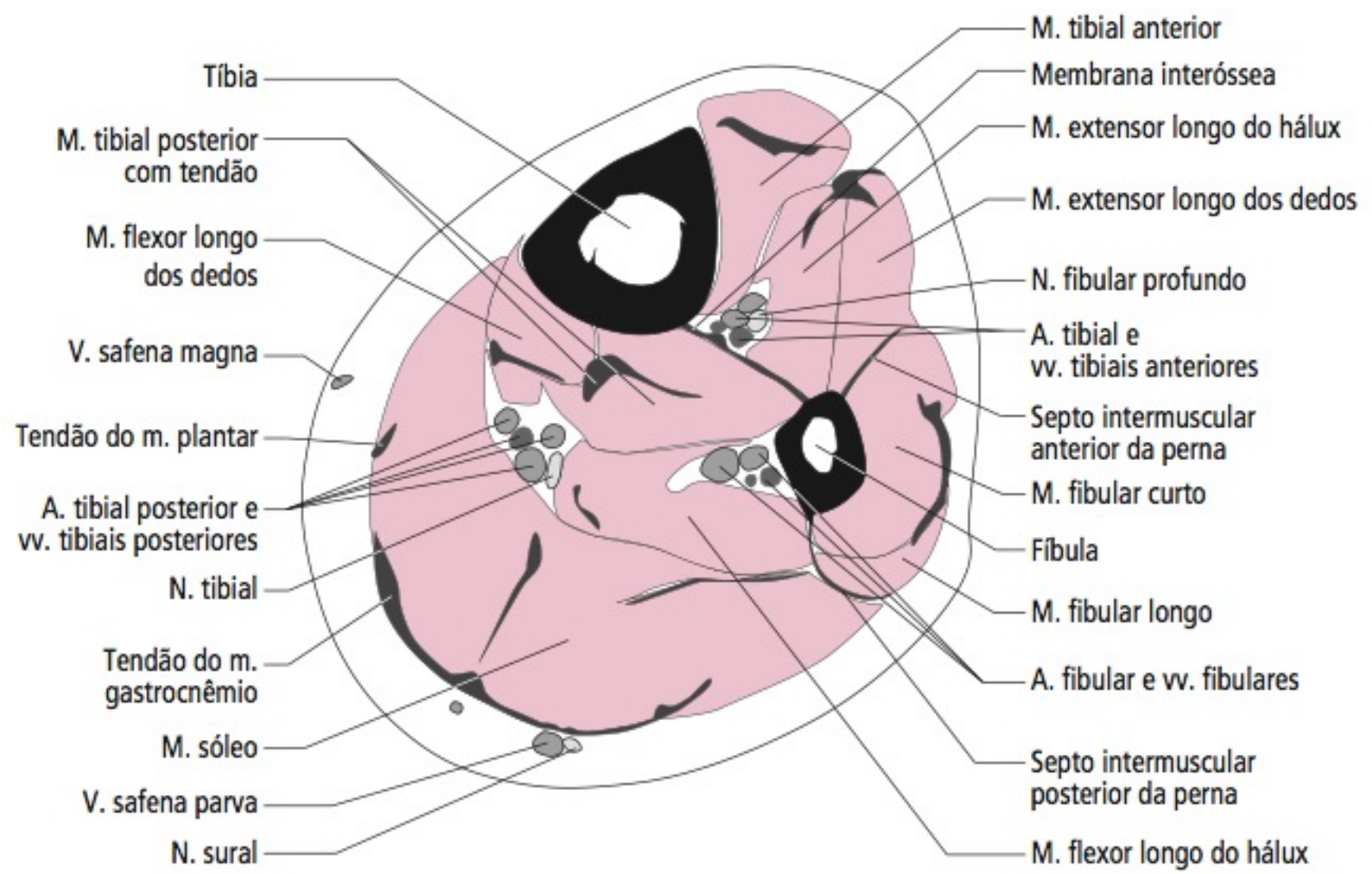


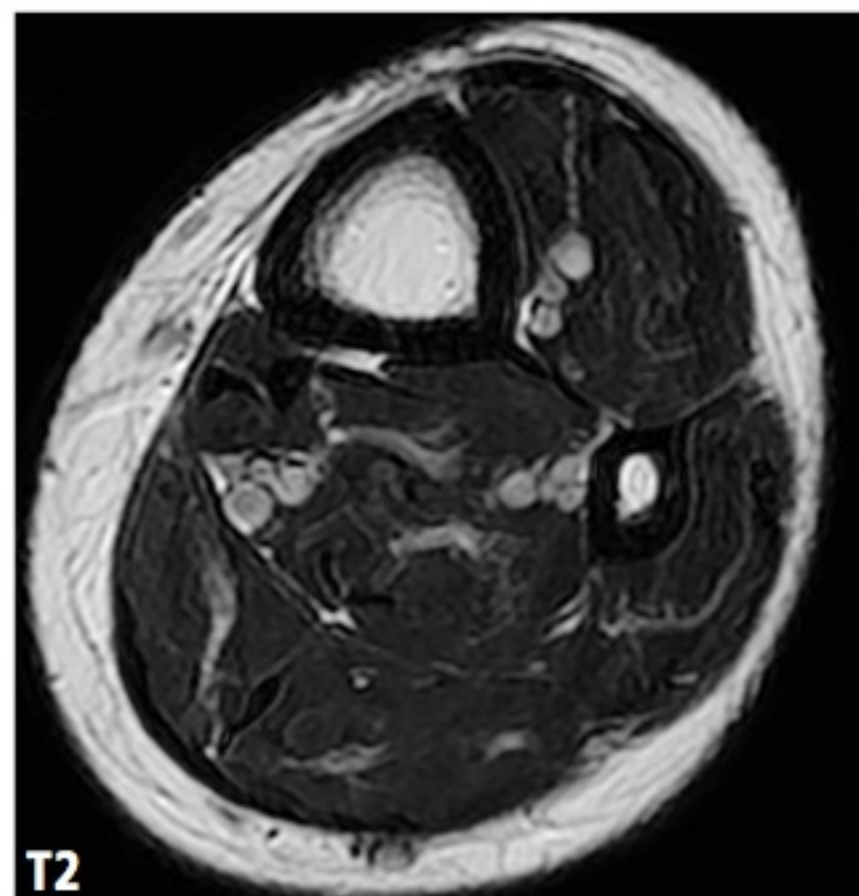
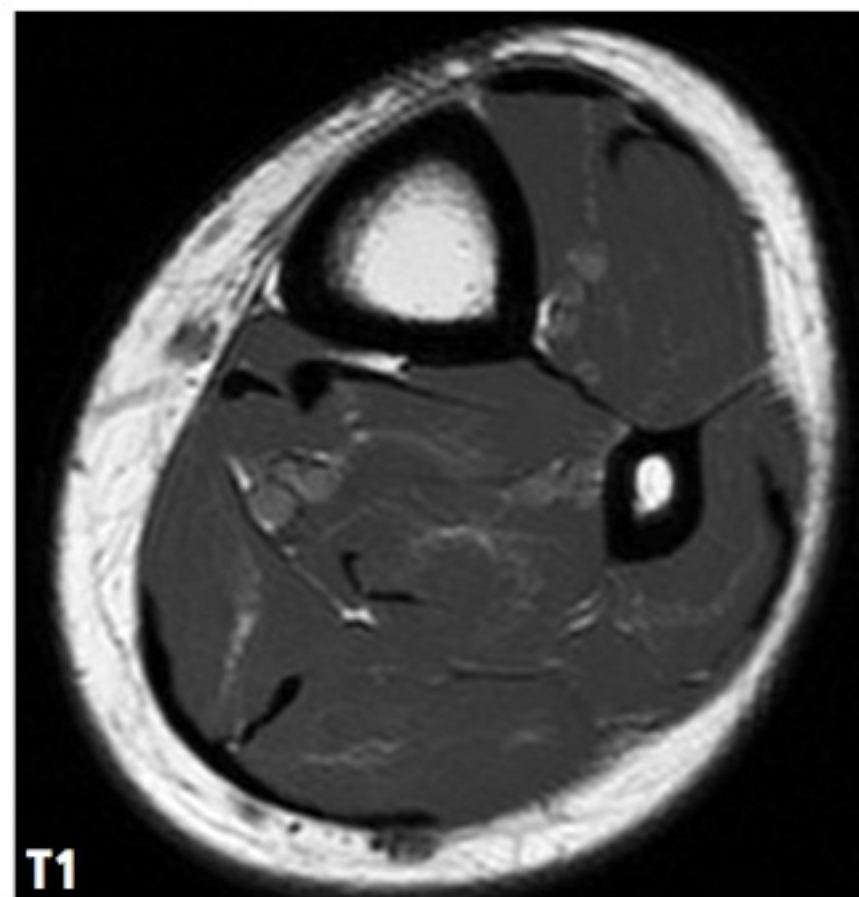
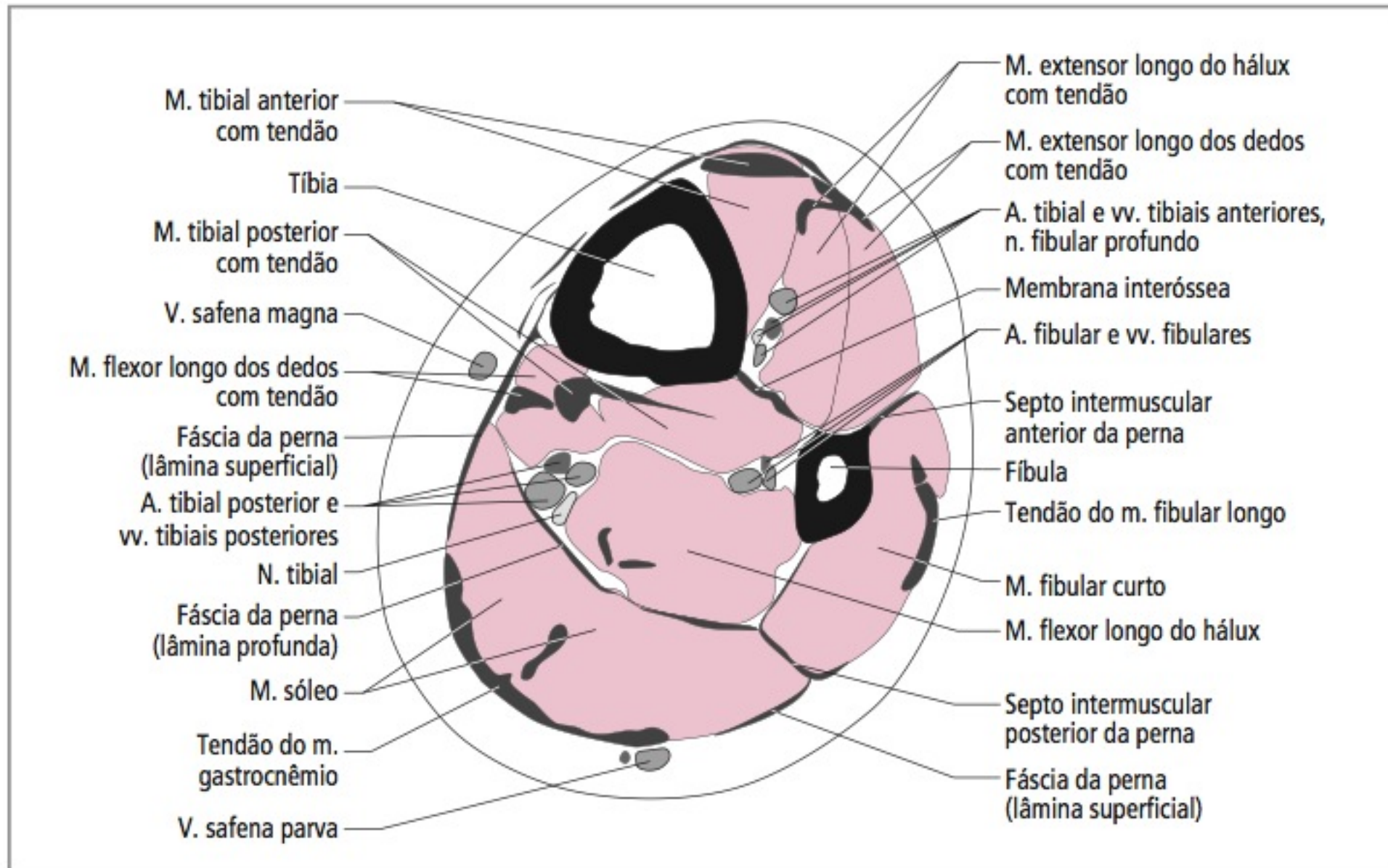


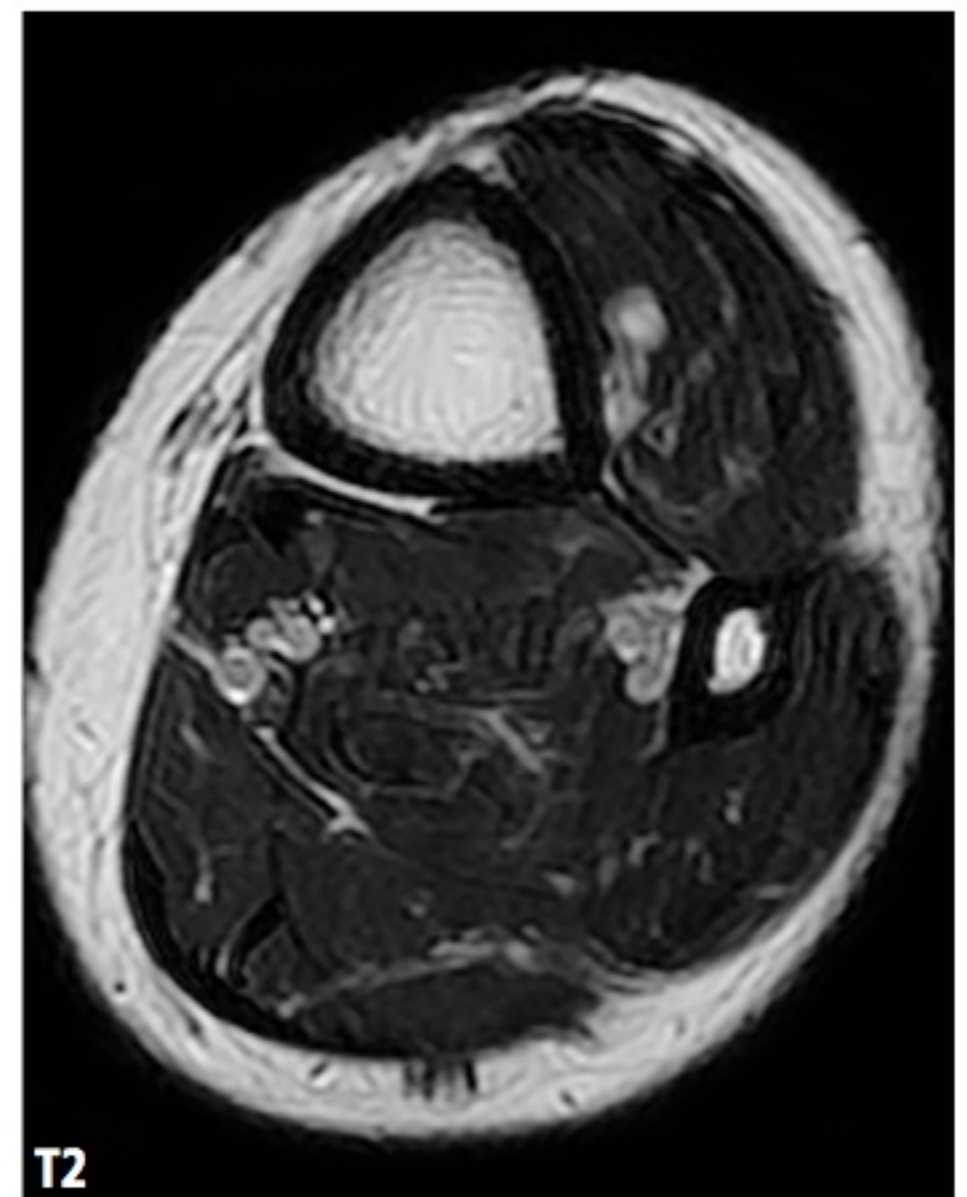
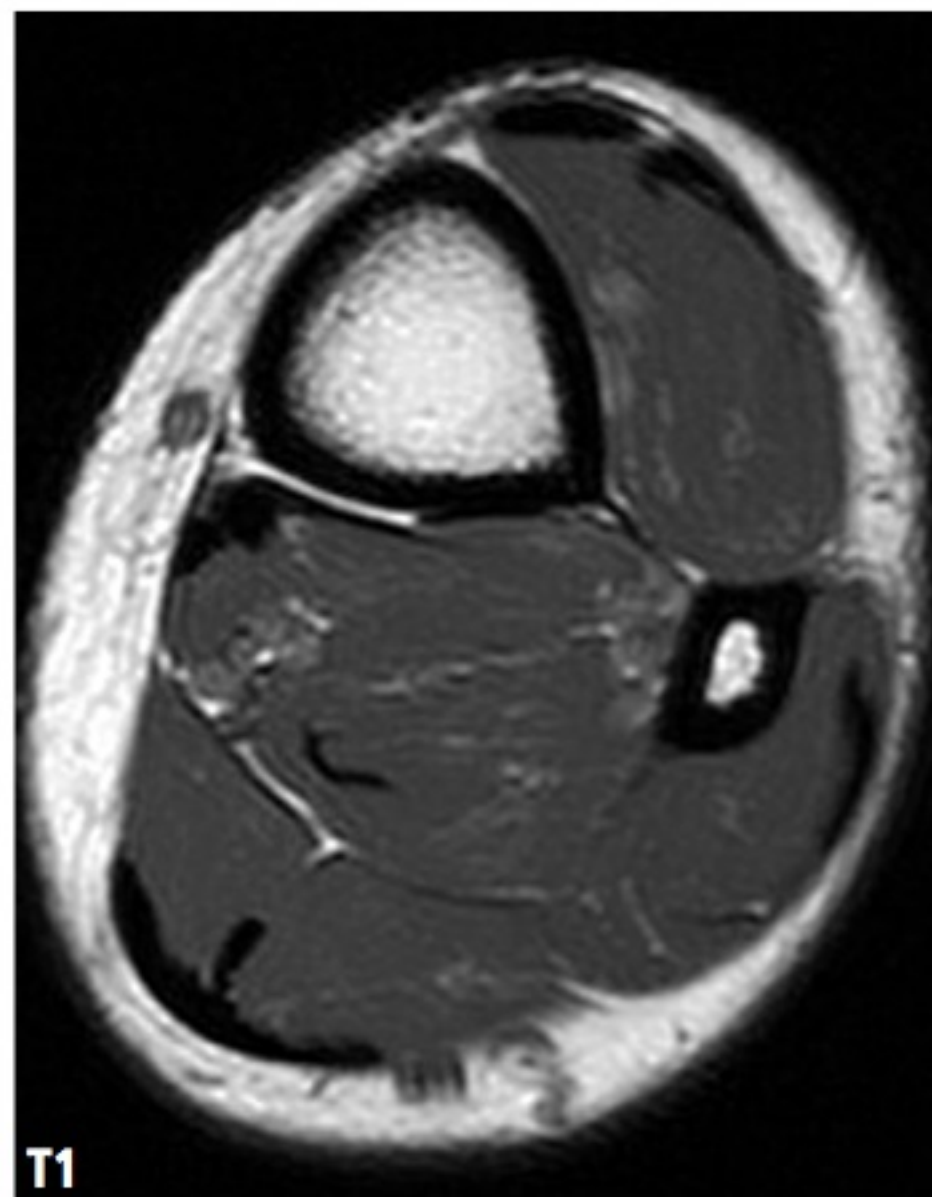
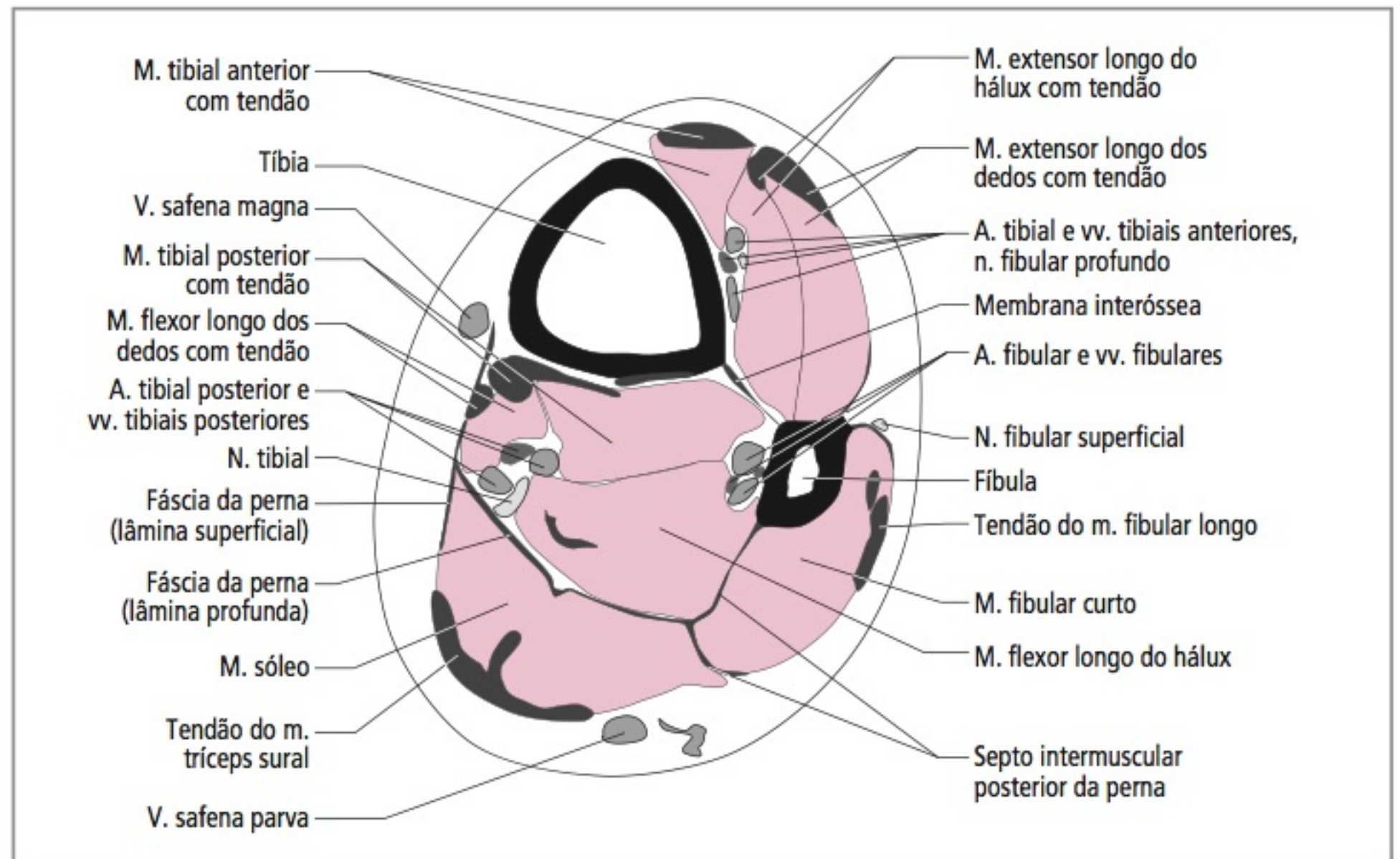


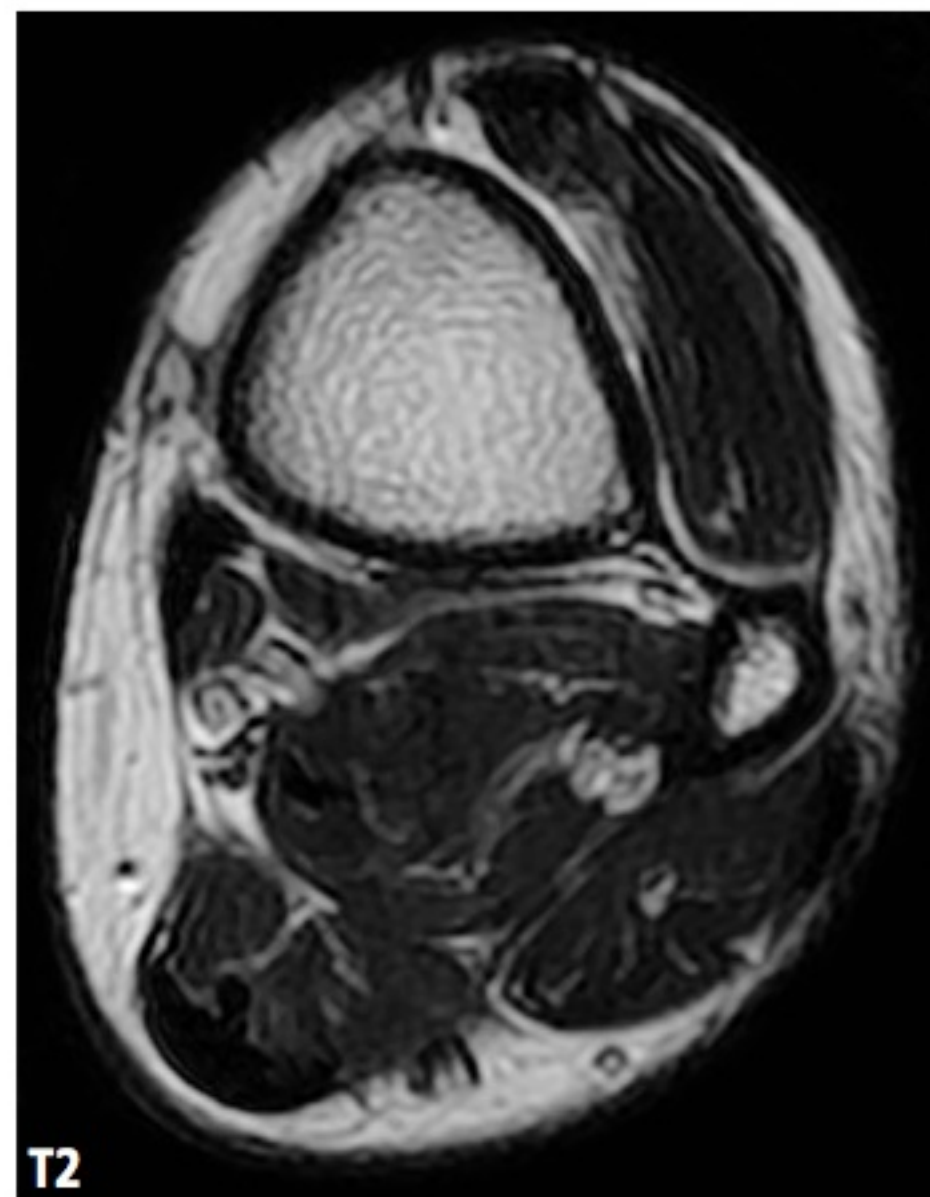
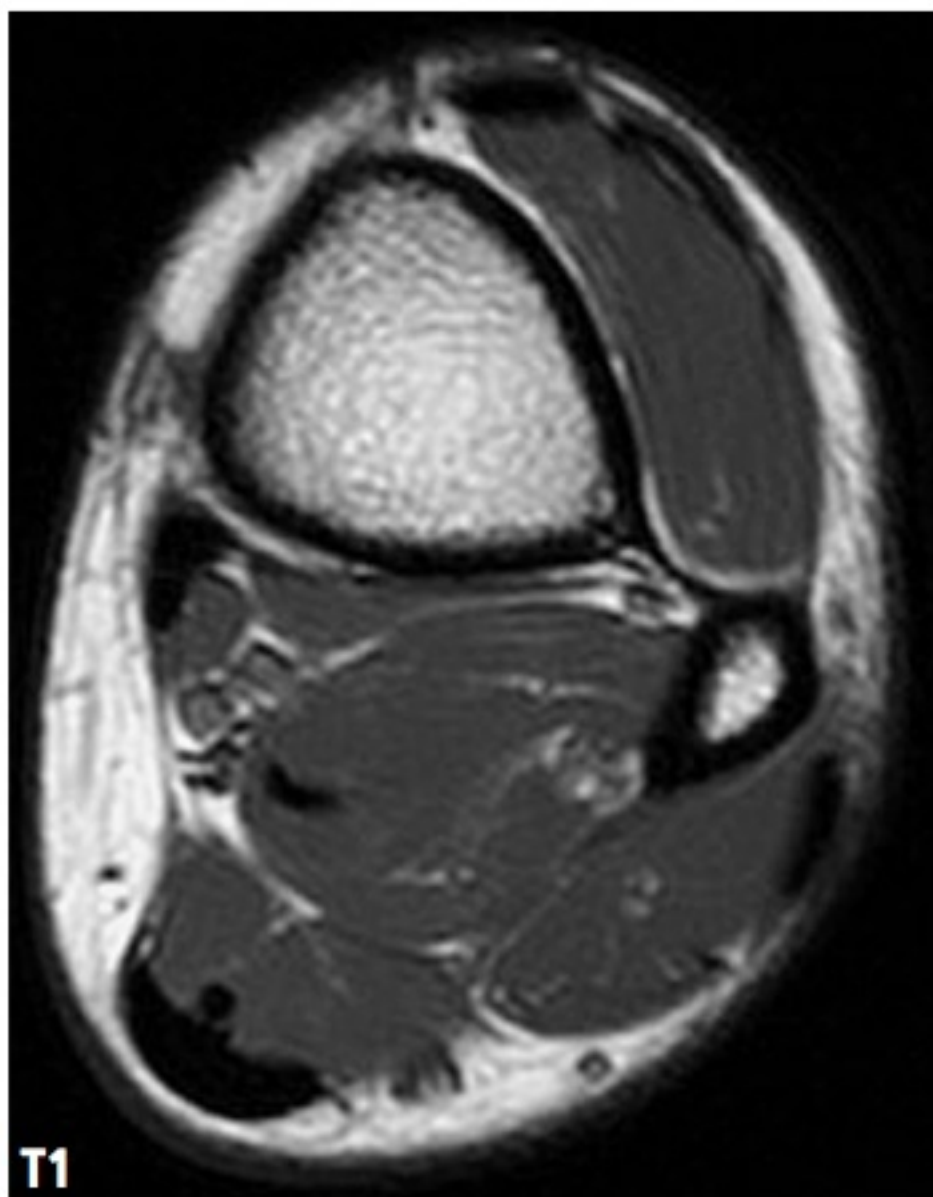
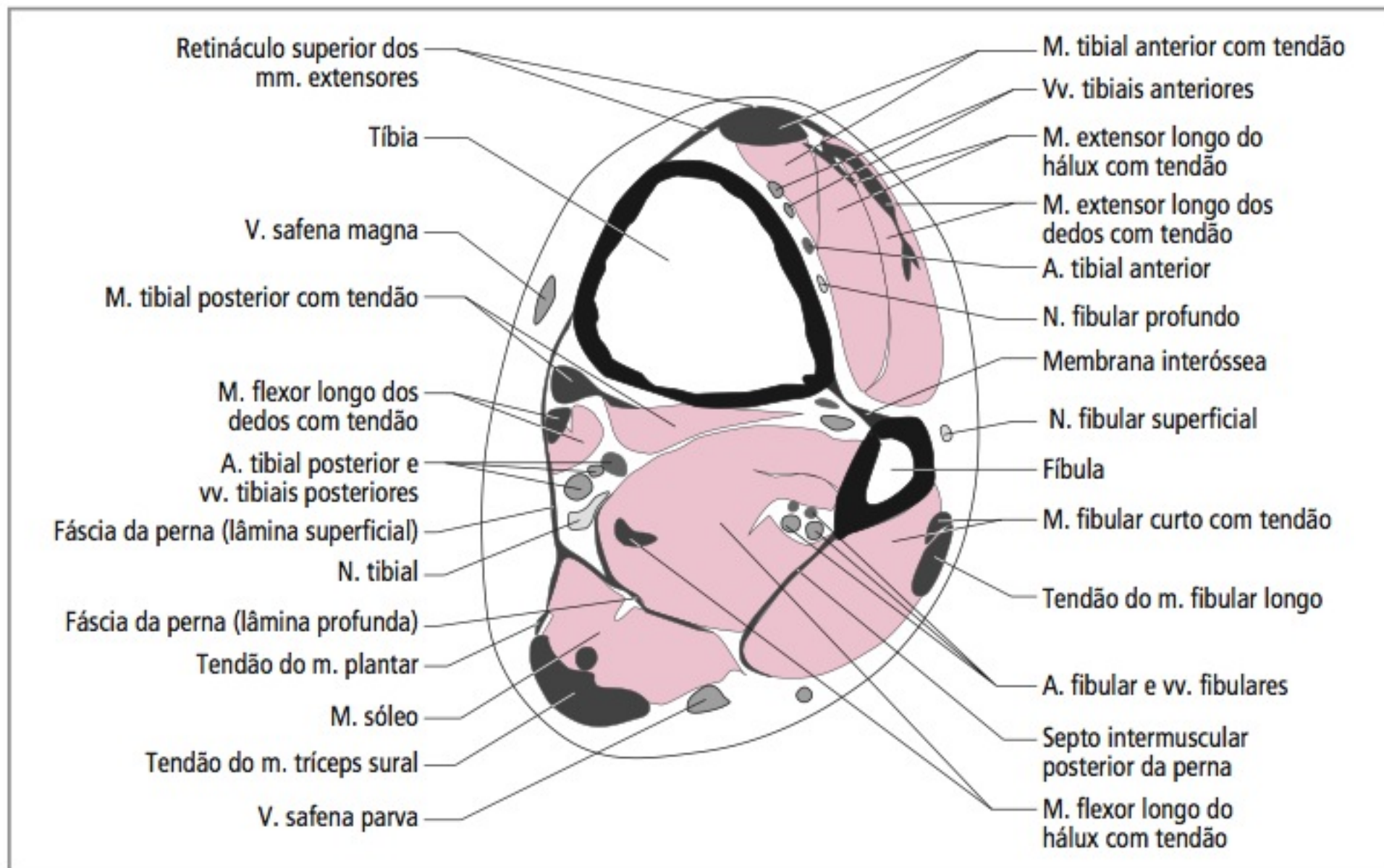


