

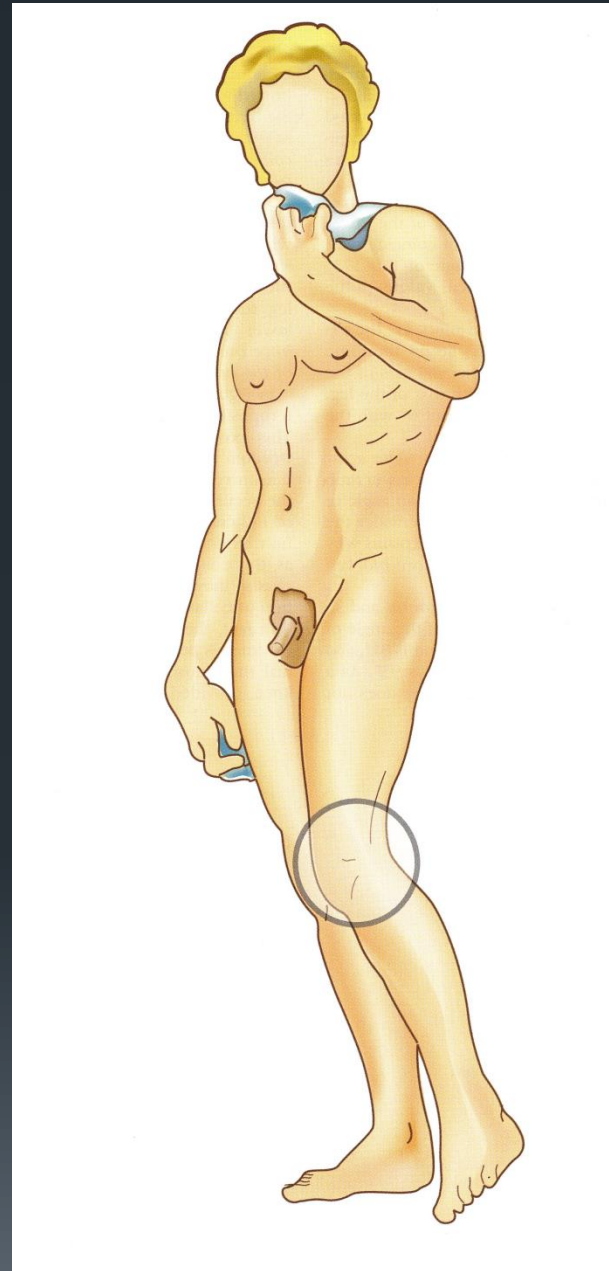
Kineziologie dolní končetiny



Petr Pospíšil

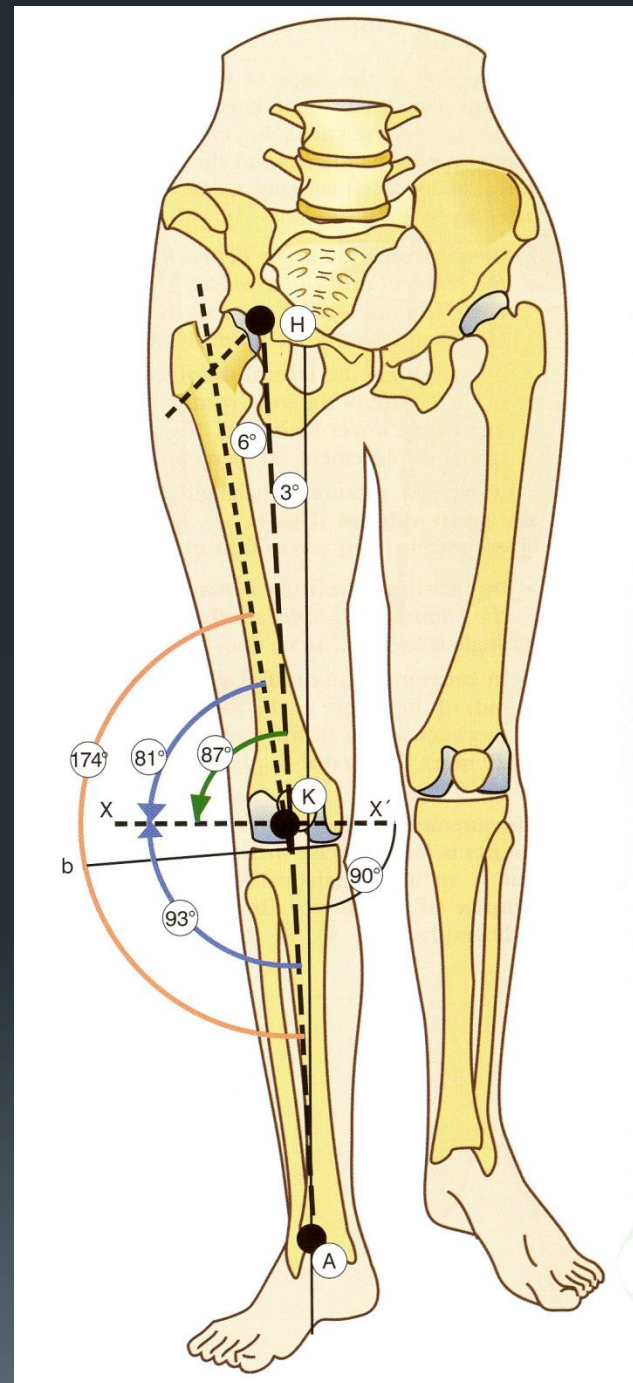
Koleno

Kapanji, A., I. The physiology of the joints. Vol. 2: The lower limb. Churchill Livingstone Elsevier 2011, 6. vyd., 323 s. ISBN 978-0-7020-3942-3.



Kolenní kloub

- typ kloubu
- fyziologická valgozita
- mechanická osa pohybu



Genu valgum / genu varum

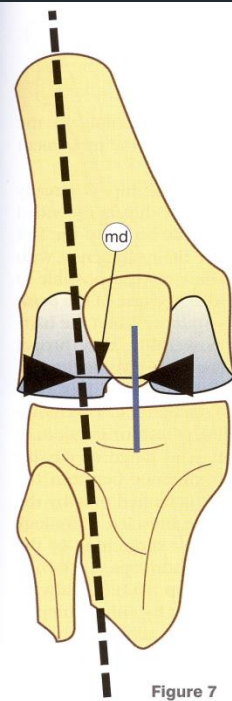


Figure 7

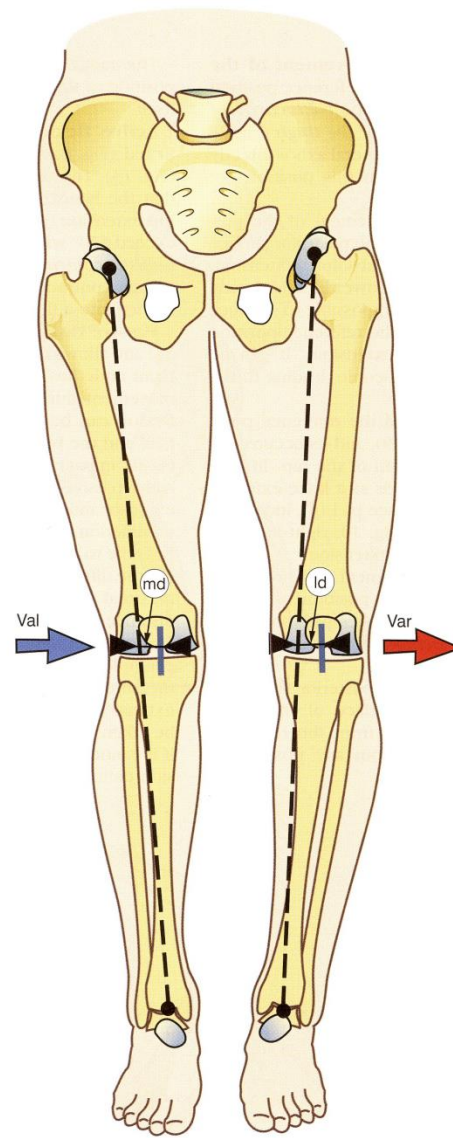


Figure 4

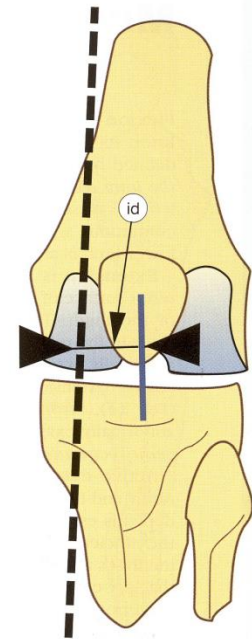
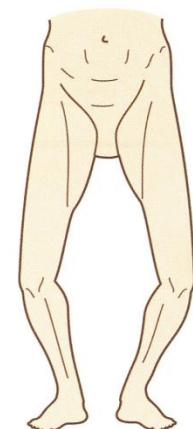
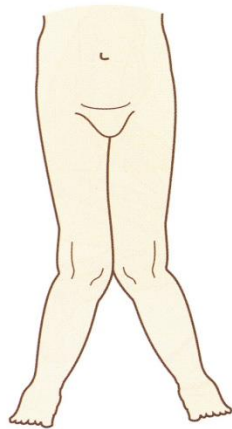


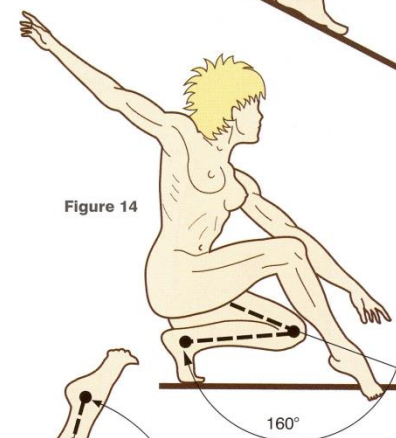
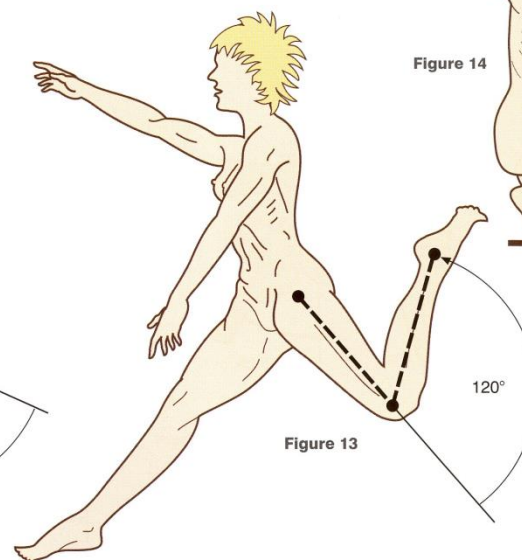
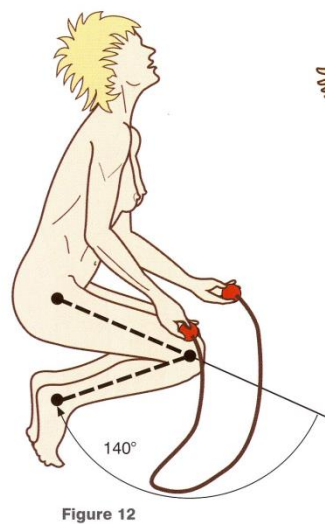
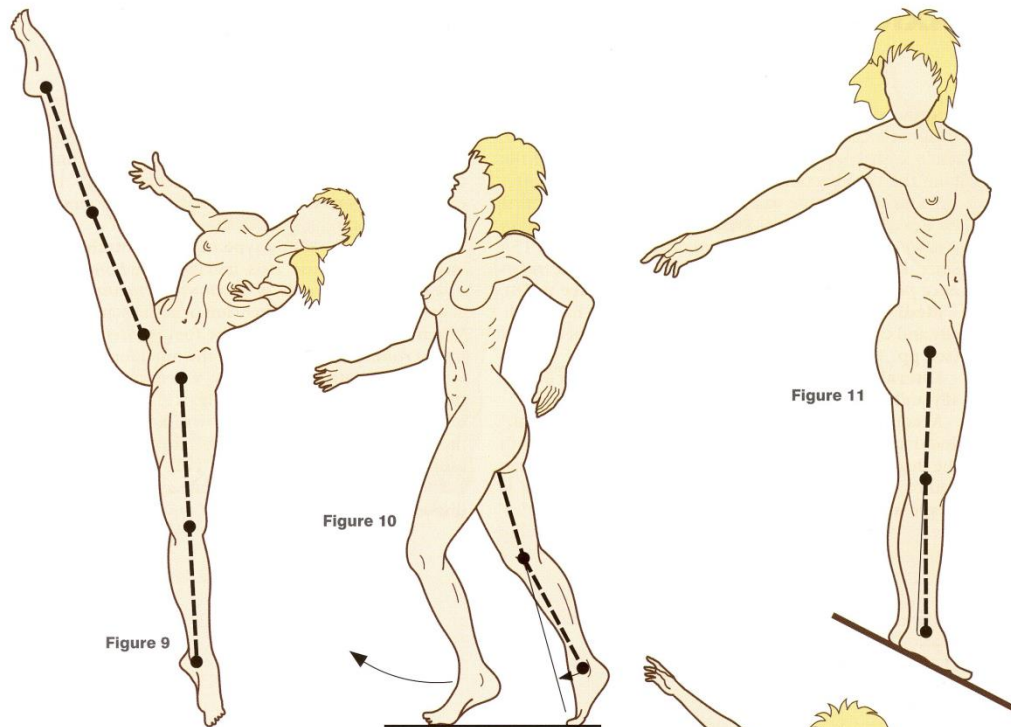
Figure 5



