

# Ultrazvuk u neuroaxiálních blokád

D. Mach

ARO

Nové Město na Moravě



# Ultrazvuk u neuroaxiálních blokád

- Arzola C, Davies S, Rofaeel A, Carvalho JC: Ultrasound using the transverse approach to the lumbar spine provides reliable landmarks for labor epidurals. *Anesth.Analg.* 2007; 104: 1188-92.
- Ferre RM, Sweeney TW: Emergency physicians can easily obtain ultrasound images of anatomical landmarks relevant to lumbar puncture. *Am.J.Emerg.Med.* 2007; 25: 291-6.
- Whitty RJ, Maxwell CV, Carvalho JC: Complications of neuraxial anesthesia in an extreme morbidly obese patient for Cesarean section. *Int.J.Obstet.Anesth.* 2007; 16: 139-44.
- Druhan SM, Shiels WE, Kang DR, Elton SW, Koranyi K: Successful sonographically guided drainage of epidural abscess. *AJR Am.J.Roentgenol.* 2006; 187: W512-W514
- Yoon JS, Sim KH, Kim SJ, Kim WS, Koh SB, Kim BJ: The feasibility of color Doppler ultrasonography for caudal epidural steroid injection. *Pain* 2005; 118: 210-4

# Ultrazvuk u neuroaxiálních blokád

- Peng P W, Rofaeel A. Using ultrasound in a case of difficult epidural needle placement. *Can J Anaesth* 2006; 53: 325-326
- Ali M E, Laurito C E. Ultrasound guidance for epidural catheter placement: a coming of age? *J Clin Anesth* 2005; (17): 235-236.
- McLeod A, Roche A, Fennelly M. Case series: Ultrasonography may assist epidural insertion in scoliosis patients. *Can J Anaesth* 2005; (52): 717-720.
- Marhofer P, Greher M, Kapral S. Ultrasound guidance in regional anaesthesia. *Br J Anaesth* 2005; (94): 7-17.
- Peterson M A, Abele J. Bedside ultrasound for difficult lumbar puncture. *J Emerg Med* 2005; (28): 197-200.
- Yoon J S, Sim K H, Kim S J, Kim W S, Koh S B, Kim B J. The feasibility of color Doppler ultrasonography for caudal epidural steroid injection. *Pain* 2005; 118: 210-214.

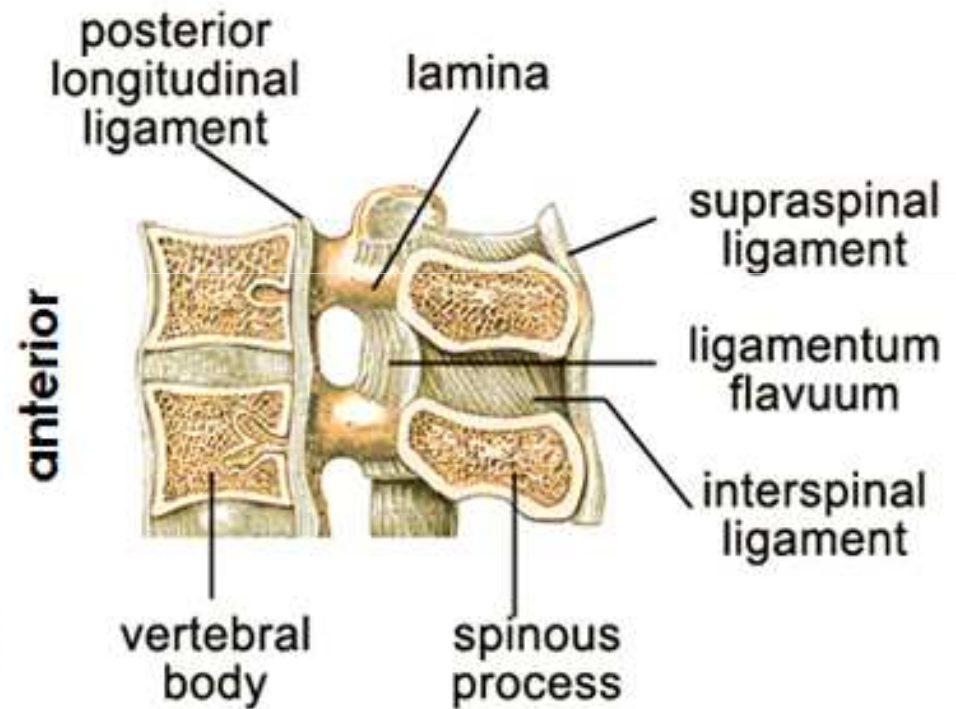
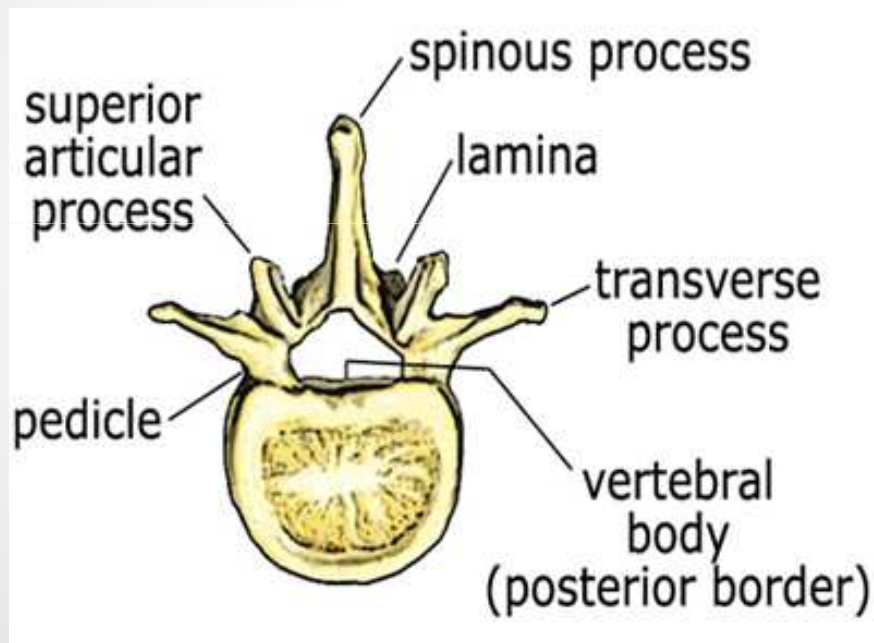