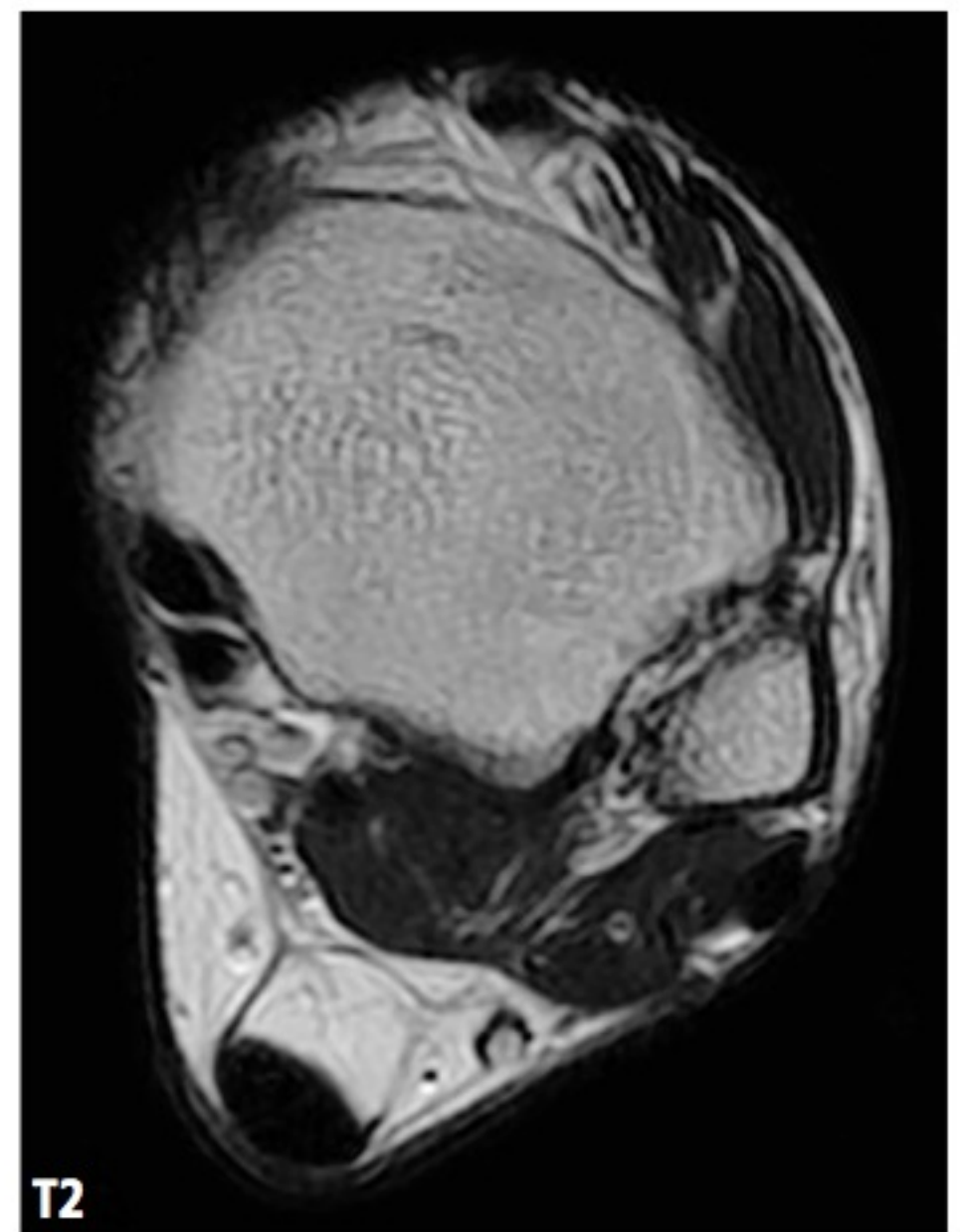
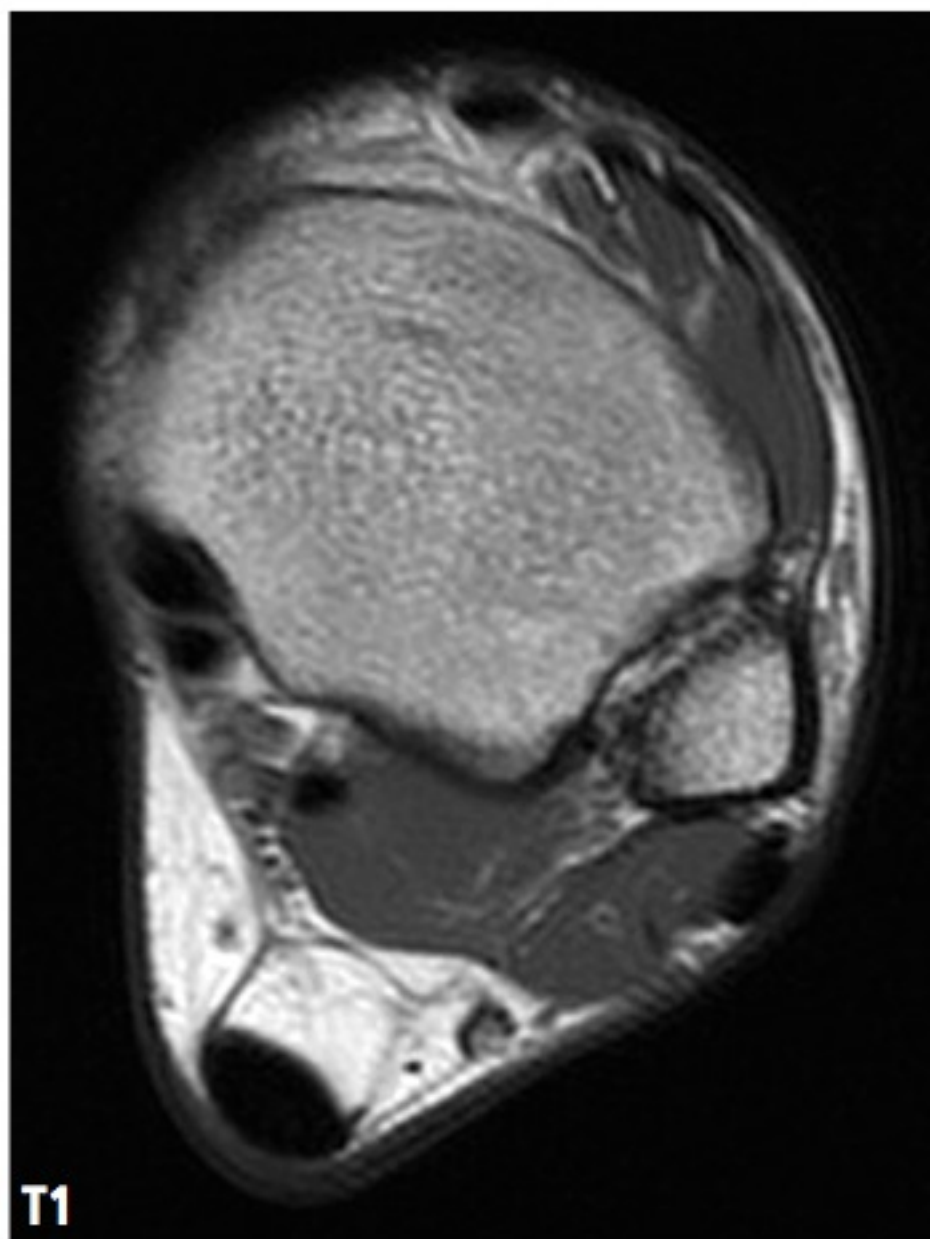
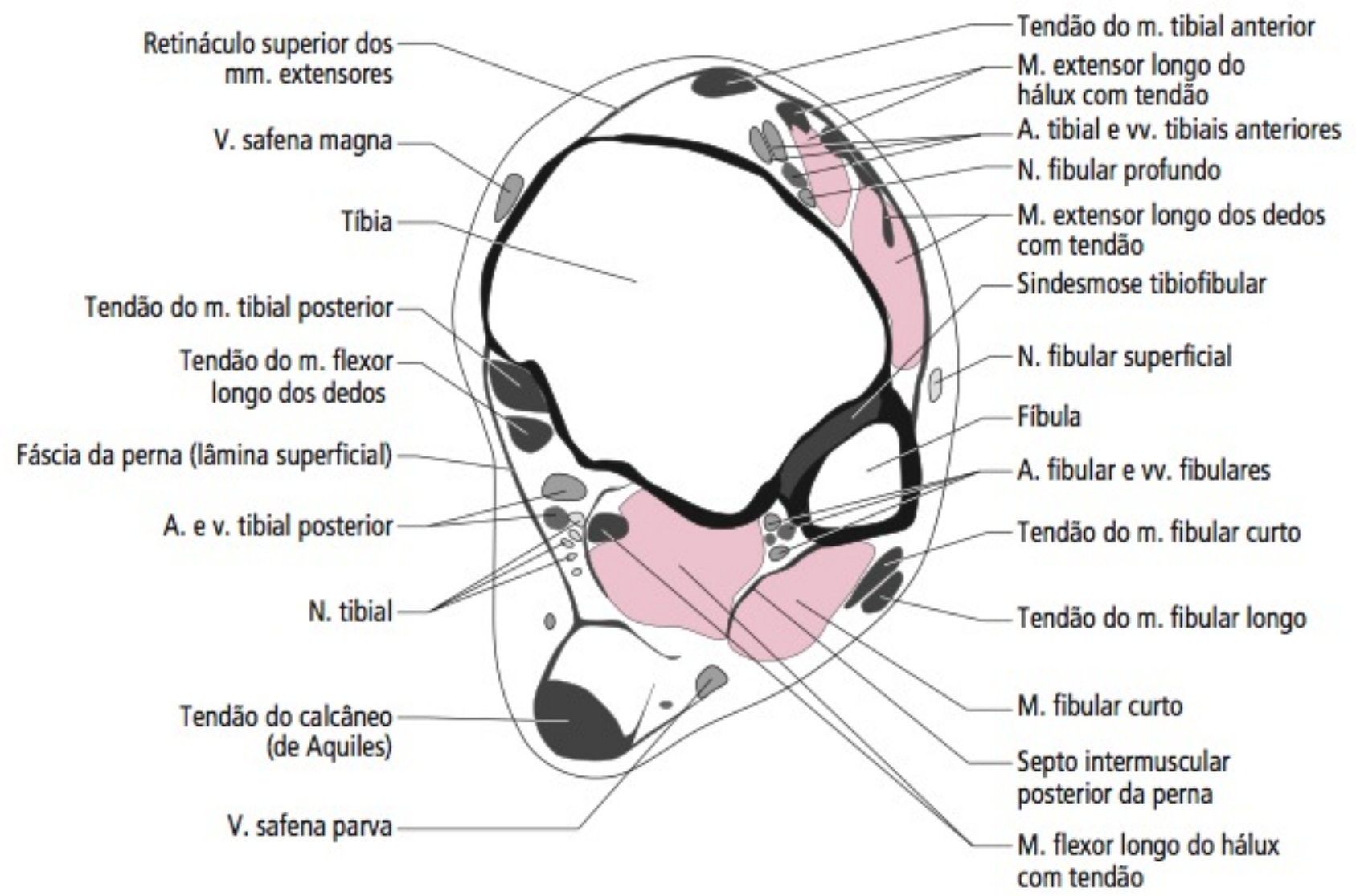


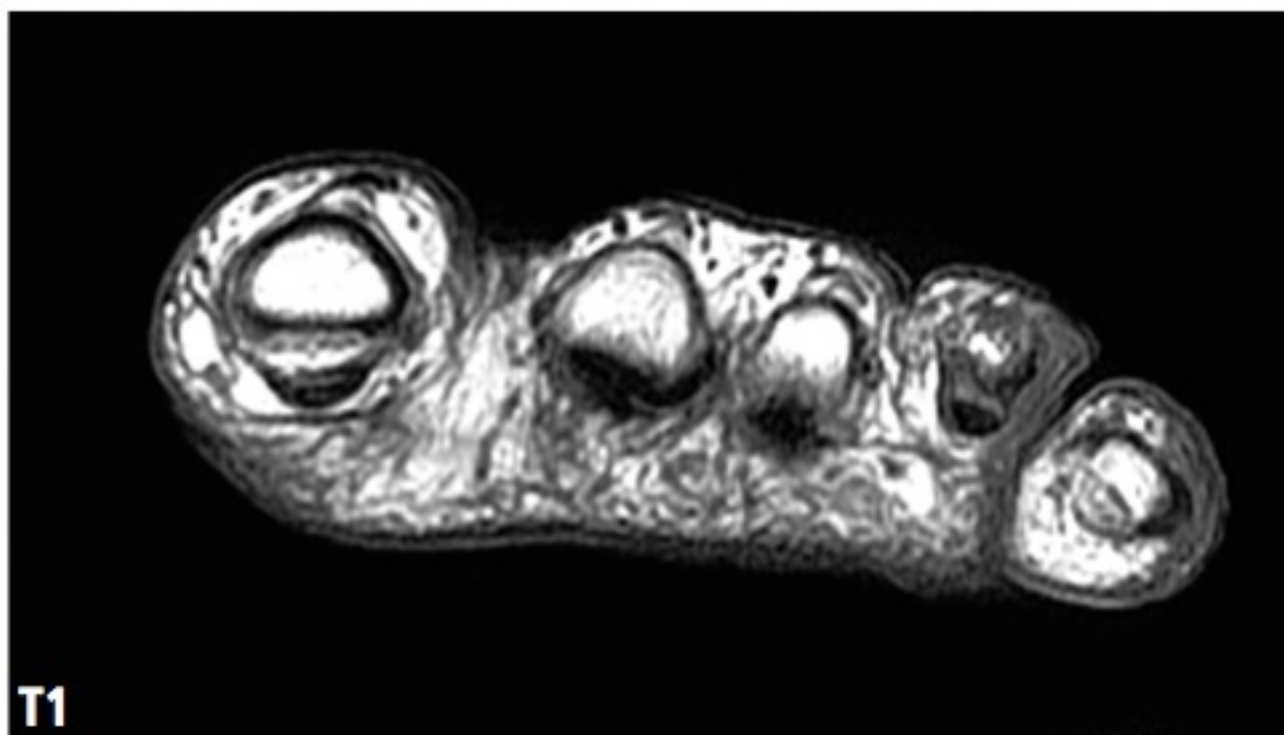
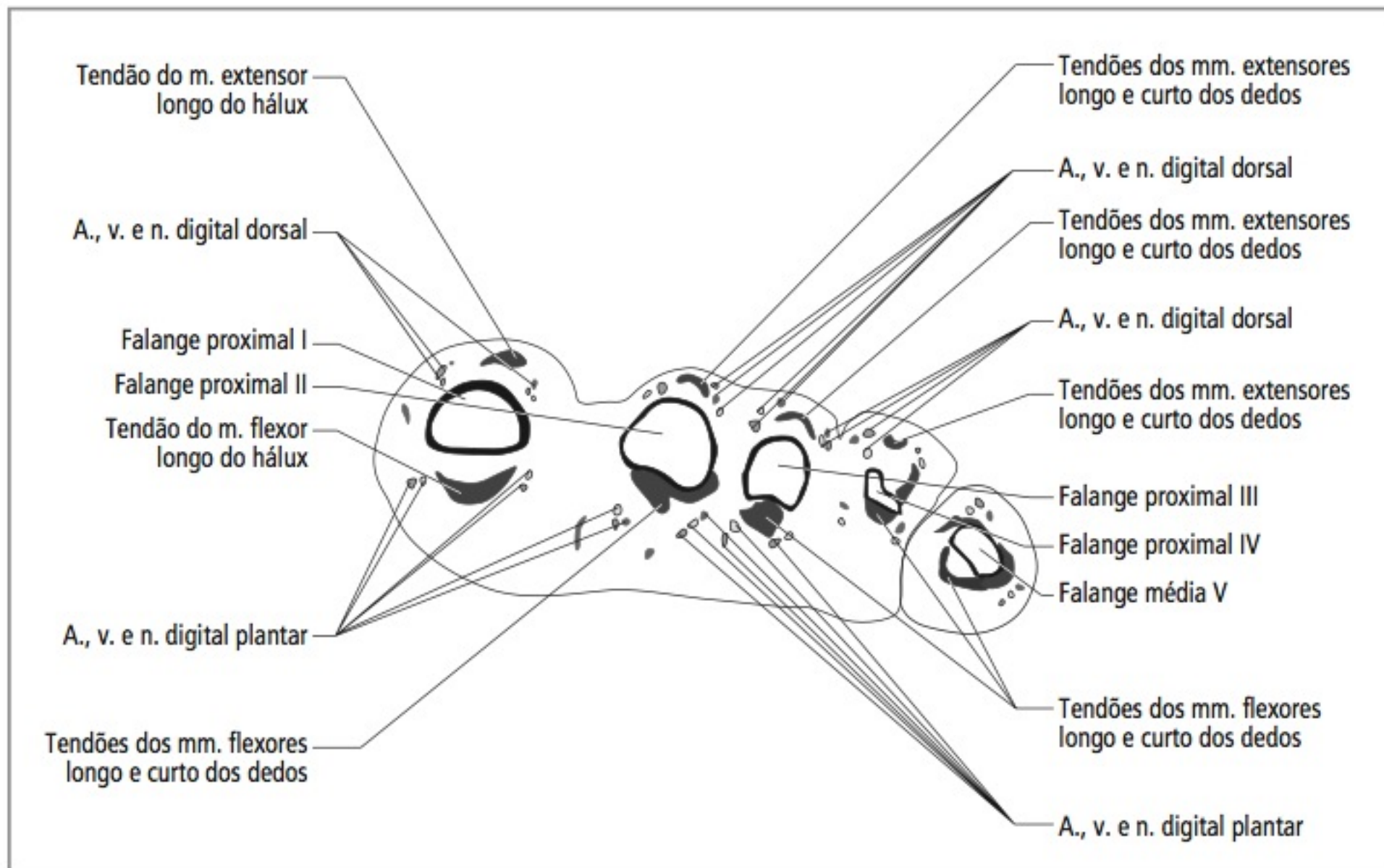


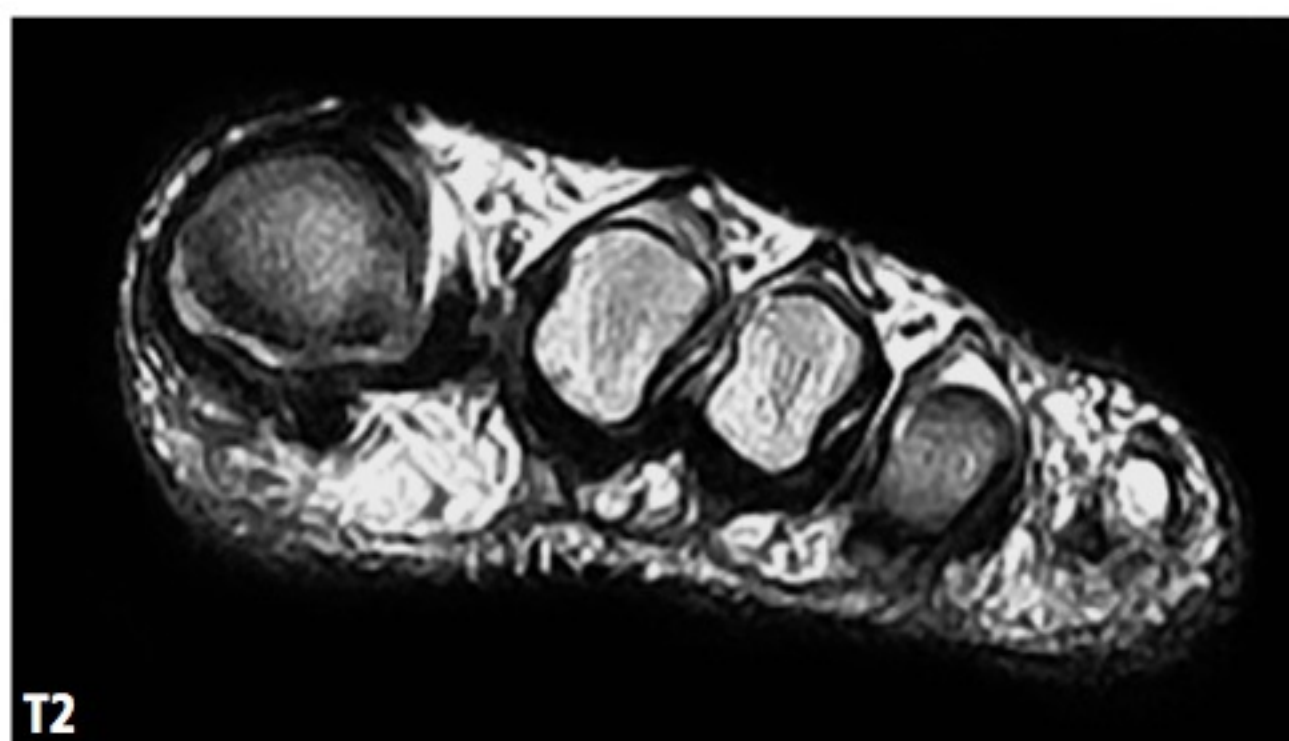
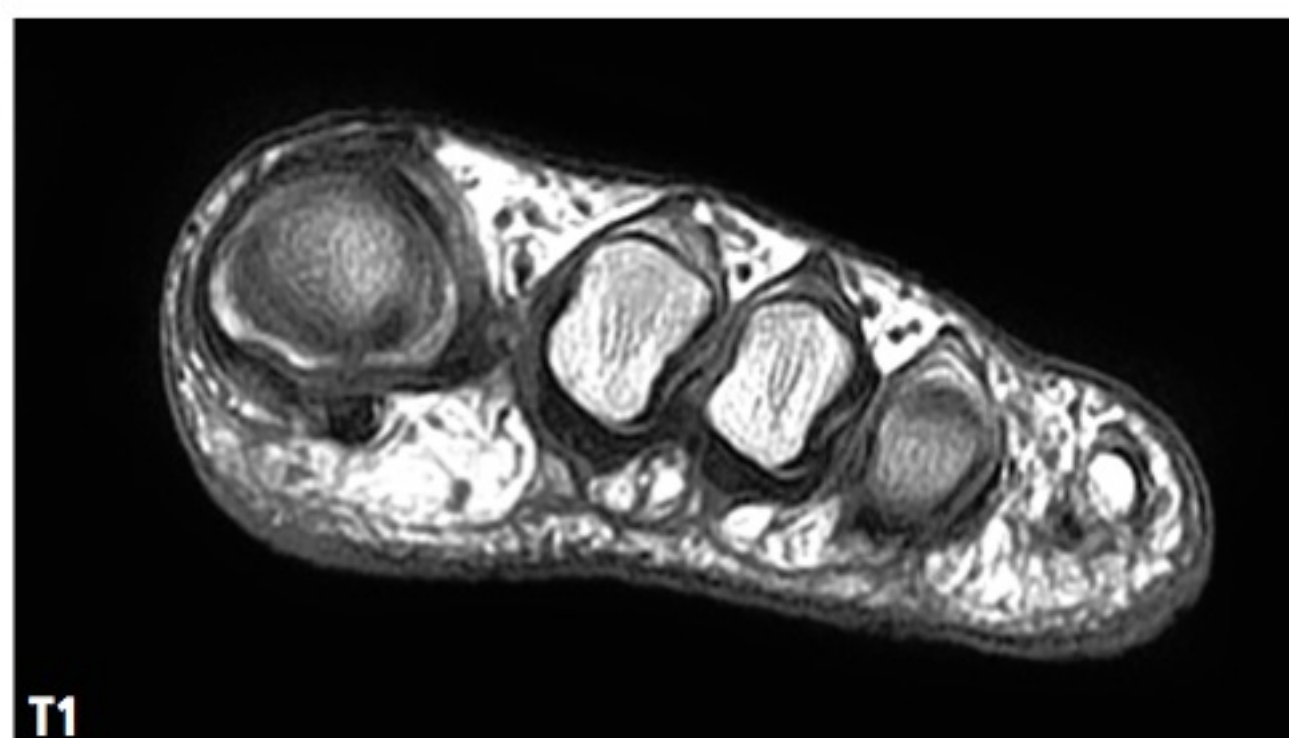
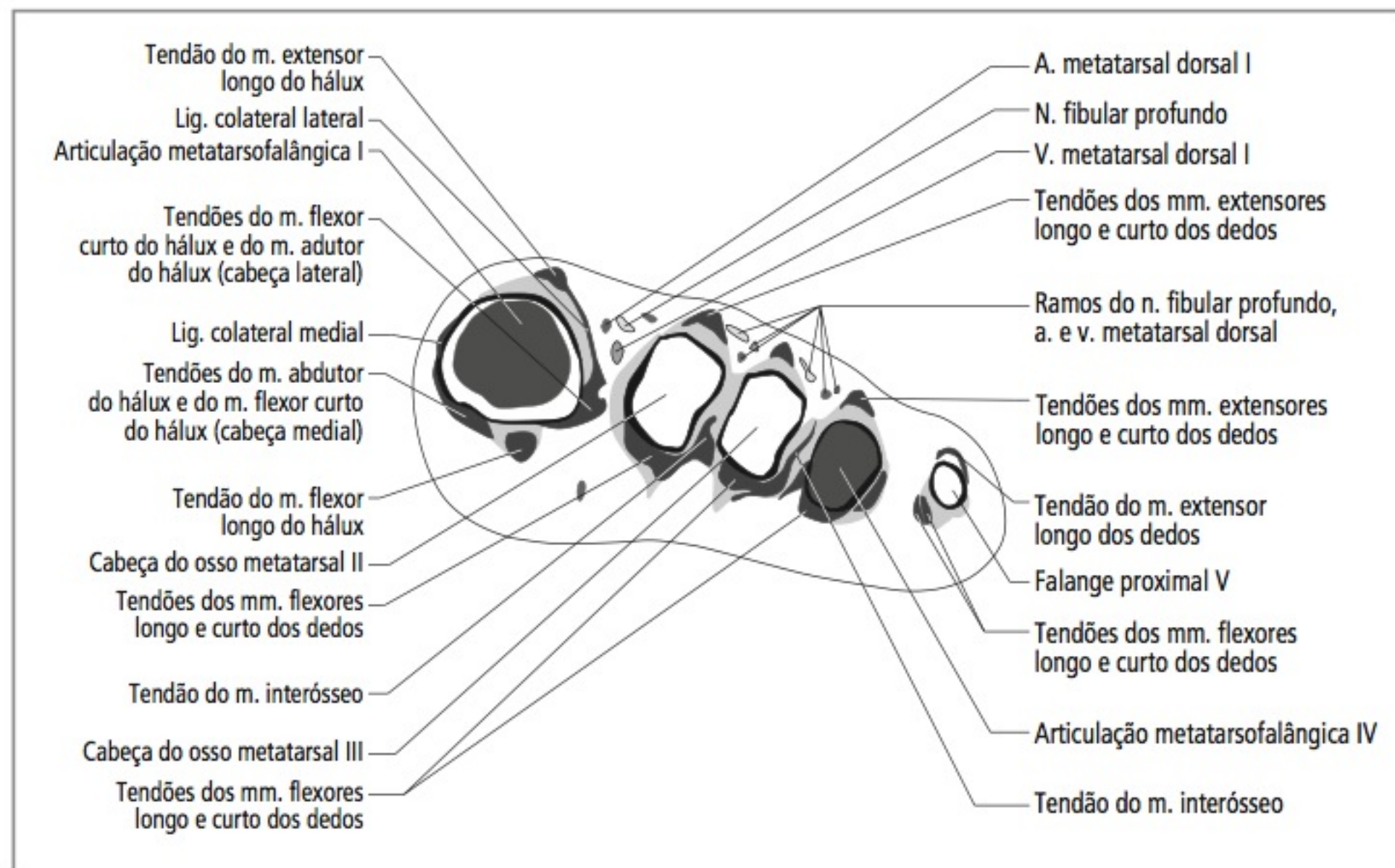


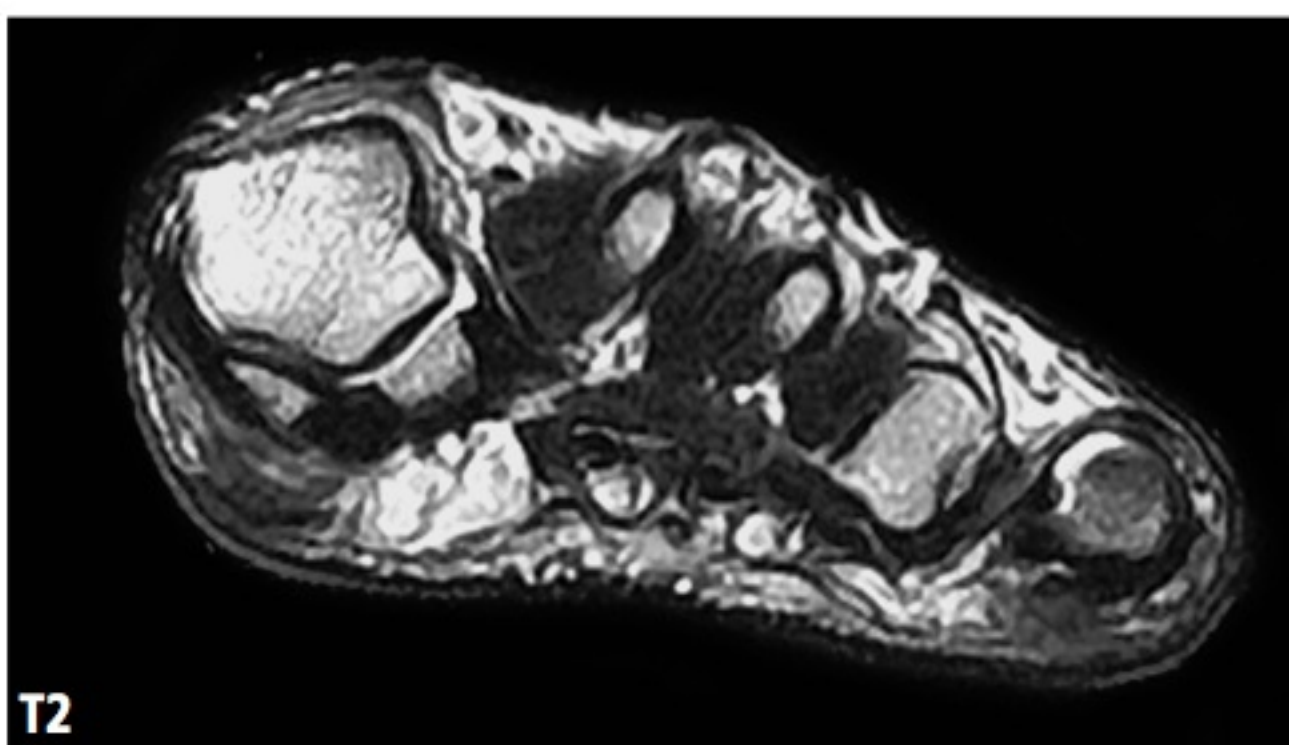
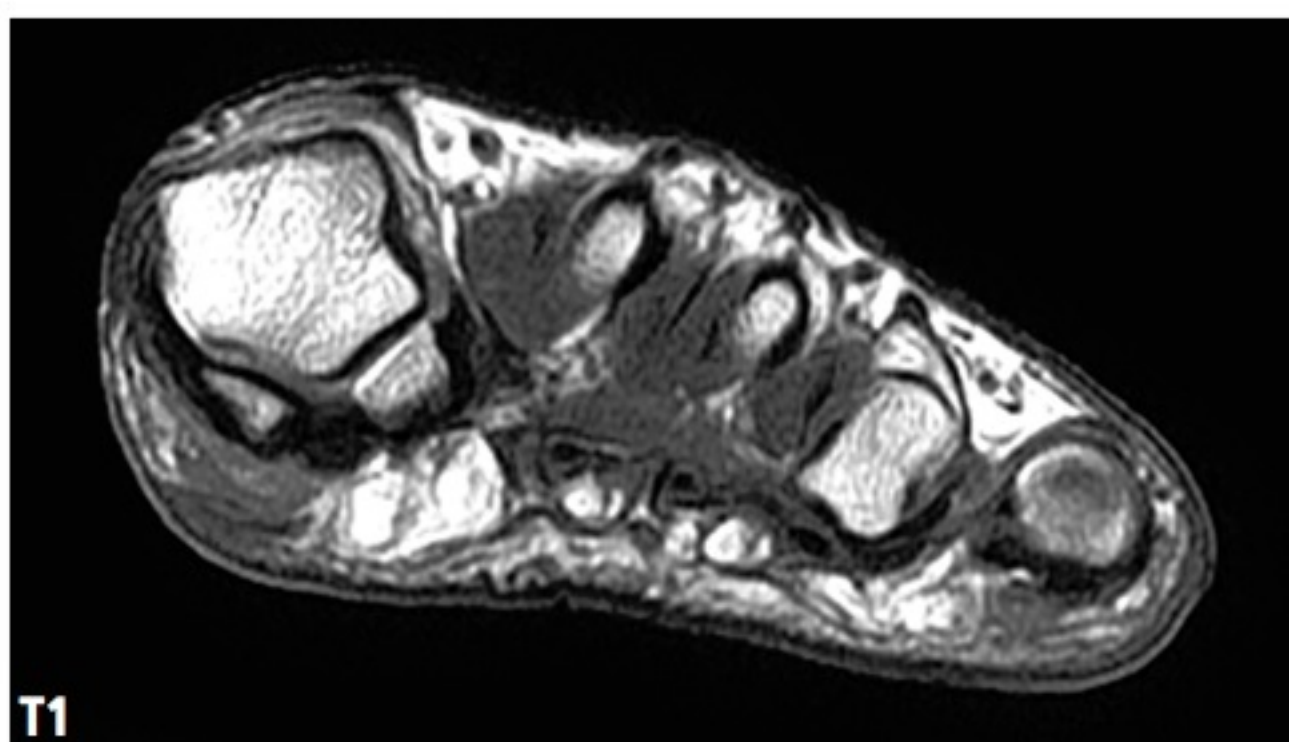
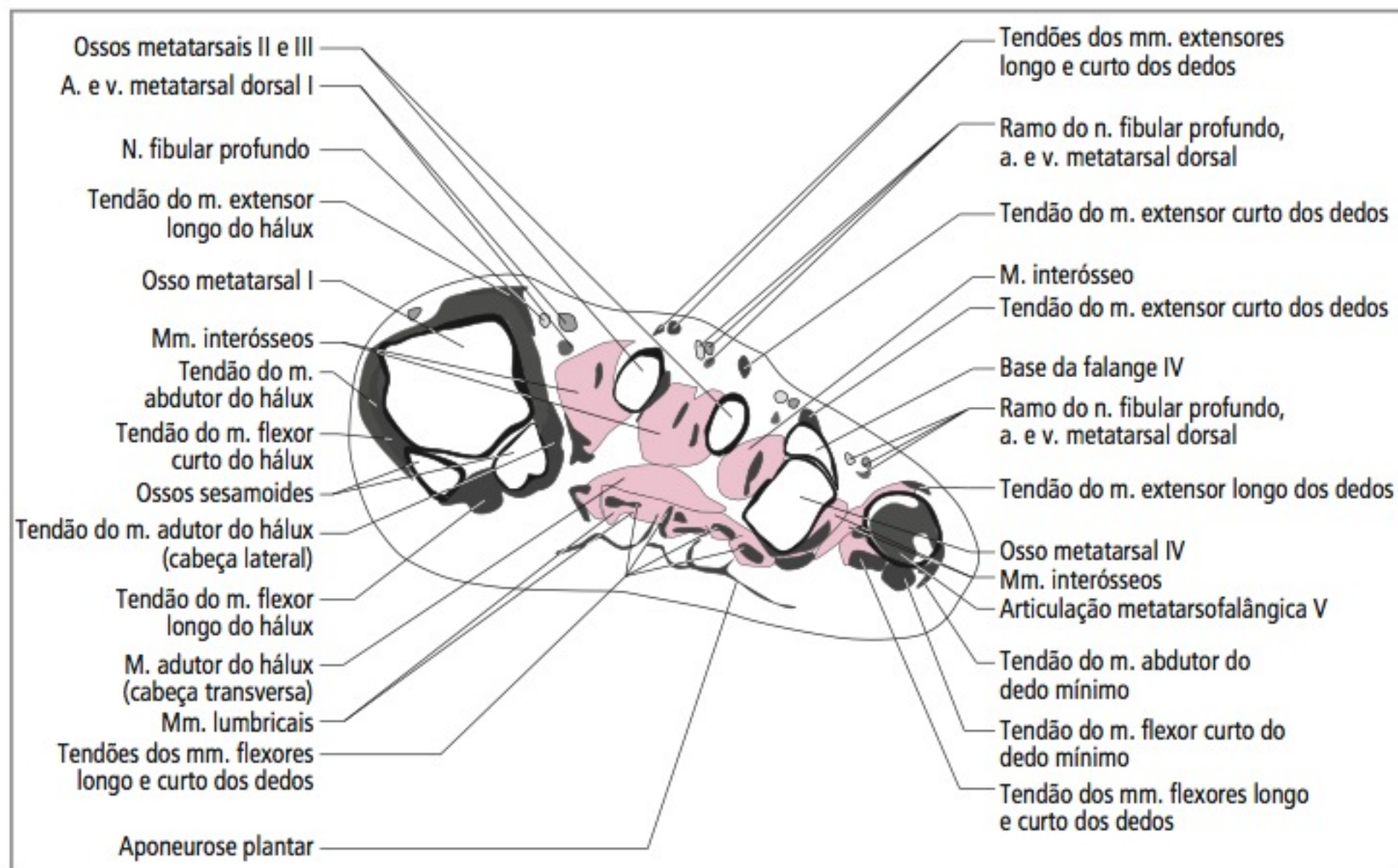