ROZSAH POHYBU

FLEXE

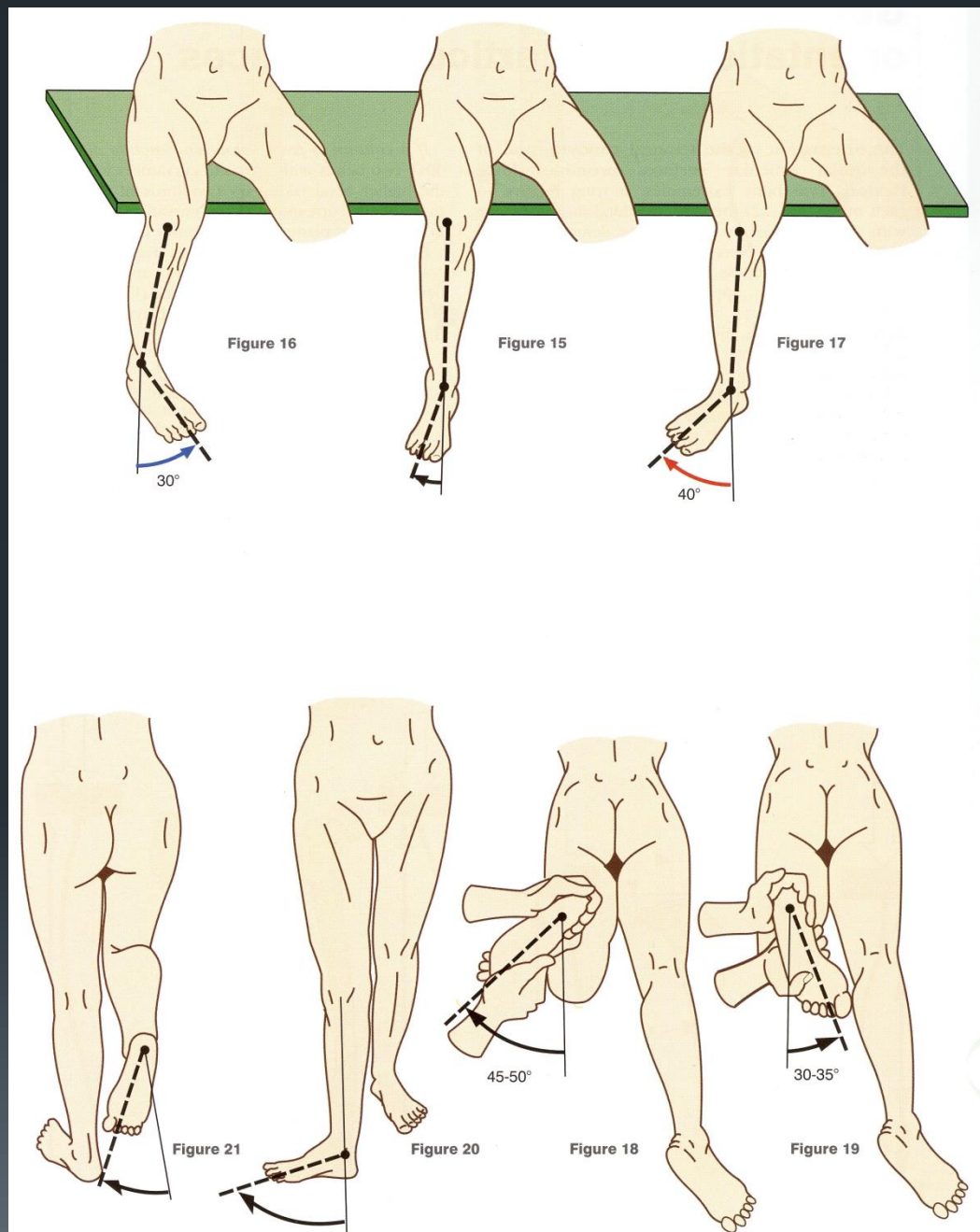
EXTENZE



ROZSAH POHYBU

ROTACE

automatická rotace
během flexe/extenze
kolene



TVAR KLOUBNÍCH PLOCH

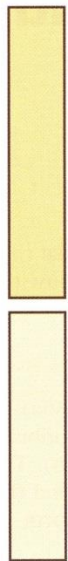


Figure 22

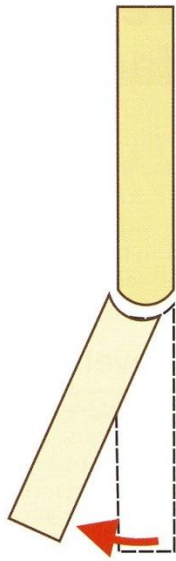


Figure 23

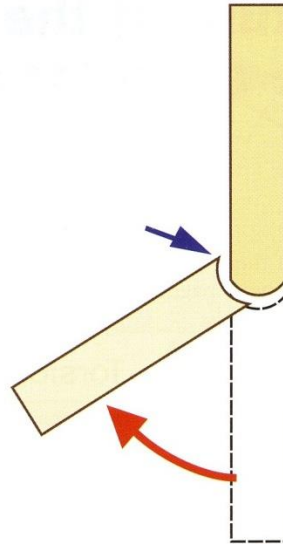


Figure 24

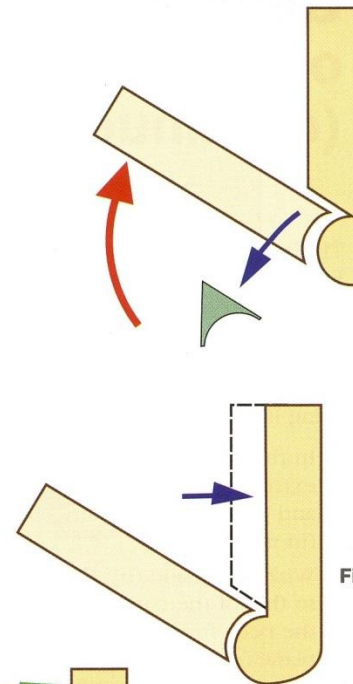


Figure 25

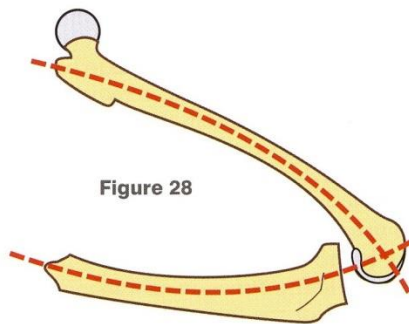


Figure 28

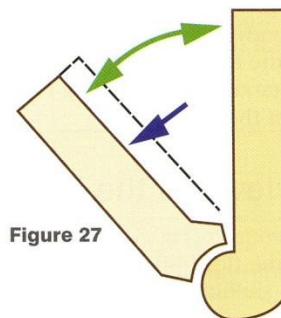


Figure 27

TVAR DIAFÝZY

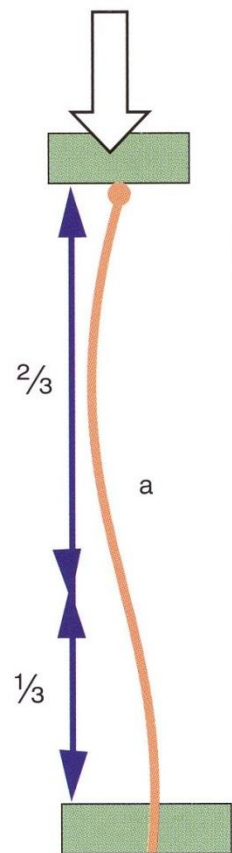


Figure 30

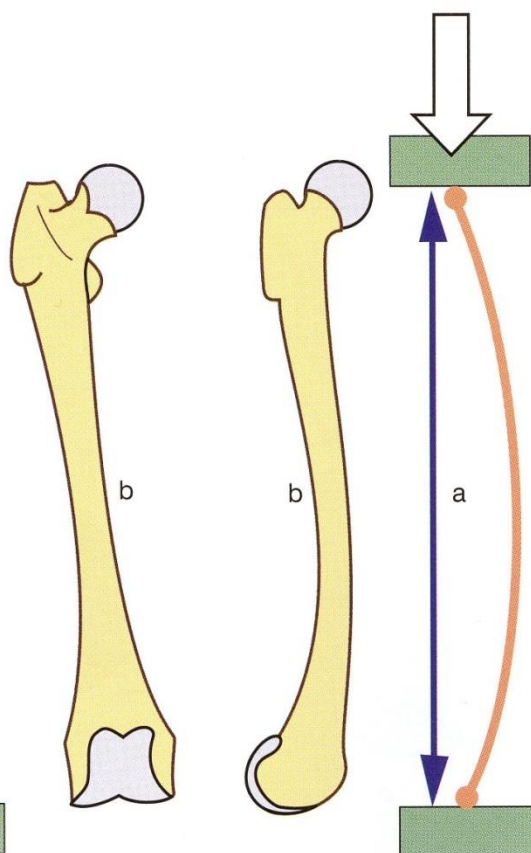


Figure 29

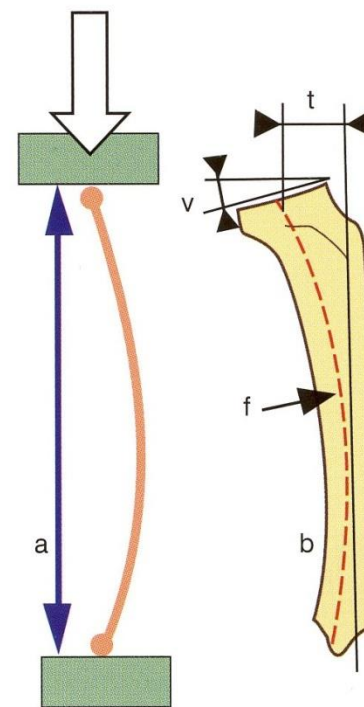


Figure 32

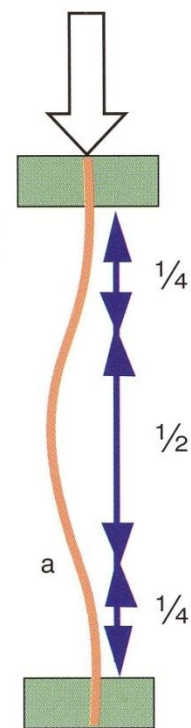
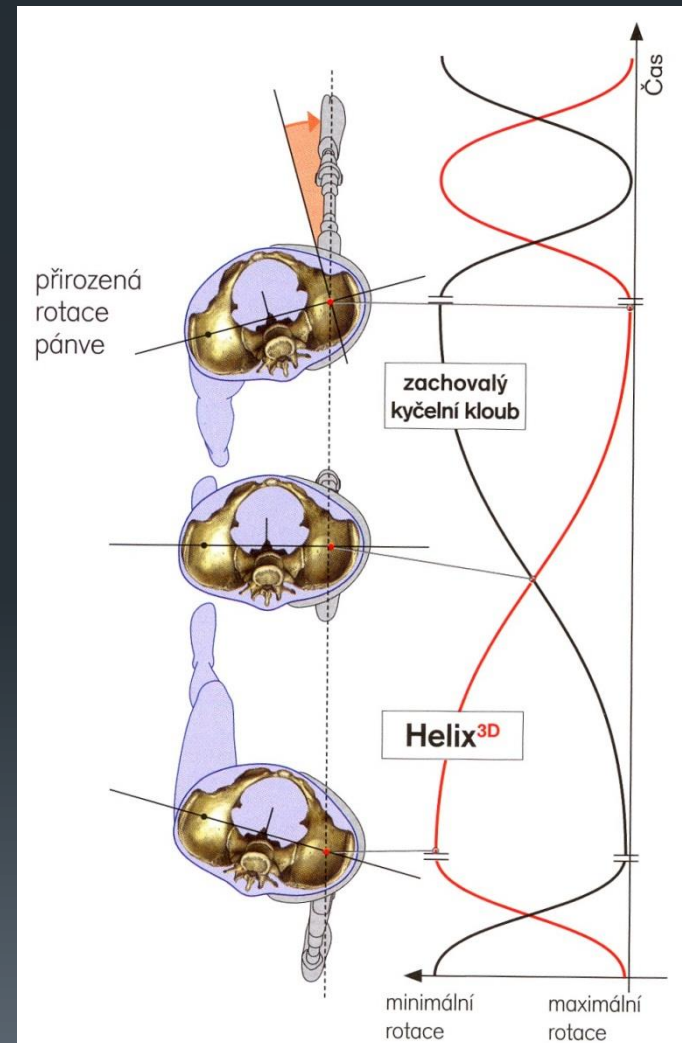