# Teoretické výhody UZ u neuroaxiálních bloků

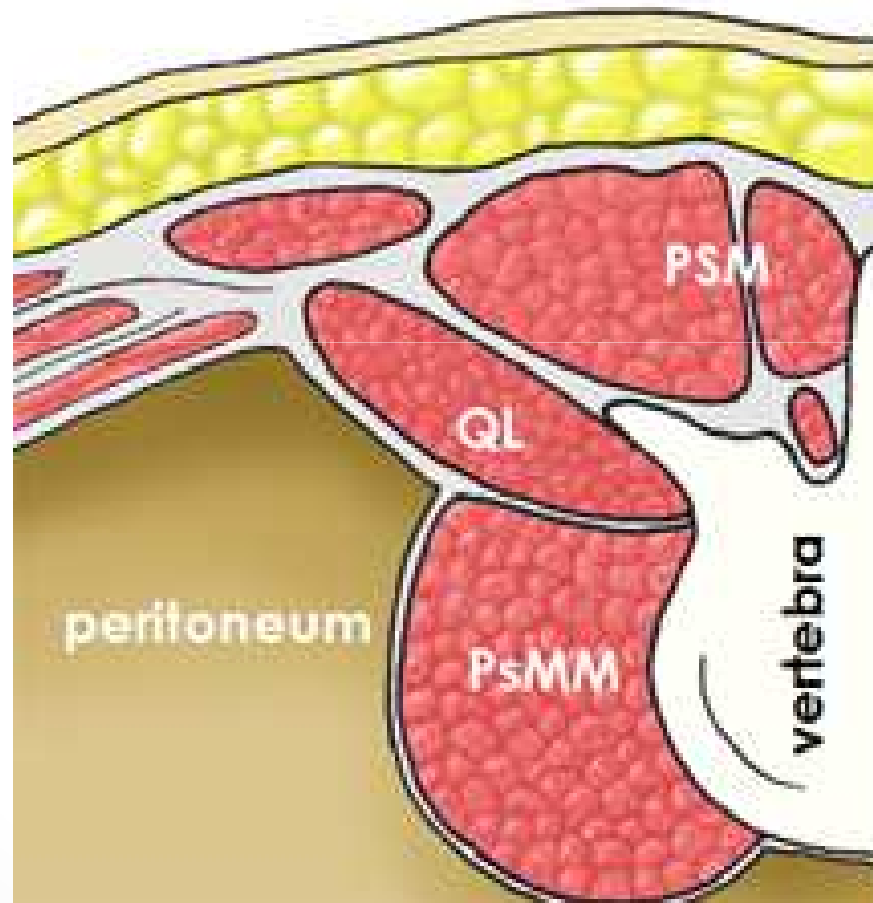
- Spolehlivá detekce výšky punkce (spolehlivá identifikace příslušného obratle)
- Spolehlivá detekce střední roviny (spinosních výběžků)
- Spolehlivá lokalizace nejvhodnějšího meziobratlového prostoru k punkci
- Detekce vzdálenosti kůže/ligamentum flavum/dura před punkcí
- Odhalení anatomických abnormalit a patologií (skoliosa, po laminectomiích)

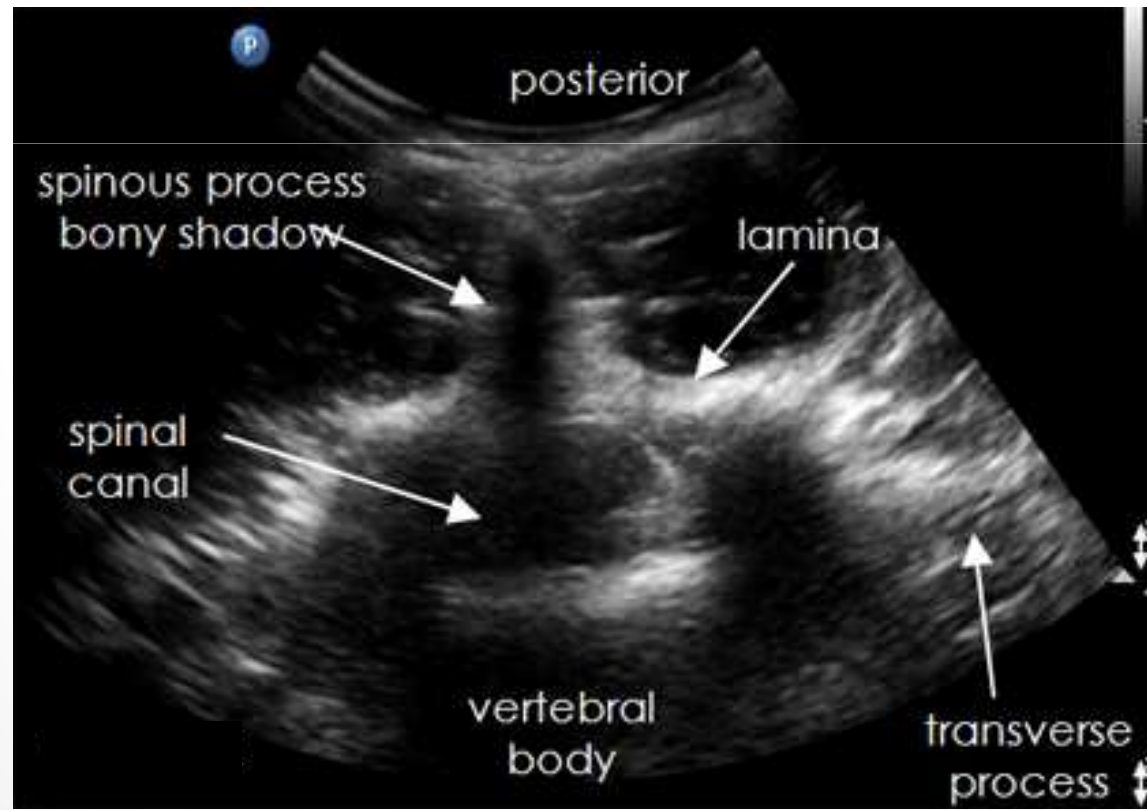
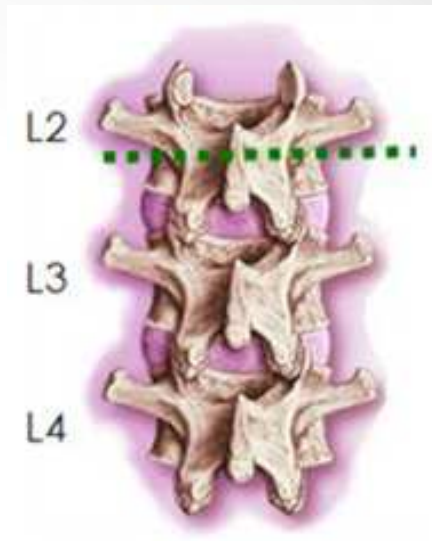
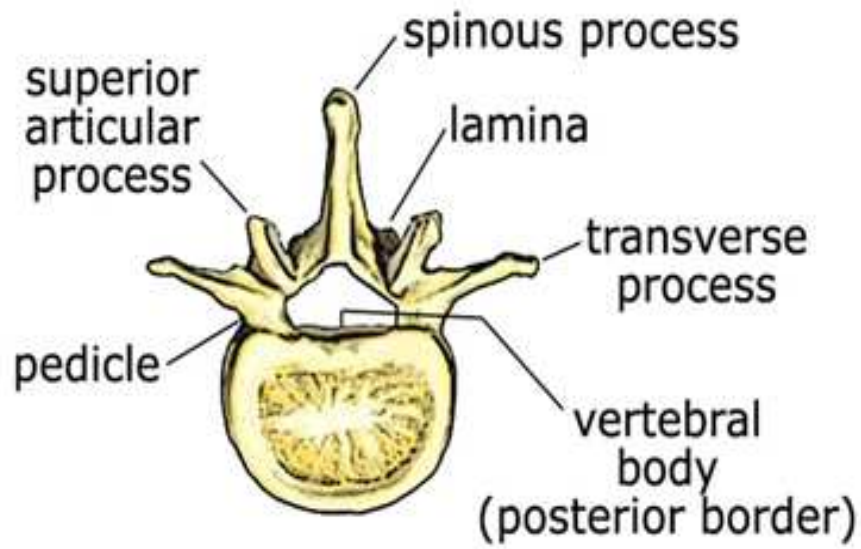