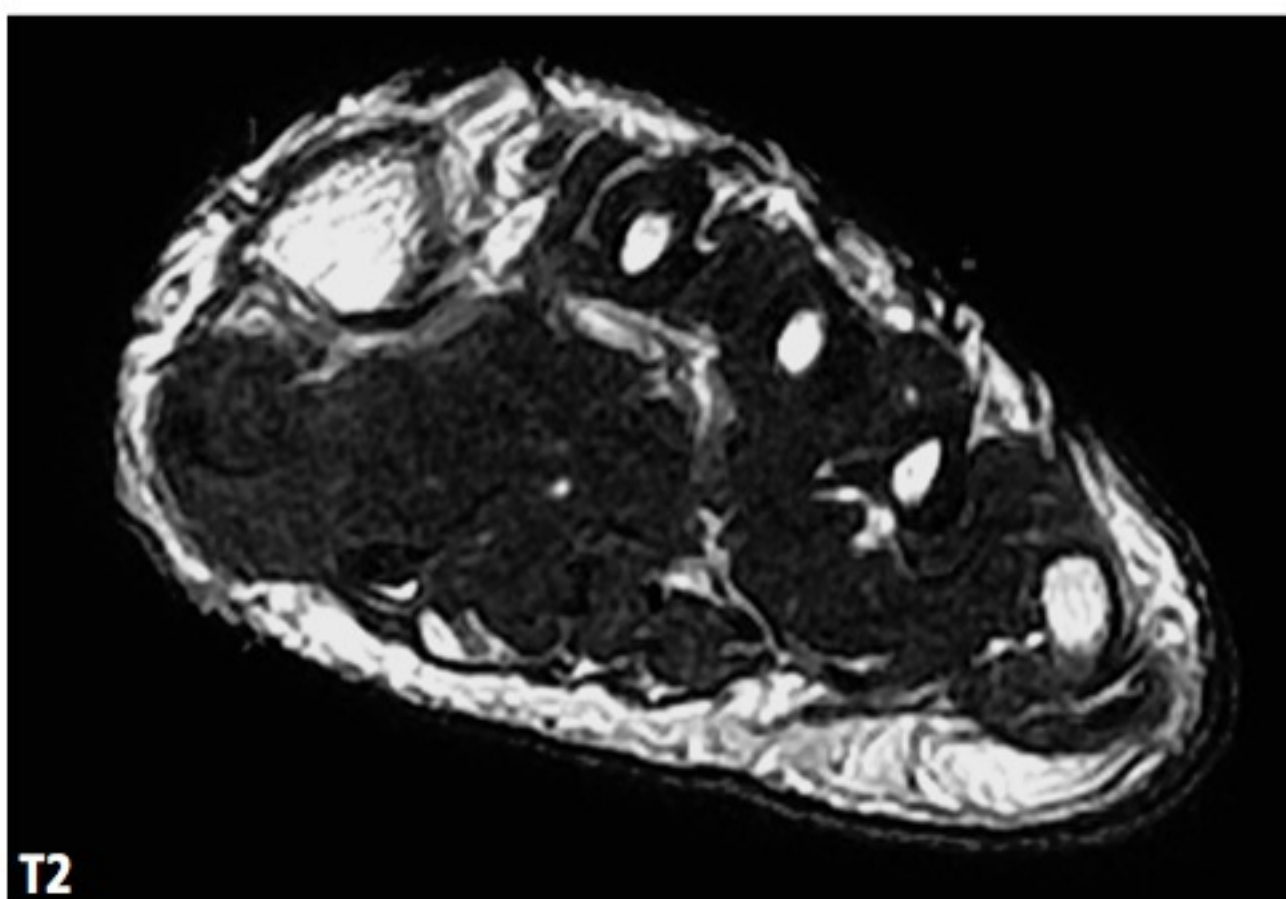
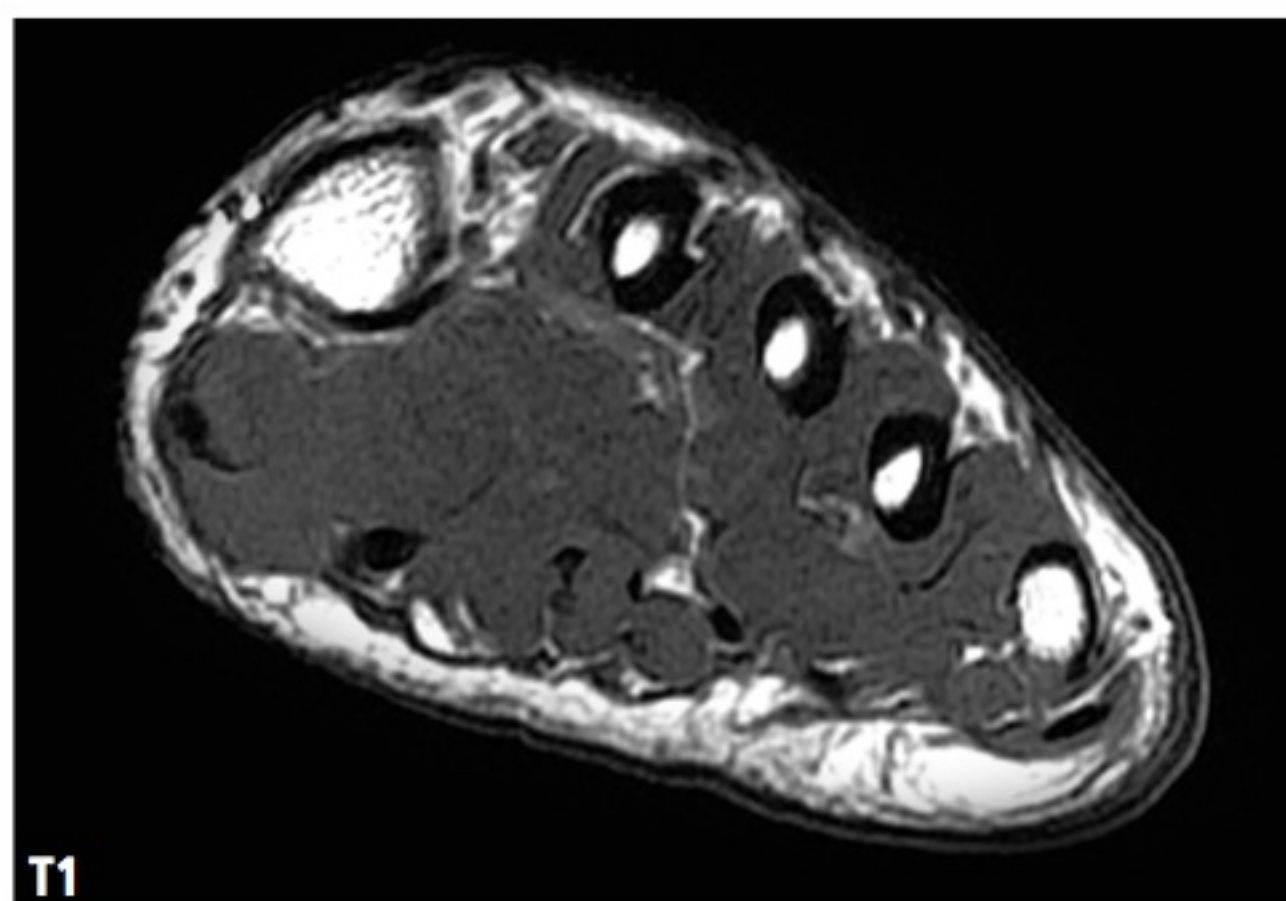
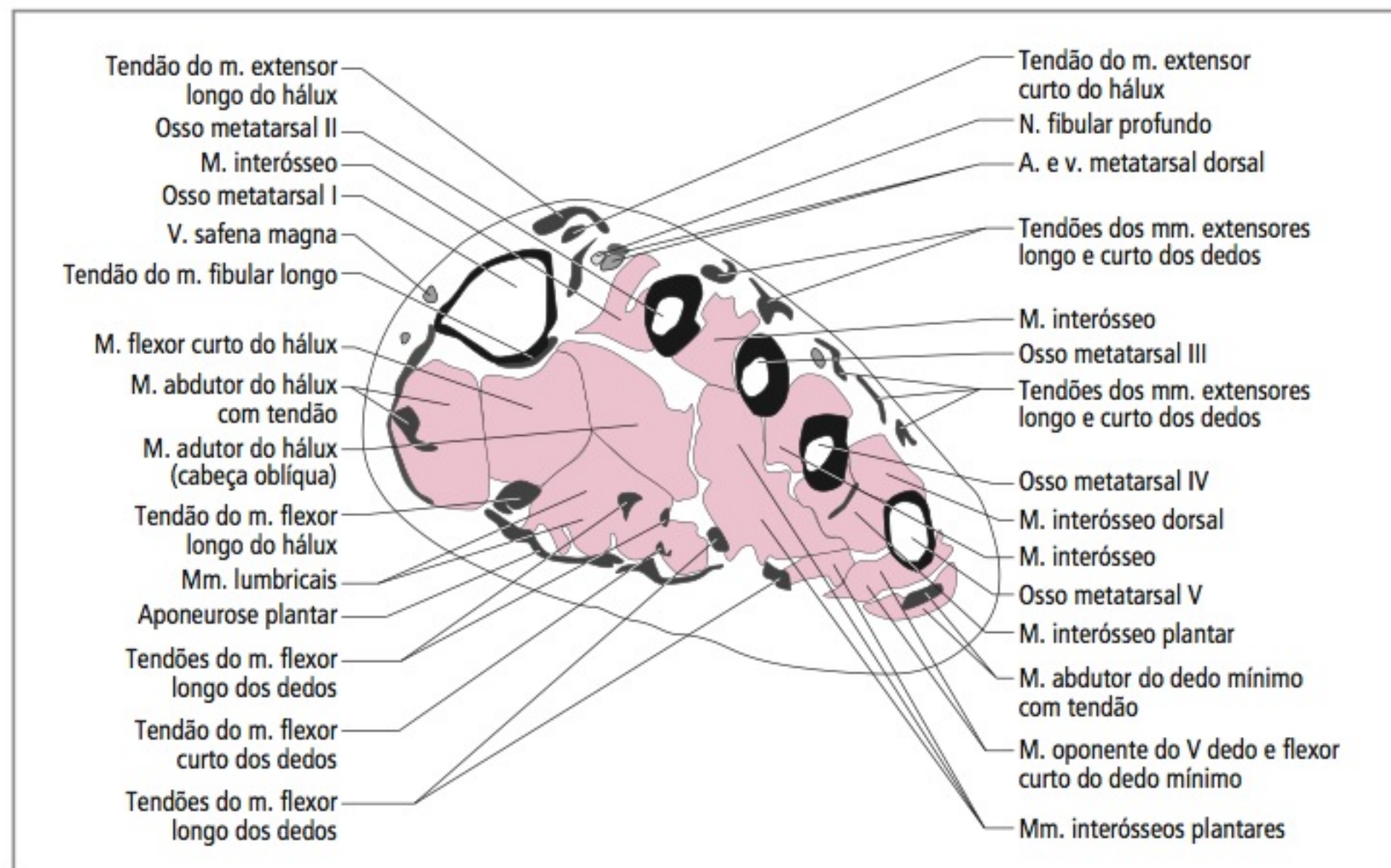


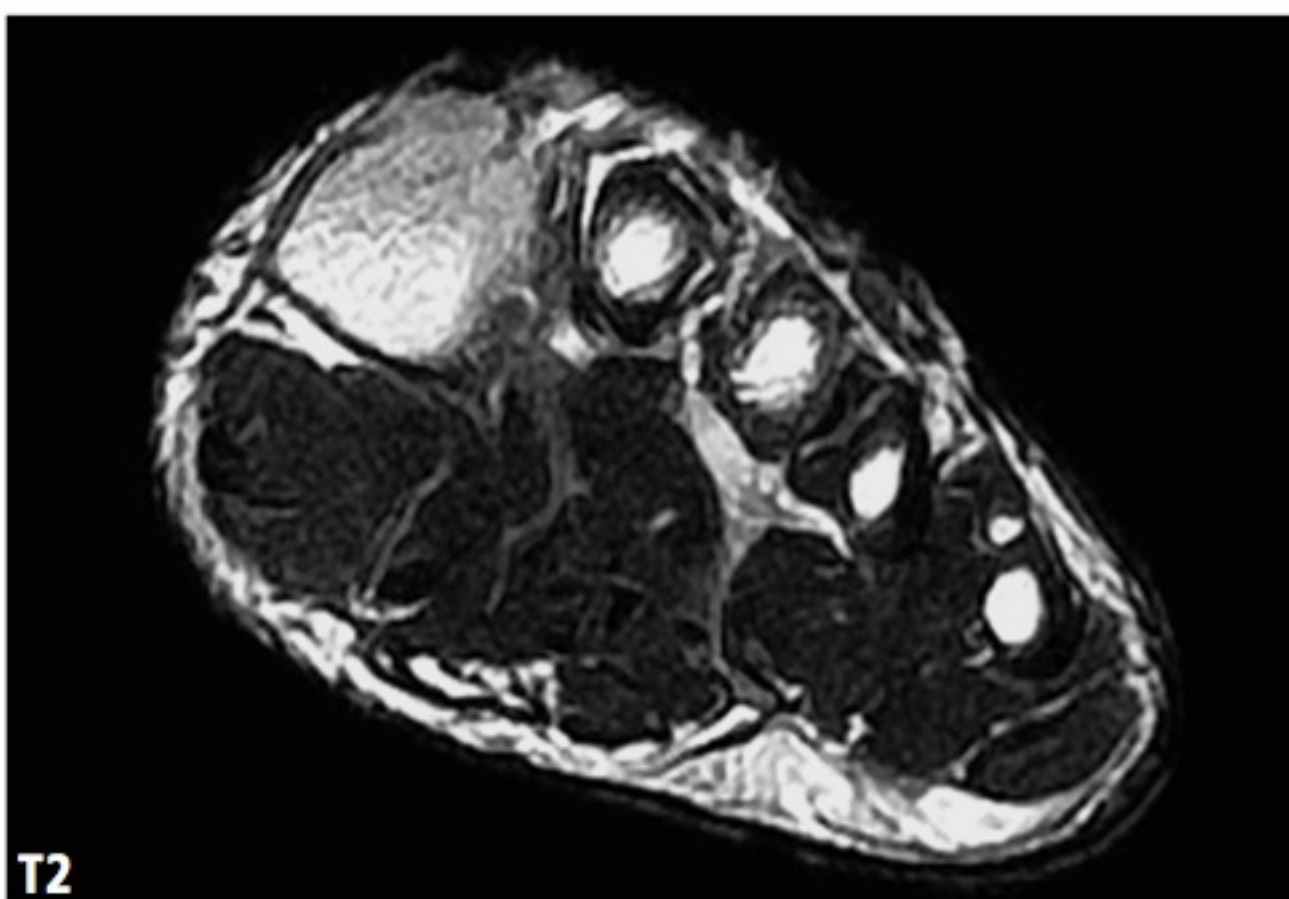
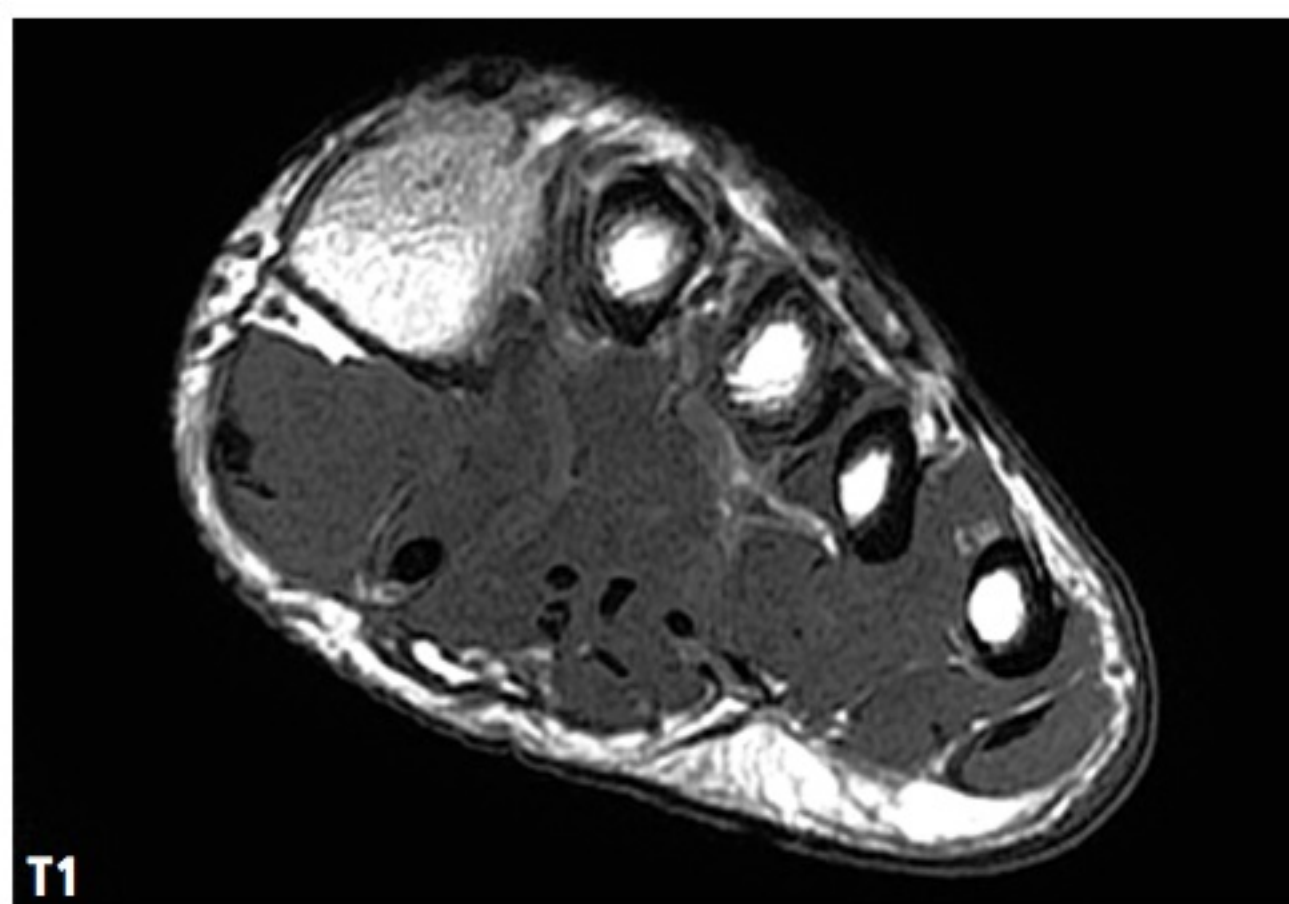
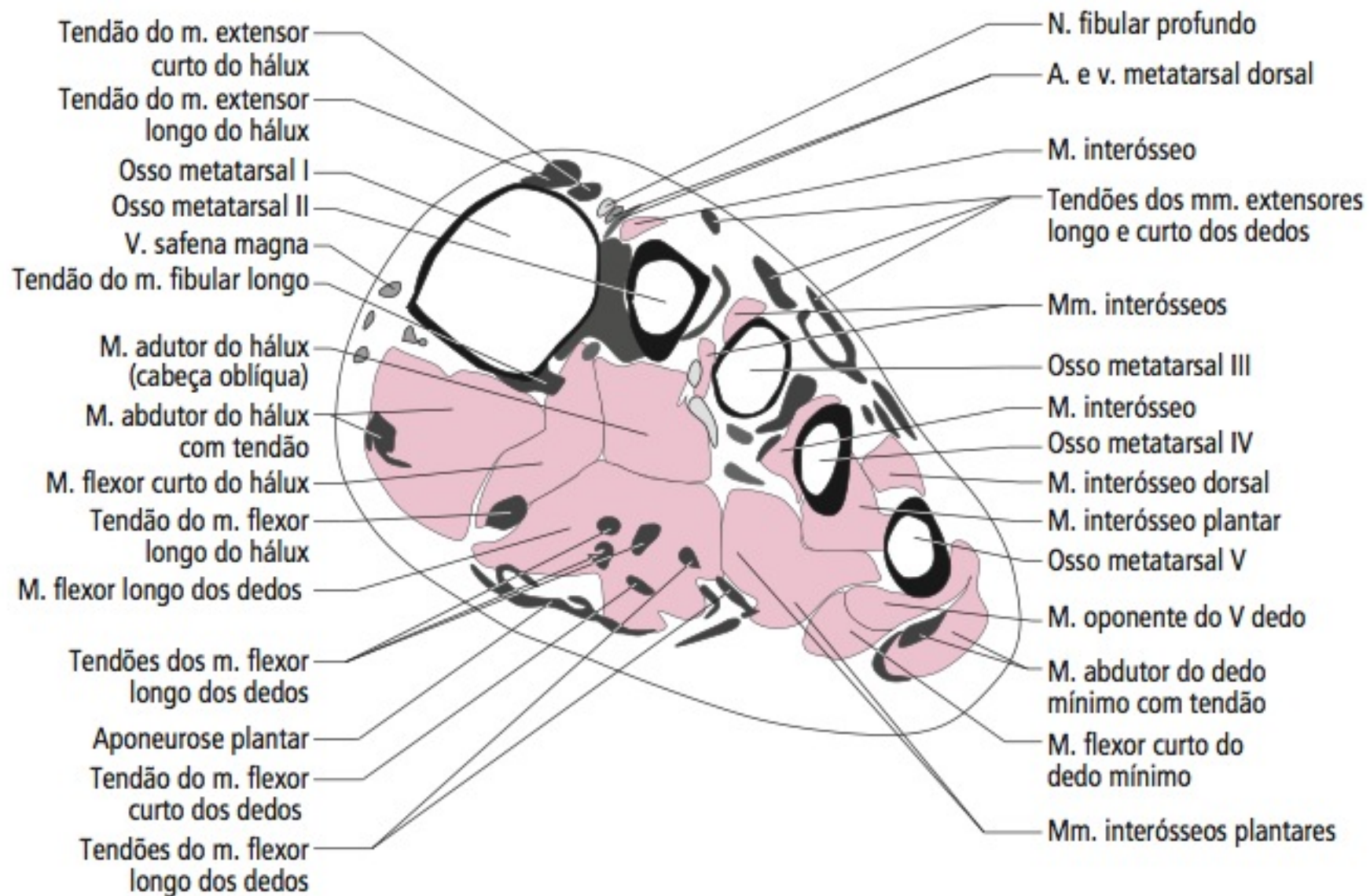
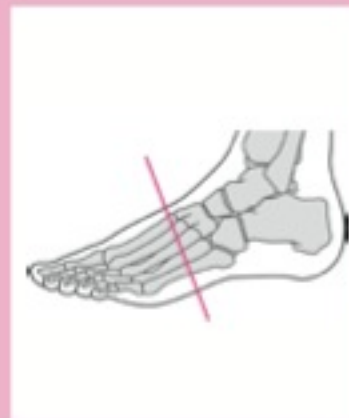


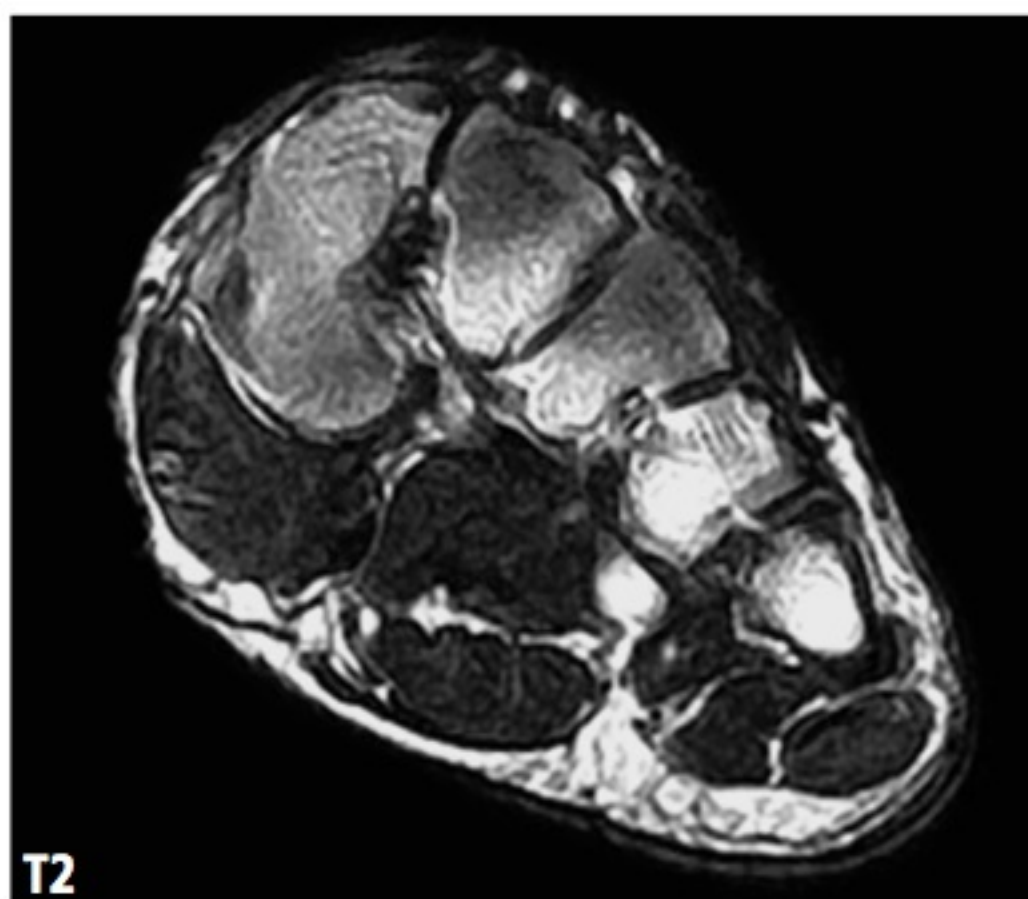
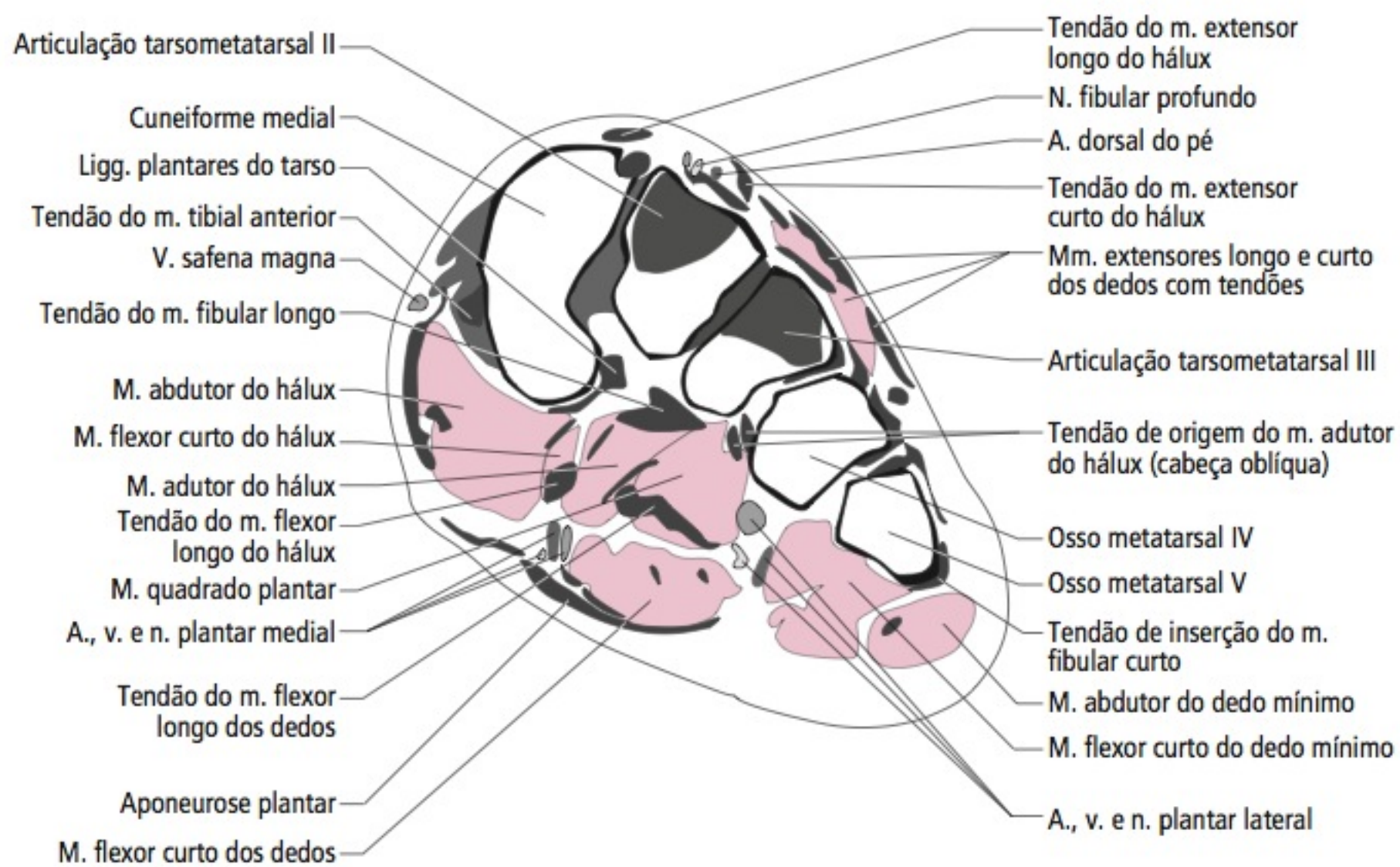