Figure 31

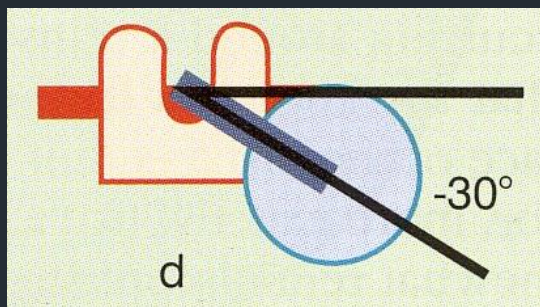
ROTAČNÍ NASTAVENÍ KL. PLOCH

■ ROTACE PÁNVE

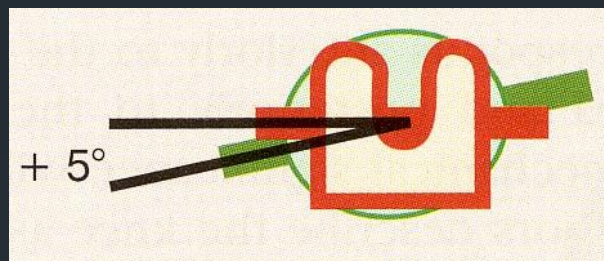
při chůzi (forward swing) +
30°



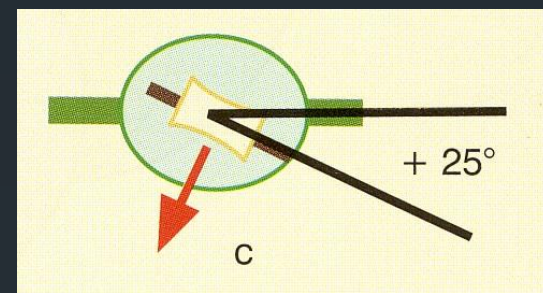
R. NASTAVENÍ VE STOJI



ÚHEL KRČKU
FEM. S AP
OSOU - 30°



R. KOLENE PŘI
PLNÉ EXT.
- 5°



TORZE TIBIE
- 25°

TORZE FEMURU
 $+30^\circ$



ZEVNÍ ROTACE CHODIDLA VE STOJI
- 30°

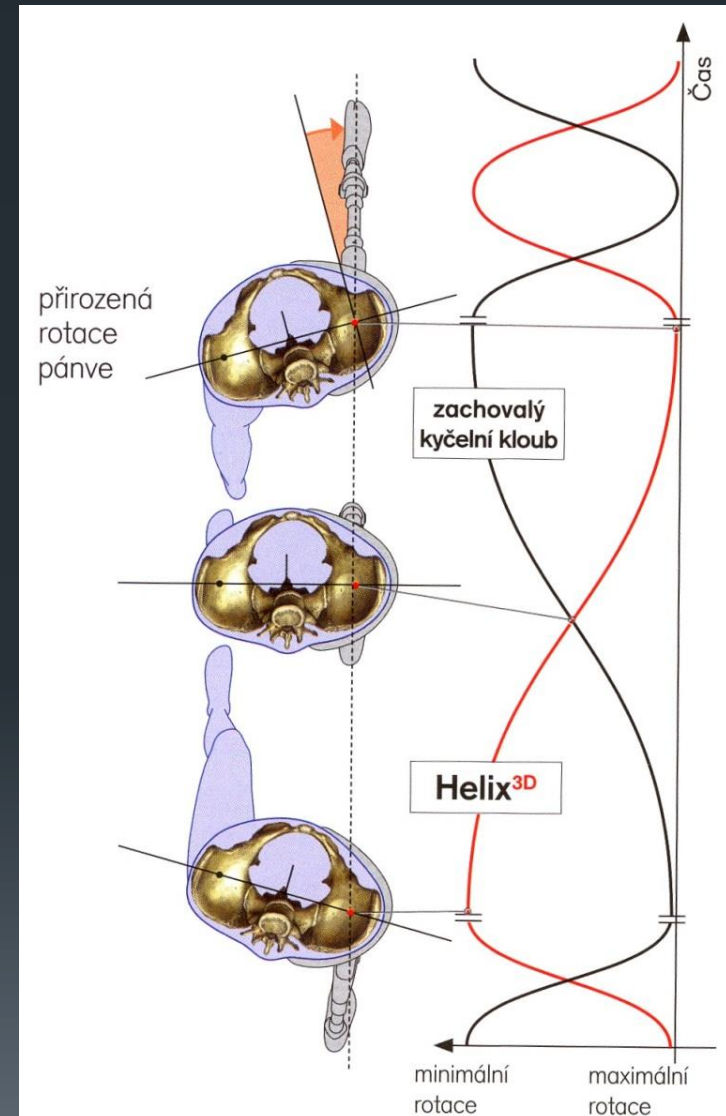
ROTAČNÍ NASTAVENÍ KL. PLOCH

ROTACE PÁNVE
při chůzi (forward
swing)

+ 30°

KOMPENZACE ZR
CHODIDLA VE
STOJI

- 30°



FLEXE / EXTENZE

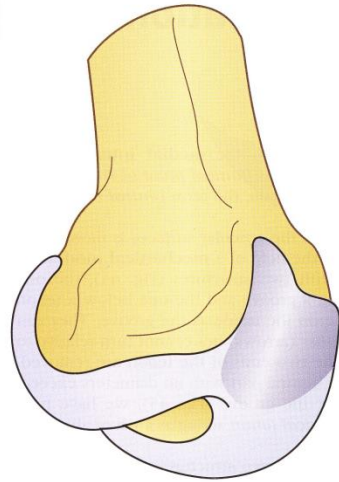


Figure 39

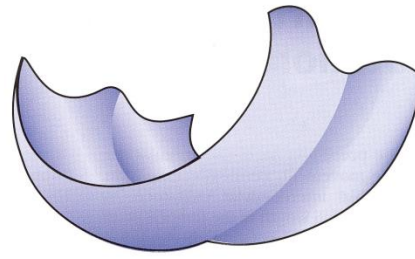


Figure 37



Figure 38

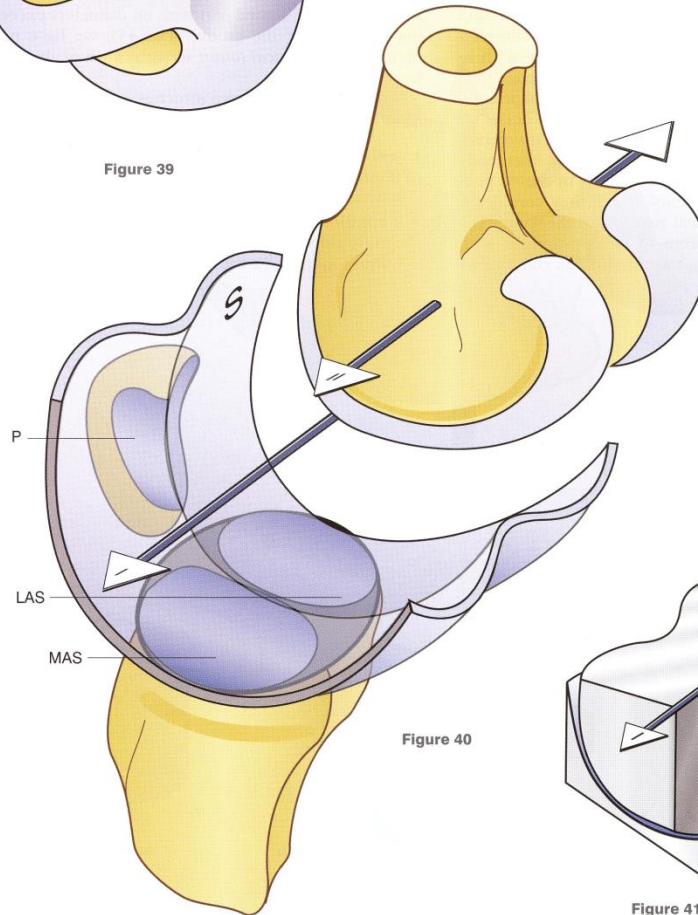


Figure 40

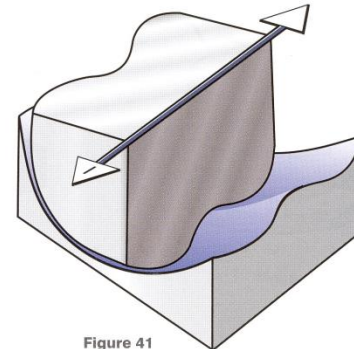


Figure 41

AXIÁLNÍ ROTACE

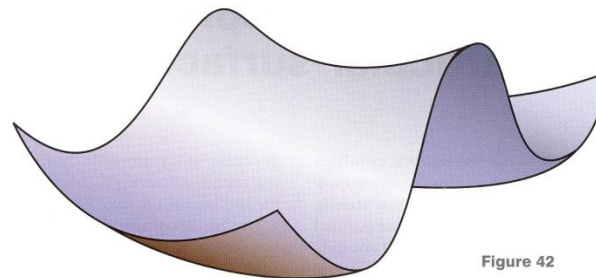


Figure 42

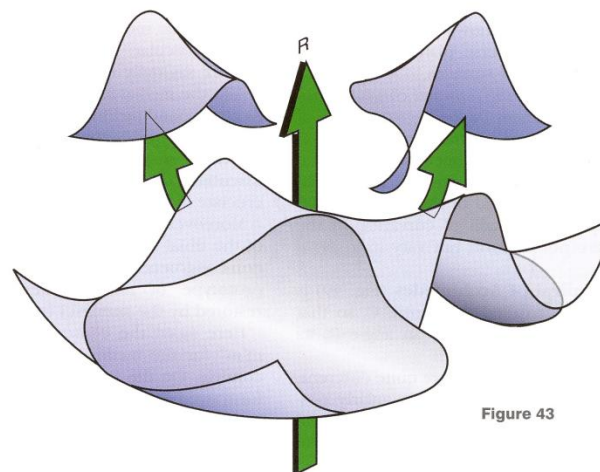


Figure 43

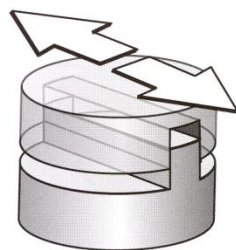


Figure 44

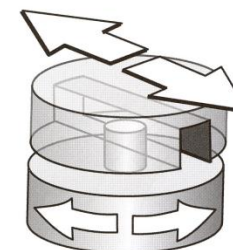
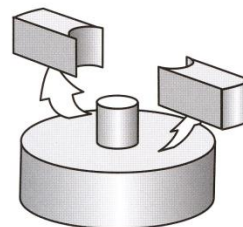


Figure 46

FEMORÁLNI

VS.