# Anatomické předpoklady

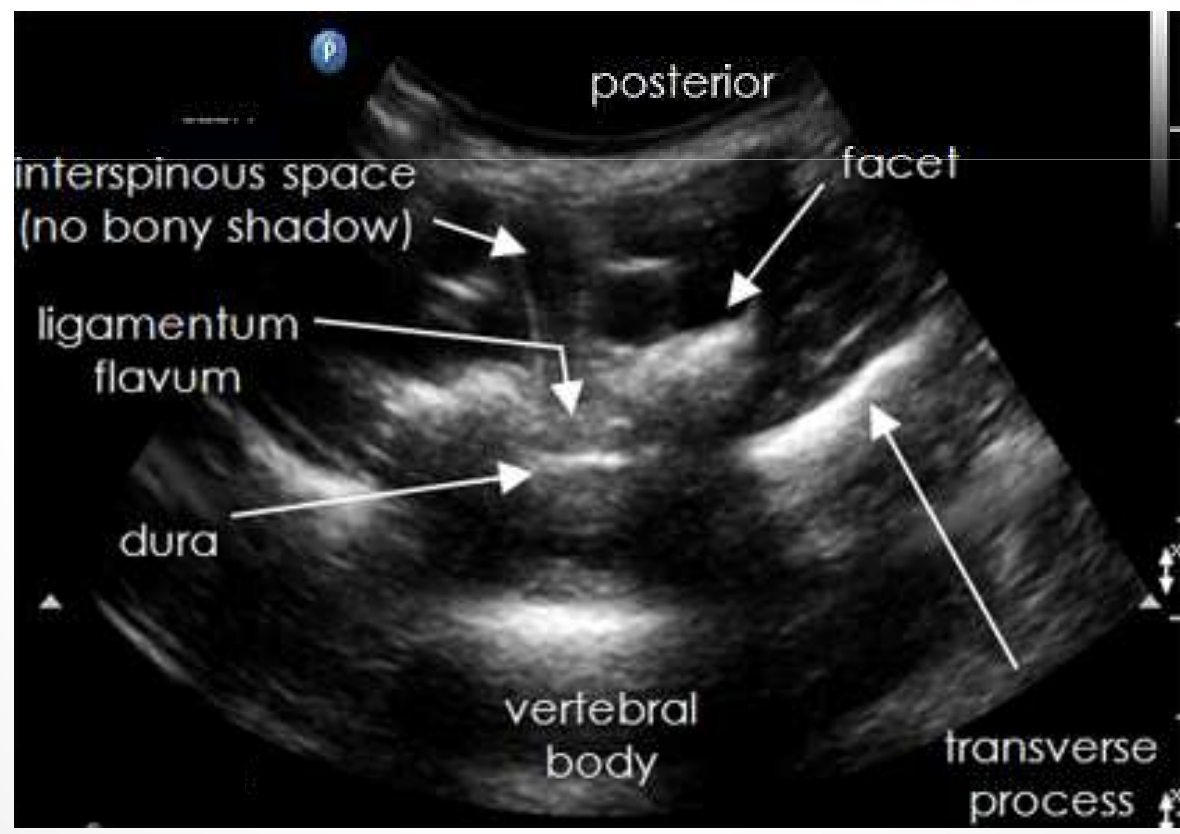
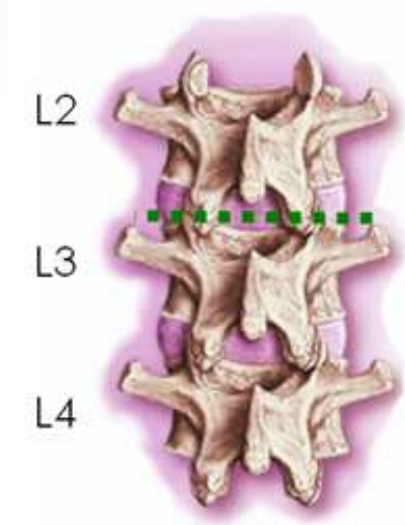
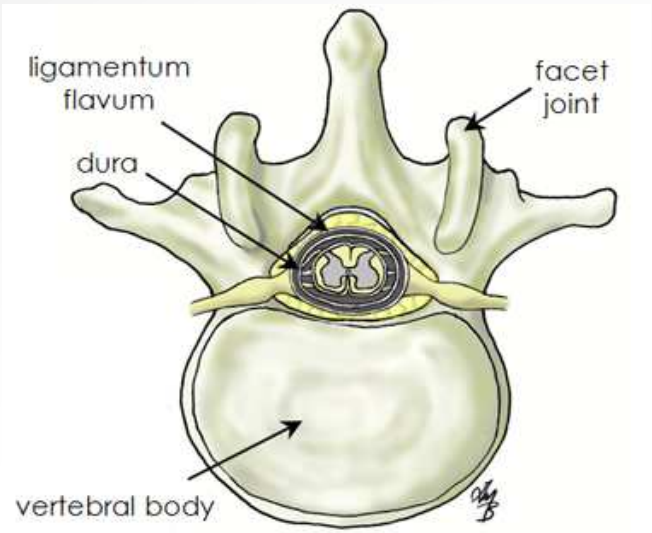