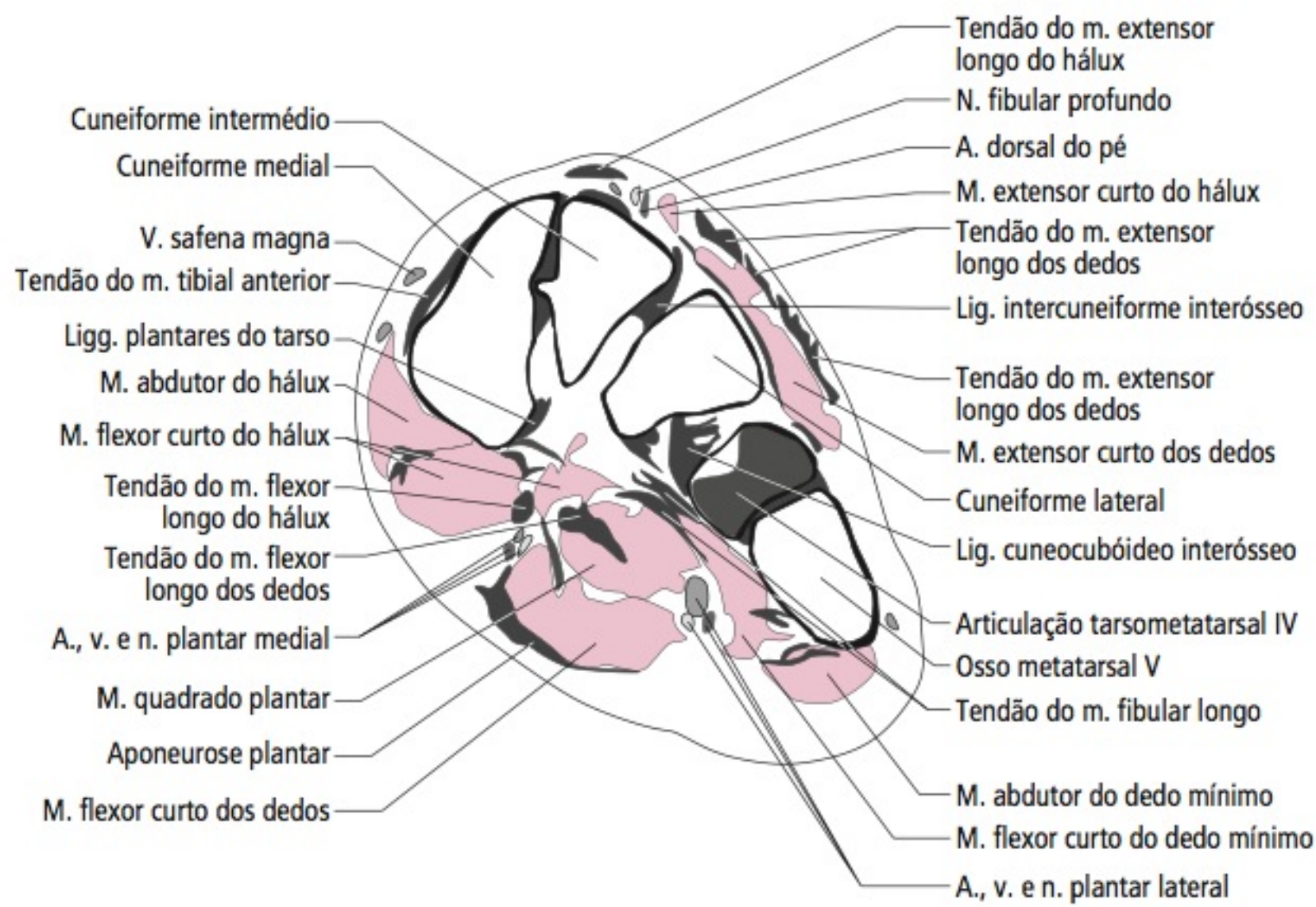


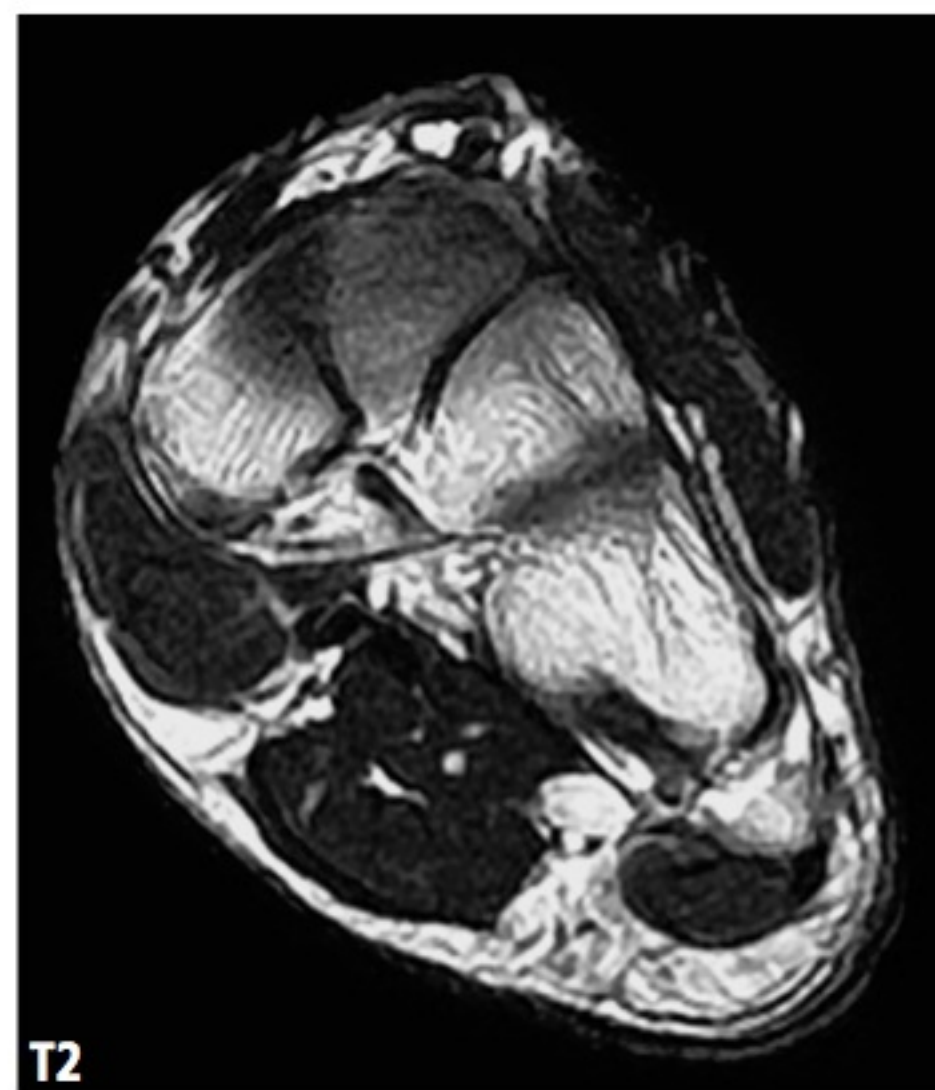
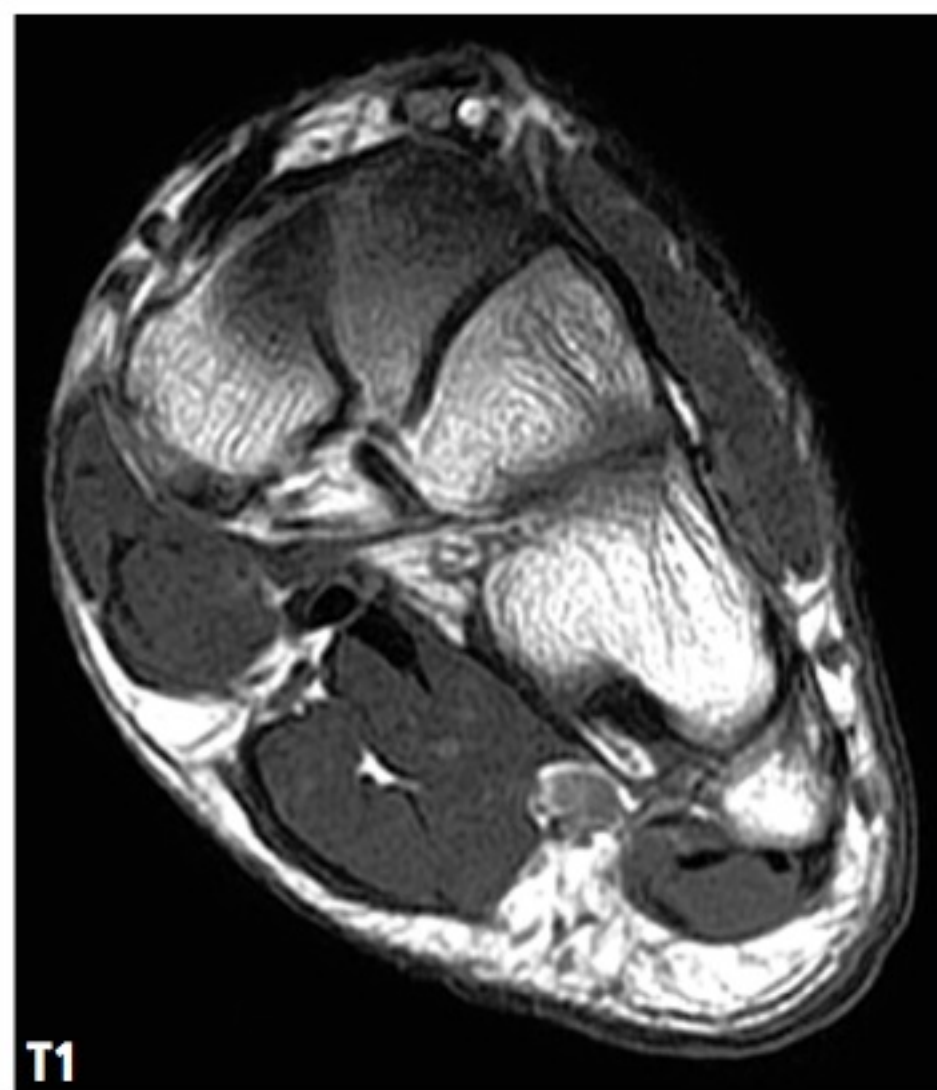
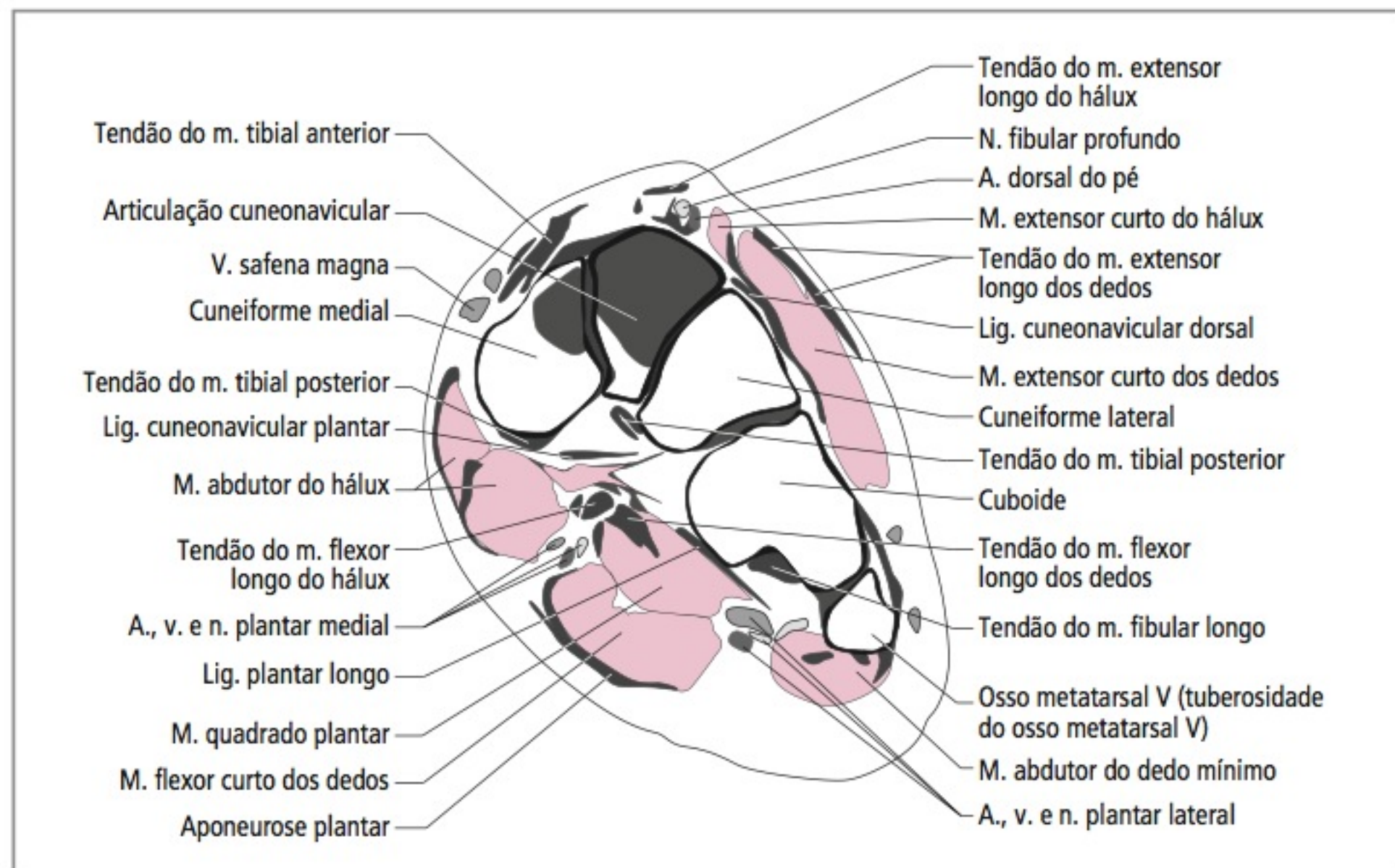