TIBIÁLNI

KONDYL

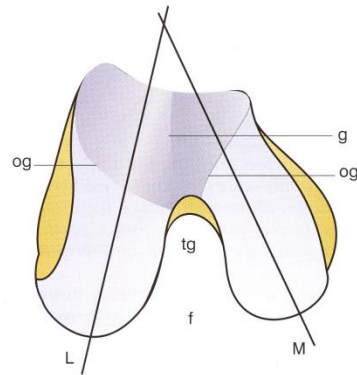


Figure 47

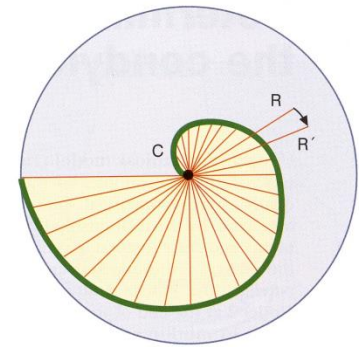


Figure 49

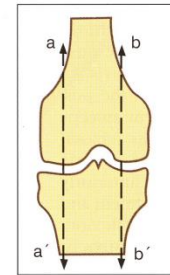


Figure 48

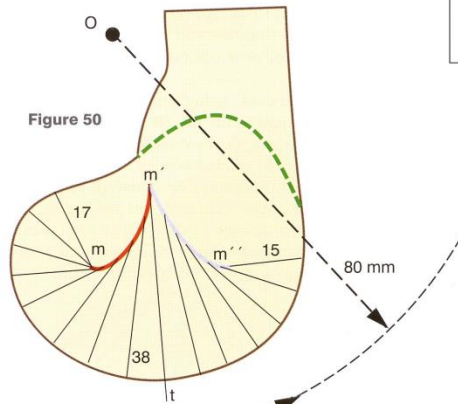


Figure 50

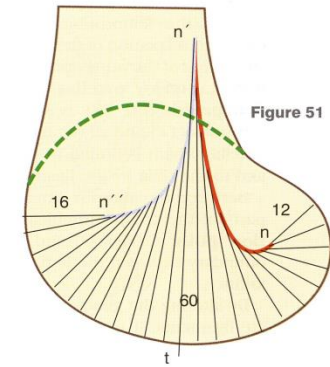


Figure 51

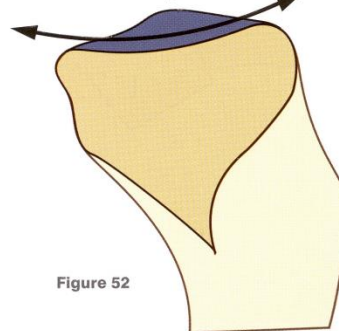


Figure 52

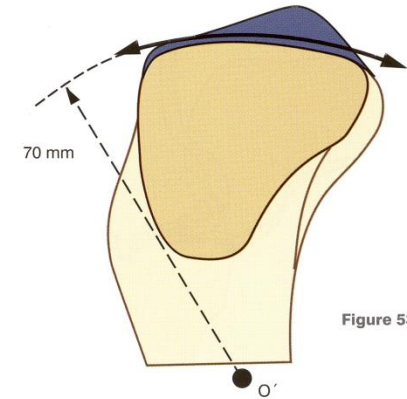
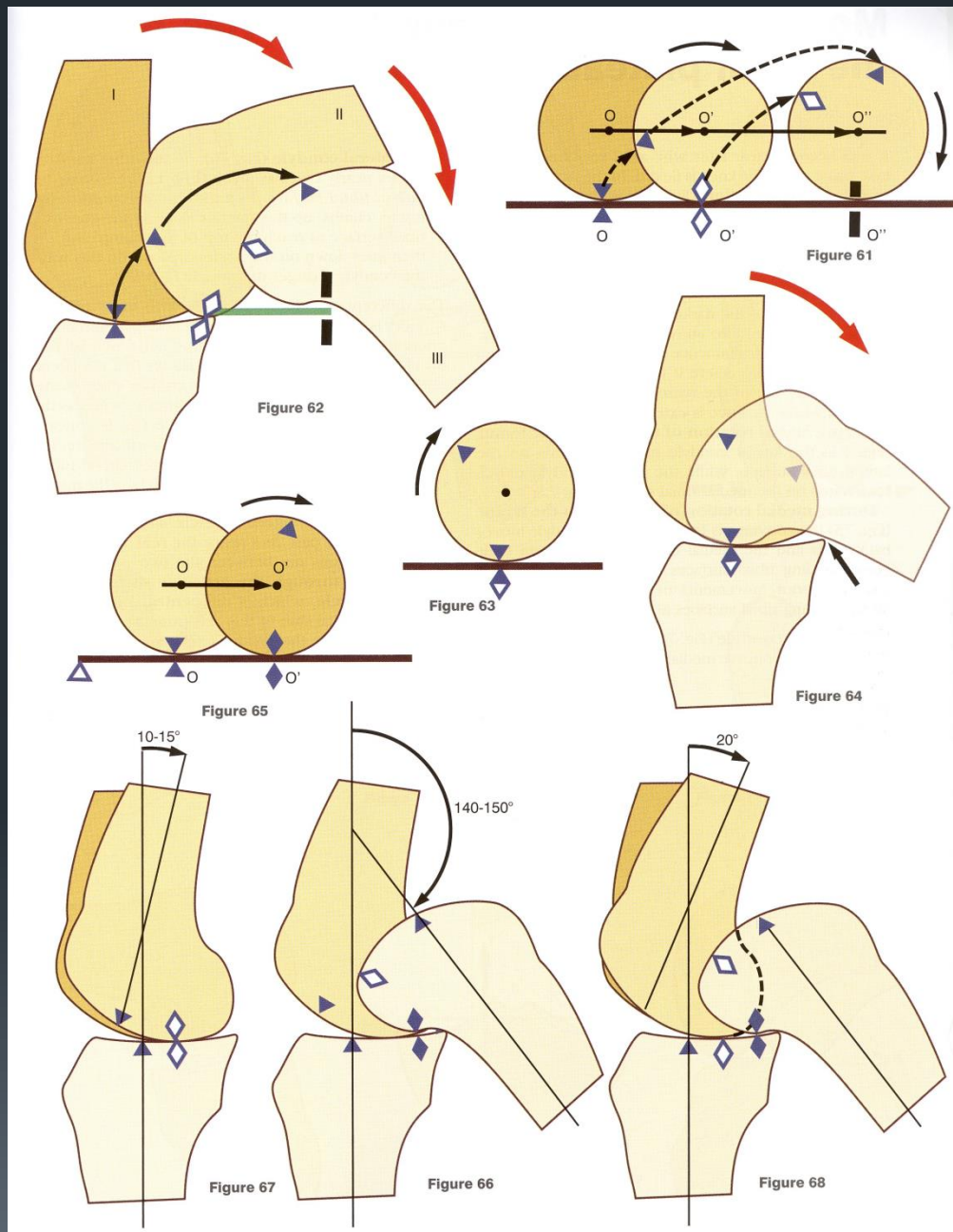
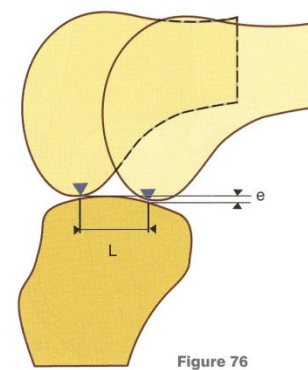
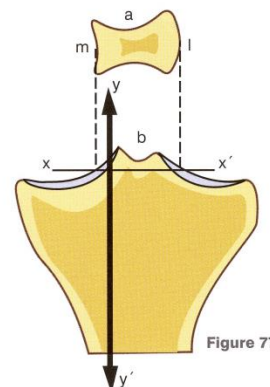
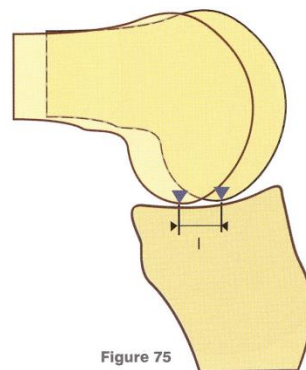
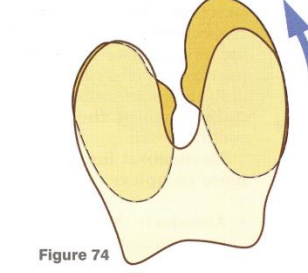
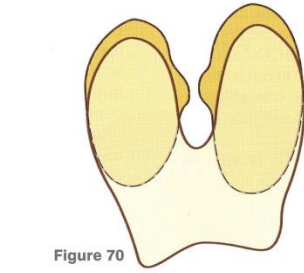
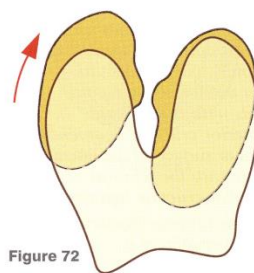