# Anatomické předpoklady

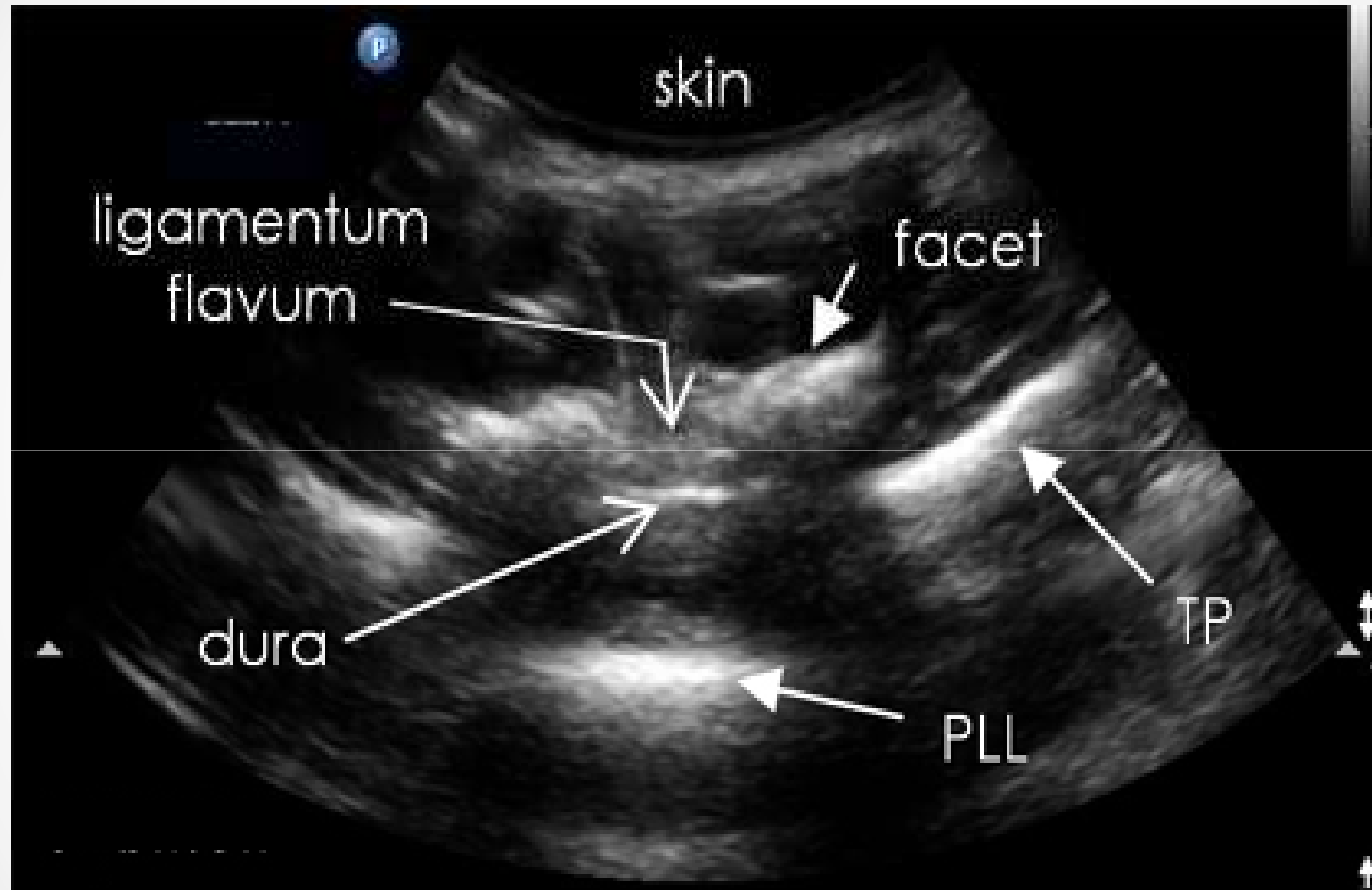


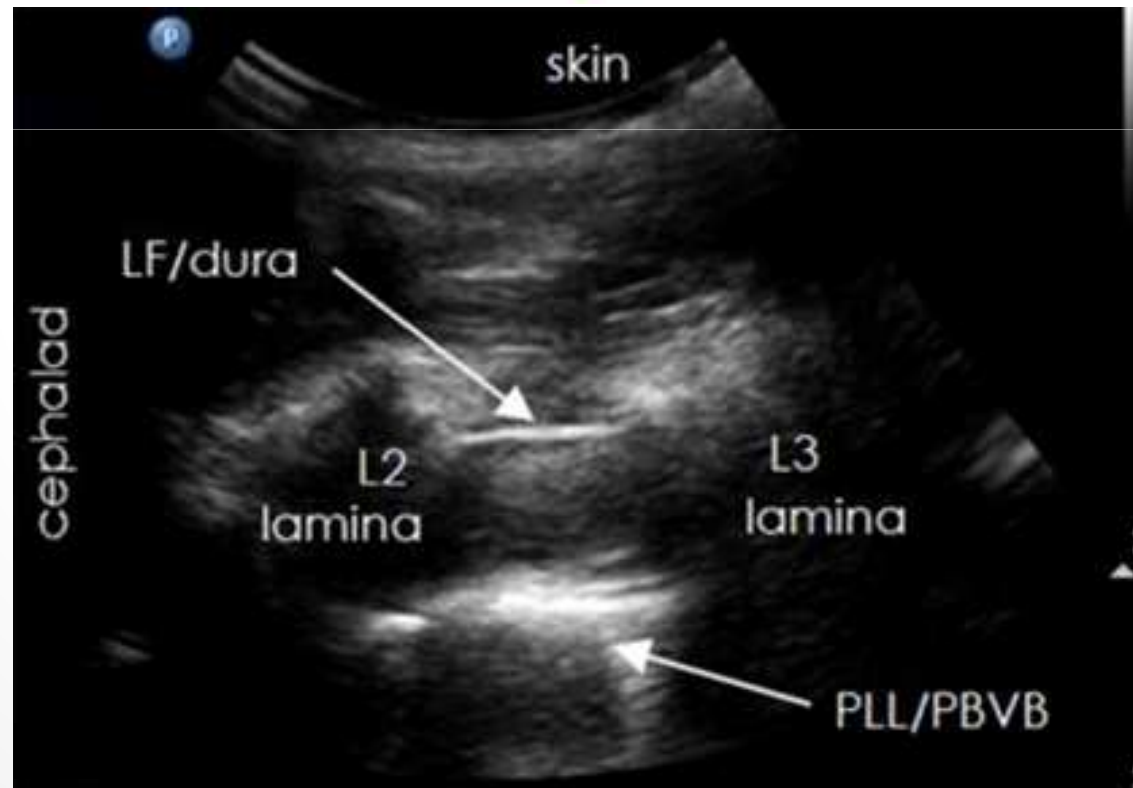
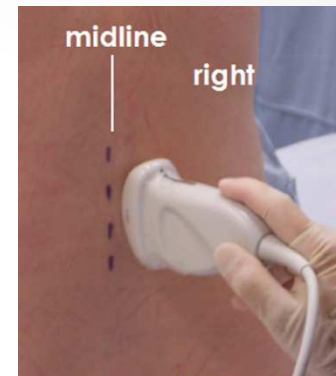
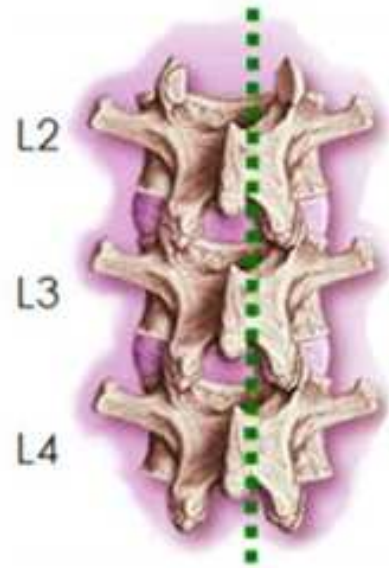