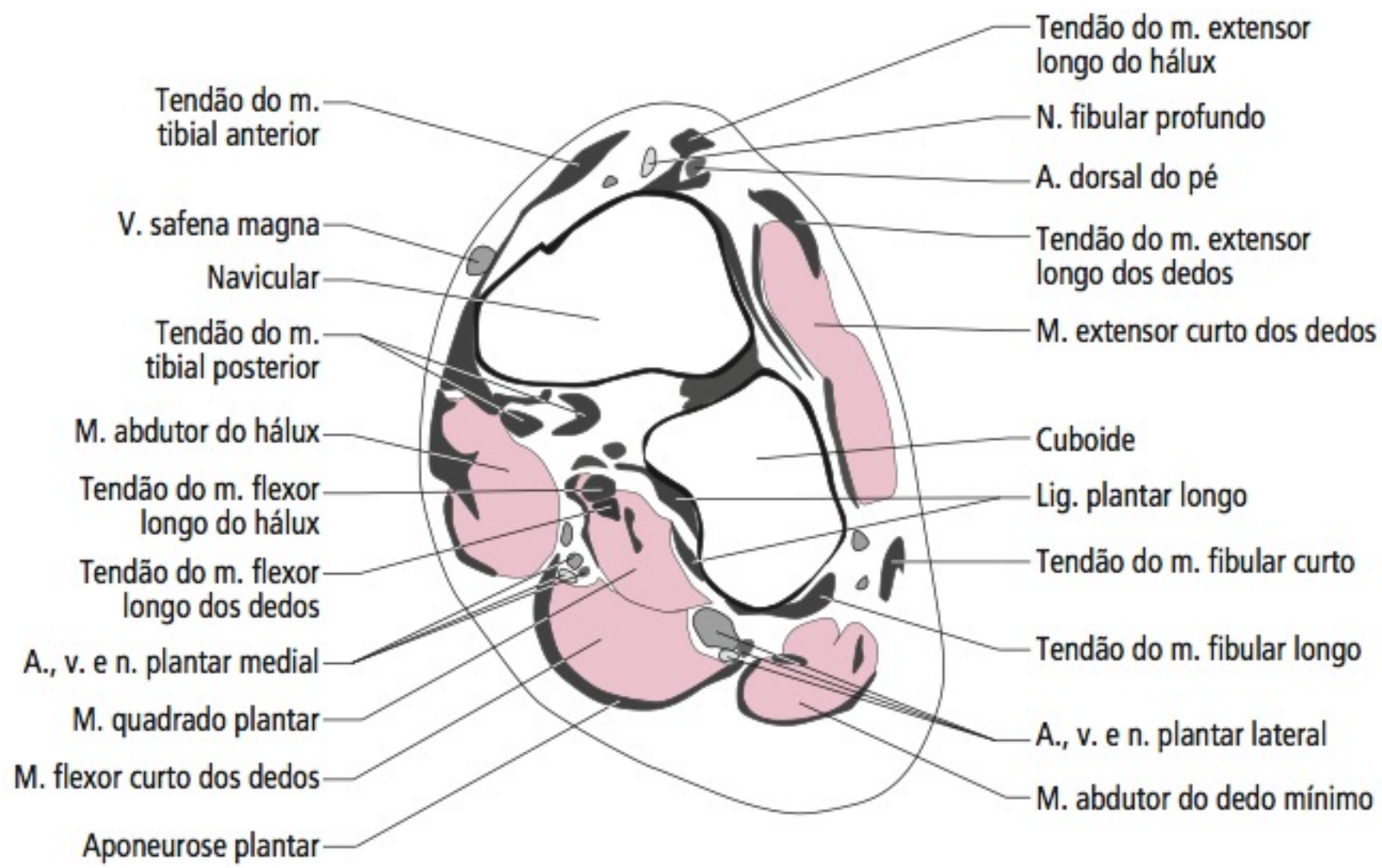


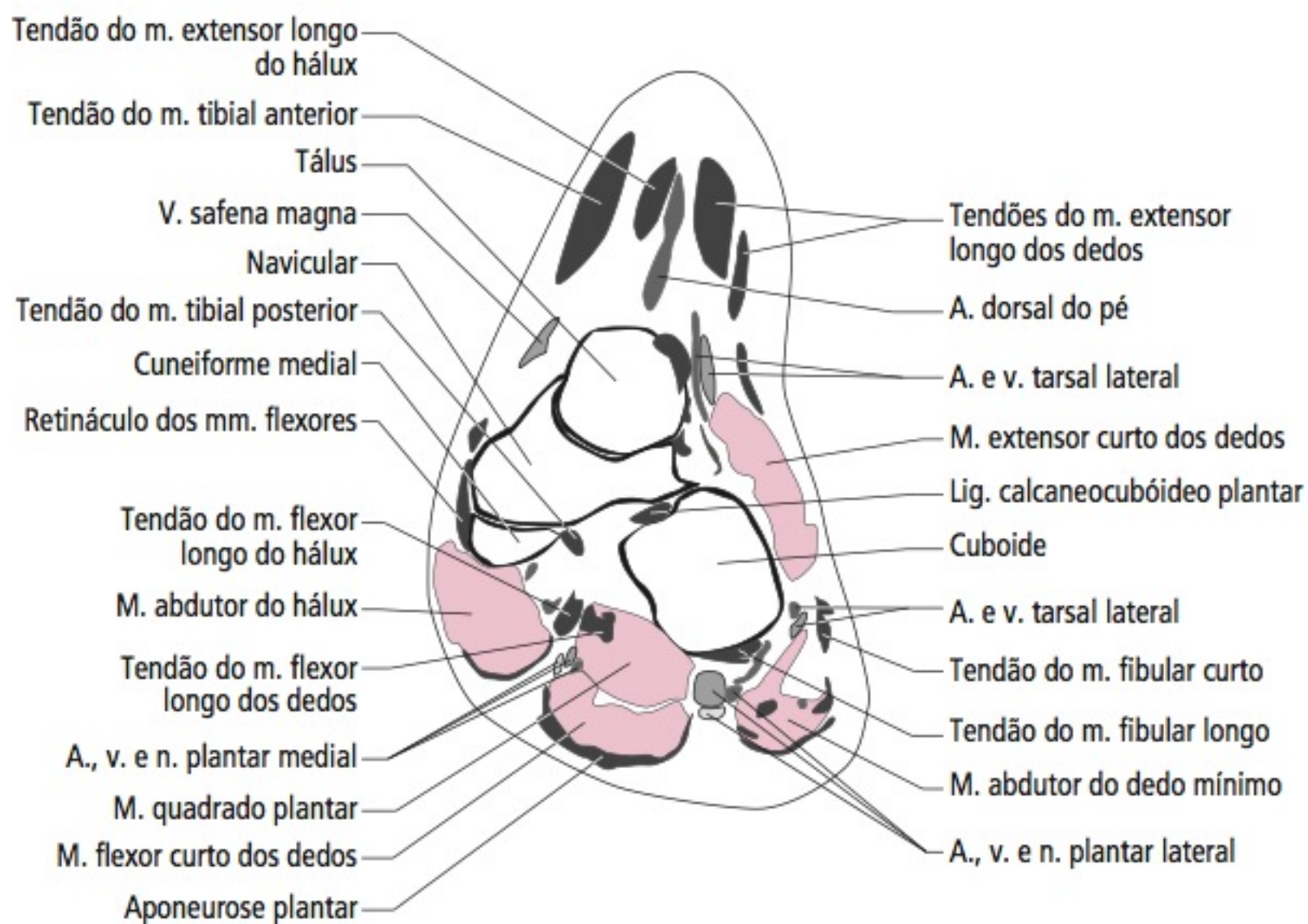


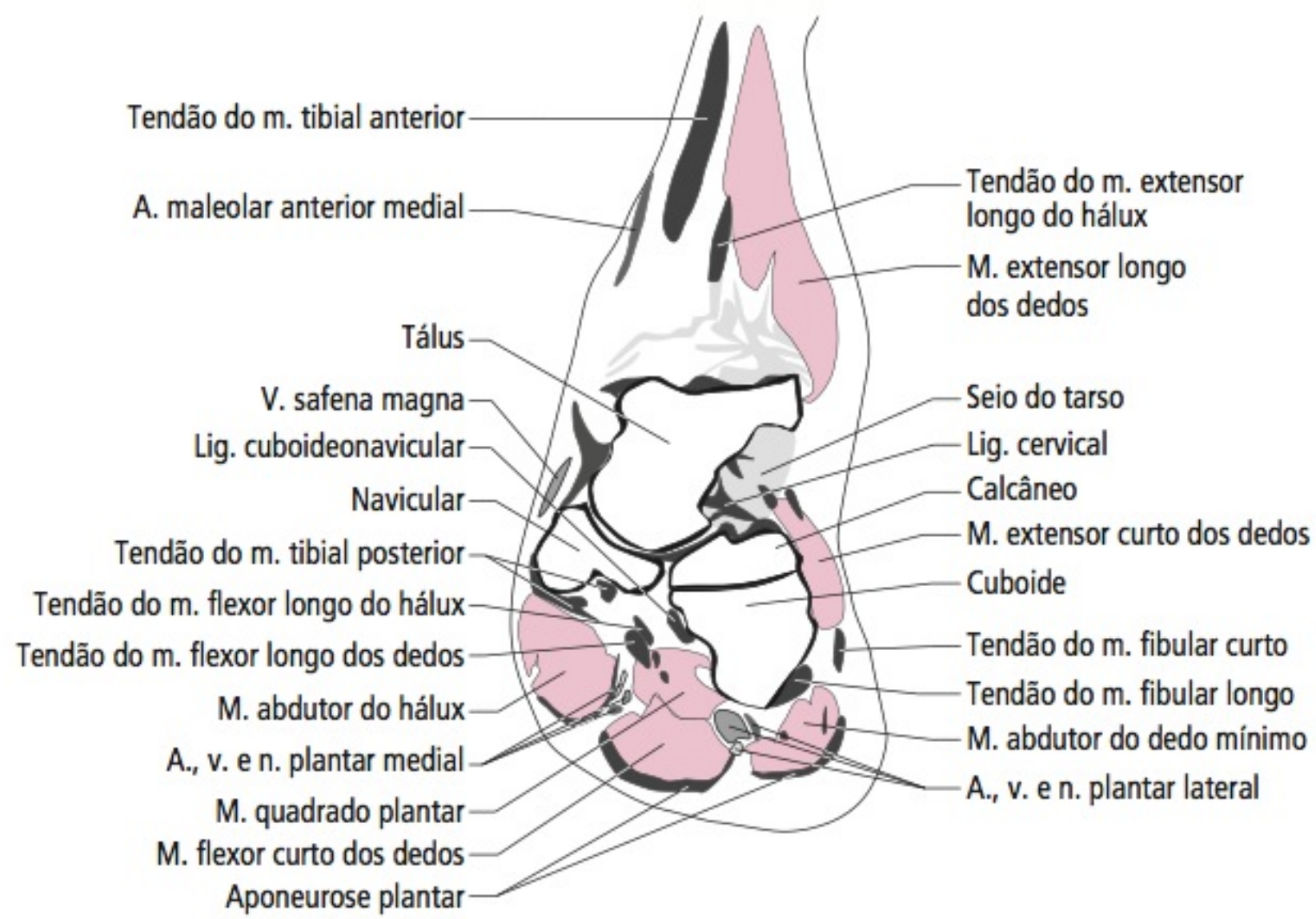


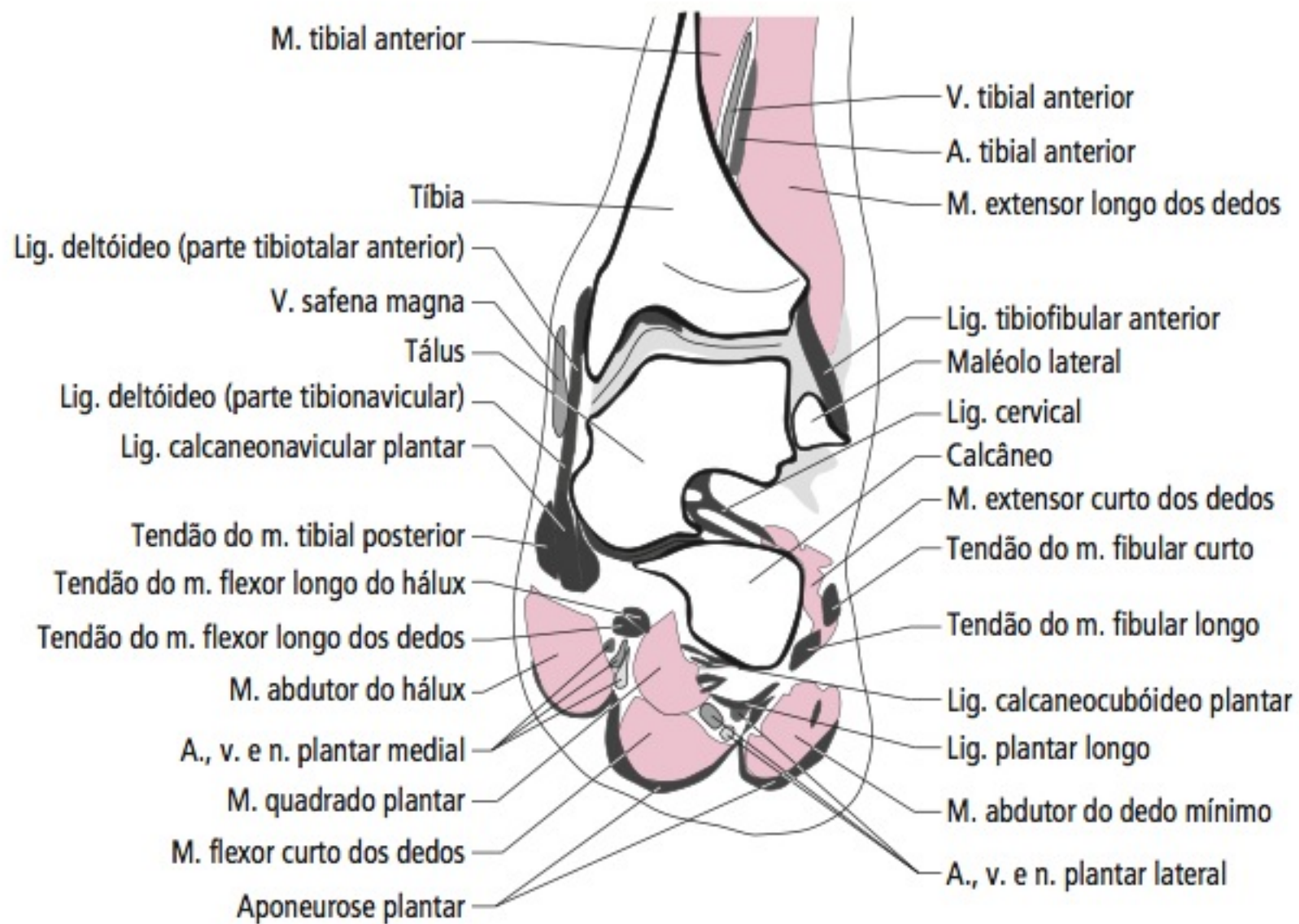


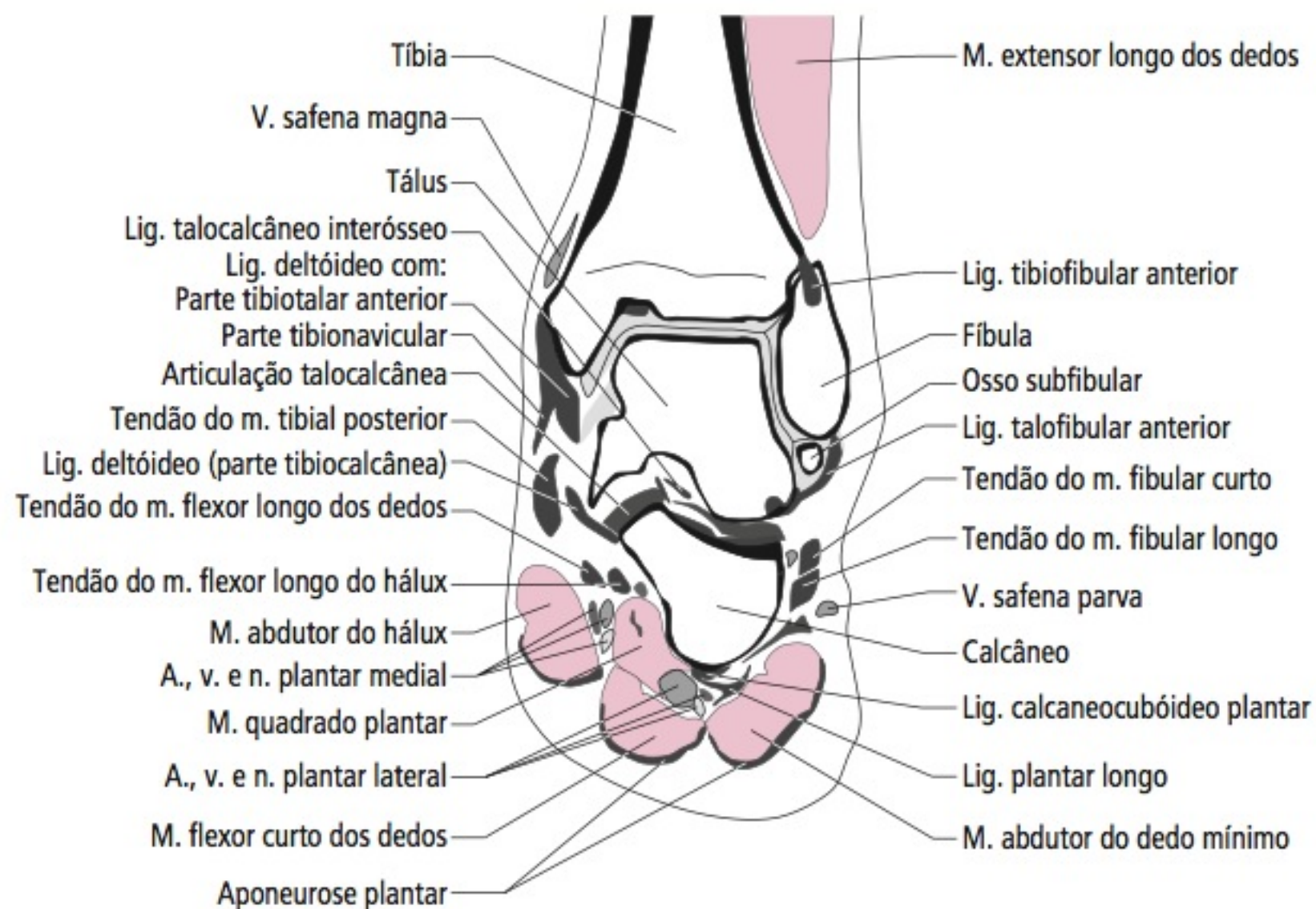


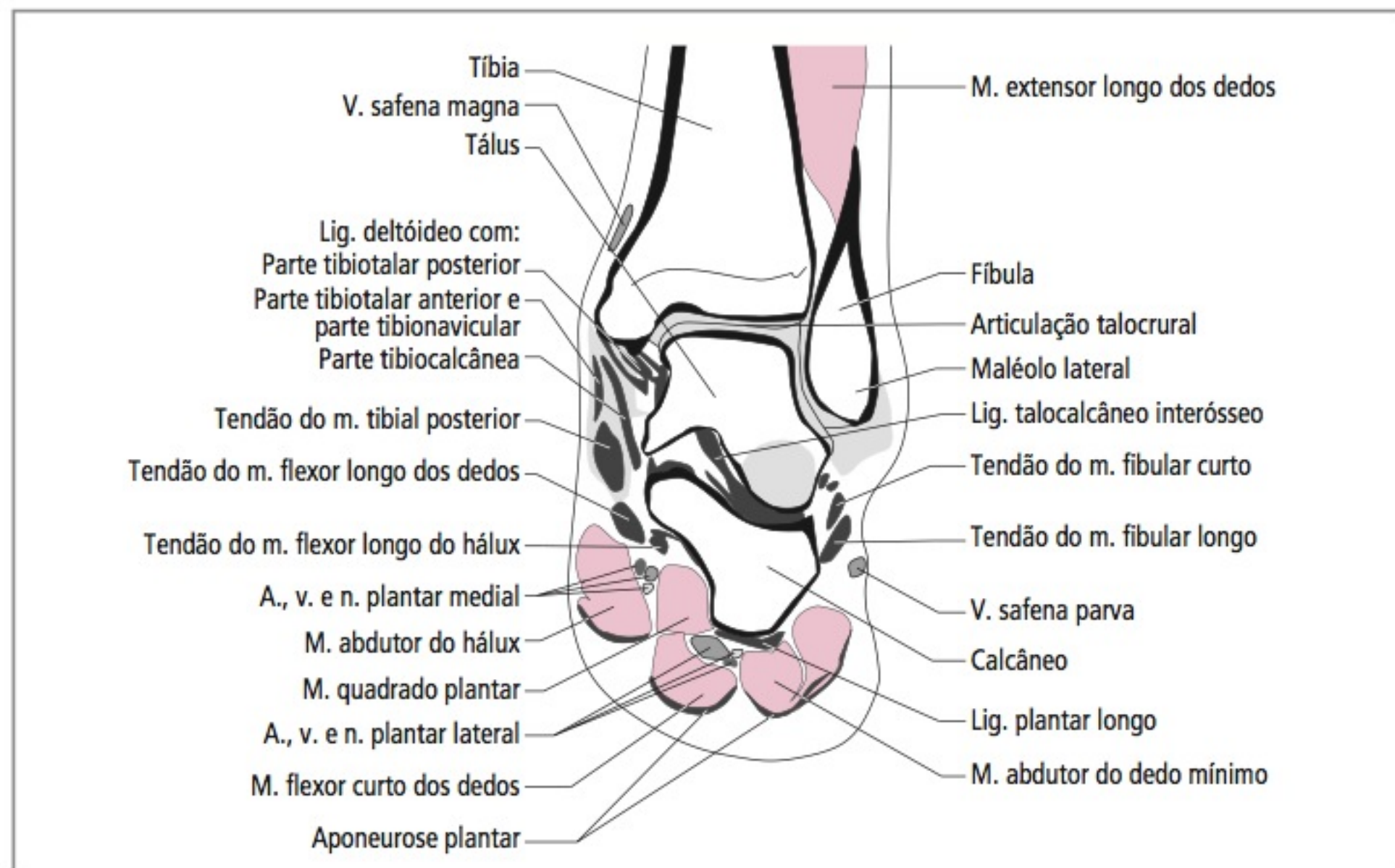


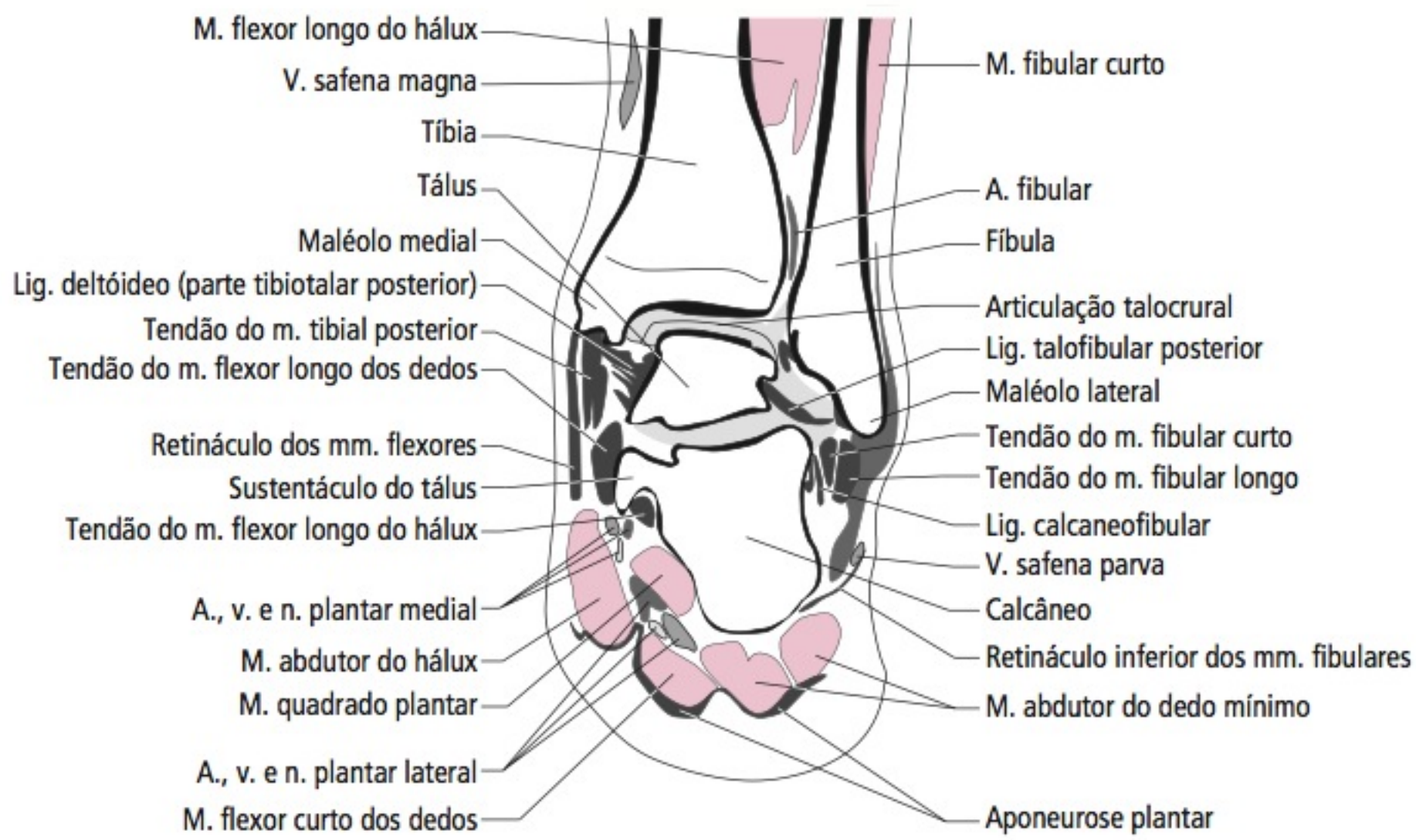


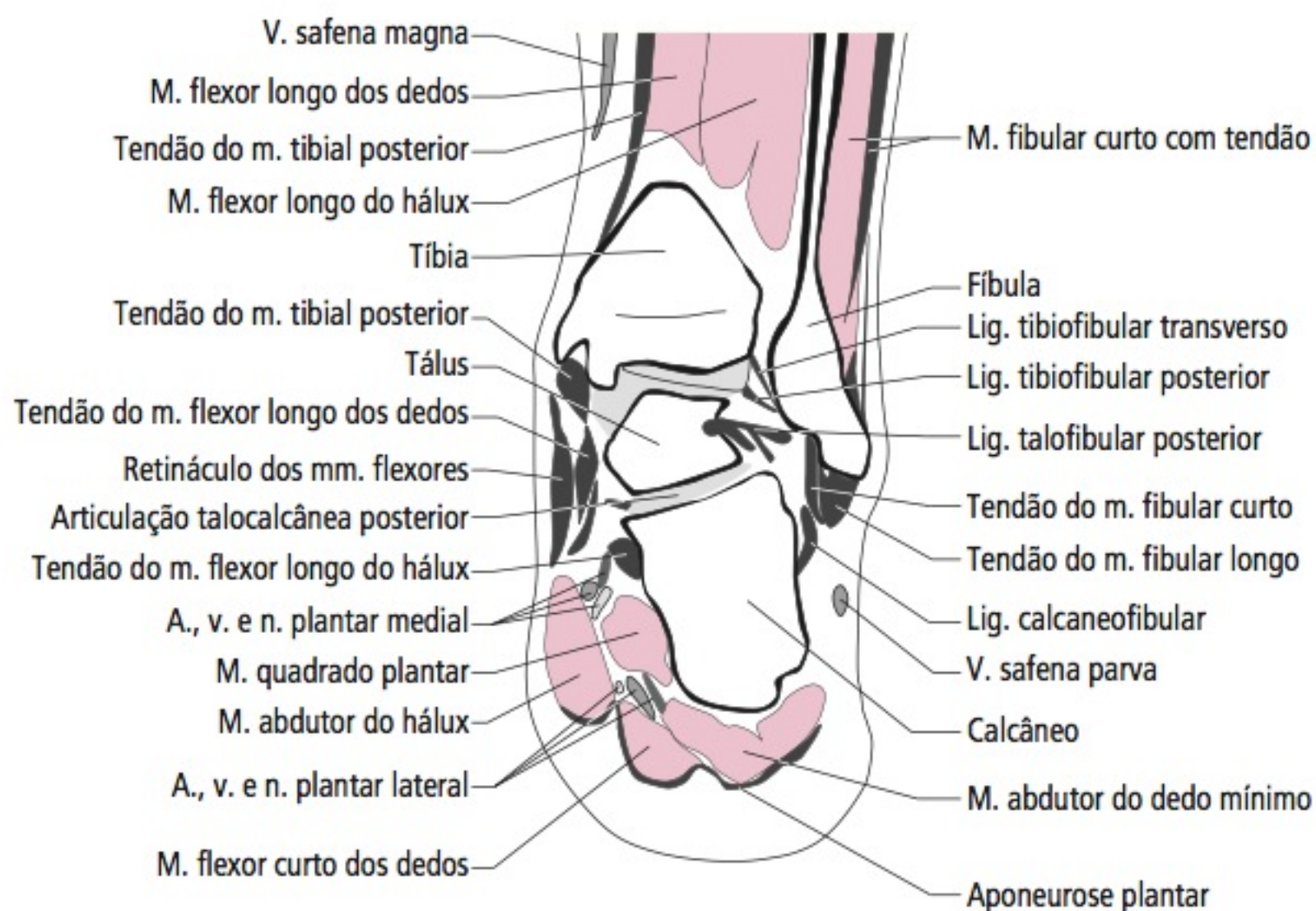


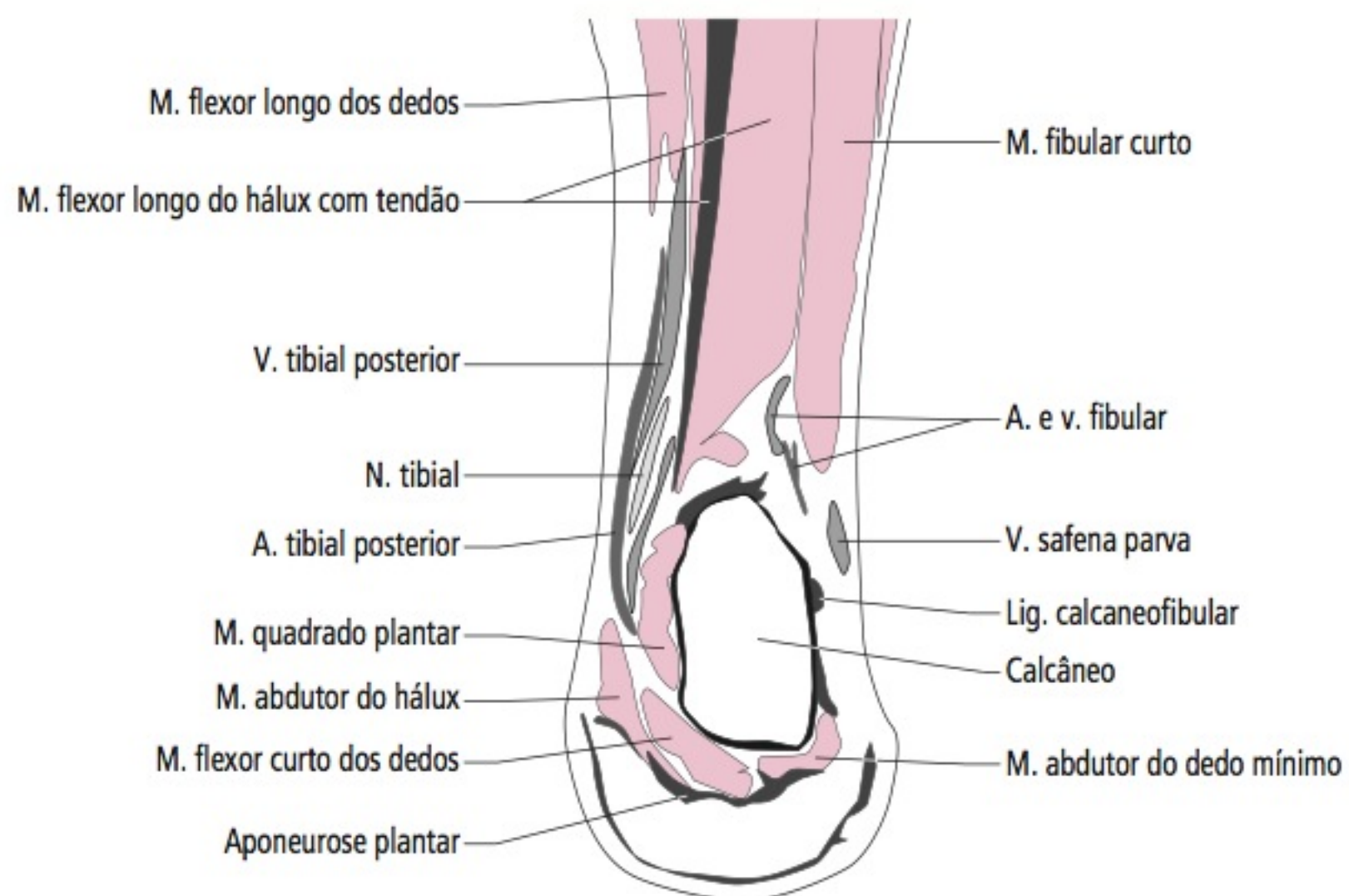


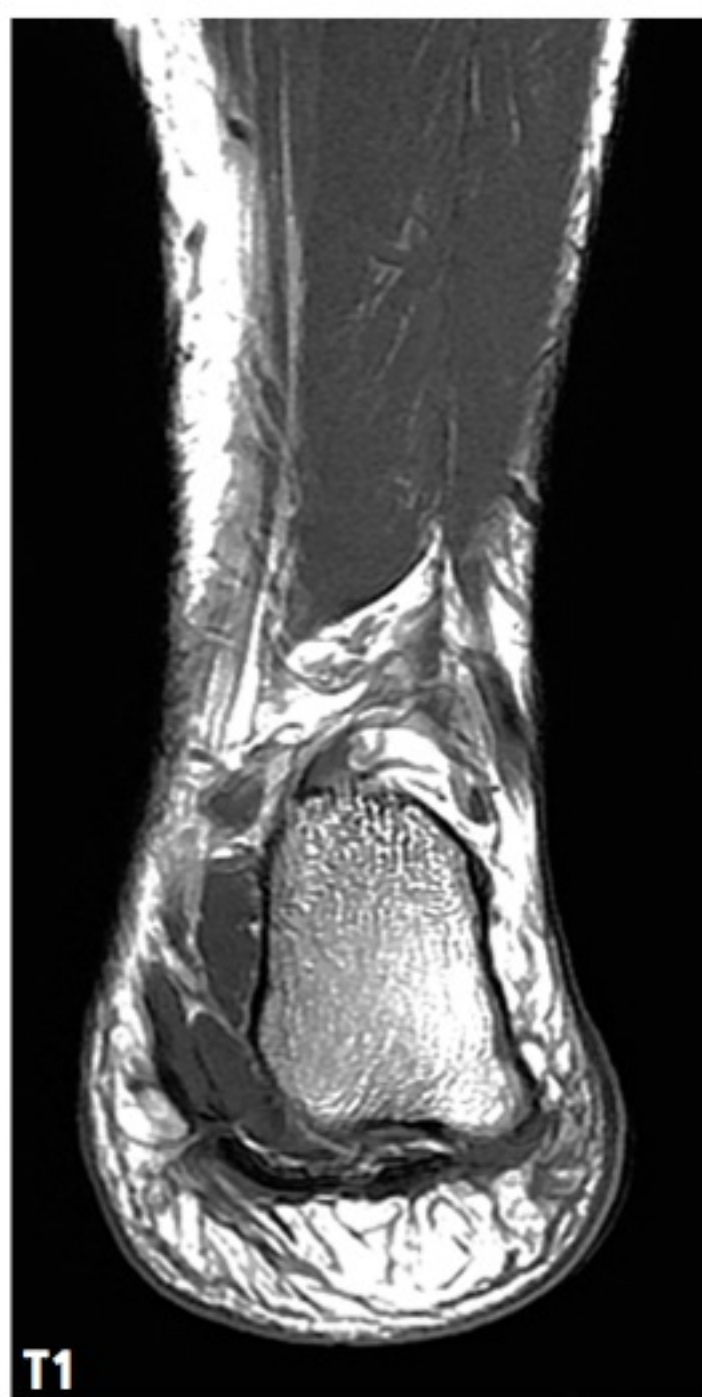
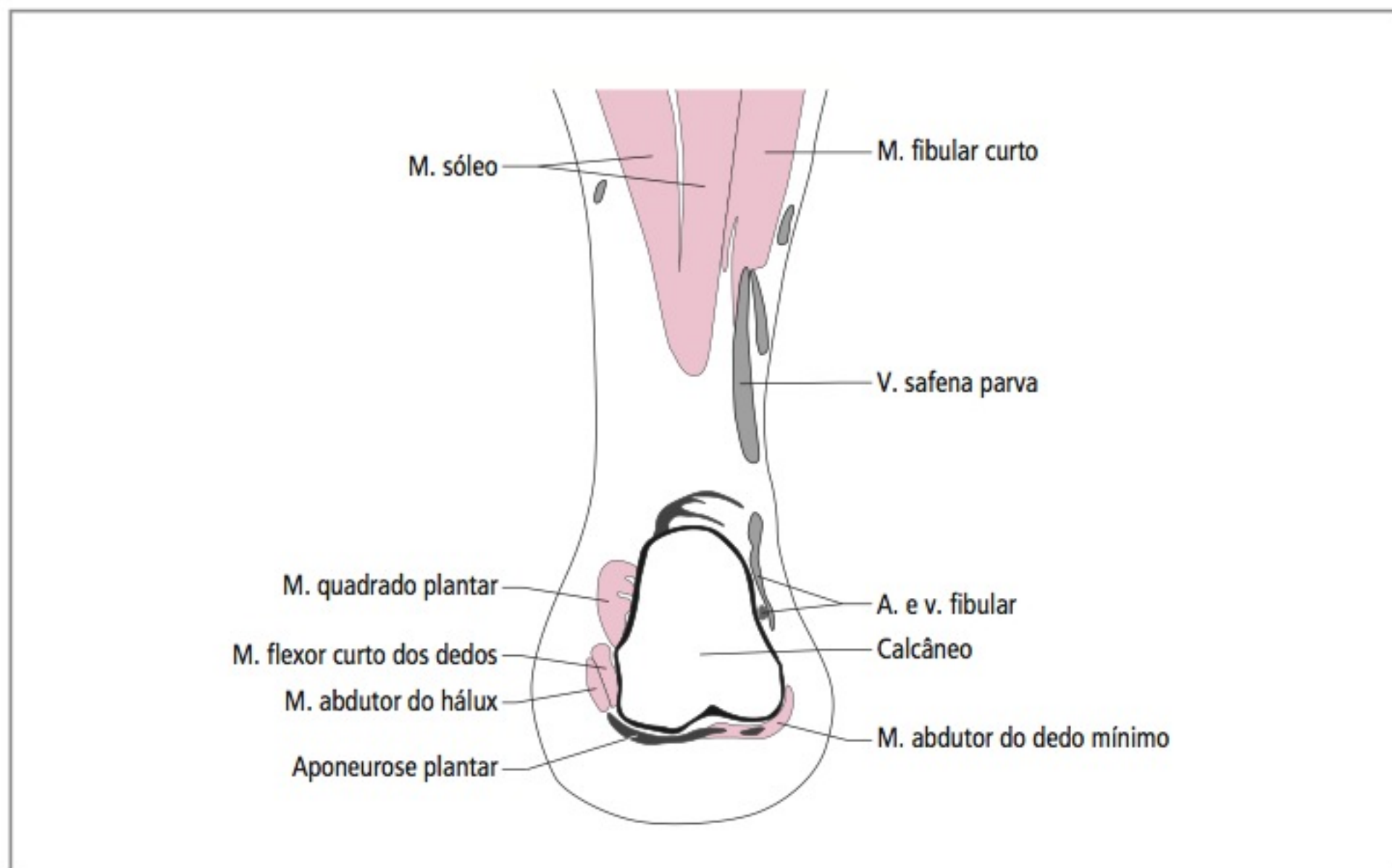


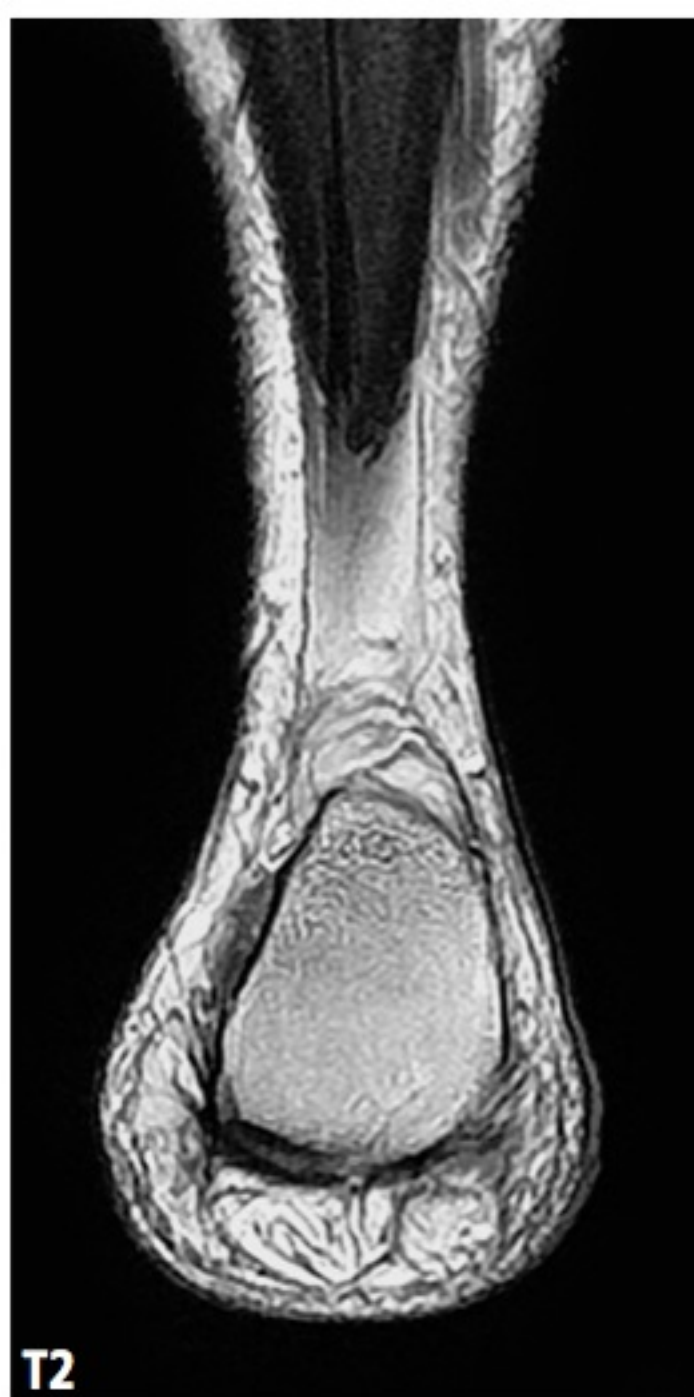
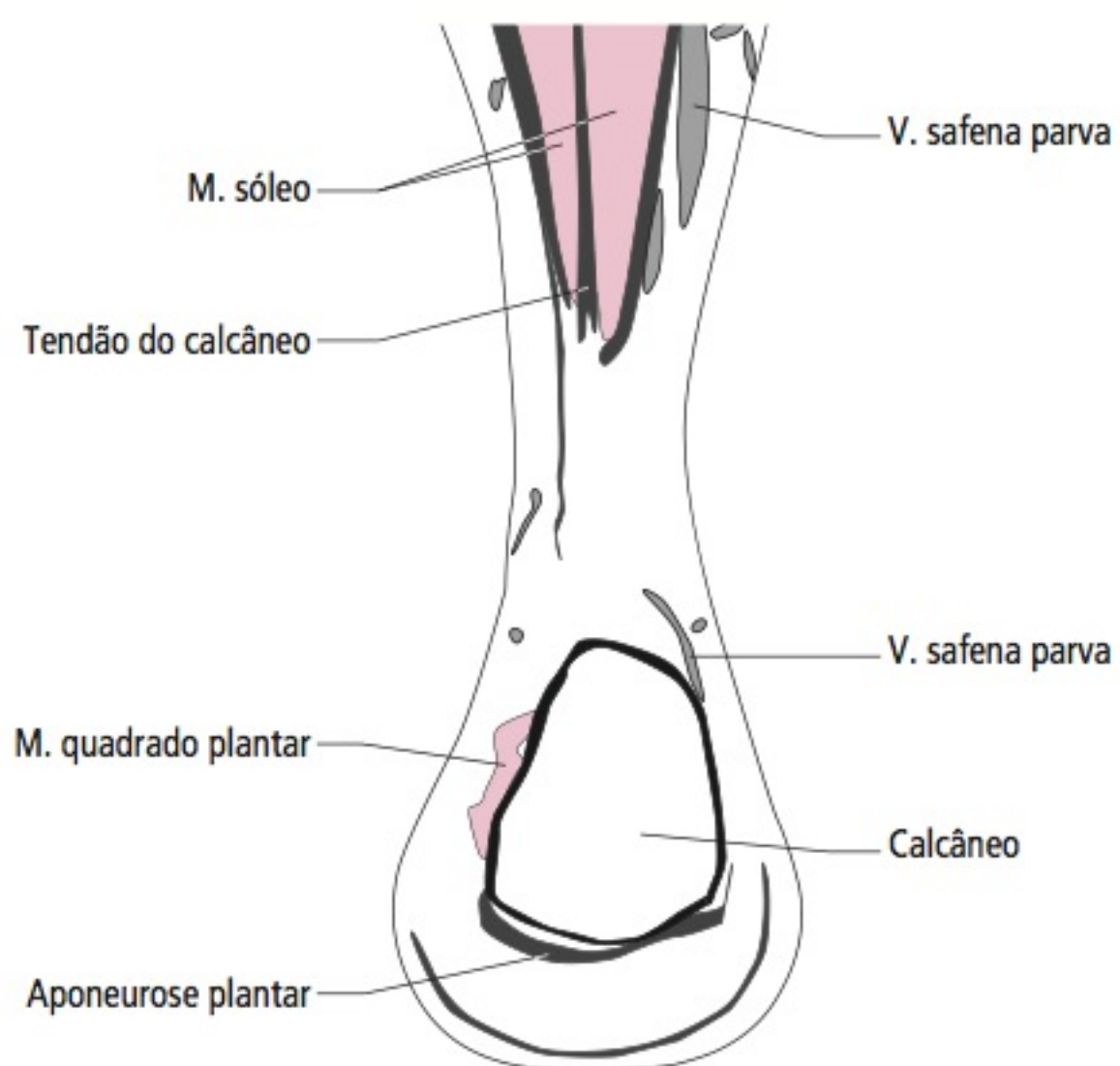


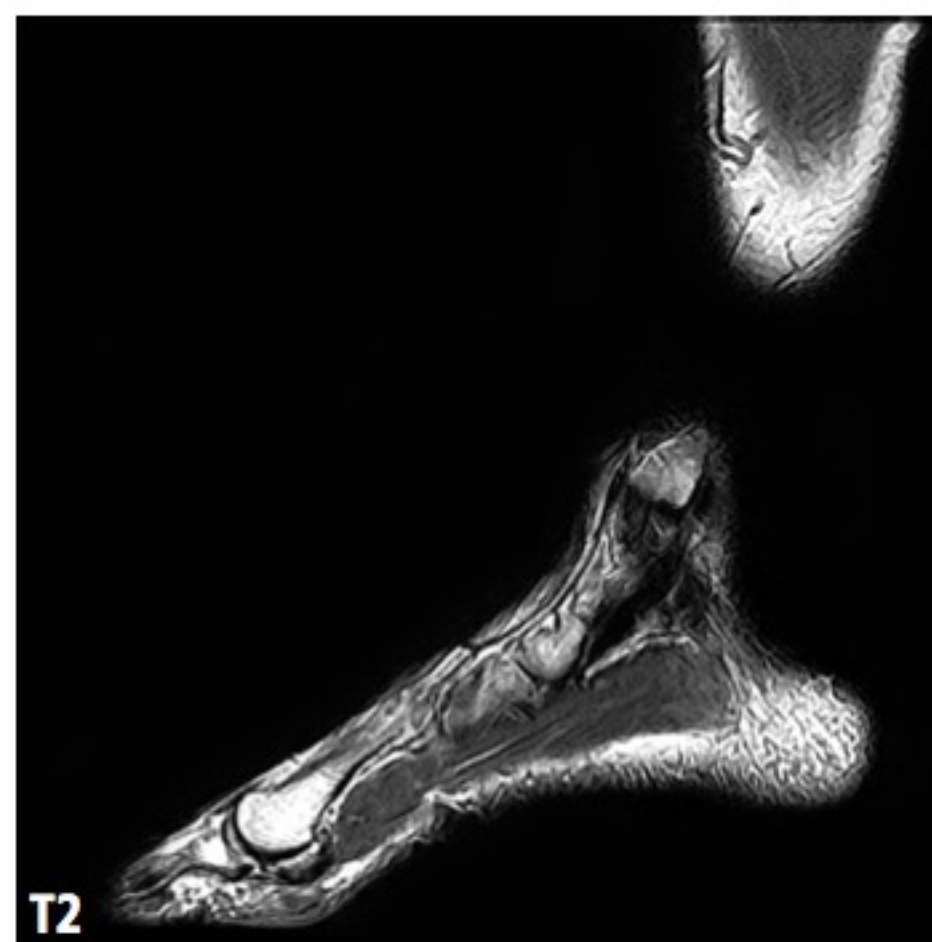
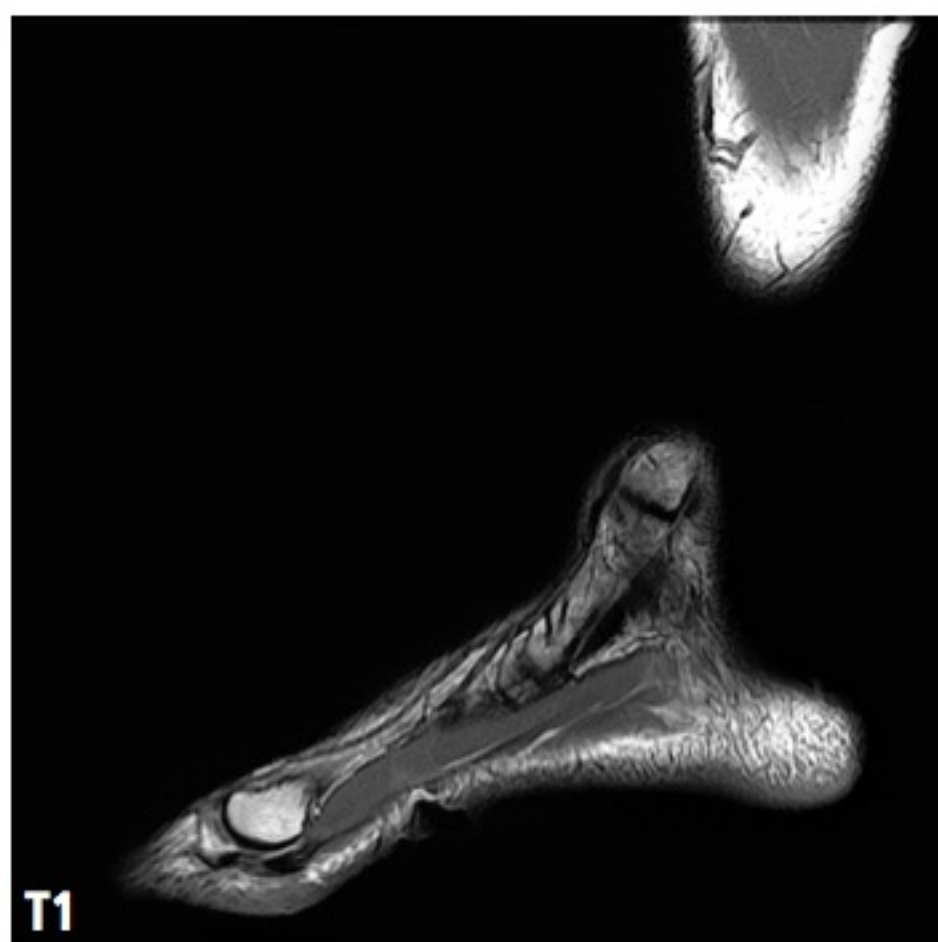
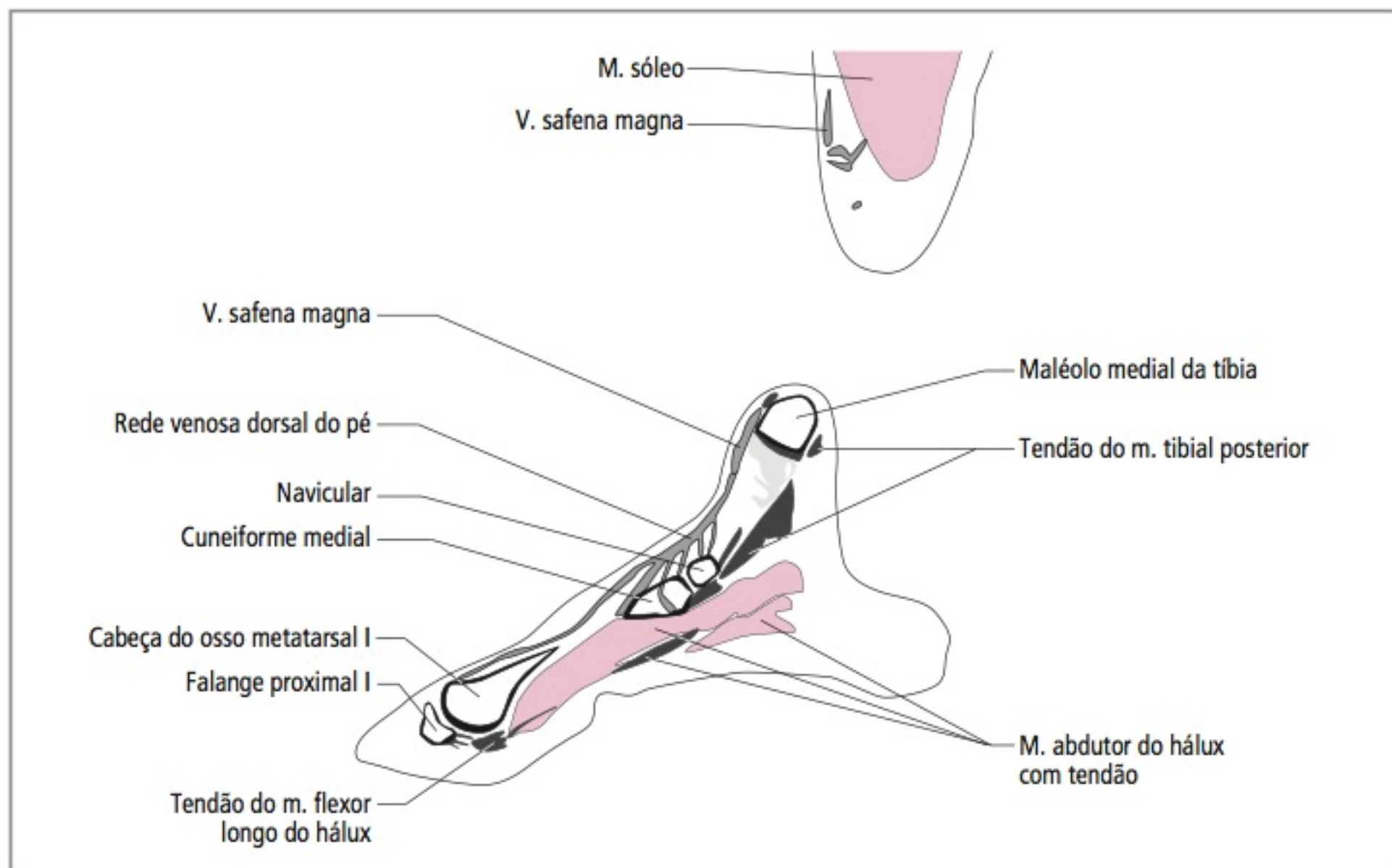