Figure 53

POSUVNÝ VS. VALIVÝ POHYB V PRŮBĚHU FL / EXT

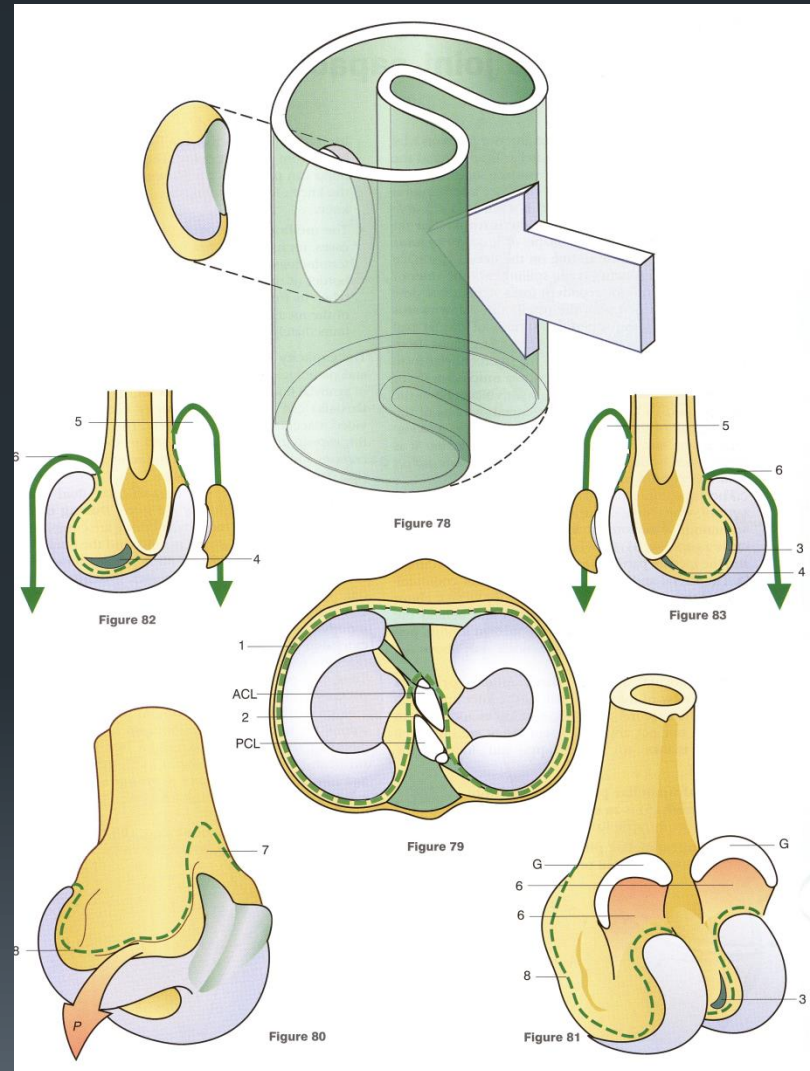


POHYBY KONDYLŮ V PRŮBĚHU AXIÁLNÍ ROTACE



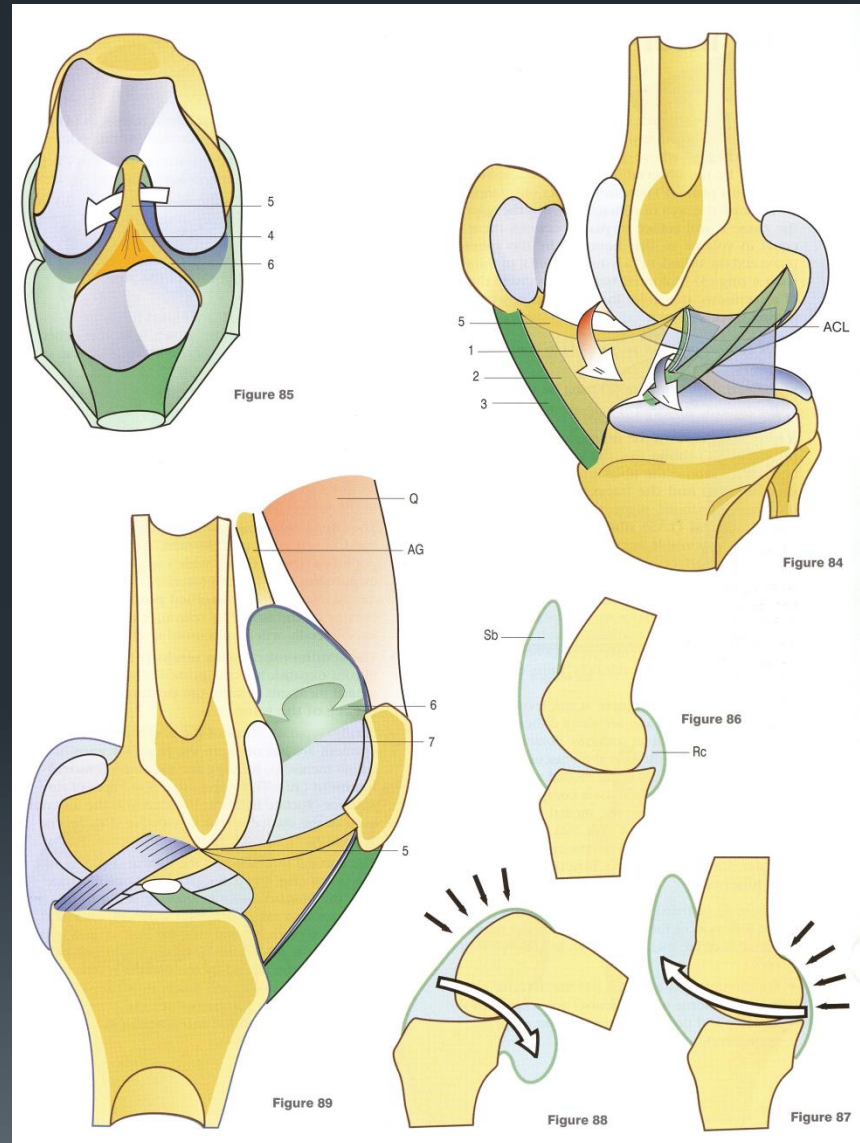
KLOUBNÍ POUZDRO

- suprapatelární recesus
- parapatelární recesus
- kondylární část



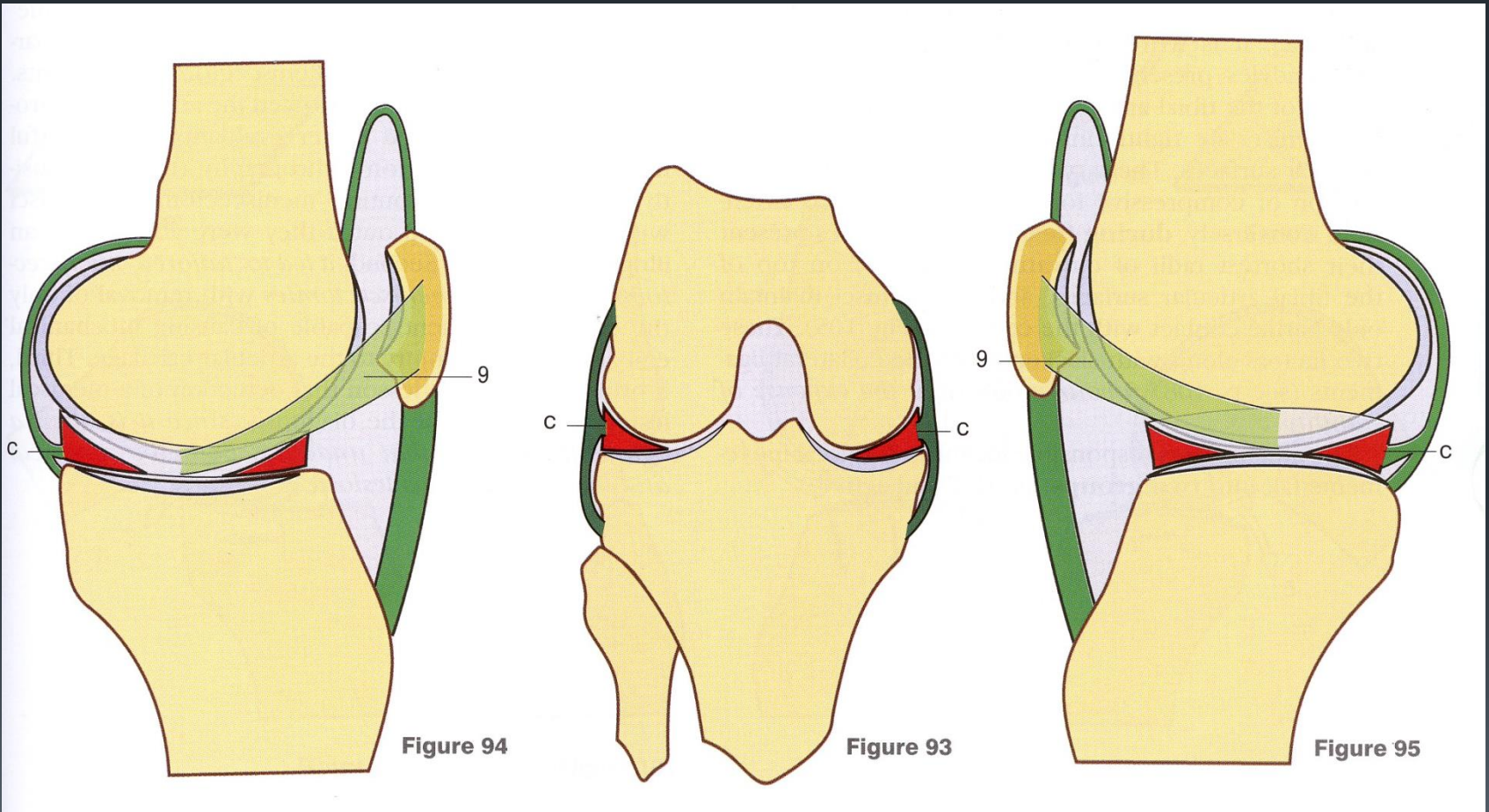
KLOUBNÍ POUZDRO

- infrapatelární plica
- suprapatelární plica
- mediopatelární plica



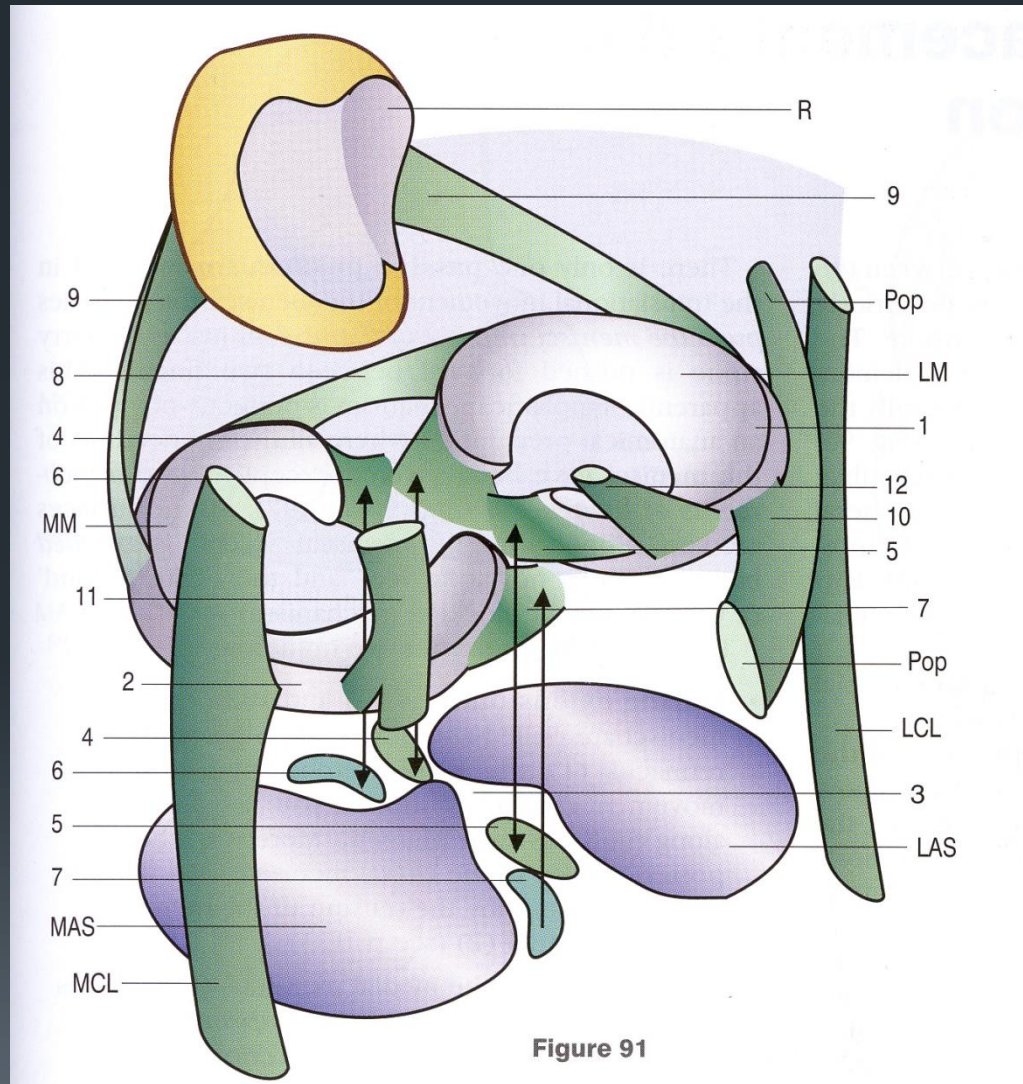
MENISKY

FUNKCE



MENISKY

ÚPONY MENISKŮ,
VZTAH KE SVALŮM



POHYBY MENISKŮ

FLEXE / EXTENZE

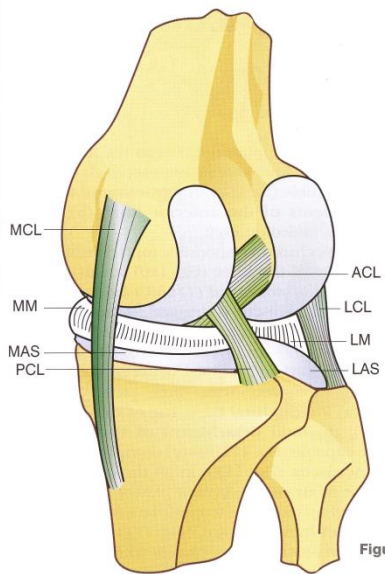


Figure 96

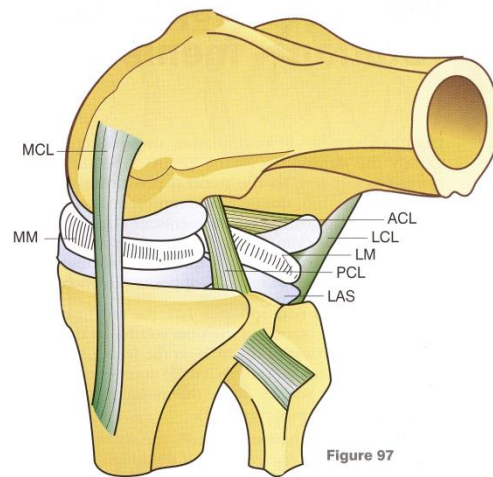


Figure 97

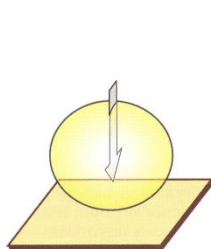


Figure 100

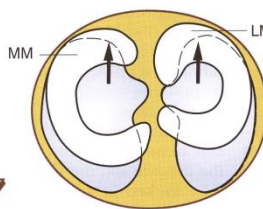


Figure 98

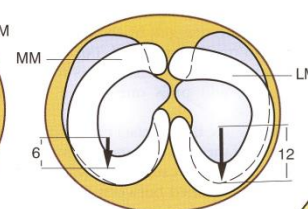


Figure 99

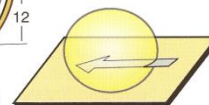


Figure 103

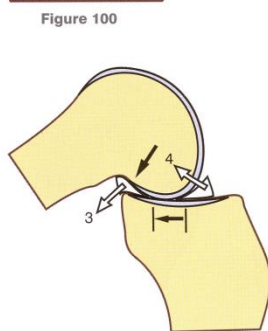


Figure 104

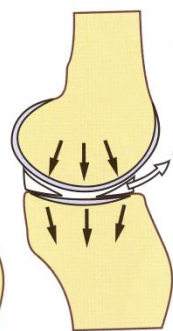