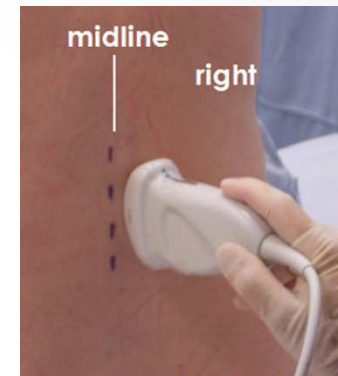
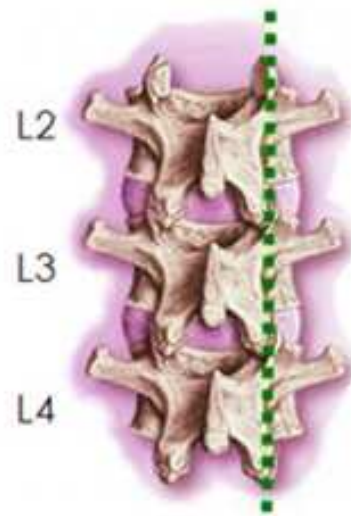


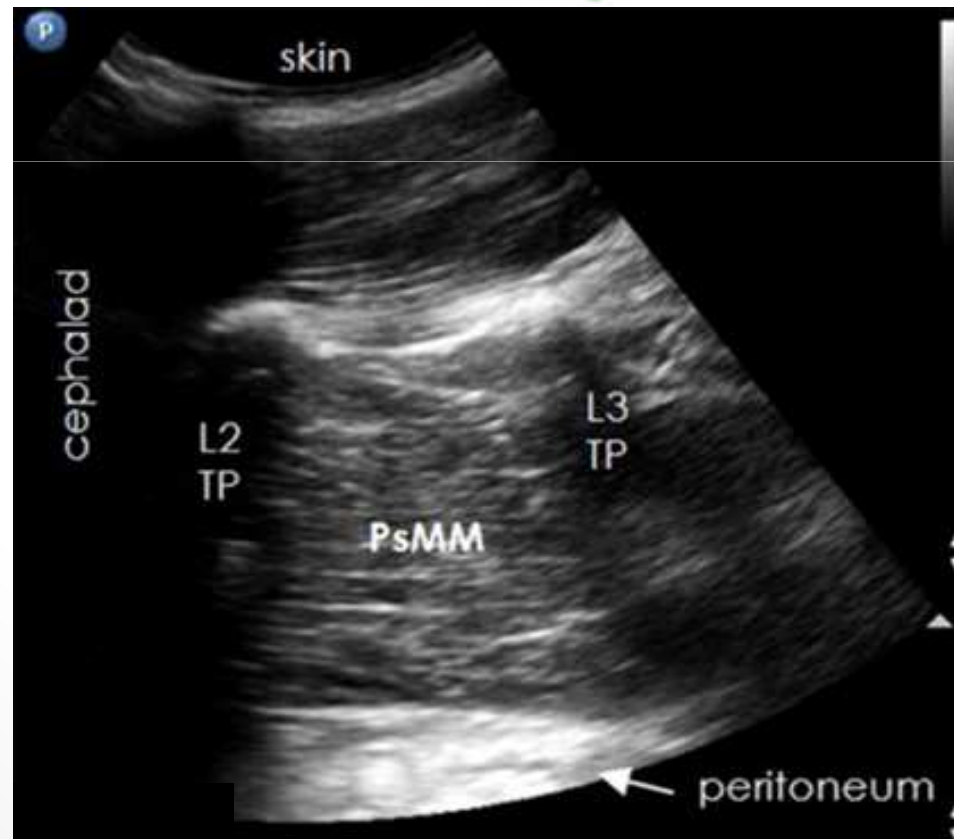
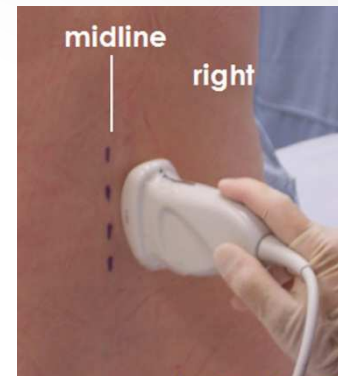
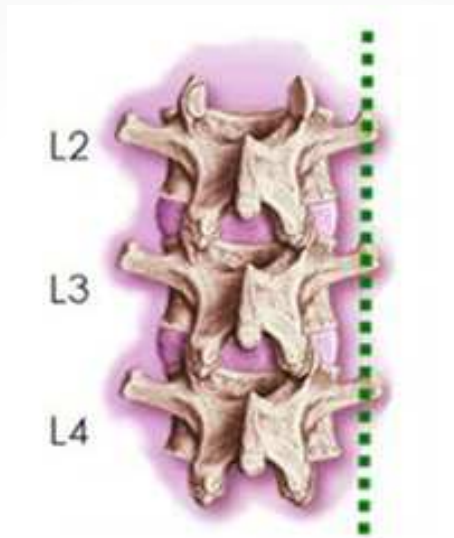