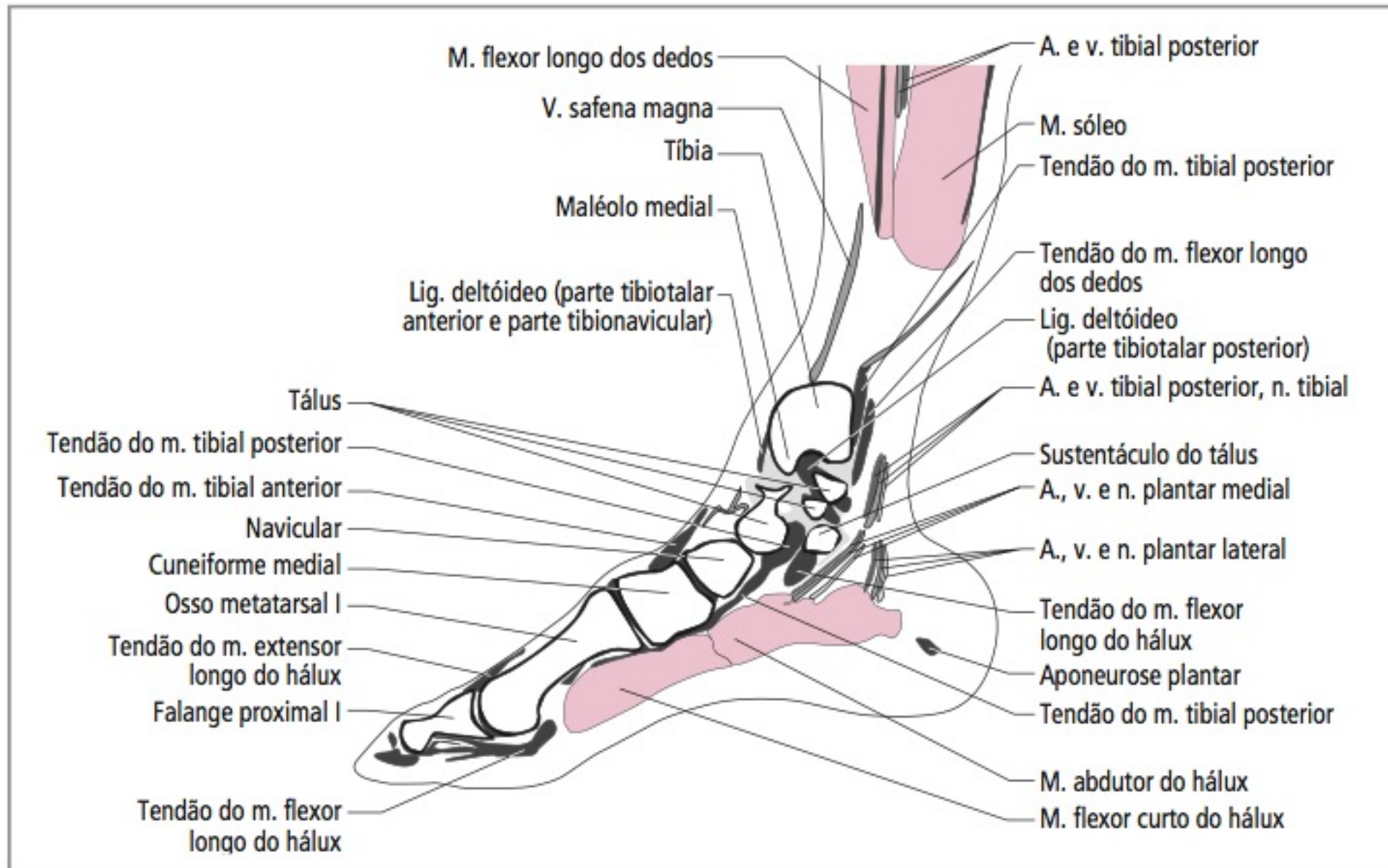


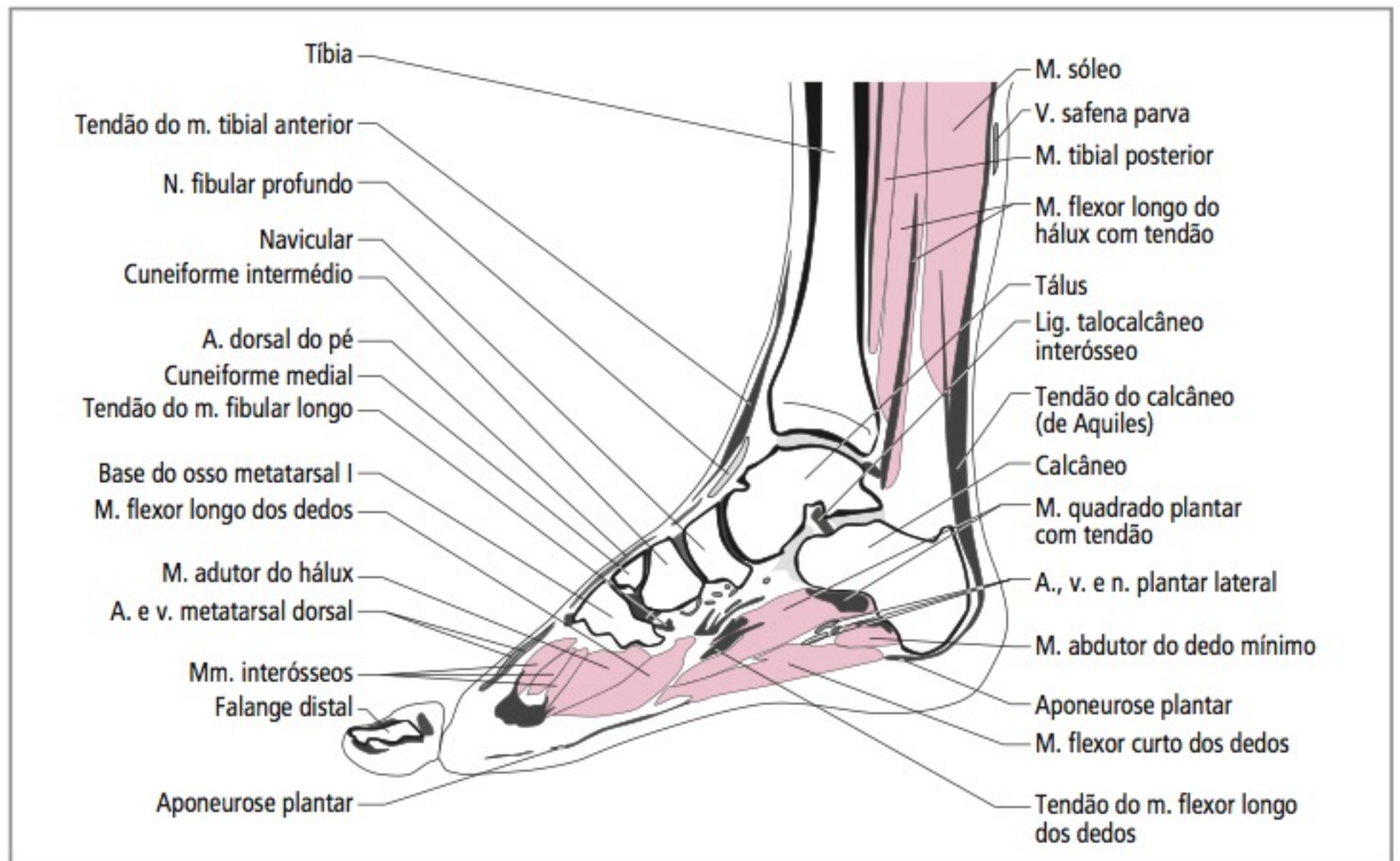


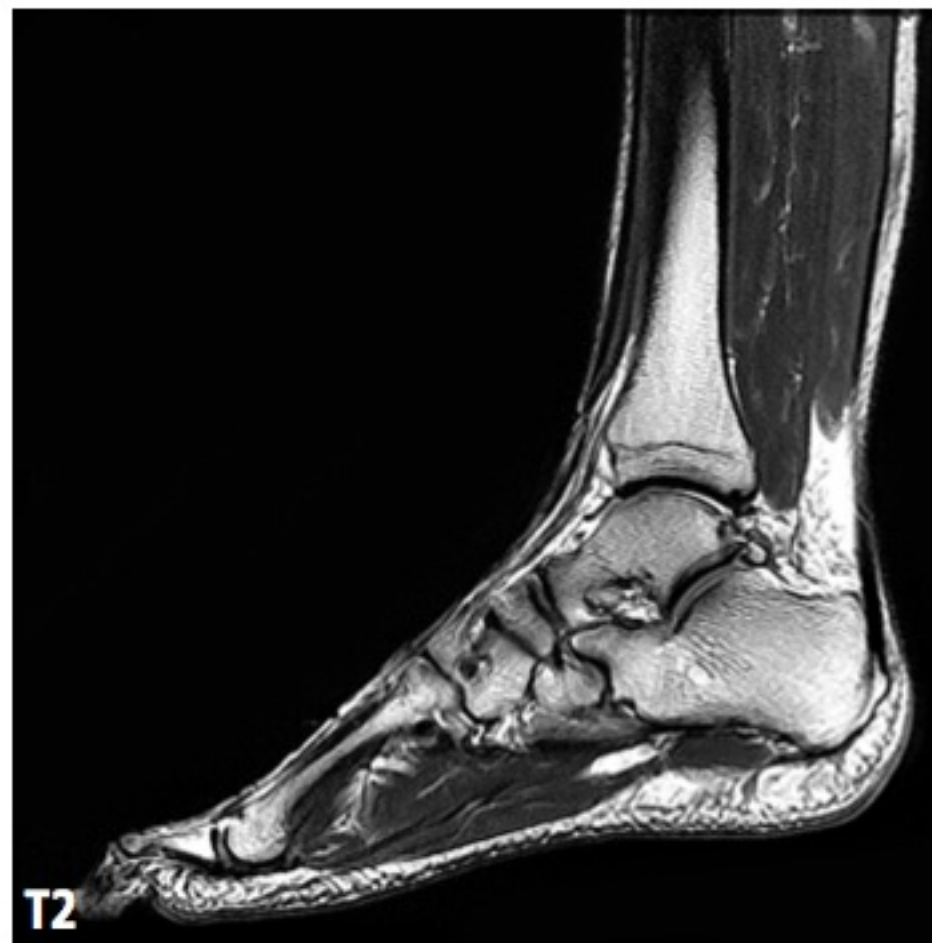
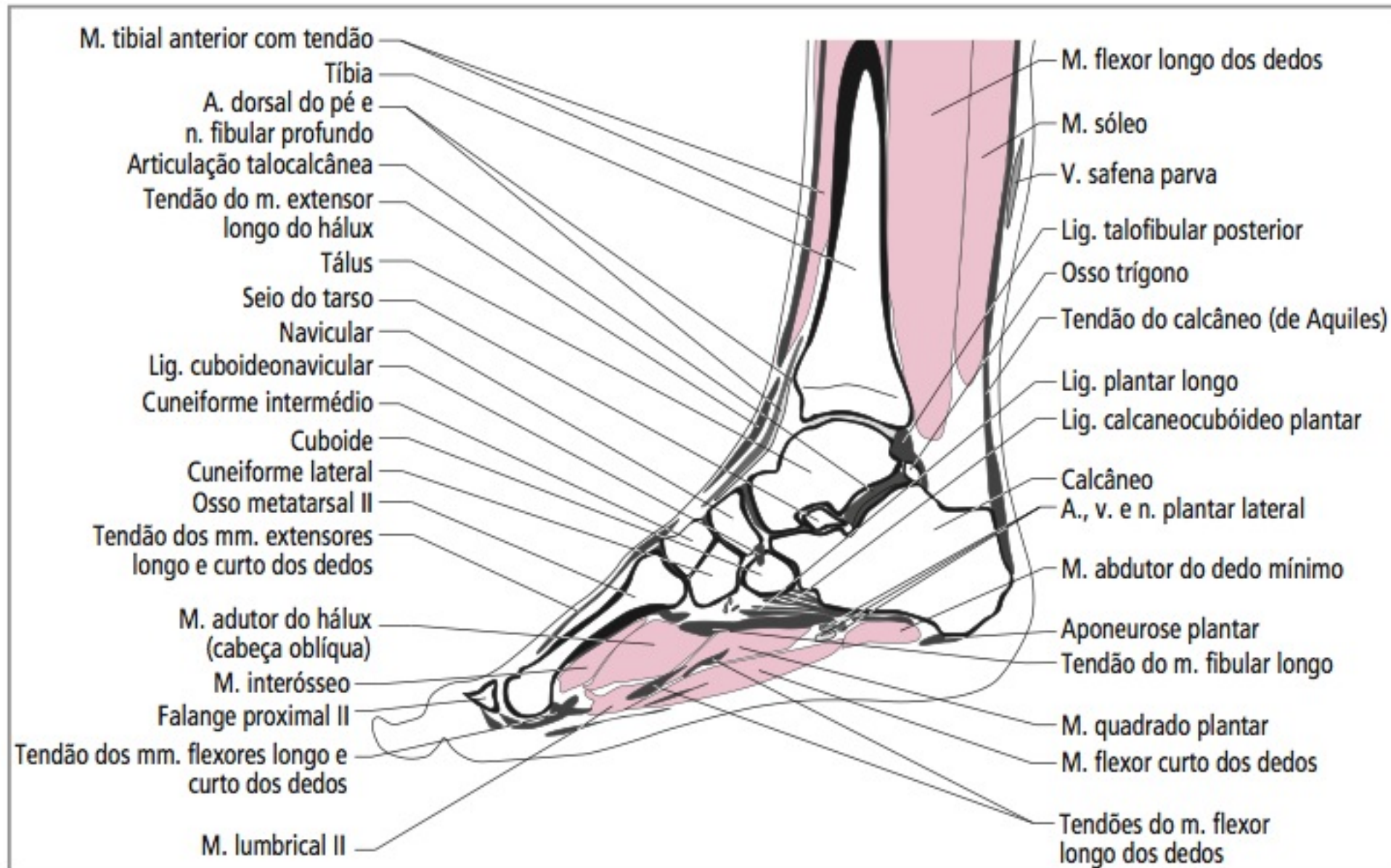


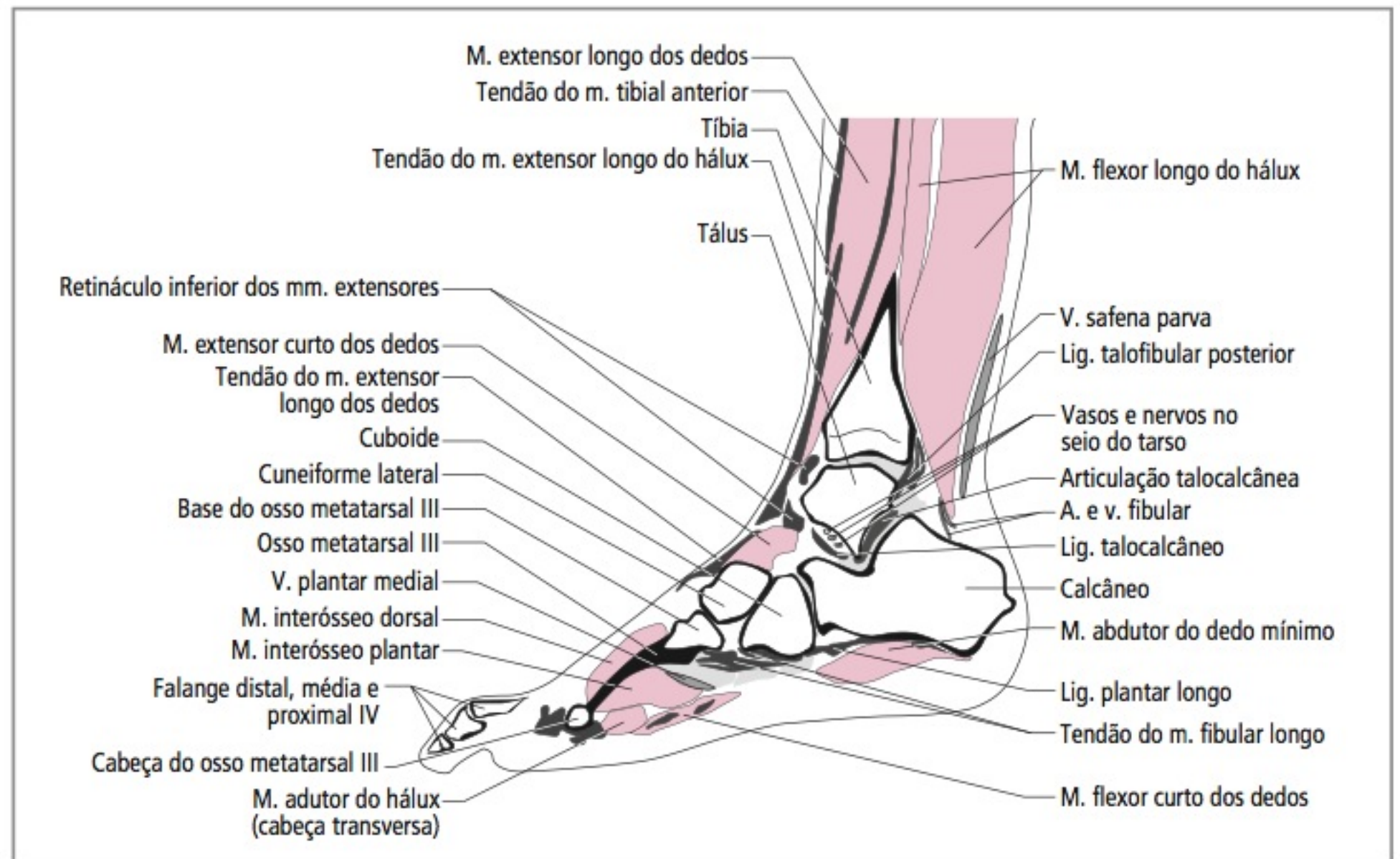


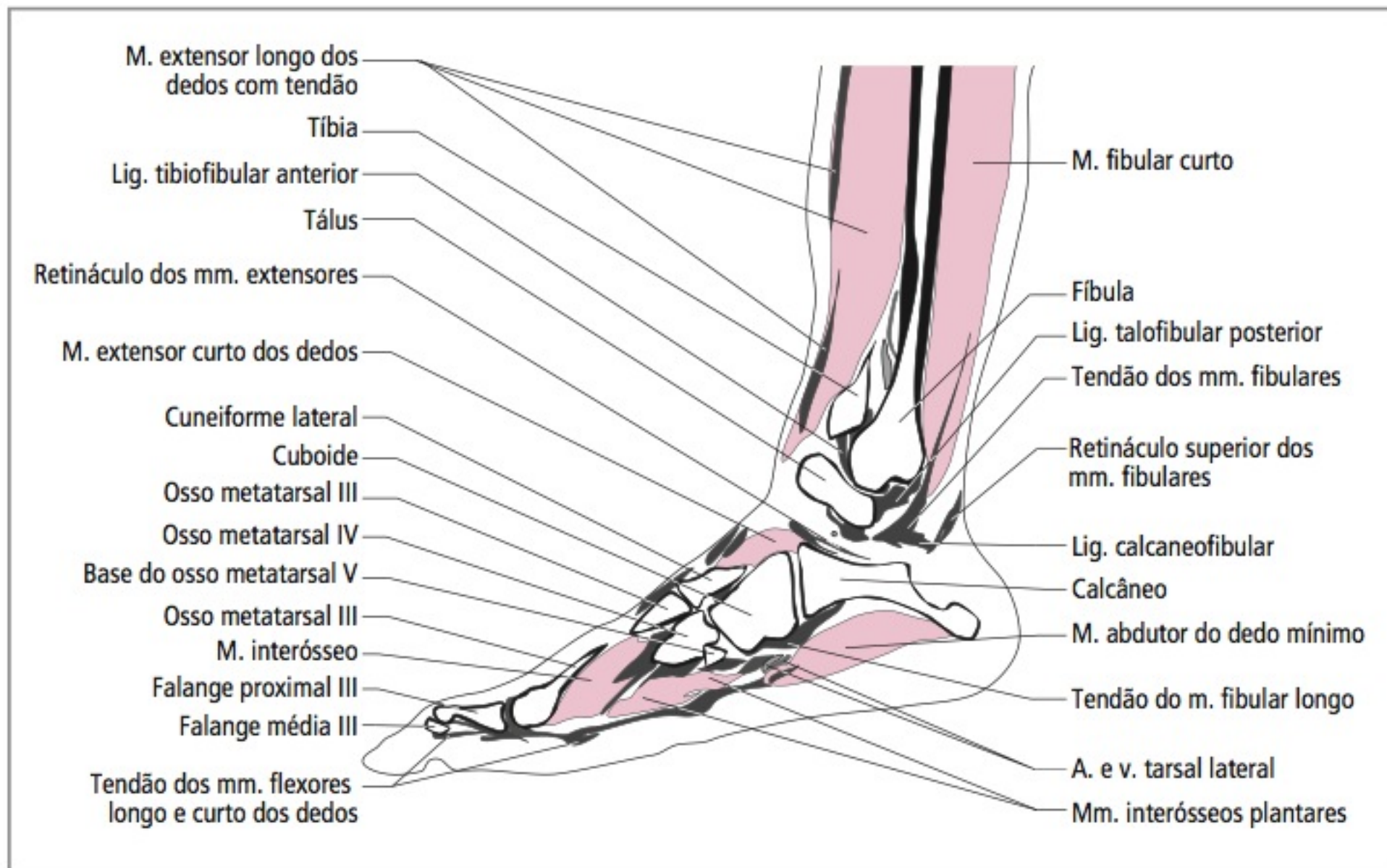


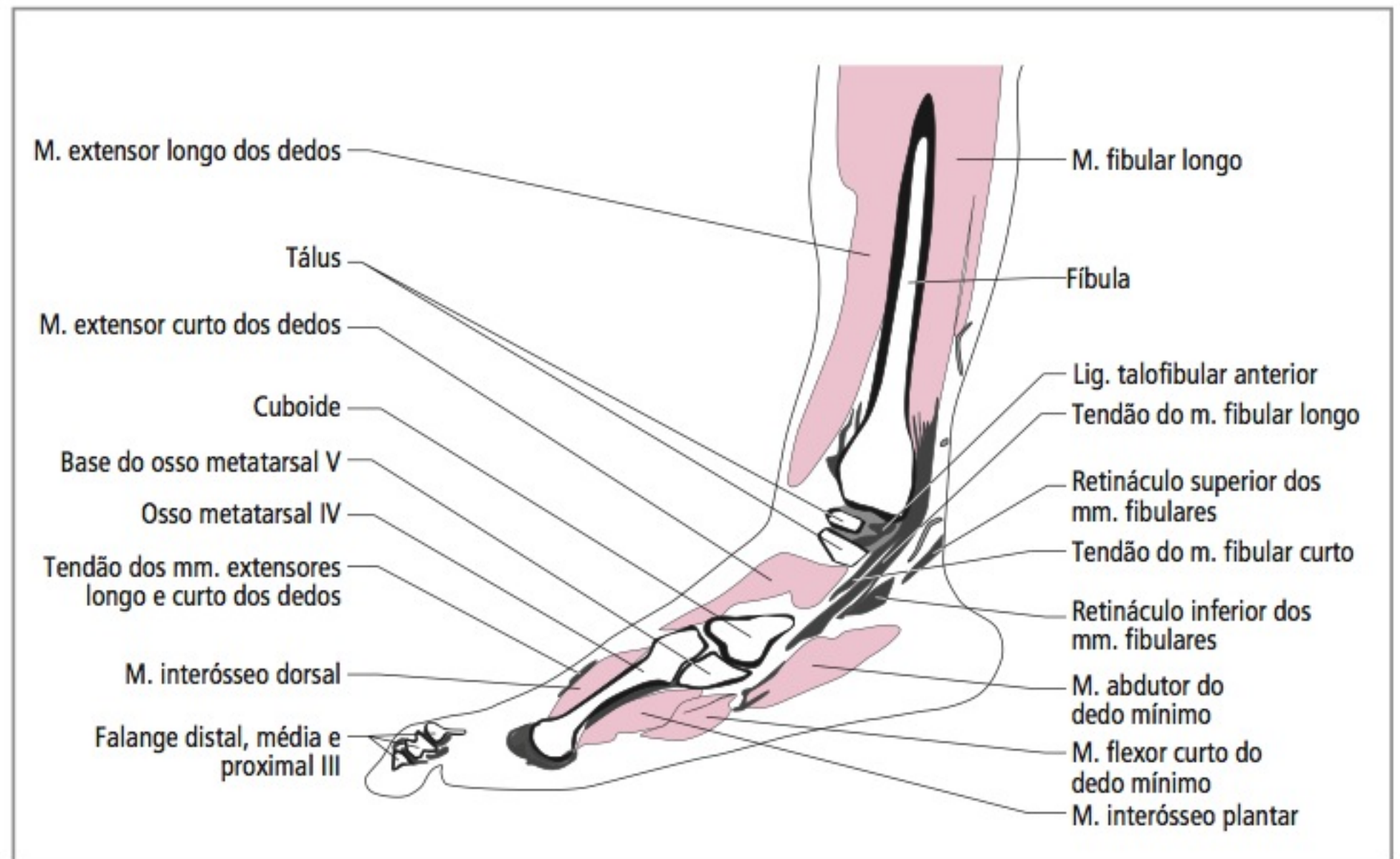


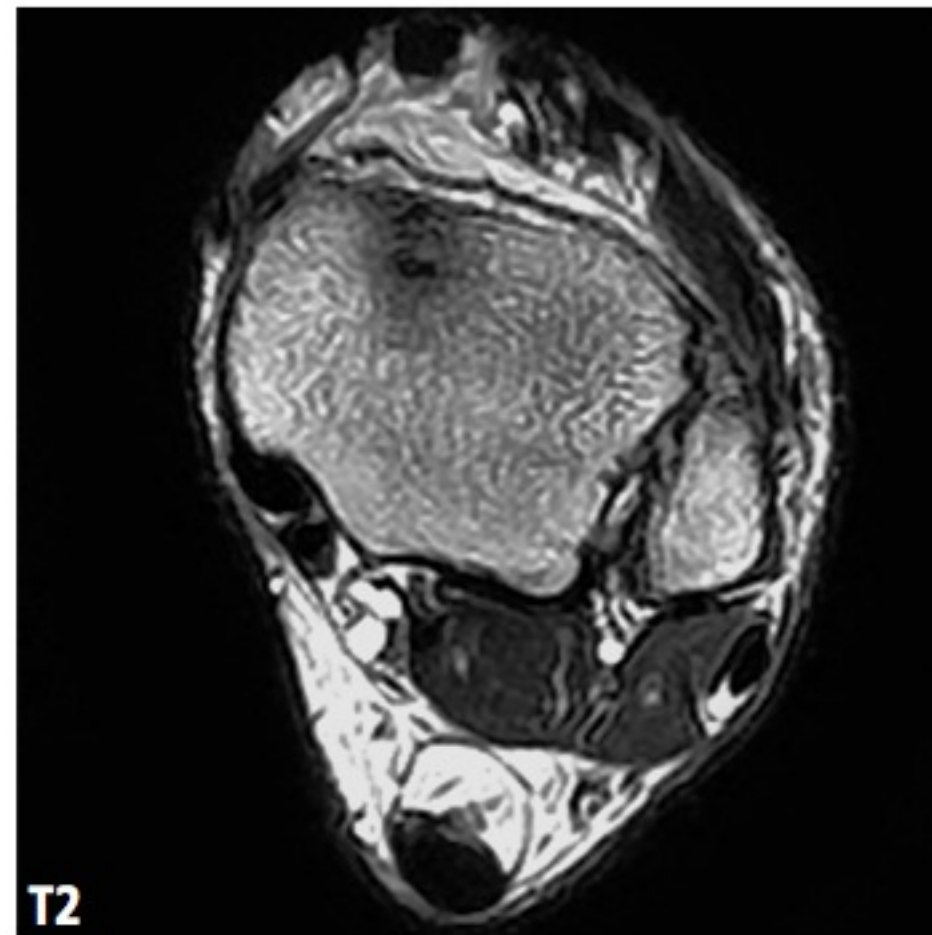
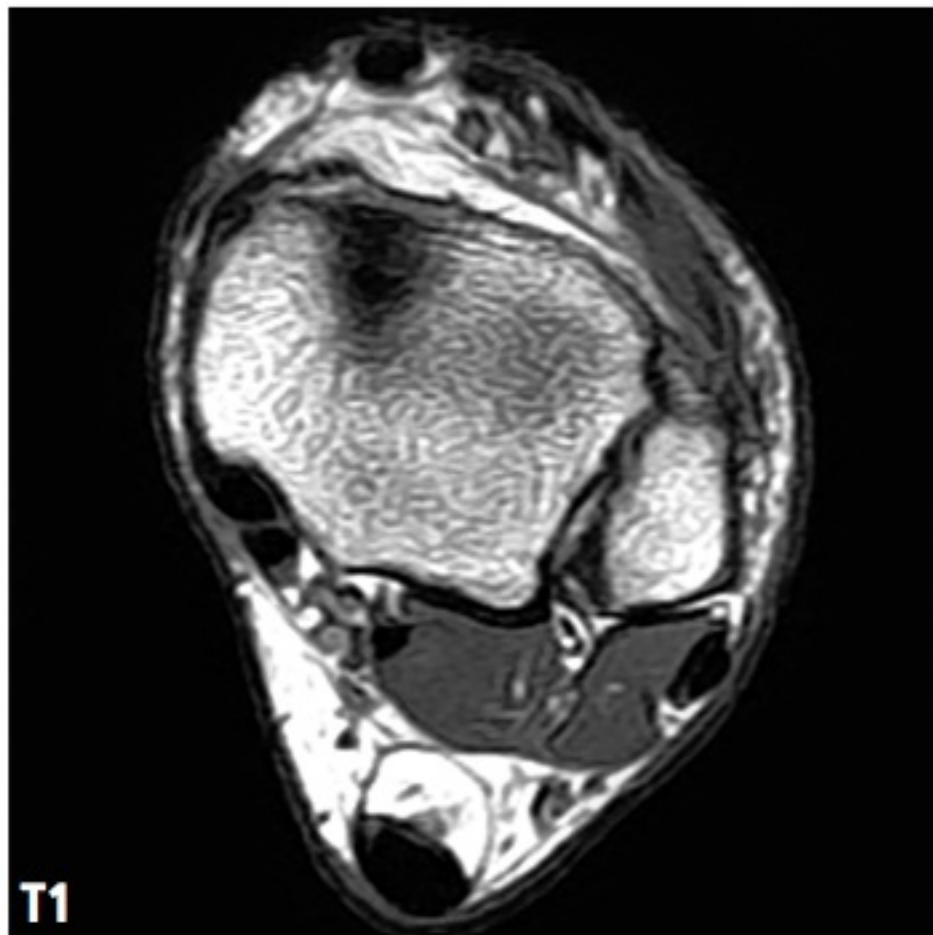
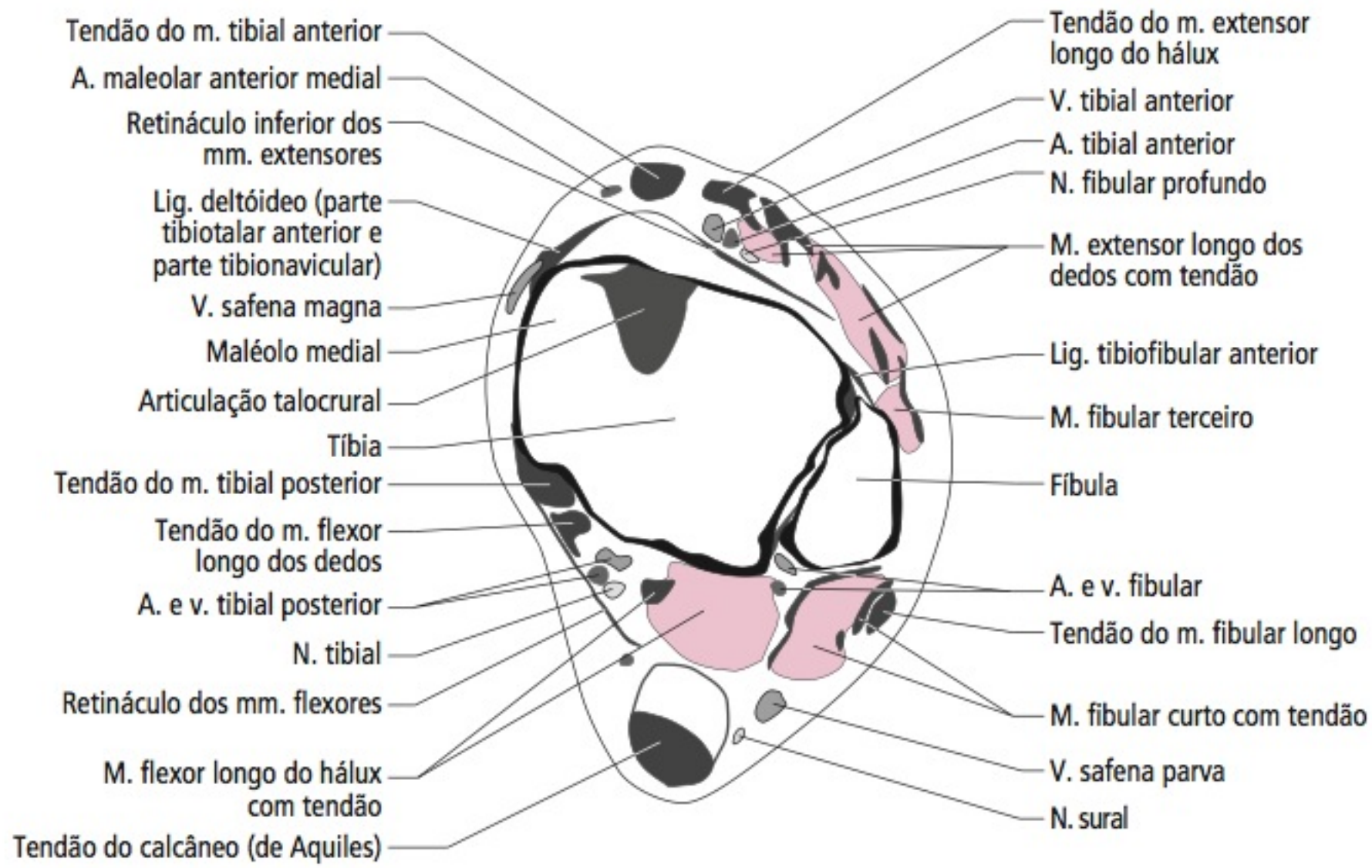


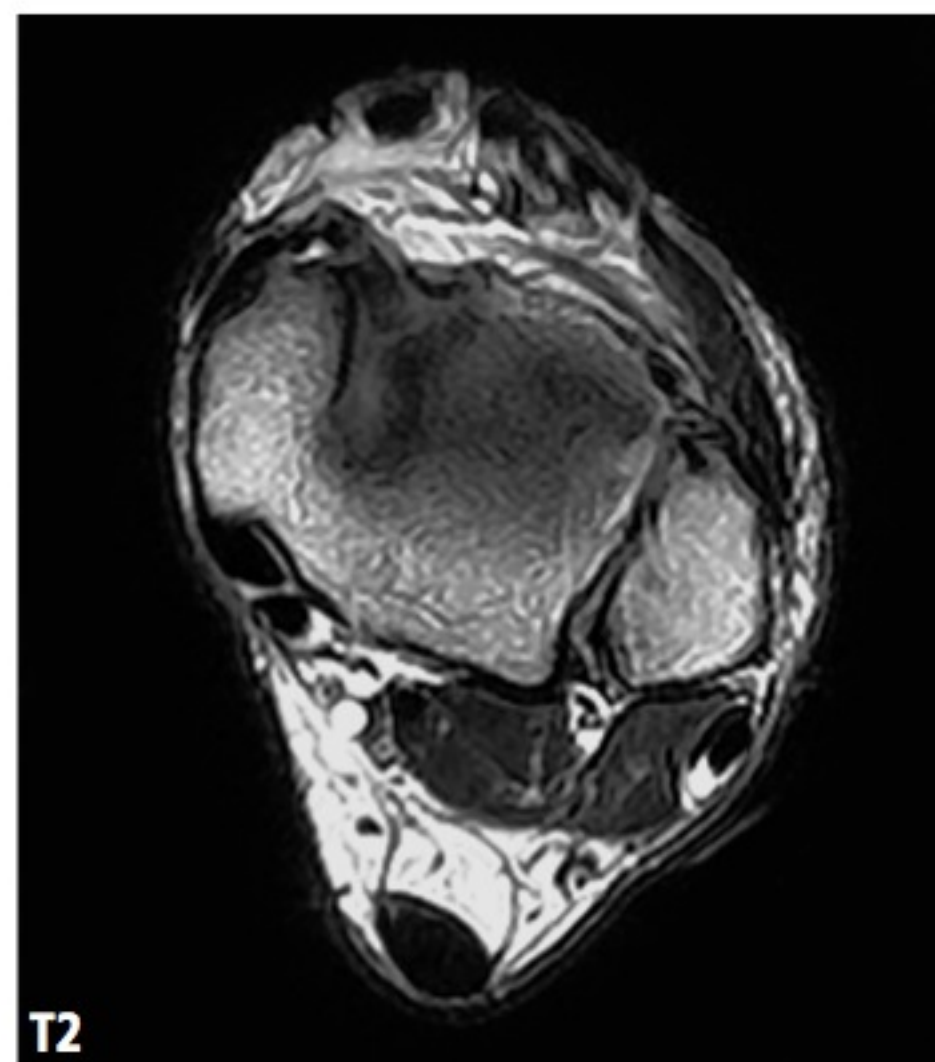
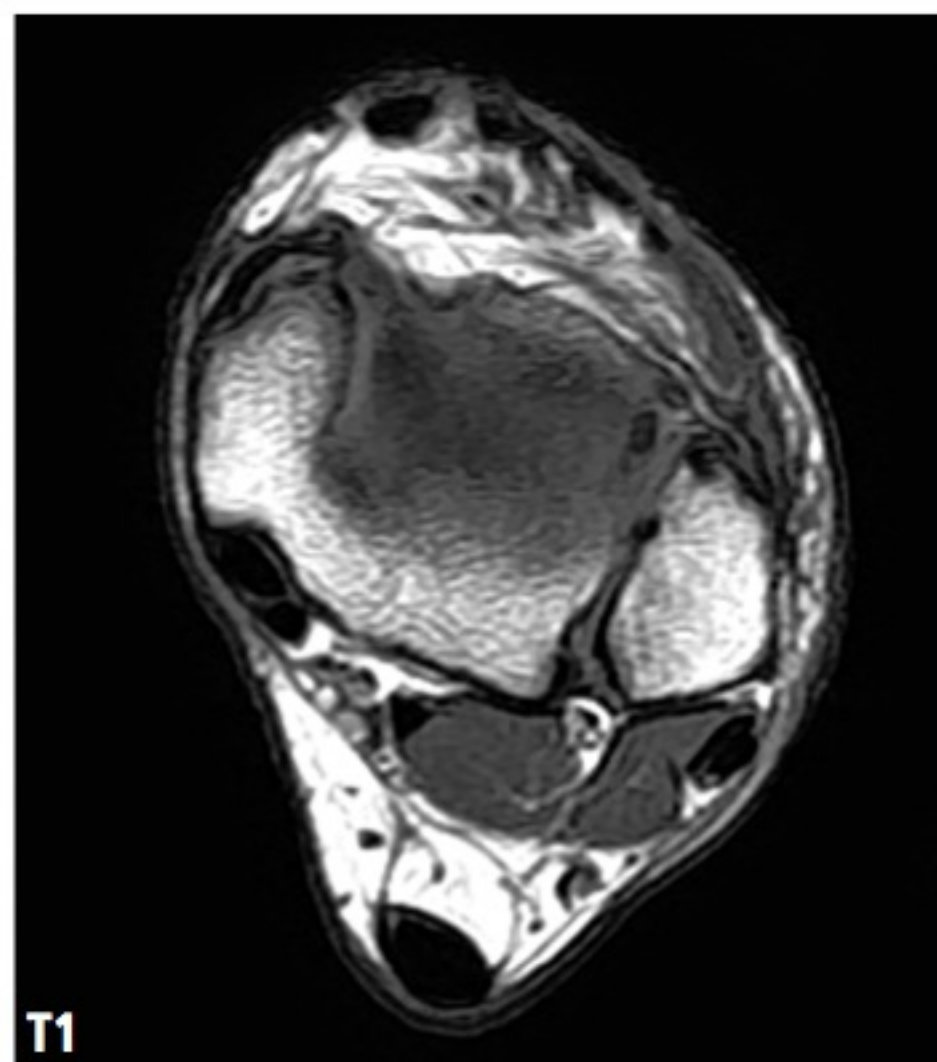
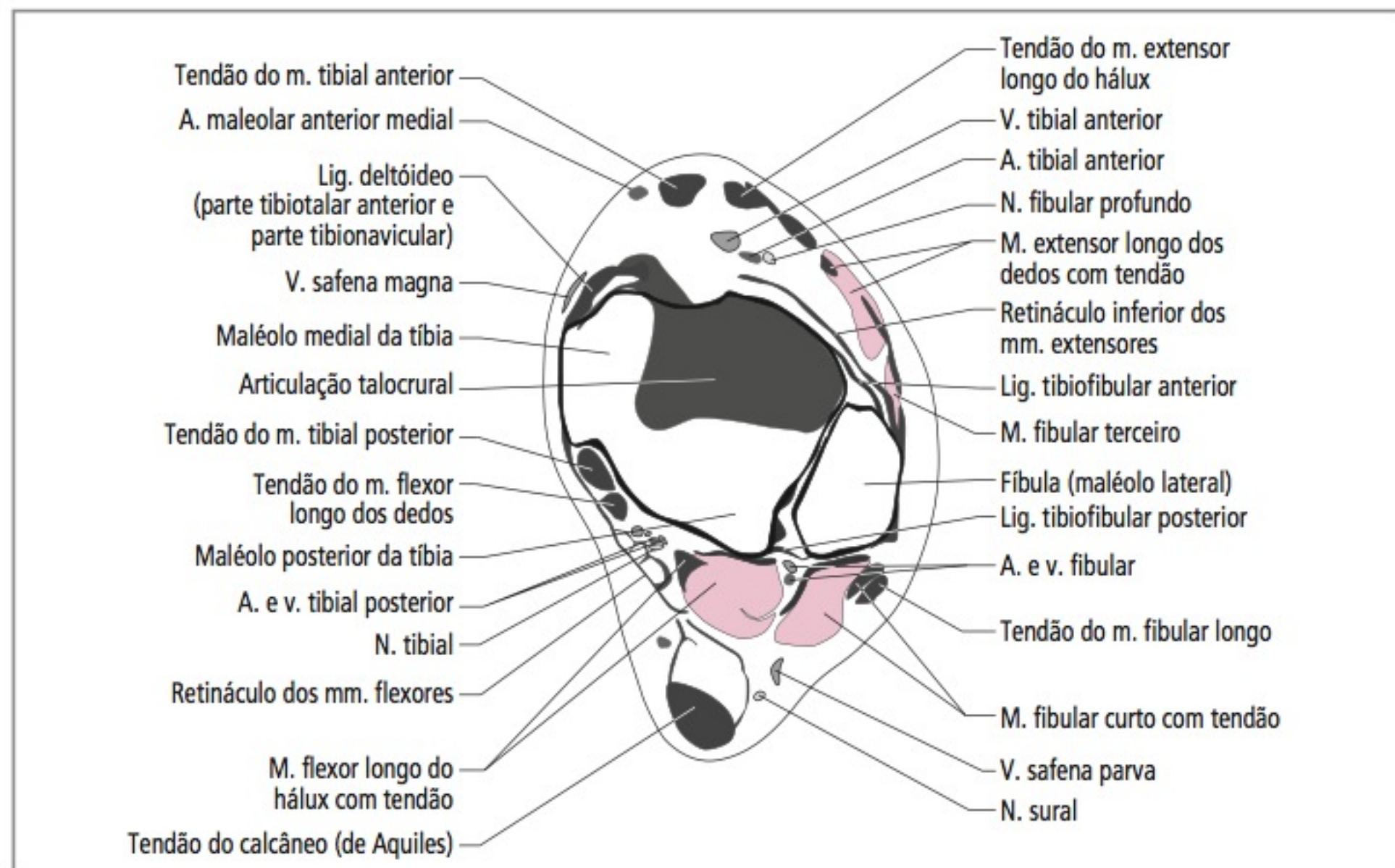