Figure 101

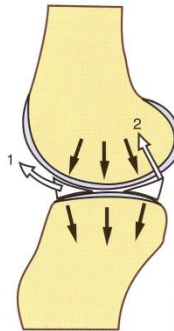


Figure 102

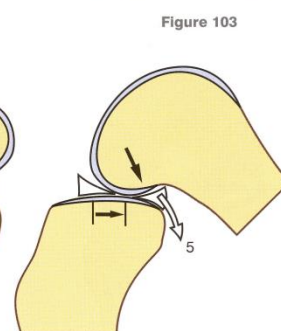
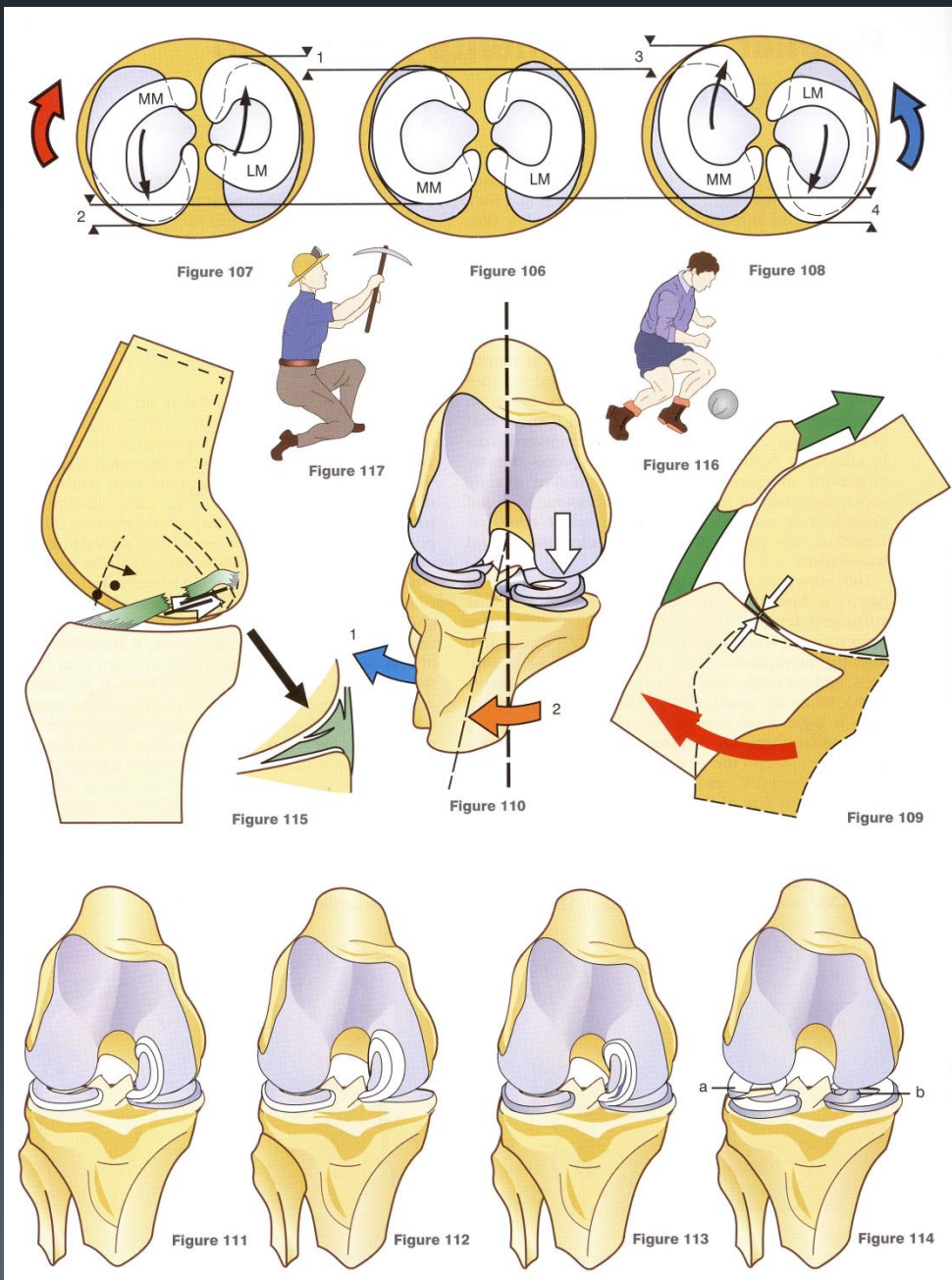


Figure 105

POHYBY MENISKŮ

AXIÁLNÍ ROTACE



POHYBY PATELY

LATERÁLNÍ DEVIACE, SUPRAPATELÁRNÍ BURZA

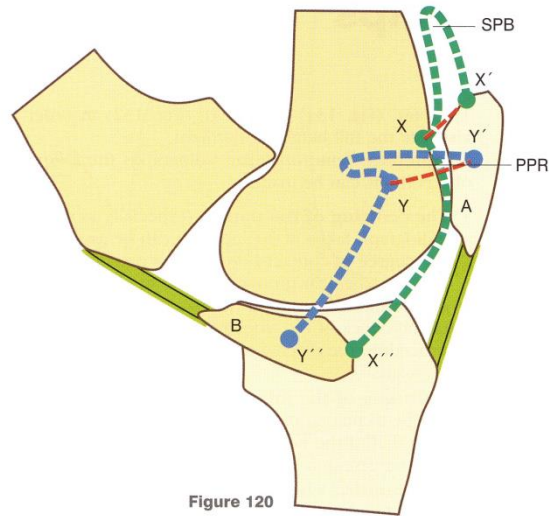


Figure 120

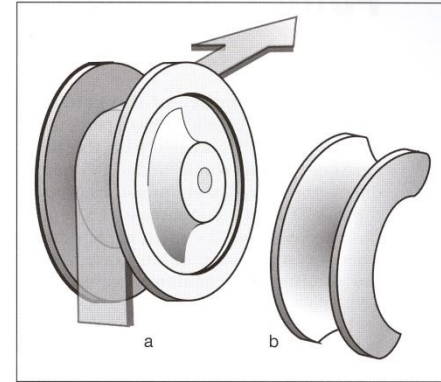


Figure 118

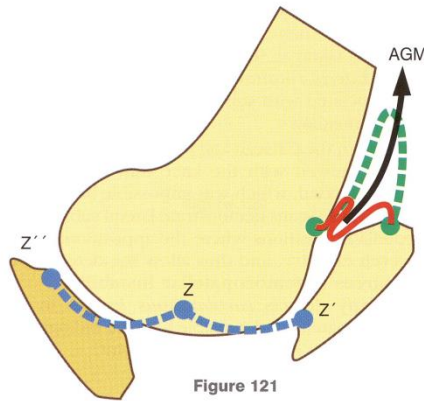


Figure 121

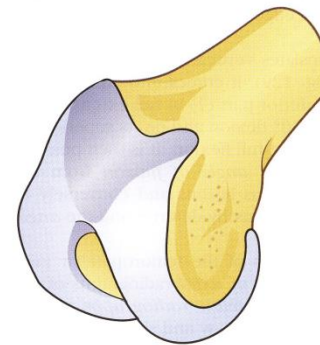


Figure 119

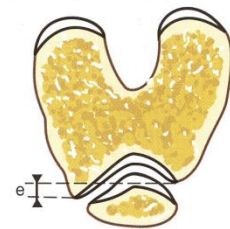
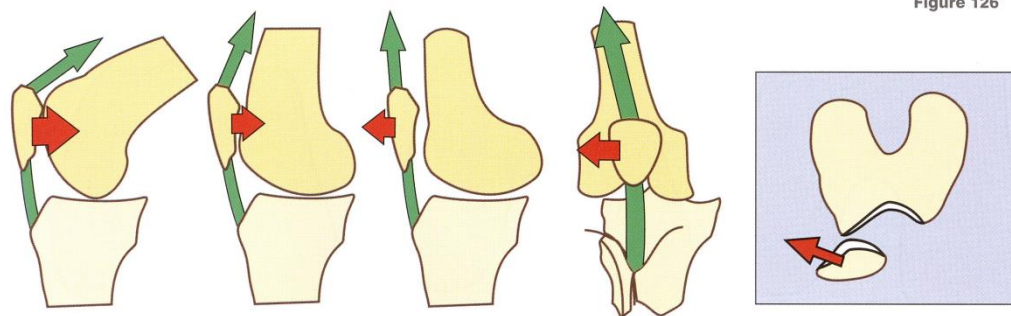


Figure 126



VZTAH FEMUR - PATELA

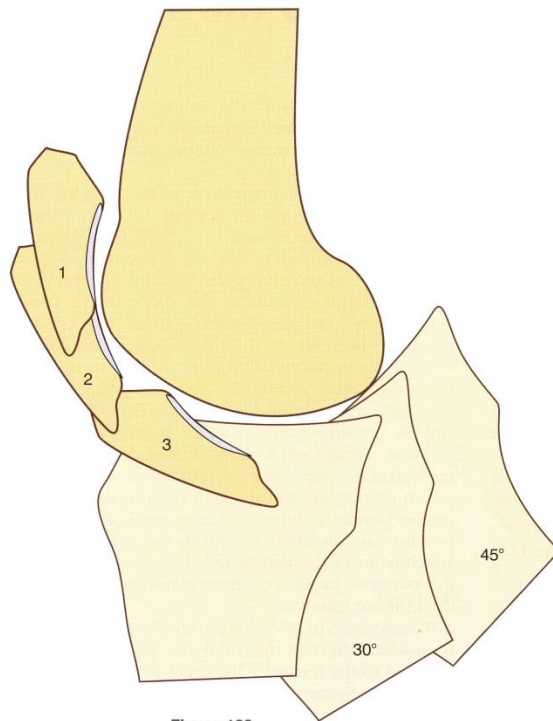


Figure 129

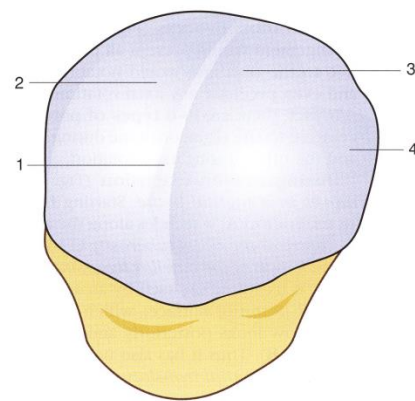
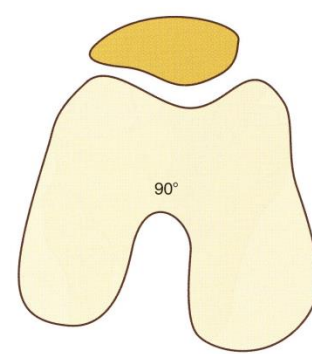
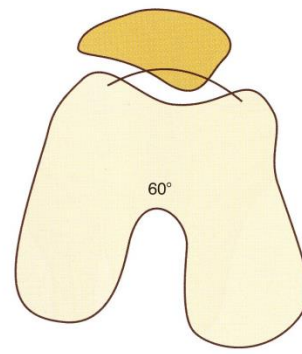
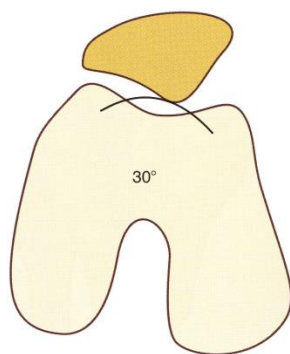


Figure 128



Q - úhel

- Úhel mezi vektorem působení síly quadricepsu a jeho úponu
- Norma:
 - muži 10-12°
 - ženy 15-18°
(širší pánev/kratší femur)