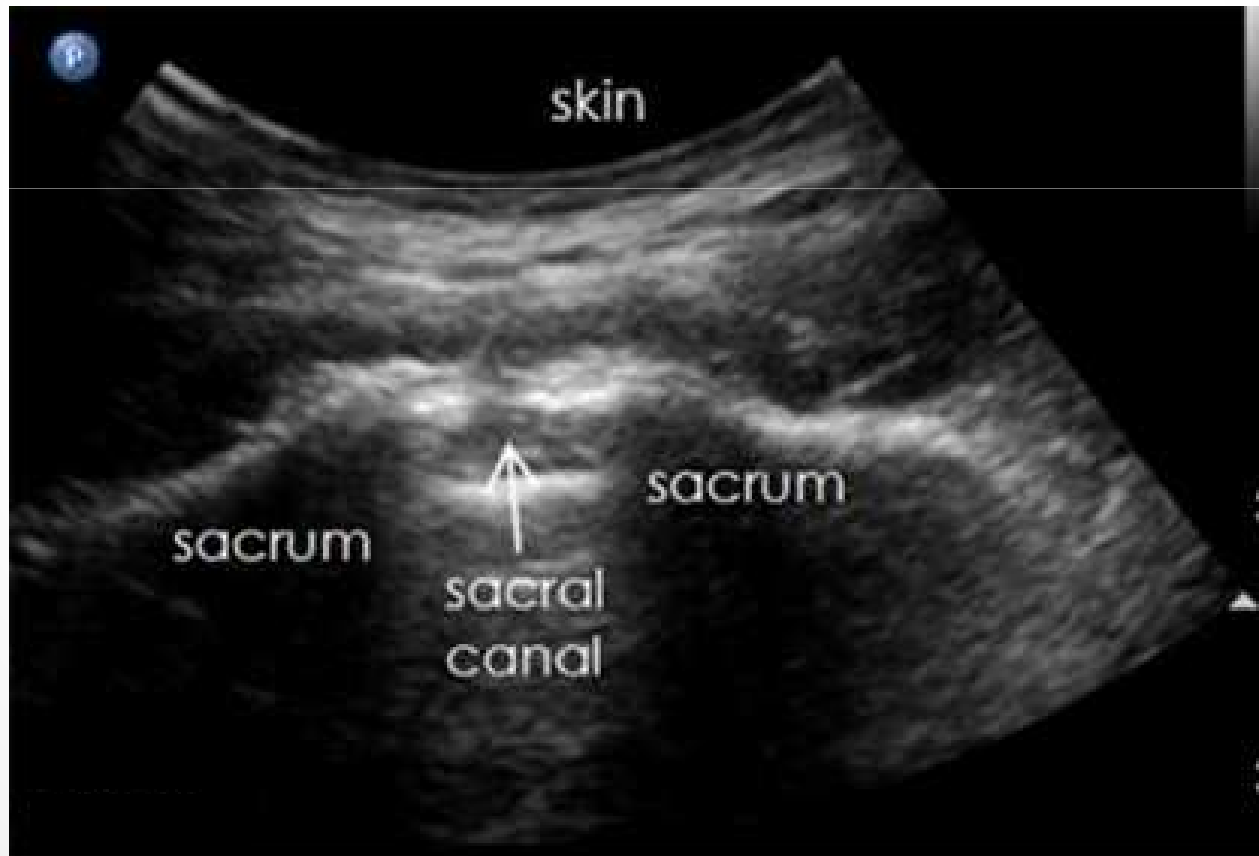
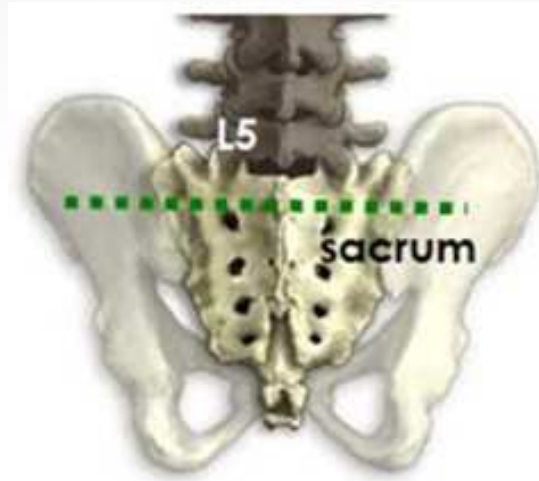