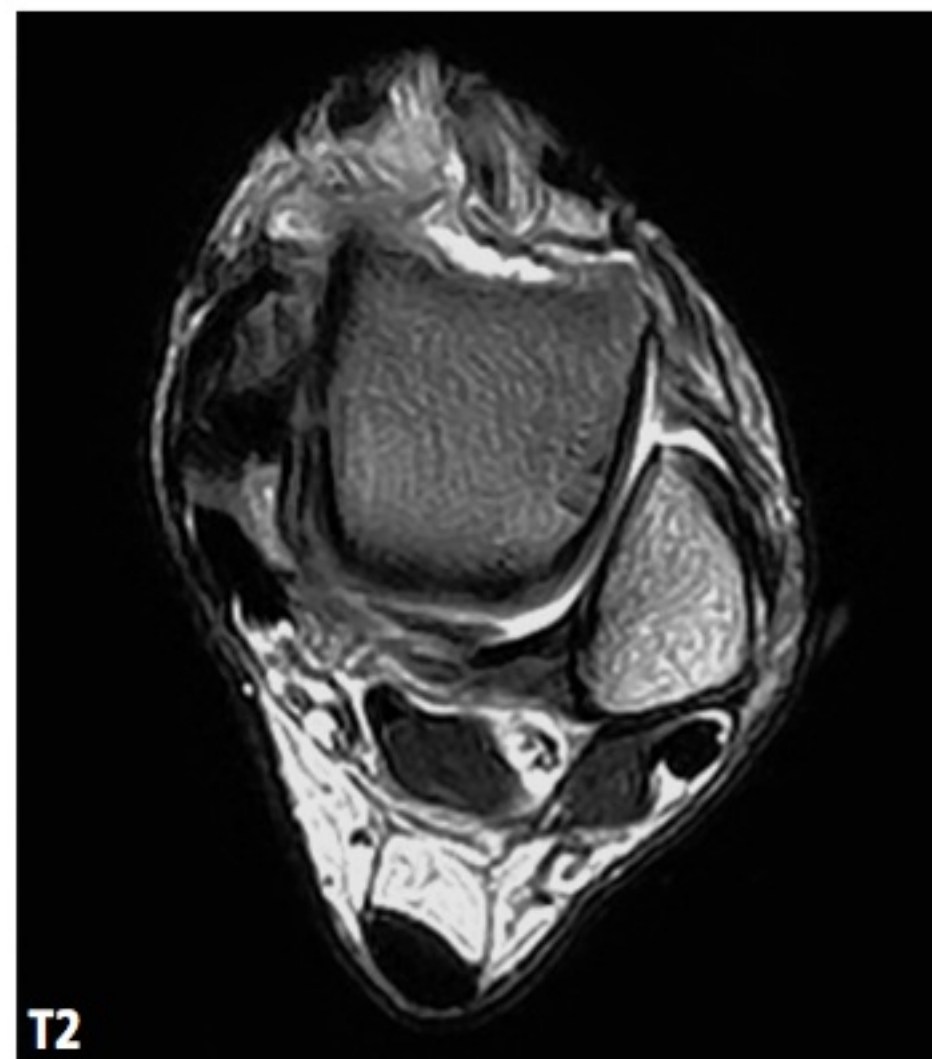
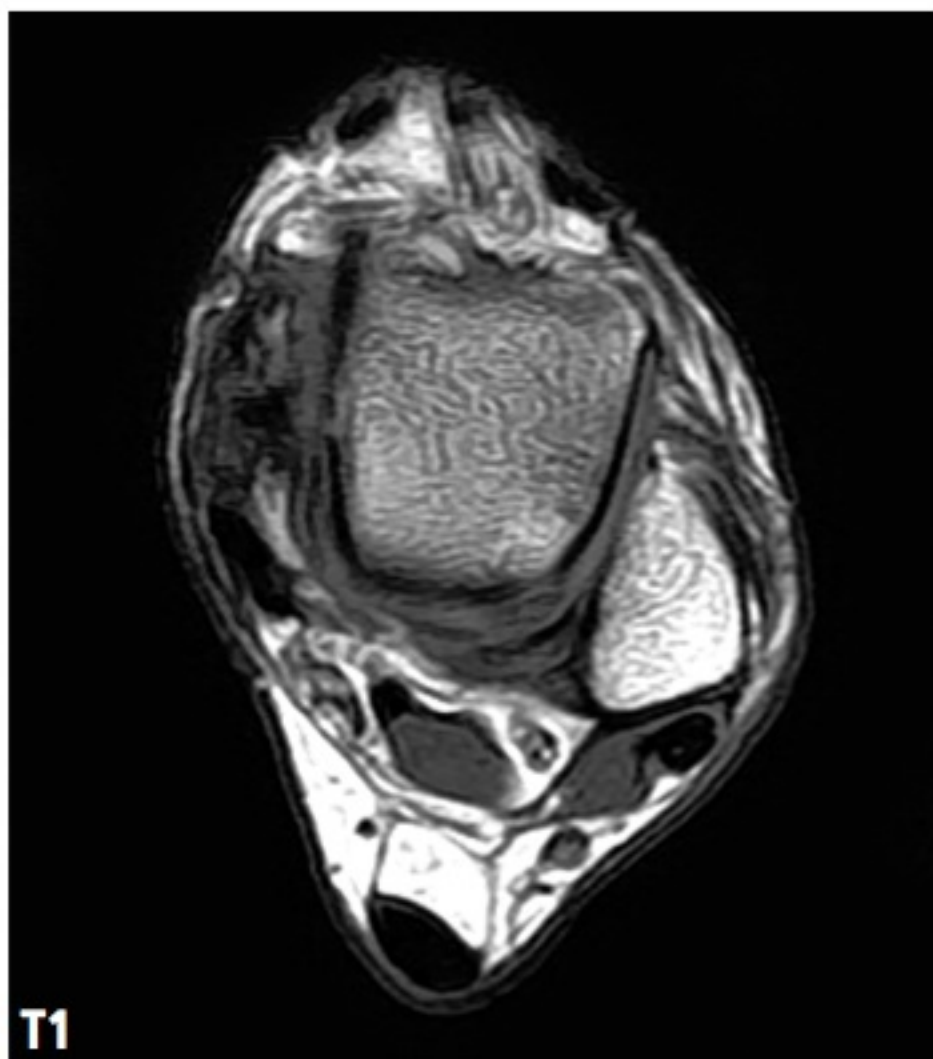
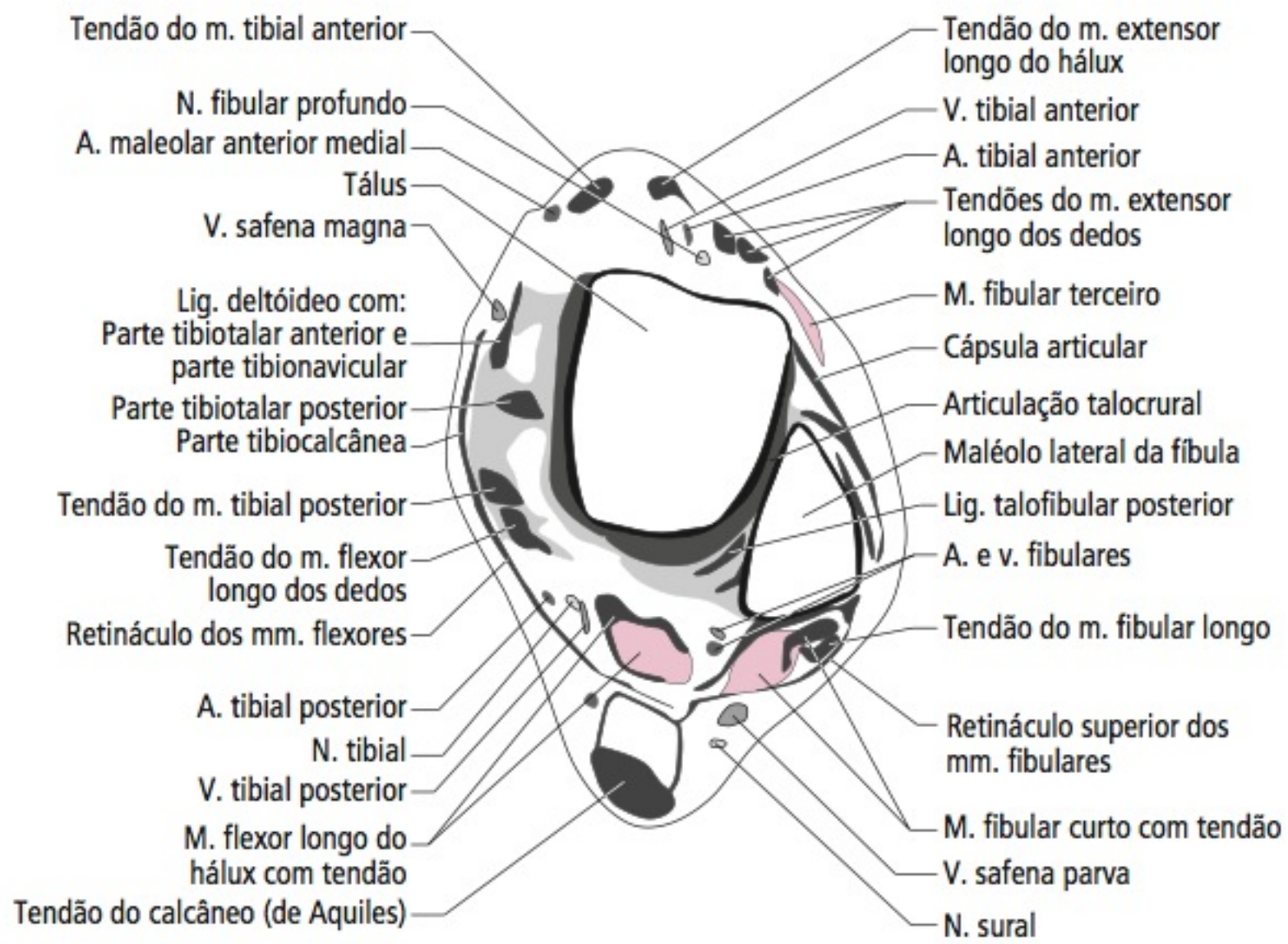


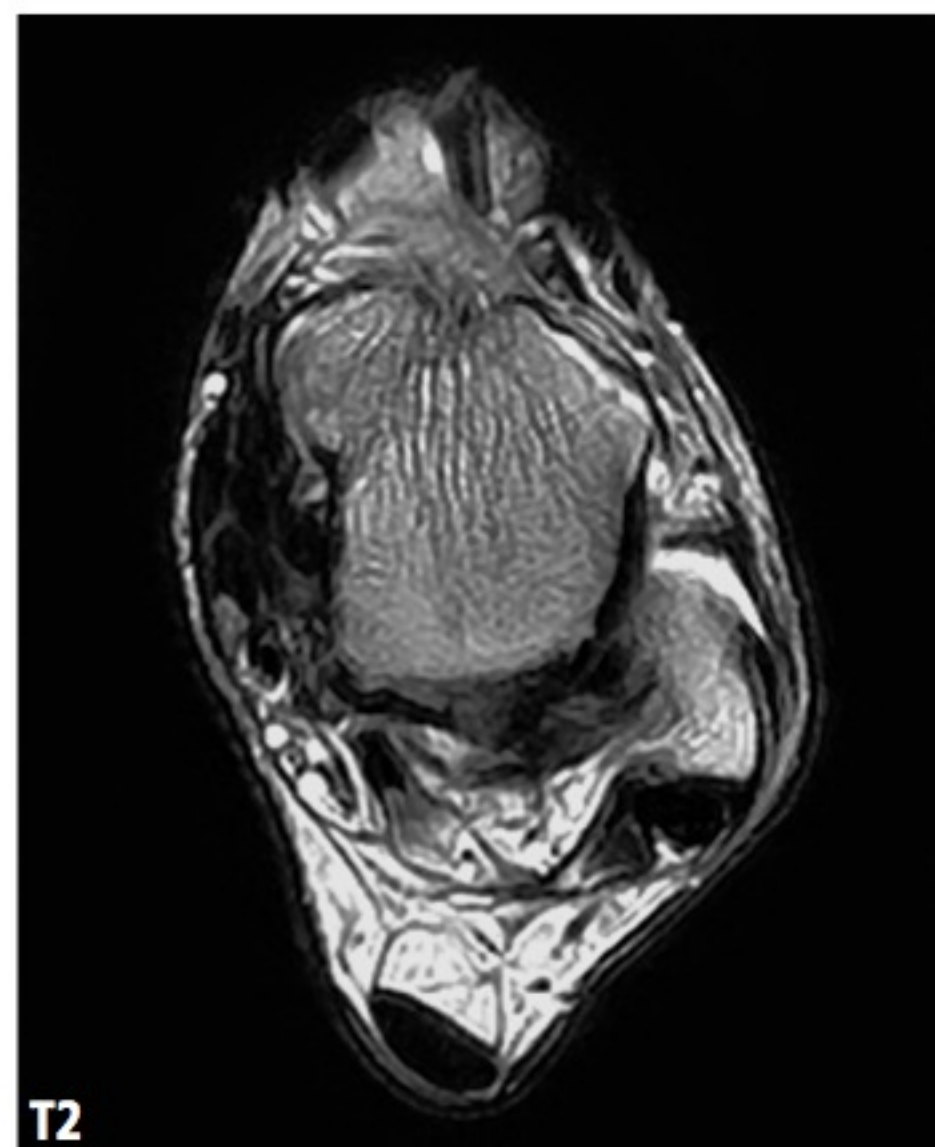
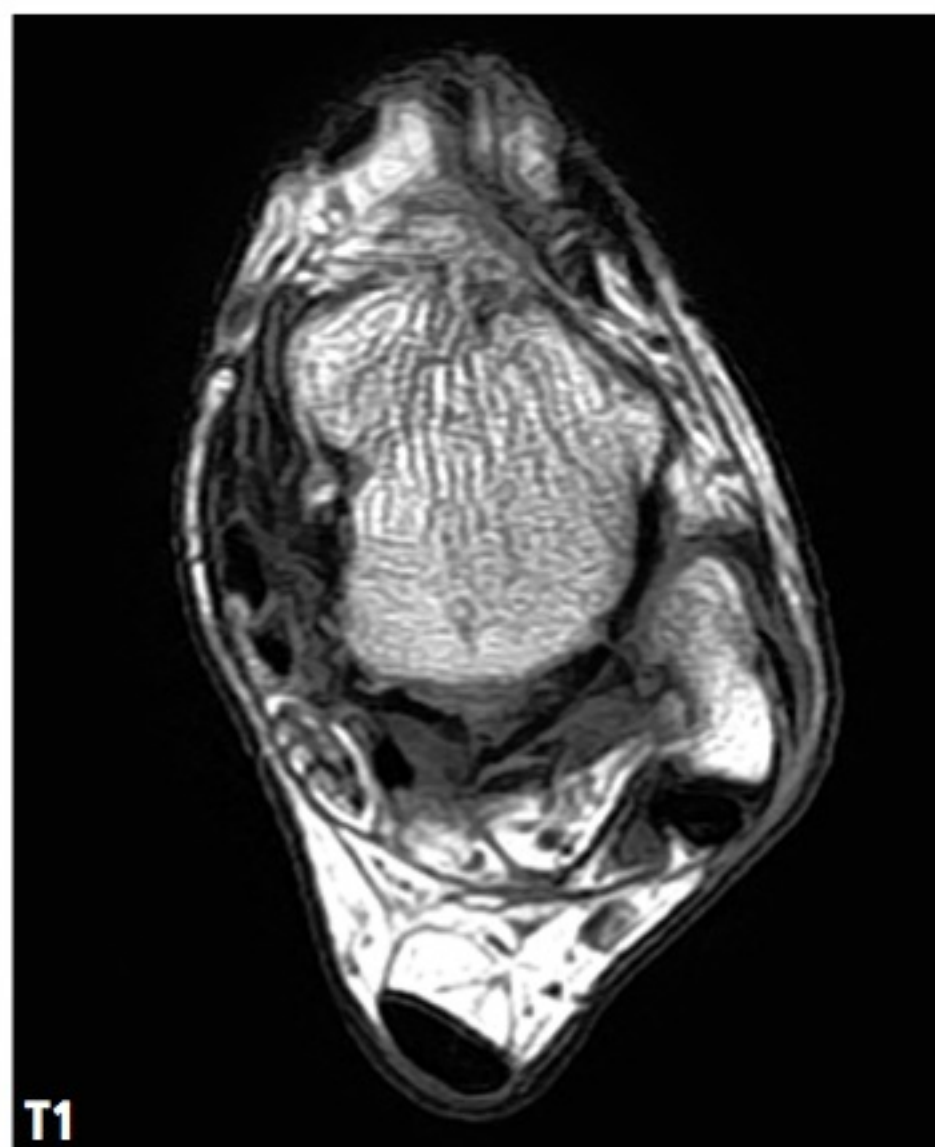
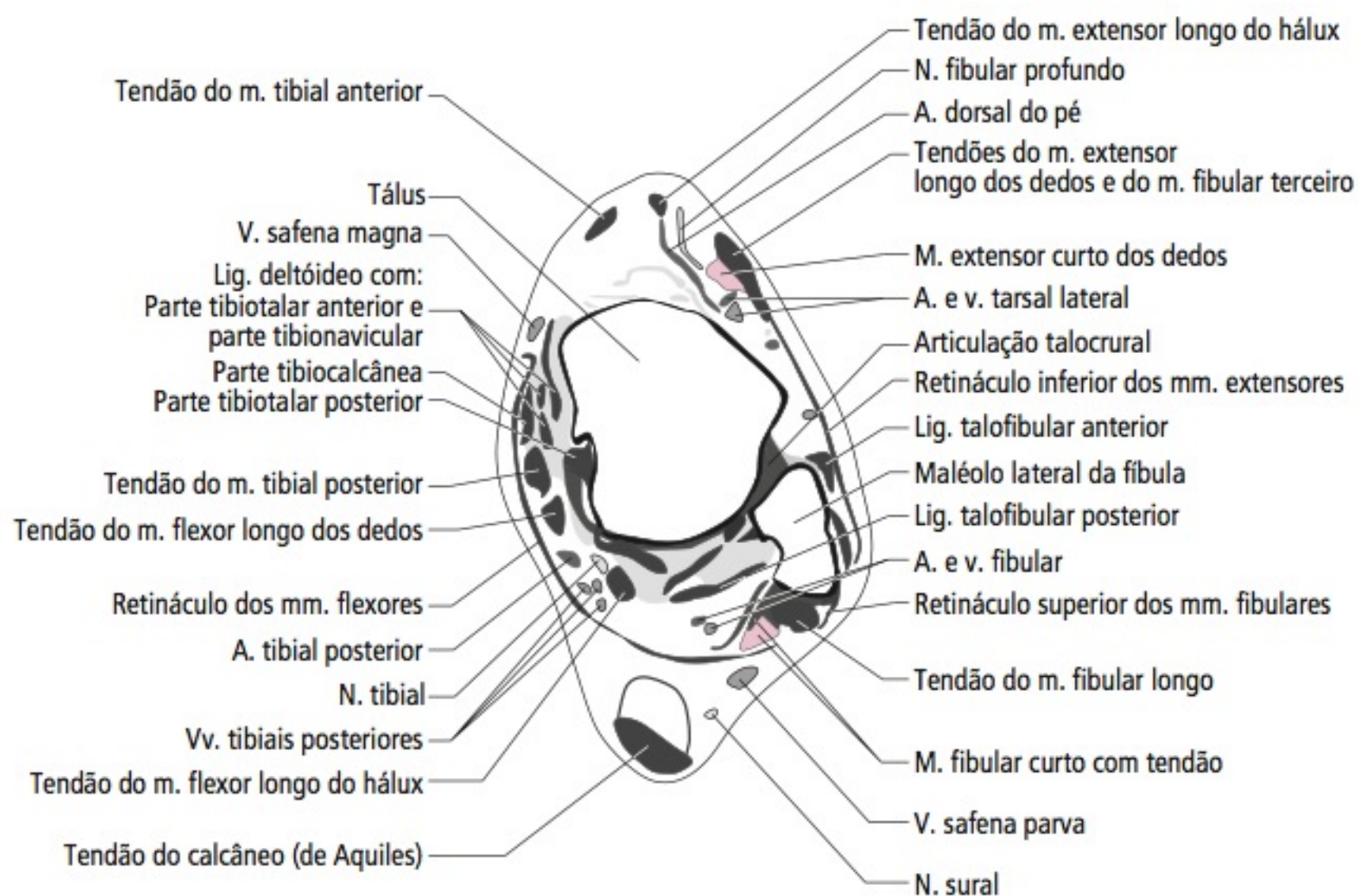


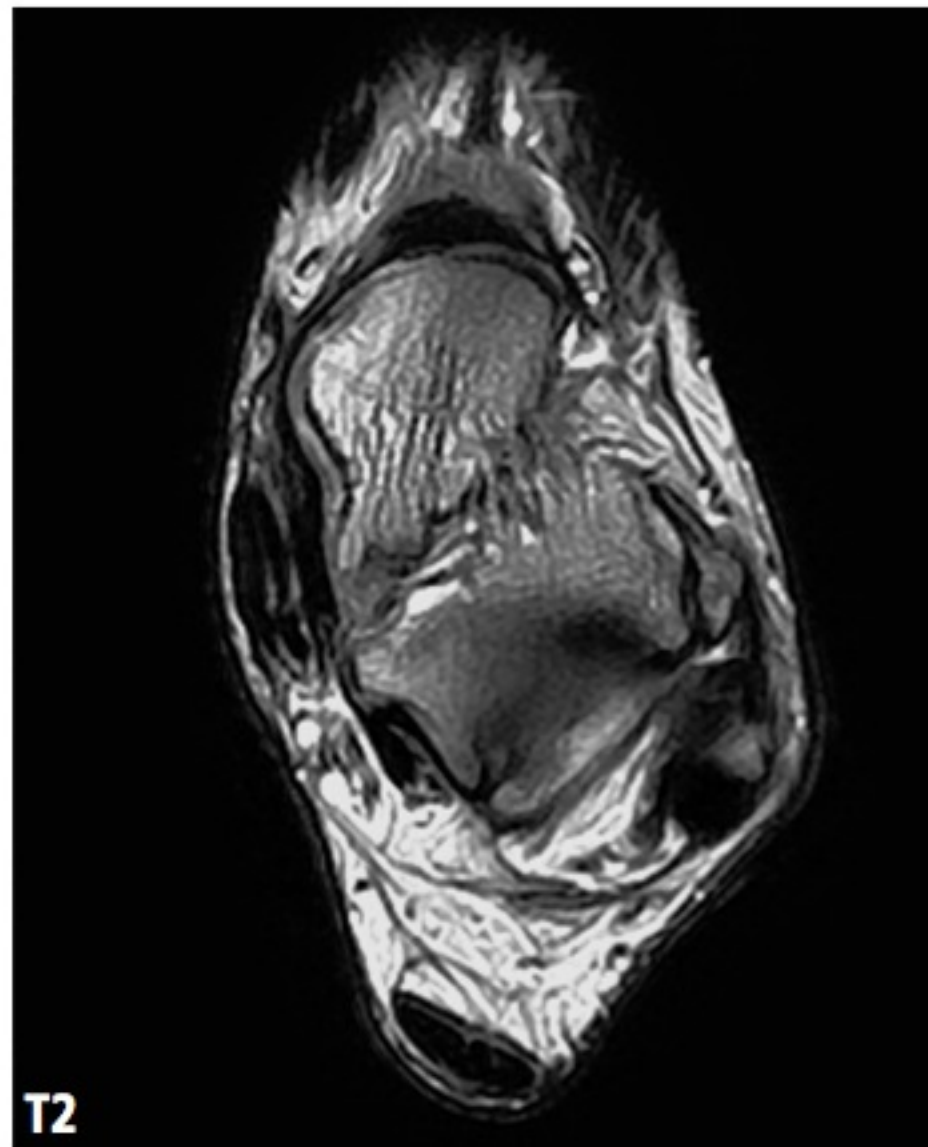
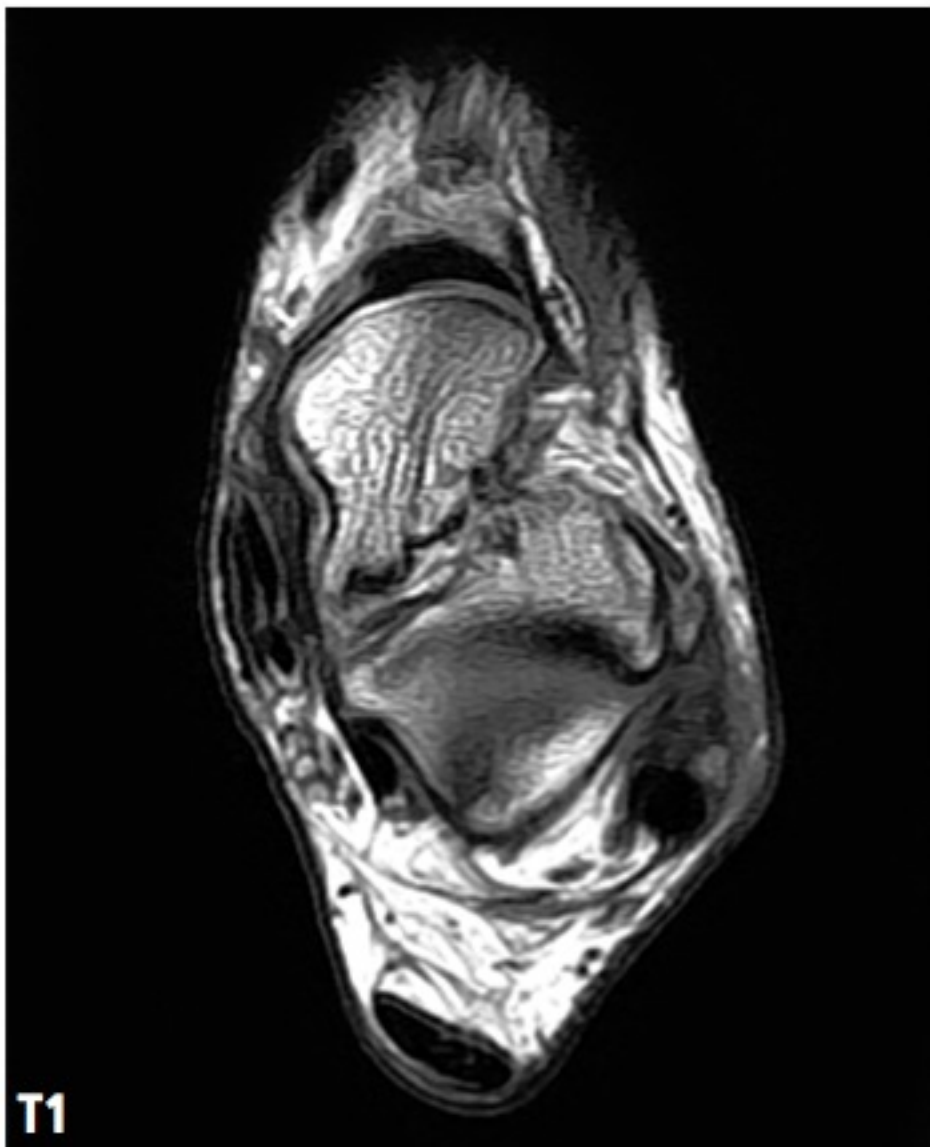
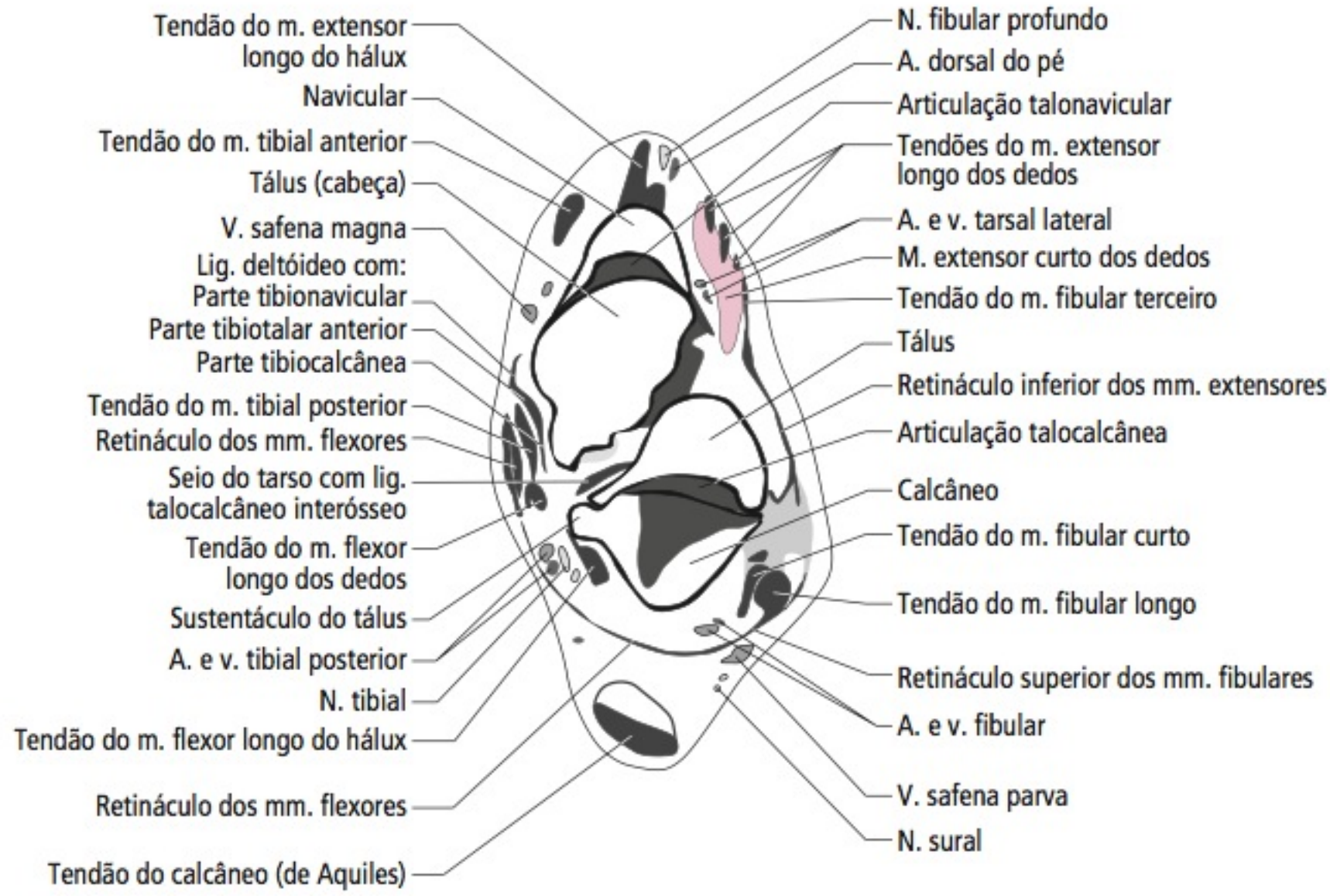


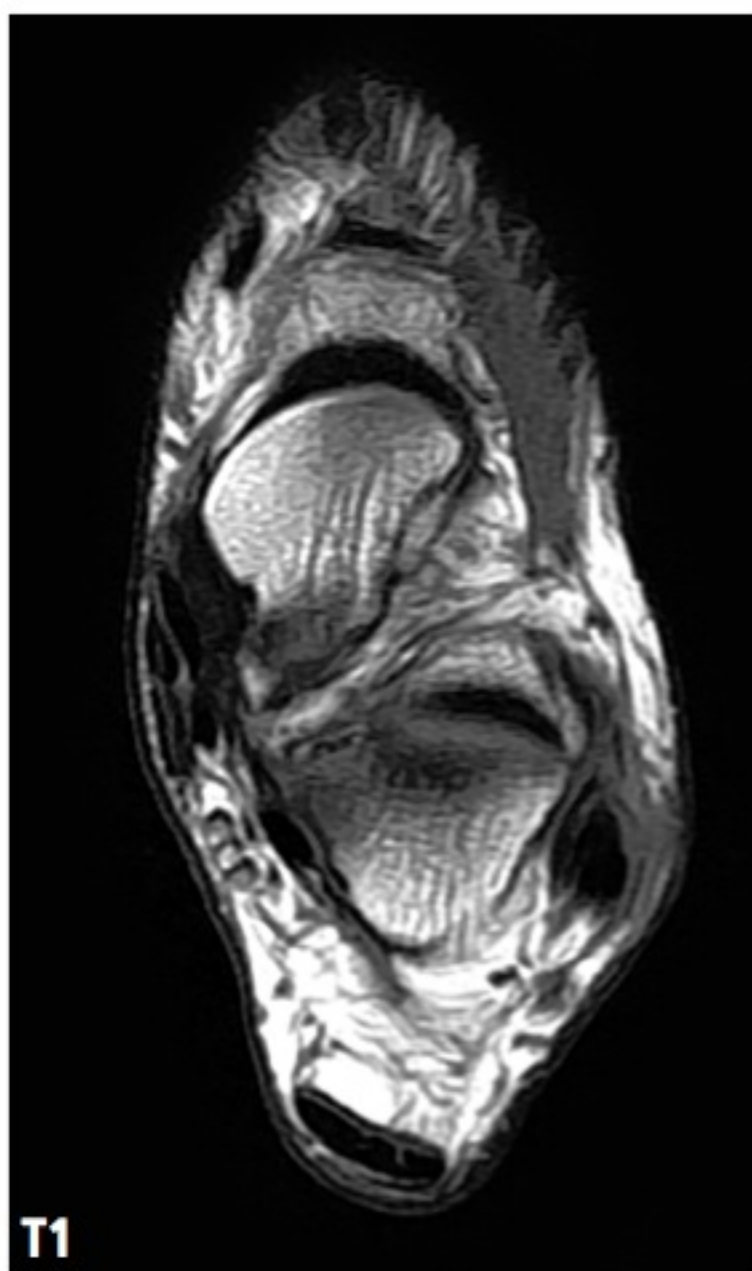
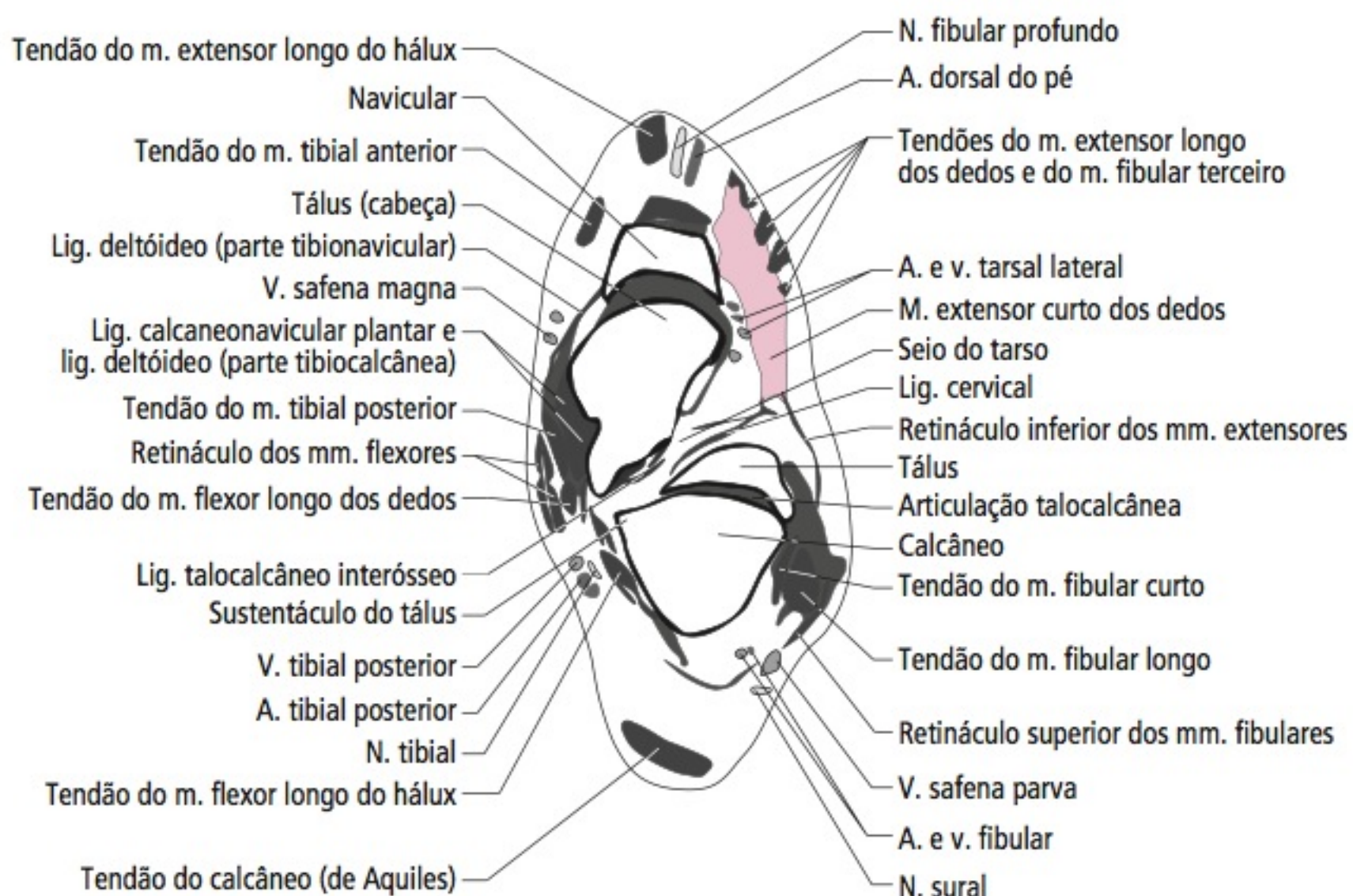