ROTACE TIBIE



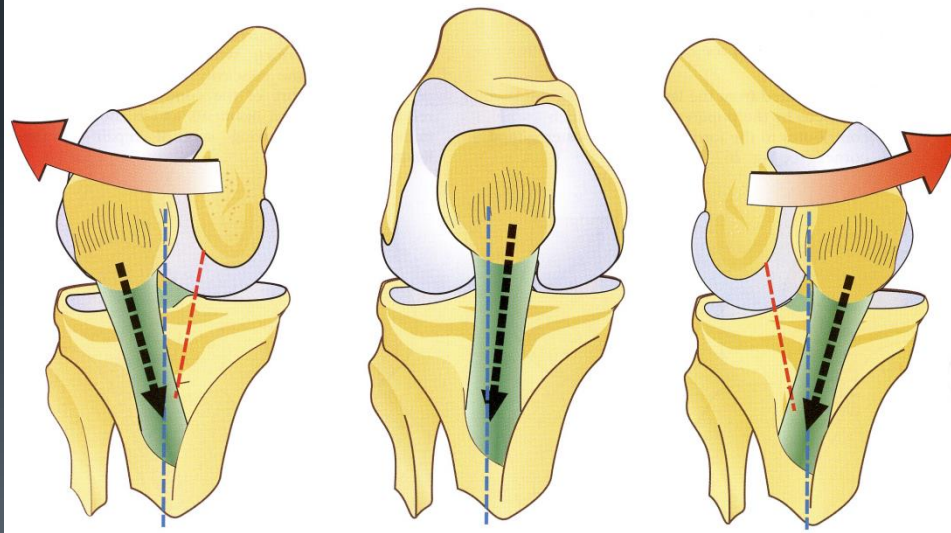
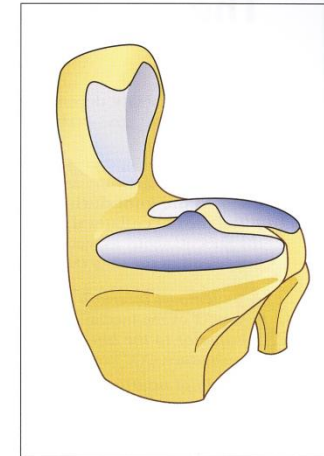
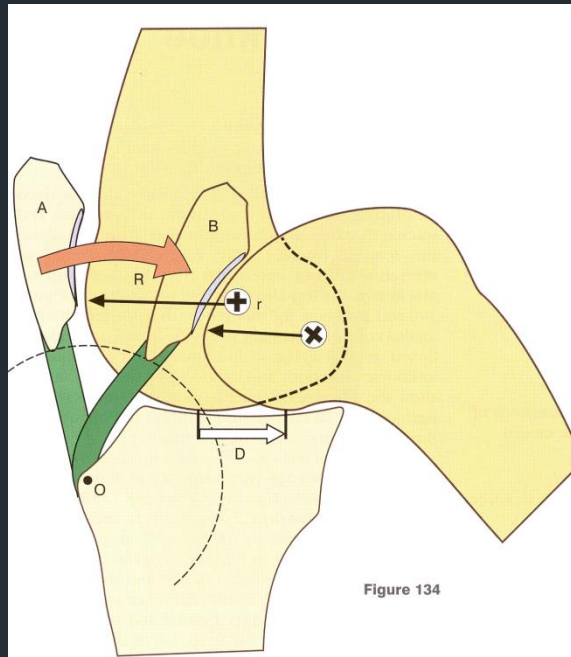
ZMĚNA ÚHLU
PATELLÁRNÍH
O LIGAMENTA