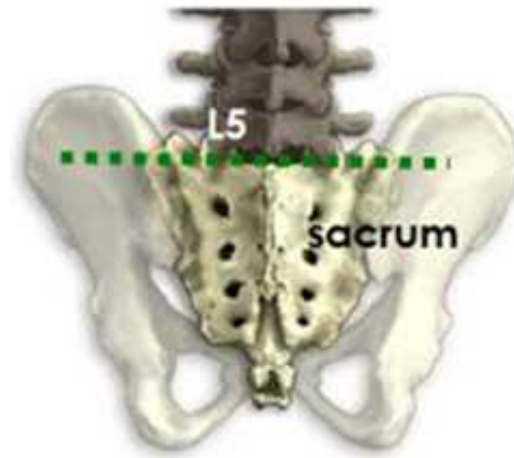




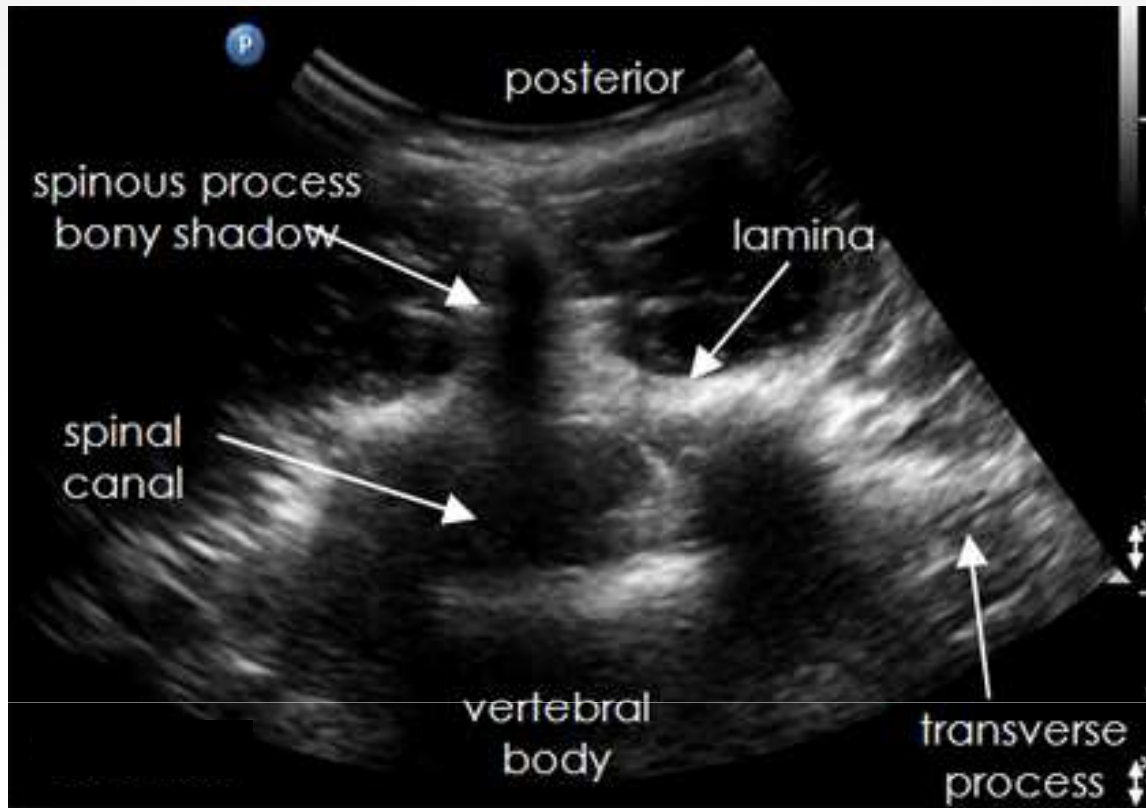


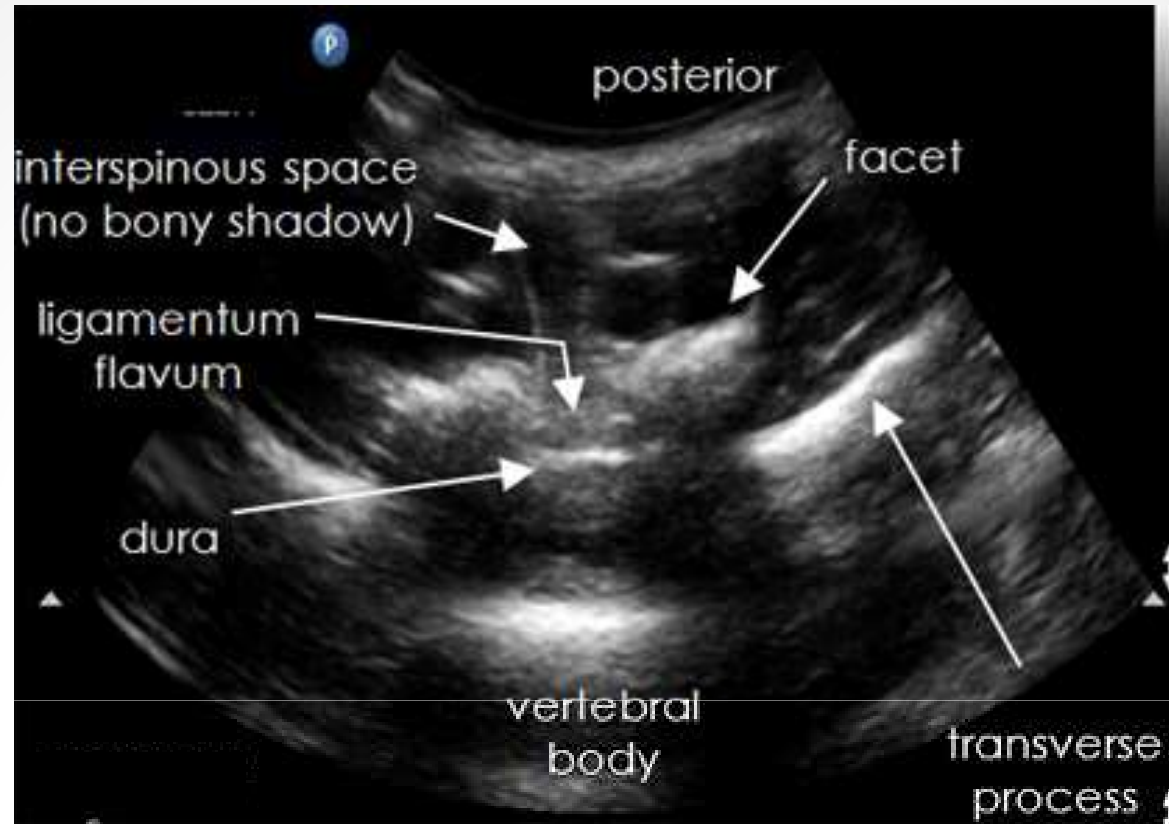