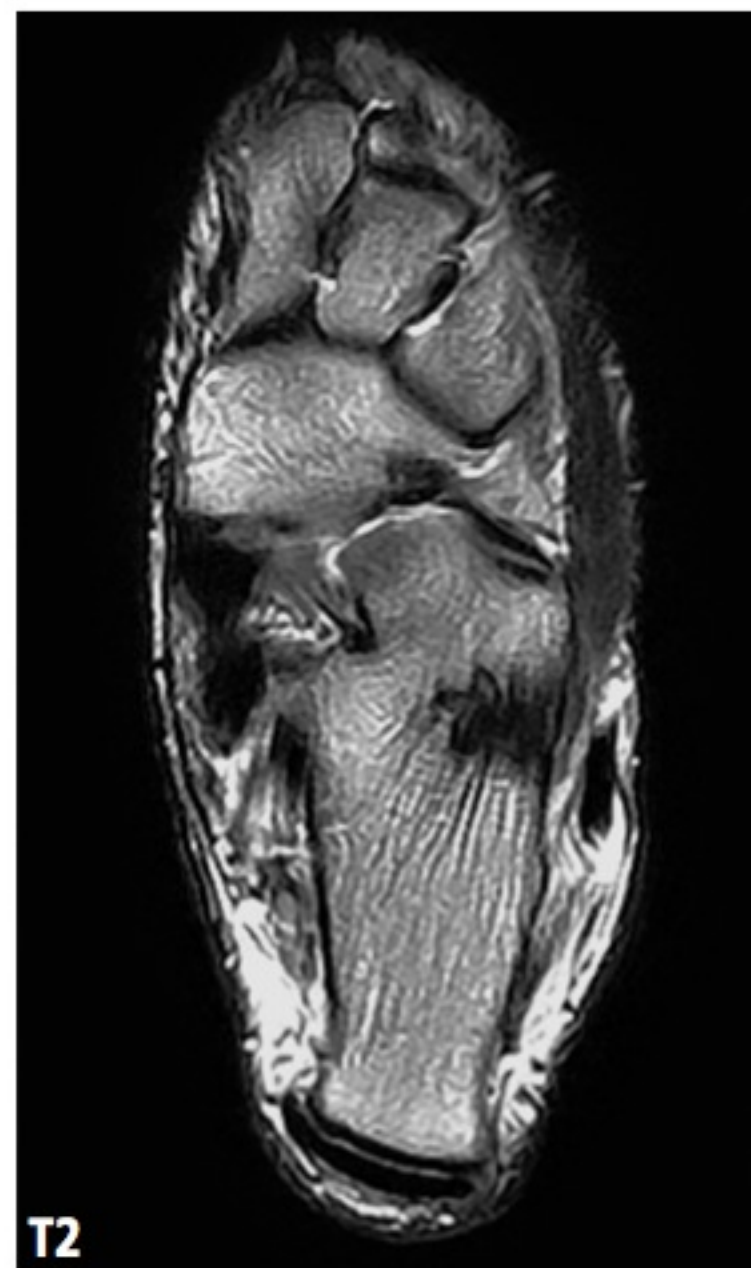
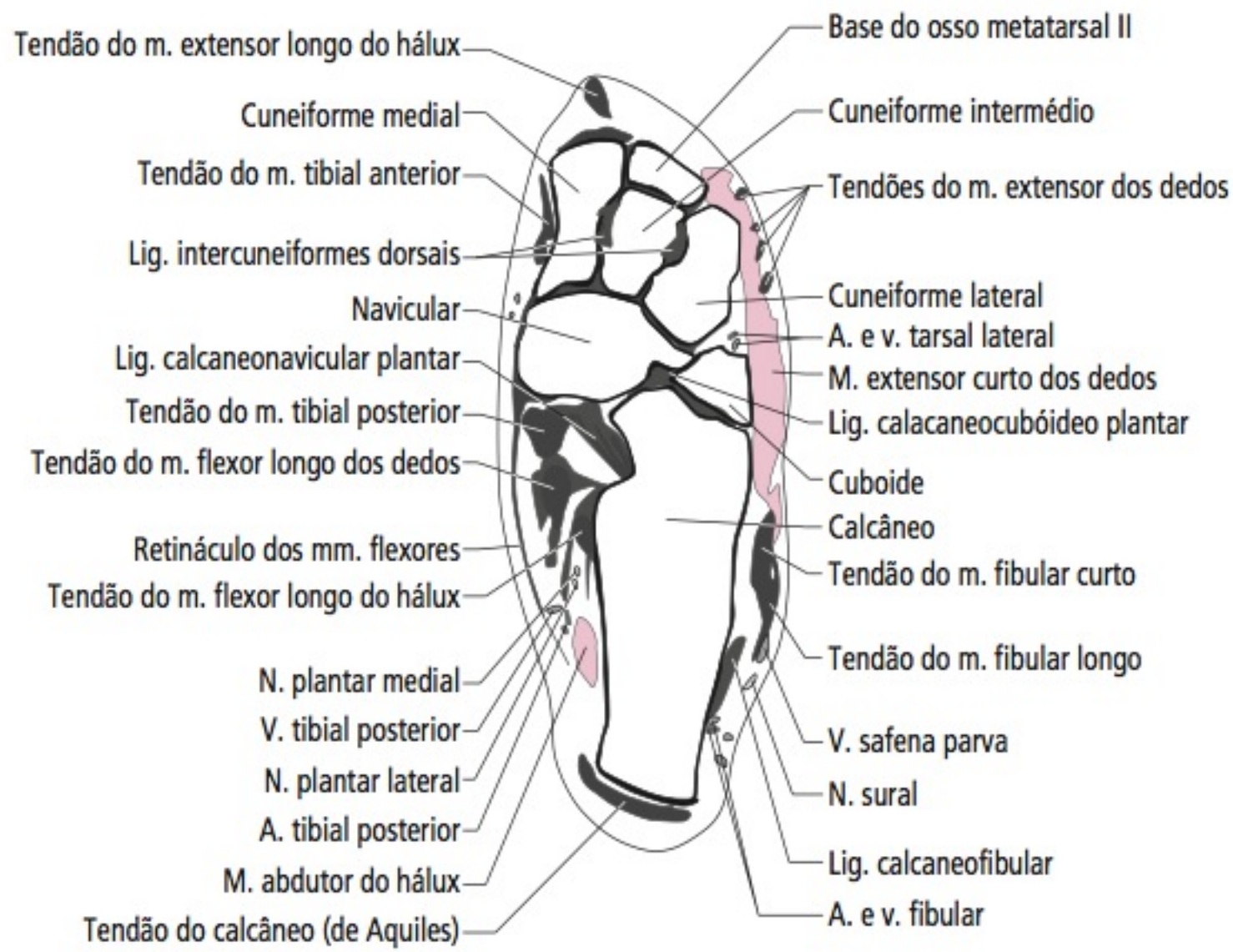


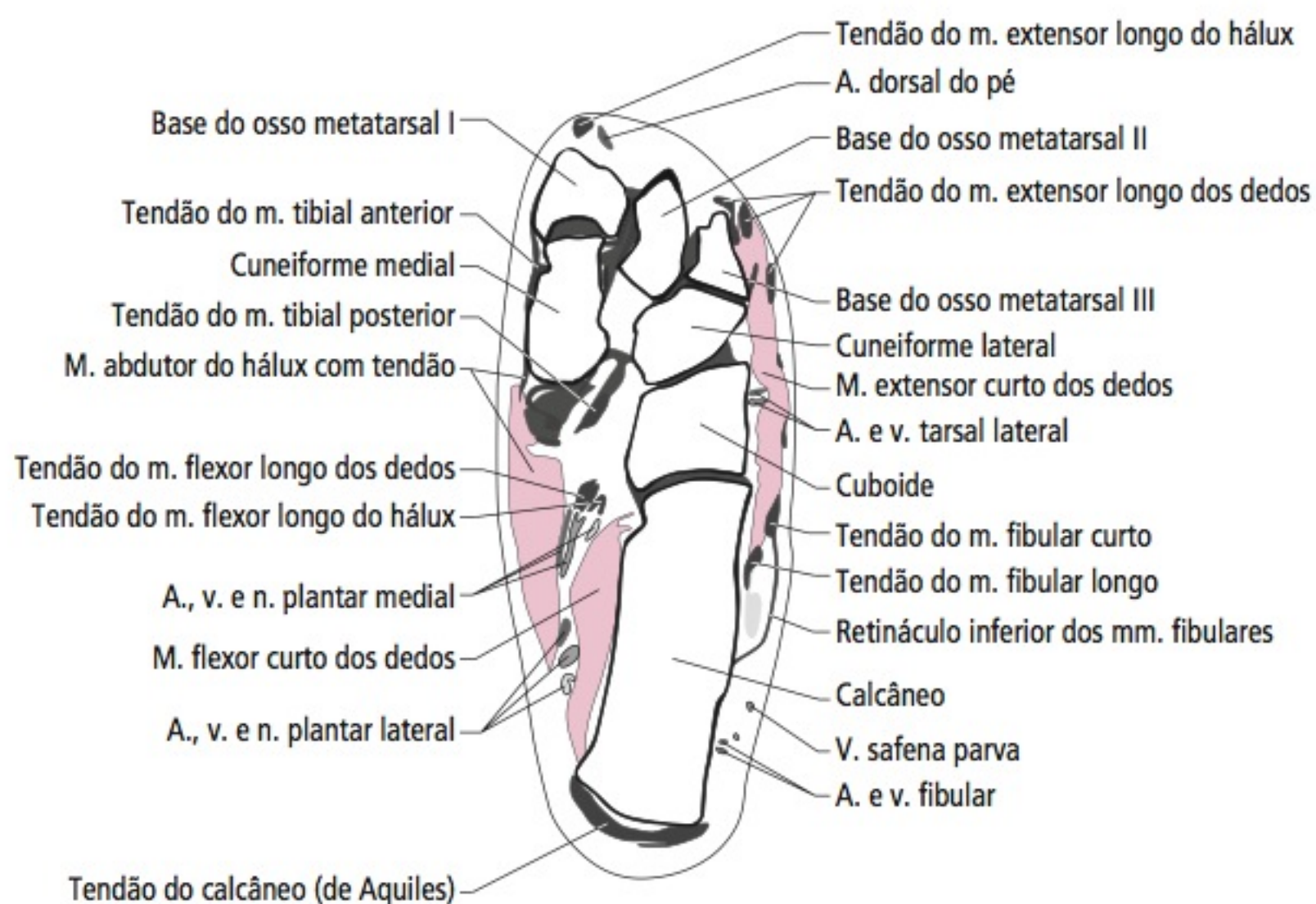


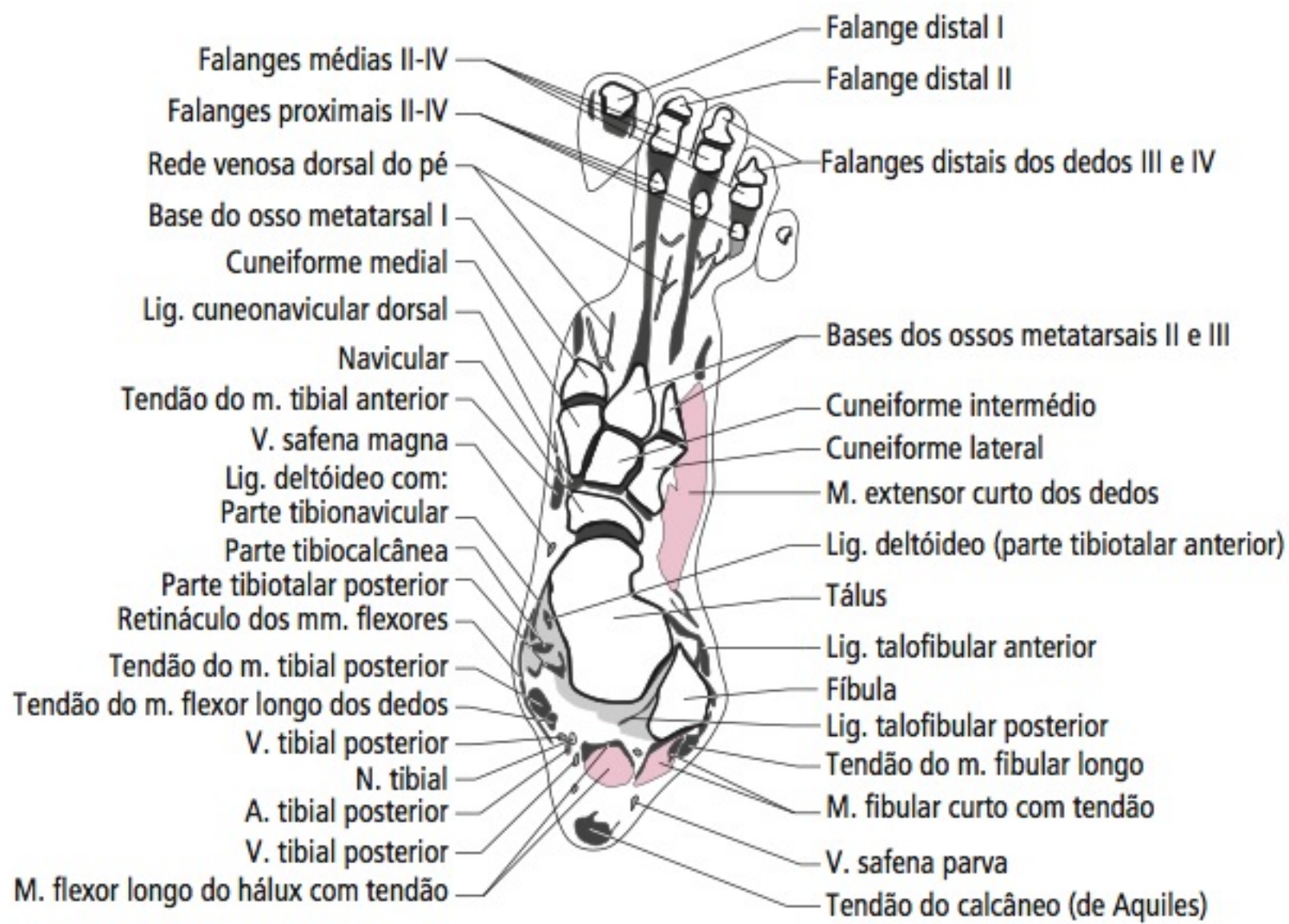


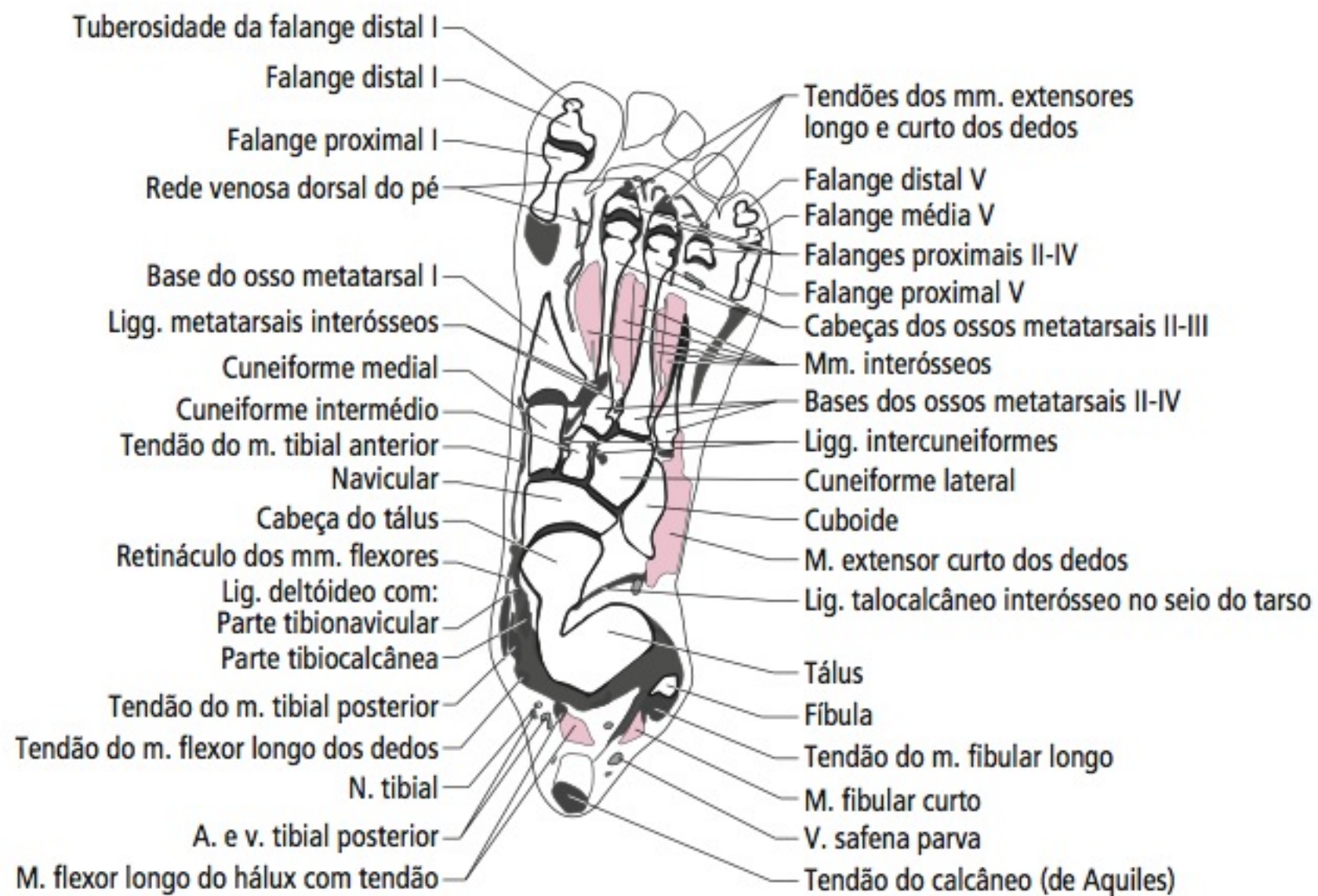


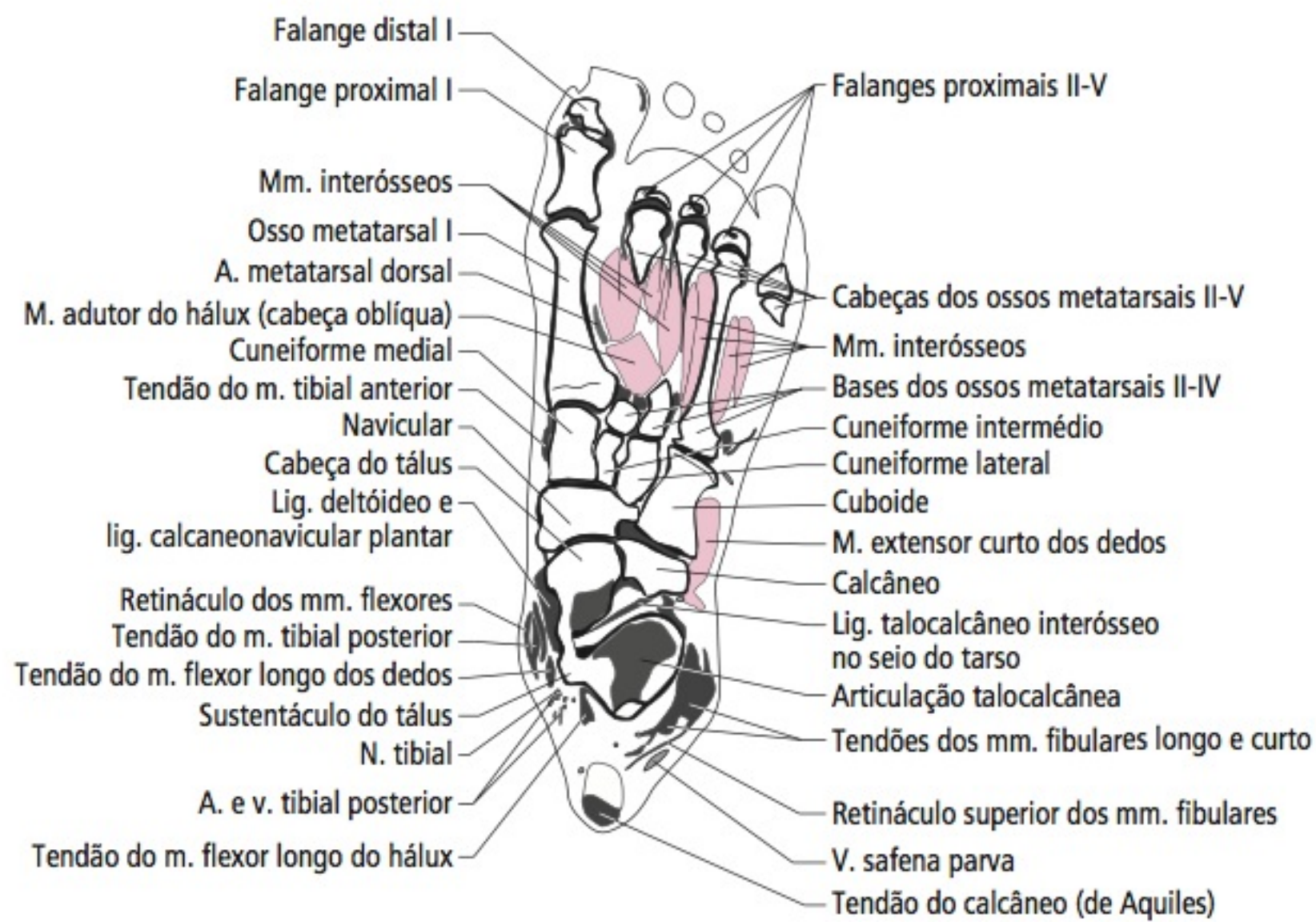


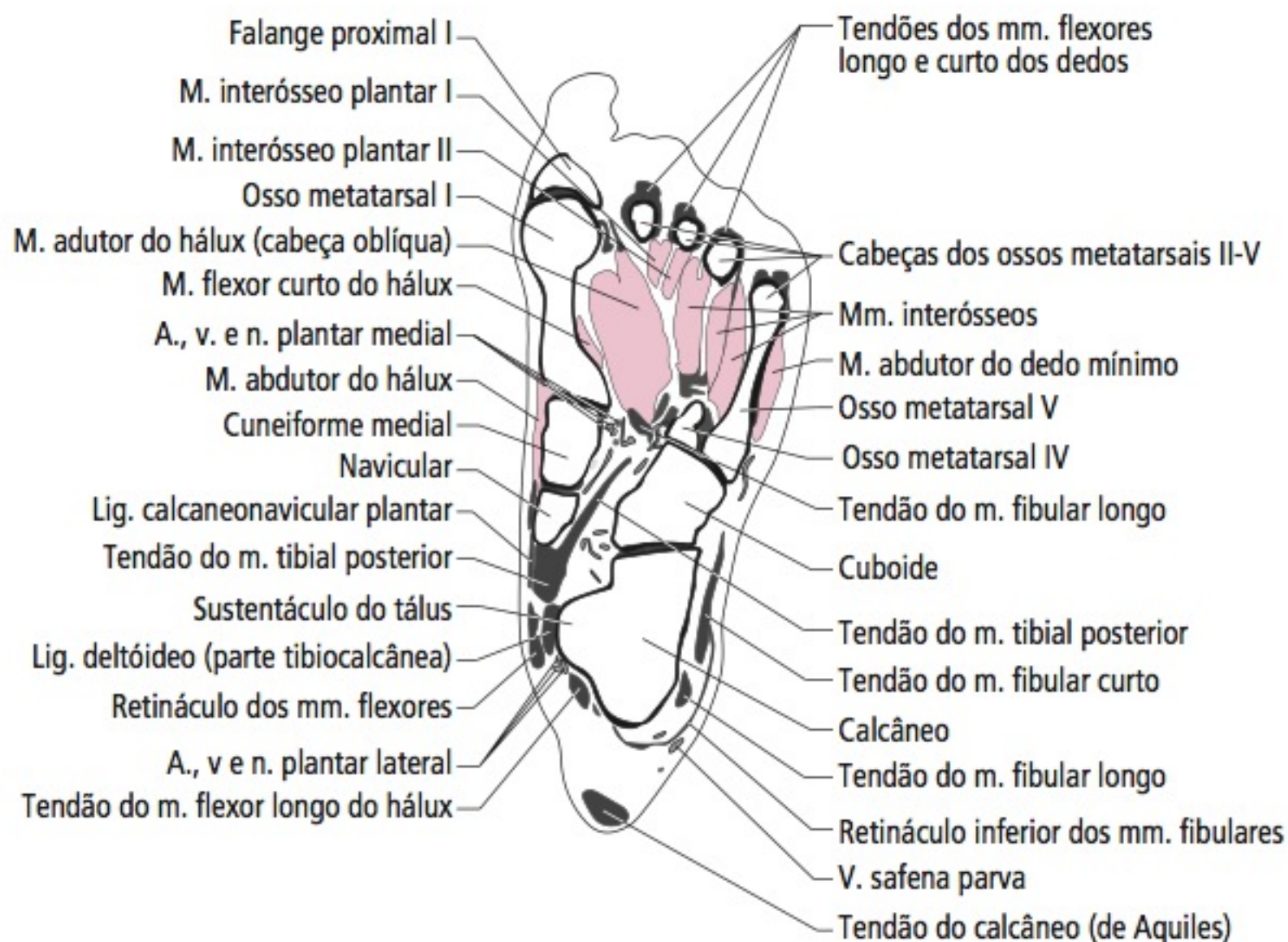


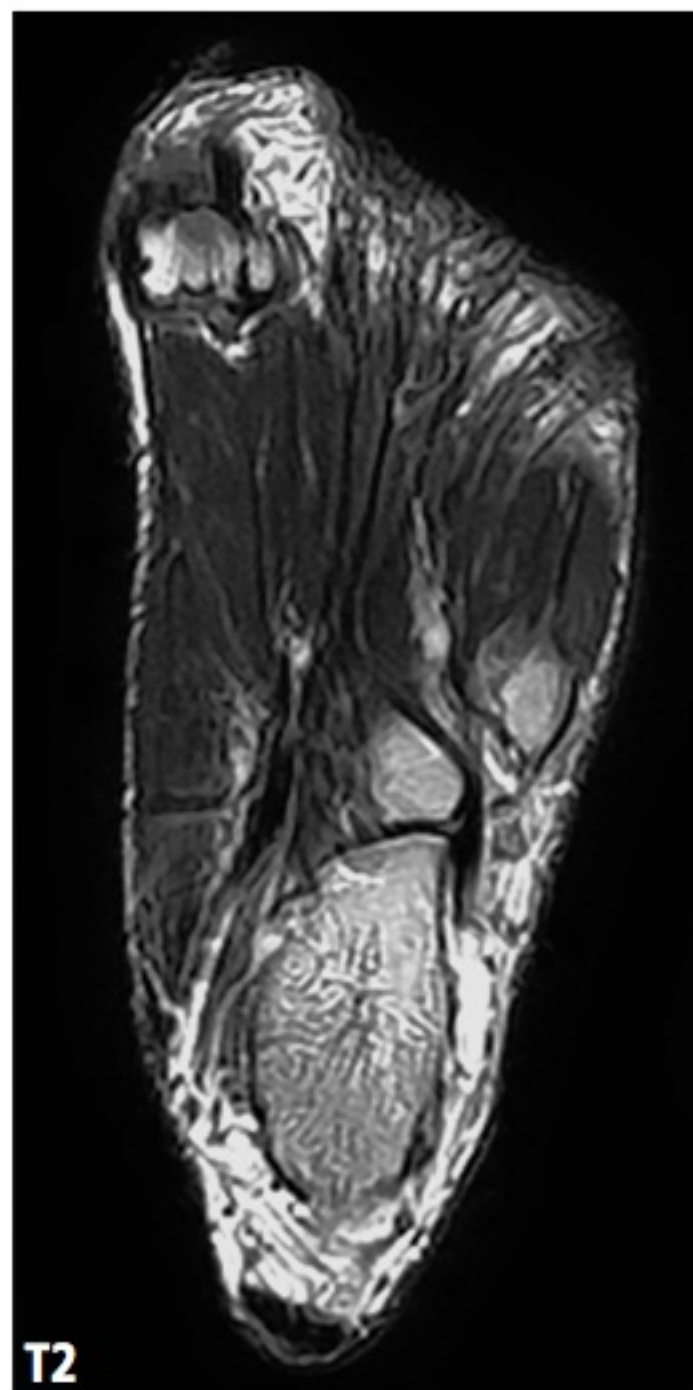
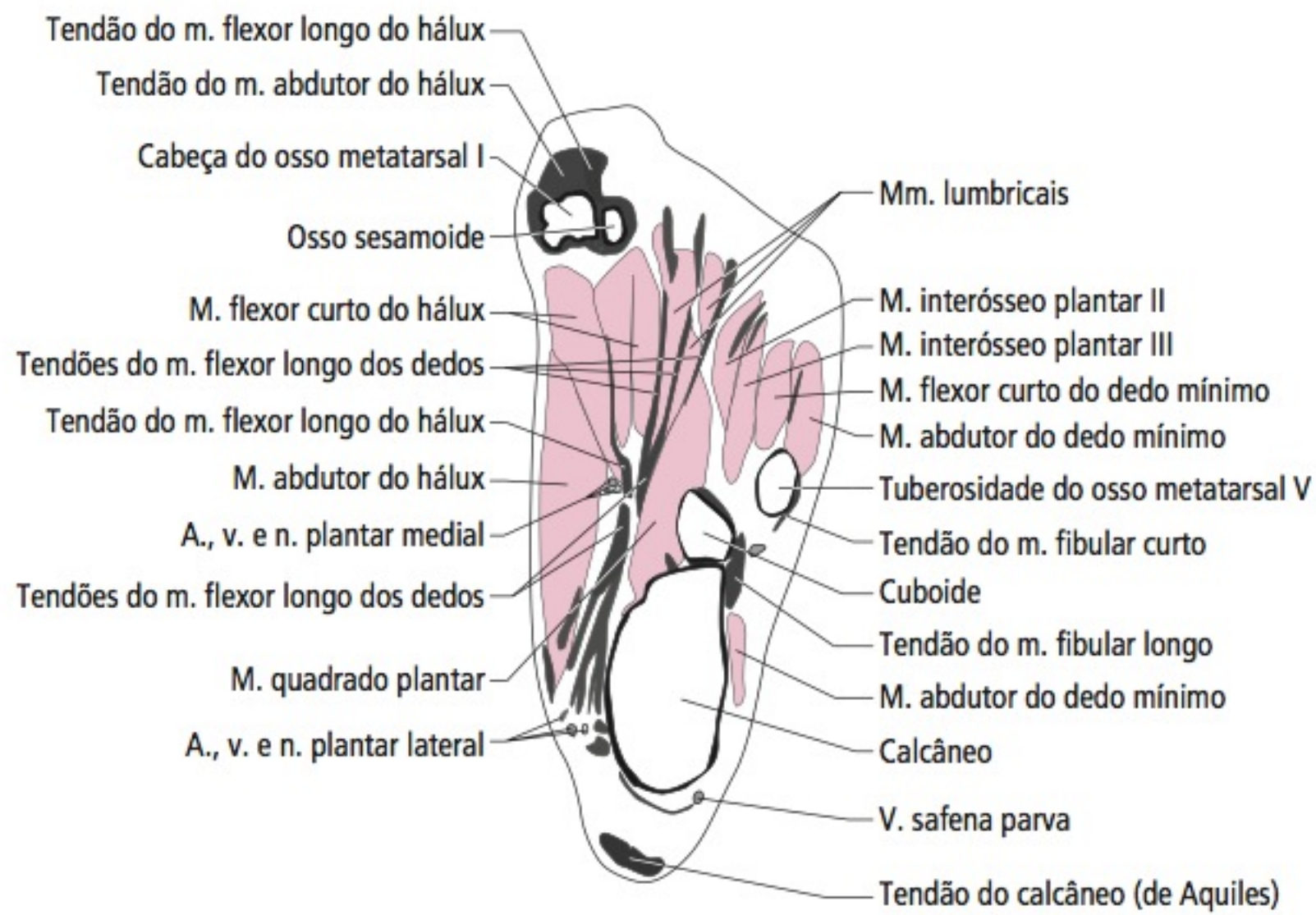












ATLAS DE RESSONÂNCIA MAGNÉTICA DO SISTEMA MUSCULOESQUELÉTICO

Exames precisos de ressonância magnética são indispensáveis no estabelecimento de diagnósticos e de um ótimo planejamento terapêutico para pacientes com lesões no sistema musculoesquelético. Para uma avaliação eficaz, são necessárias imagens de alta qualidade e conhecimentos profundos acerca de estruturas anatômicas complexas.

Este *Atlas de ressonância magnética do sistema musculoesquelético* visa proporcionar uma base sólida para esse processo, constituindo-se em uma obra de referência para radiologistas, ortopedistas, fisiatras, especialistas em medicina nuclear, reumatologistas, cirurgiões (de traumas, oncologia e cirurgia da mão e do pé) e fisioterapeutas, além de estudantes da área da saúde. Completo e único em sua abordagem, este livro traz:

- mais de 1.140 imagens que exibem o sistema musculoesquelético com grande precisão;
- imagens de RM em alta resolução, com inúmeros detalhes morfológicos;
- todas as imagens de RM ponderadas em T1 e T2;
- ilustrações coloridas que surpreendem pela riqueza de detalhes e pela ótima apresentação estética;
- coluna vertebral, membros, cíngulos dos membros superiores e inferiores divididos em secções coronal, sagital e axial;
- imagens de RM sempre acompanhadas de suas respectivas ilustrações descritivas.