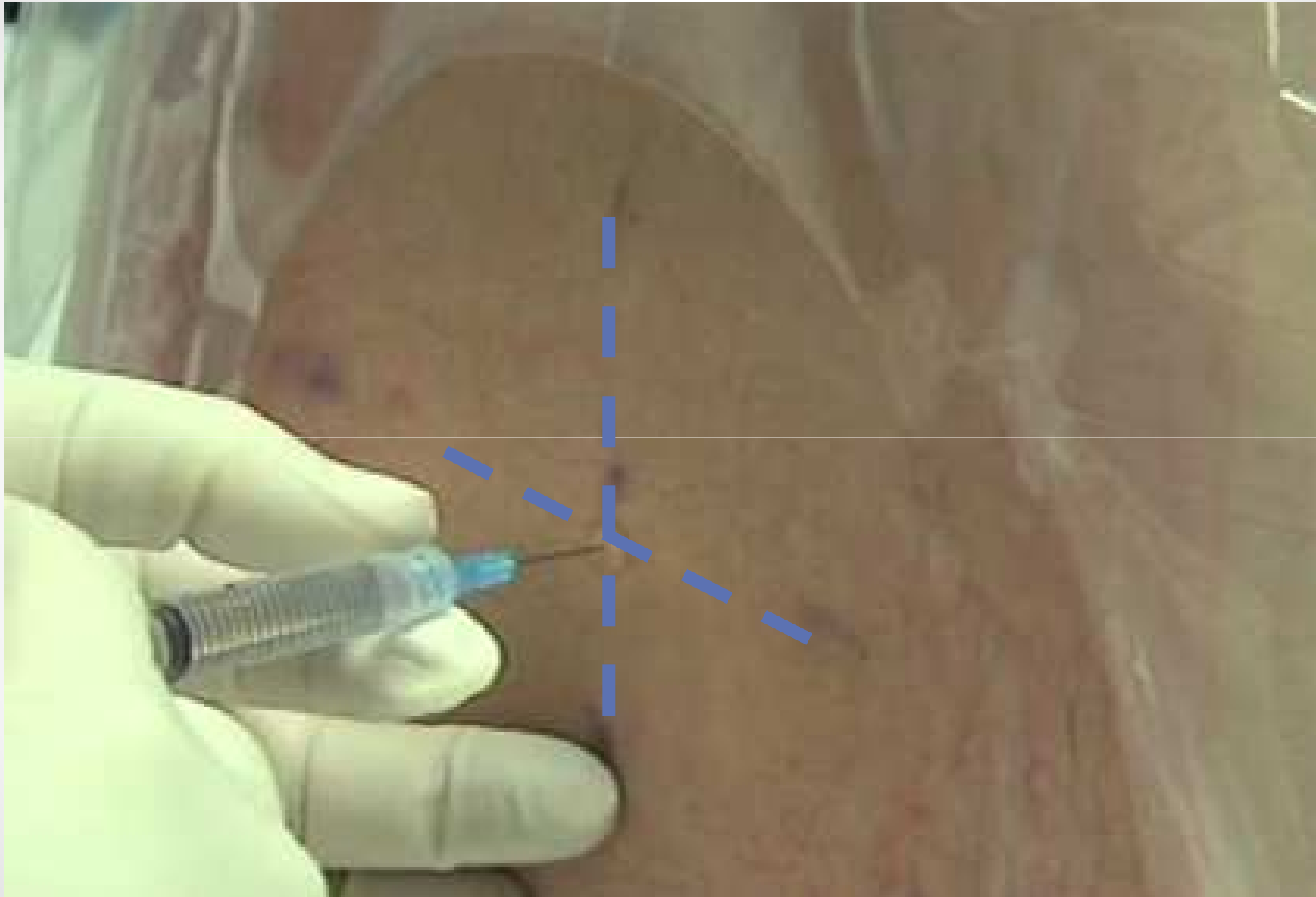




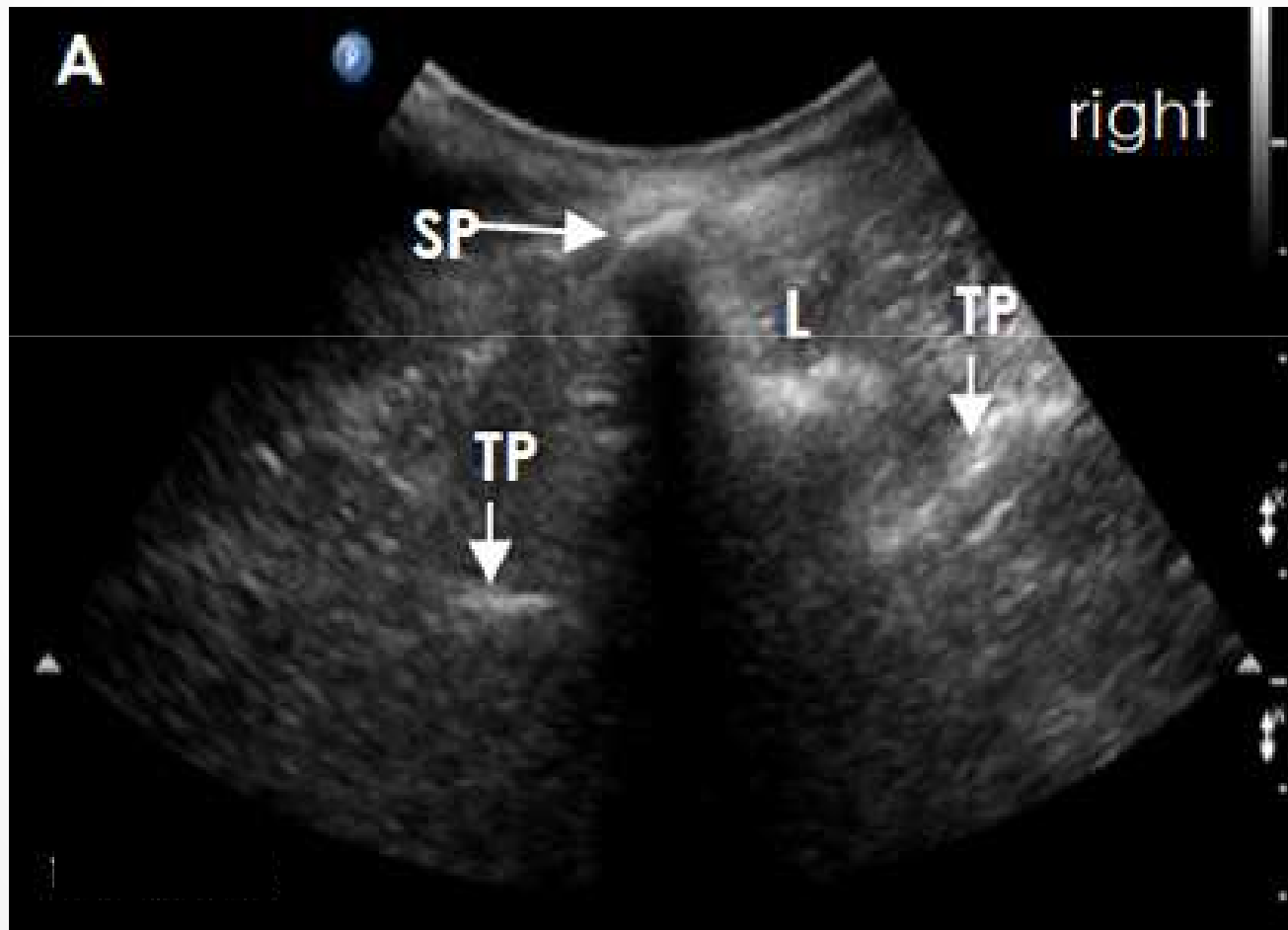








# UZ obraz skoliosy



# UZ obraz stavu po laminektomii





Děkuji za pozornost