SUBLUXACE
PATELY



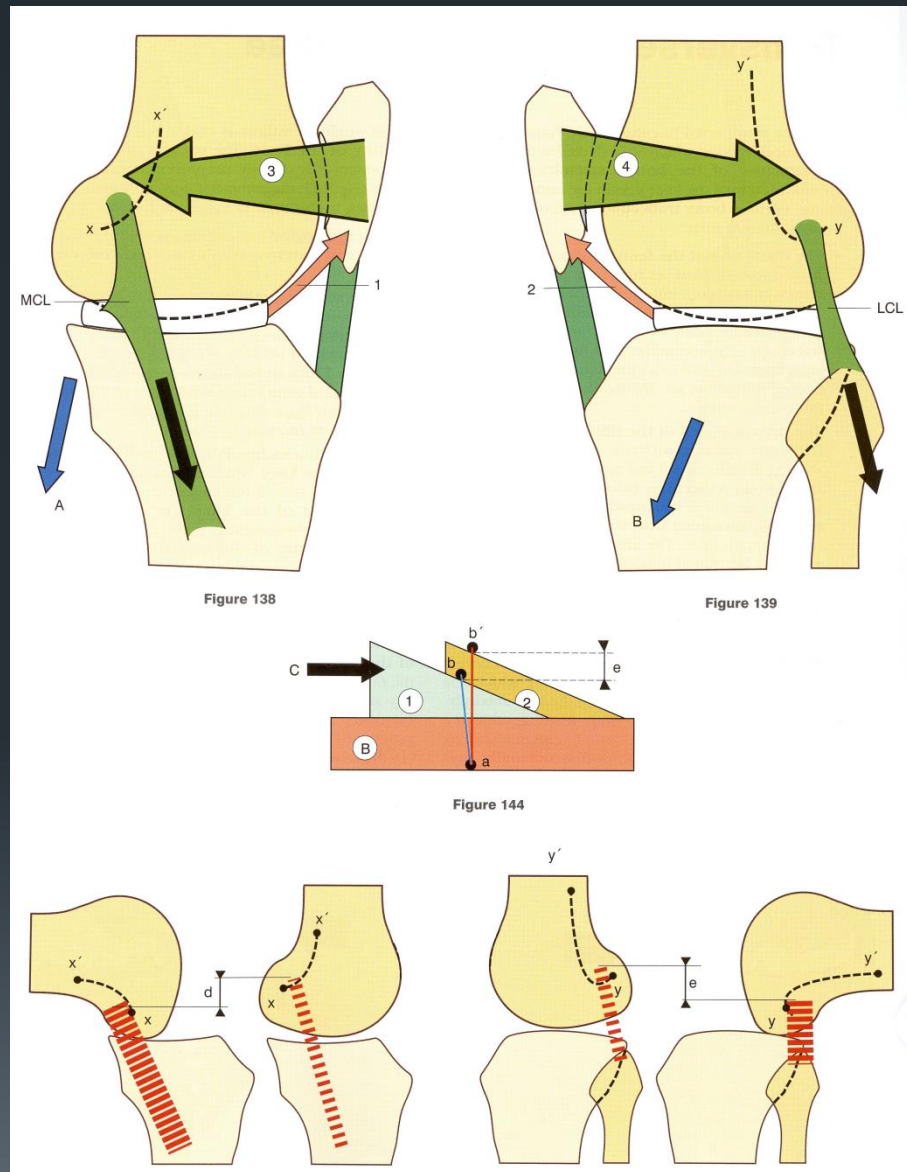
**PATELLÁRNÍ
SYNDROMY**



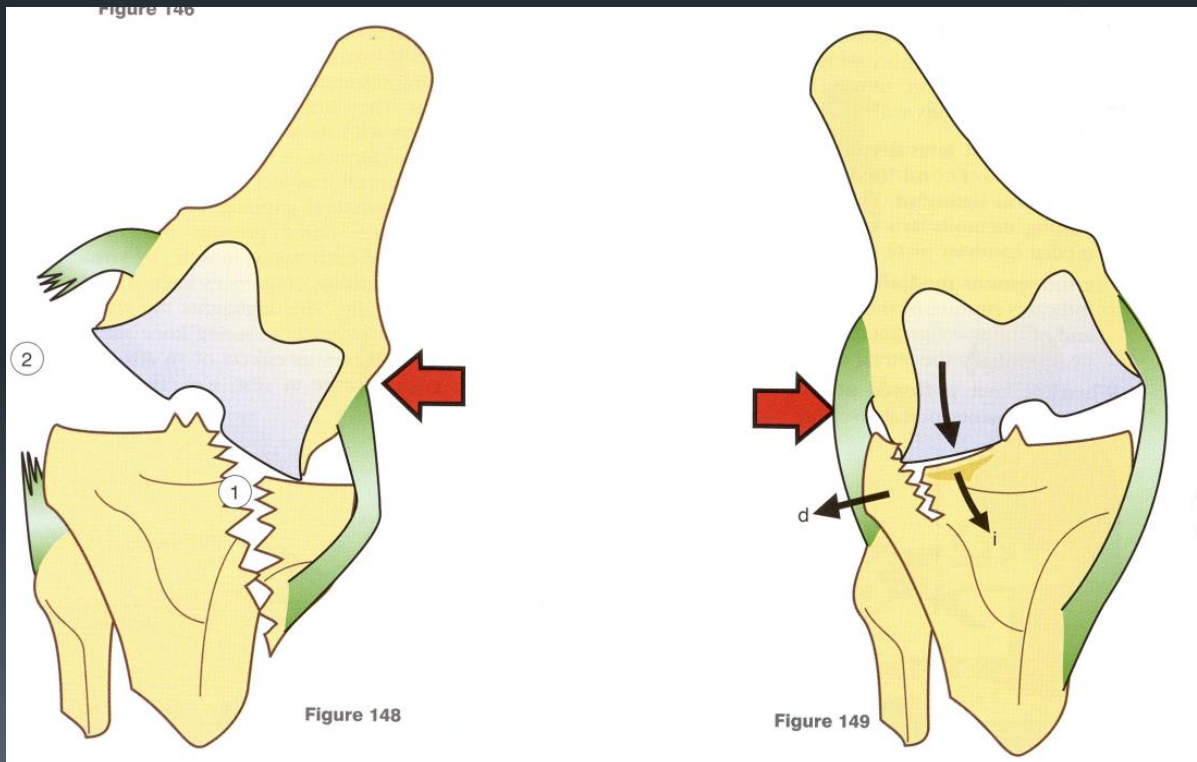
KOLATERÁLNÍ LIGAMENTA

EXTENZE – FLEXE

NAPĚTÍ - UVOLNĚNÍ



TRANSVERZÁLNÍ STABILITA KOLENE



TRANSVERZÁLNÍ STABILITA KOLENE

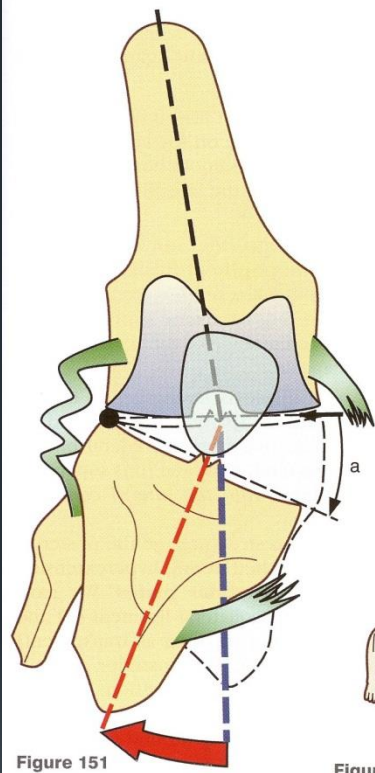


Figure 151

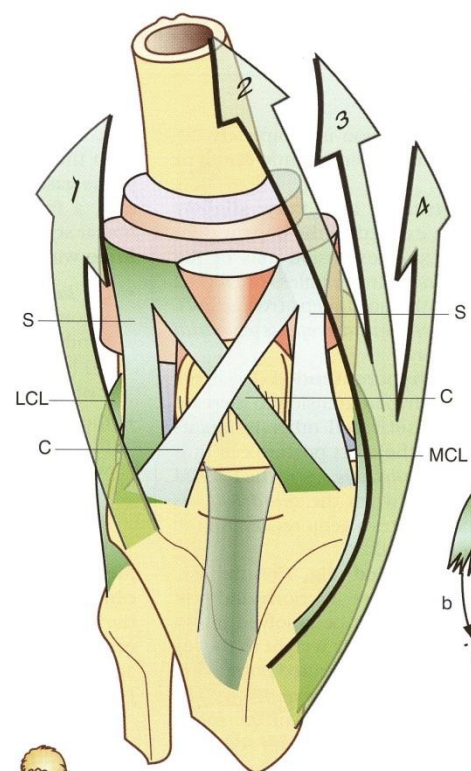


Figure 154

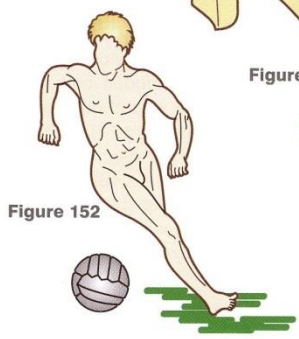


Figure 152

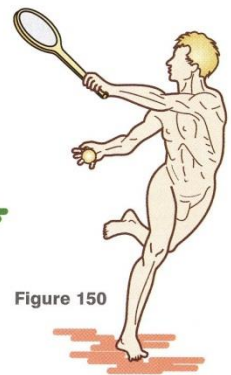


Figure 150

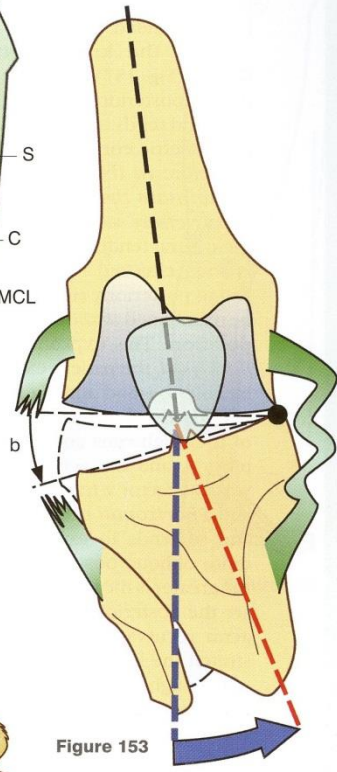
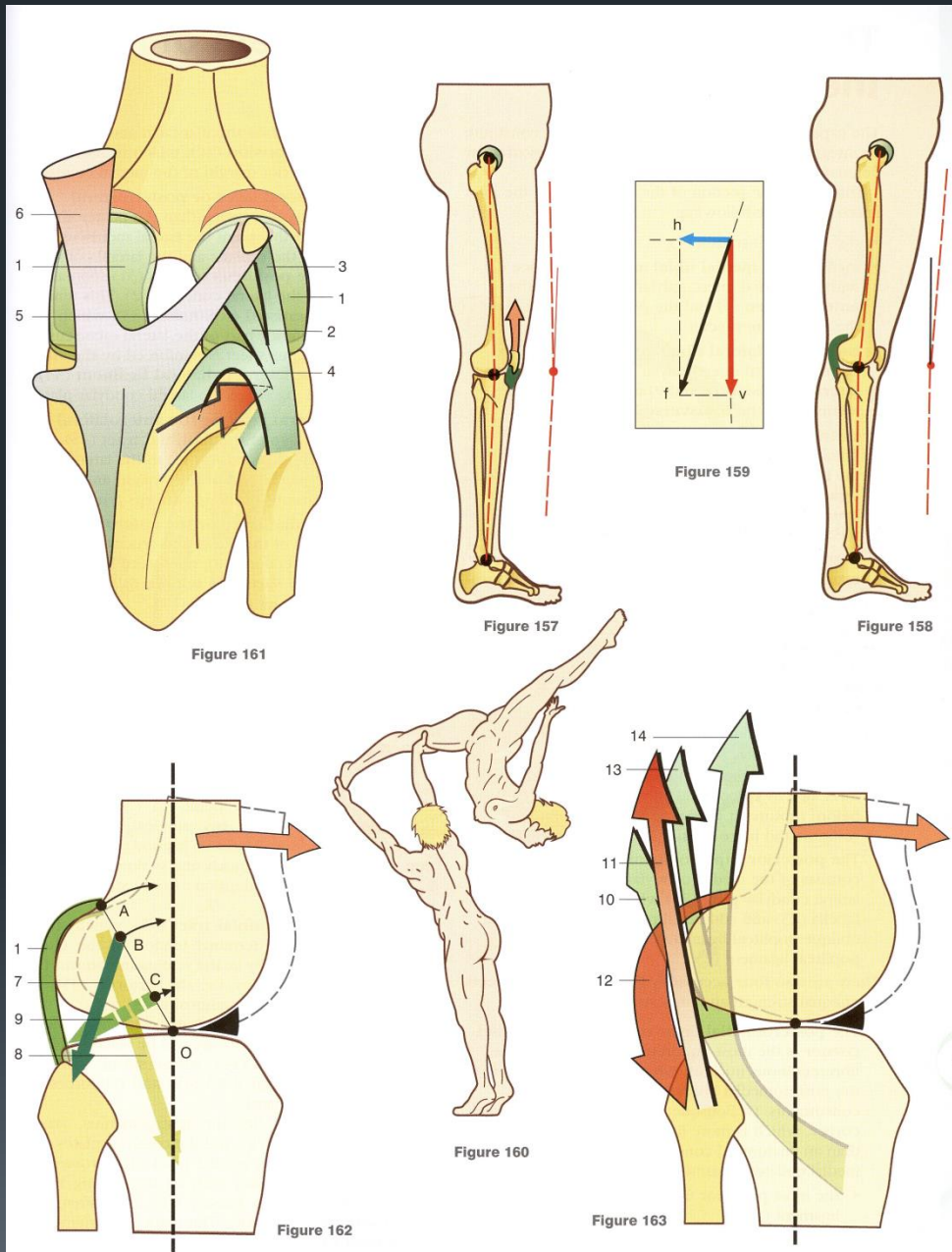


Figure 153

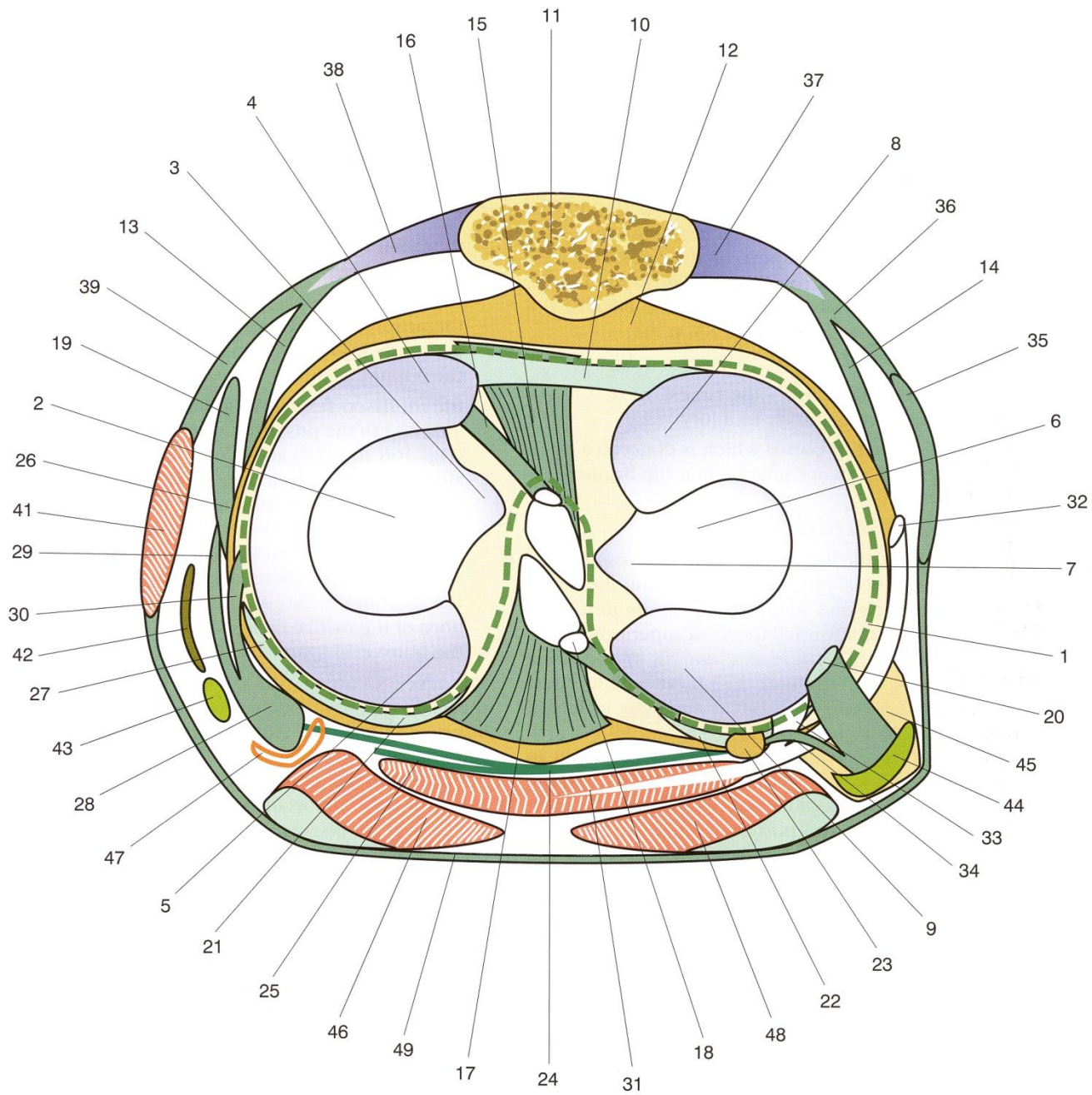
ANTEROPOSTERIORNÍ STABILITA KOLENE



SVALOVÉ
FAKTORY

LIGAMENTÓZNÍ
FAKTORY

PERIARTIKULÁRNÍ OCHRANNÝ SYSTÉM KOLENE



ZKŘÍŽENÉ VAZY

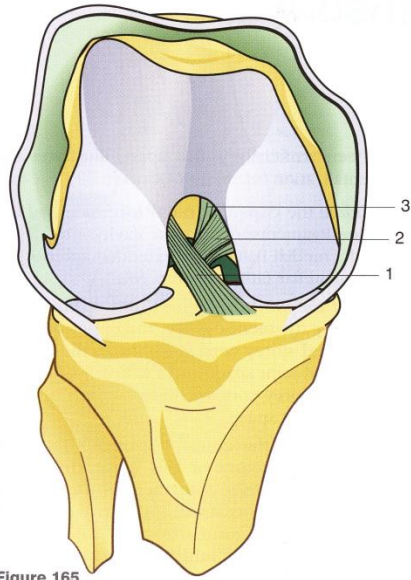


Figure 165

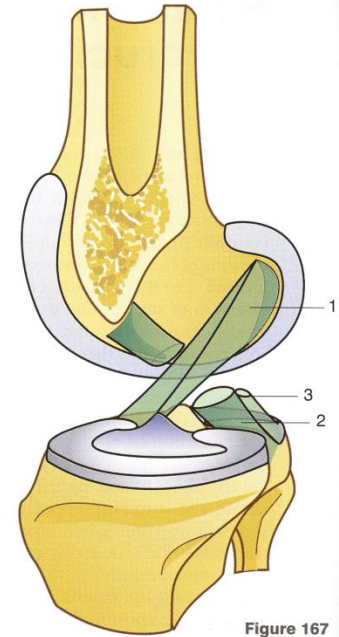


Figure 167

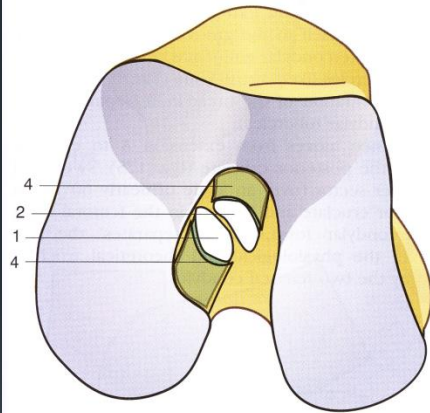


Figure 169

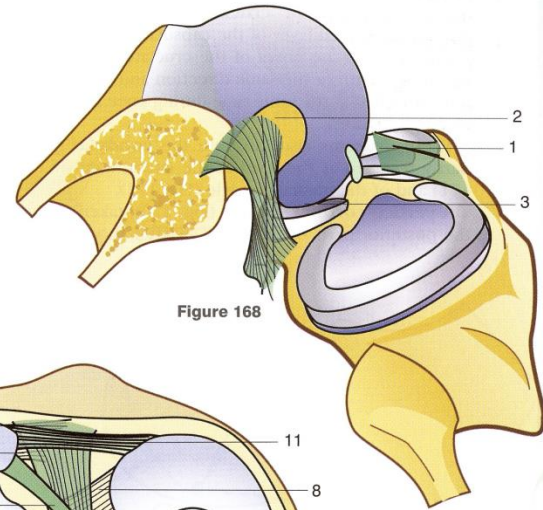


Figure 168

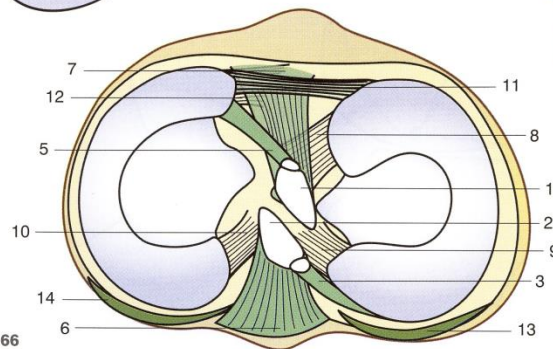


Figure 166

ZKŘÍŽENÉ VAZY

AP stabilita kolene
ve FL / EXT

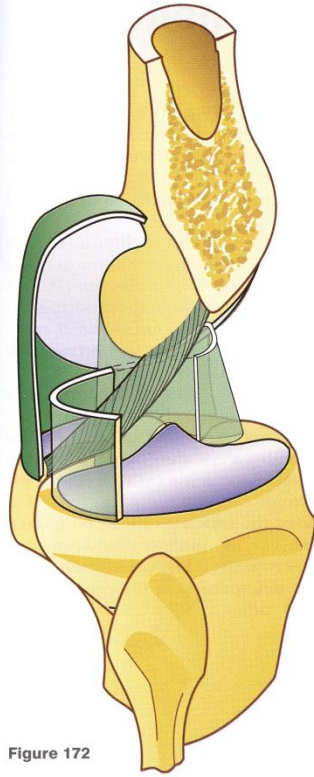


Figure 172

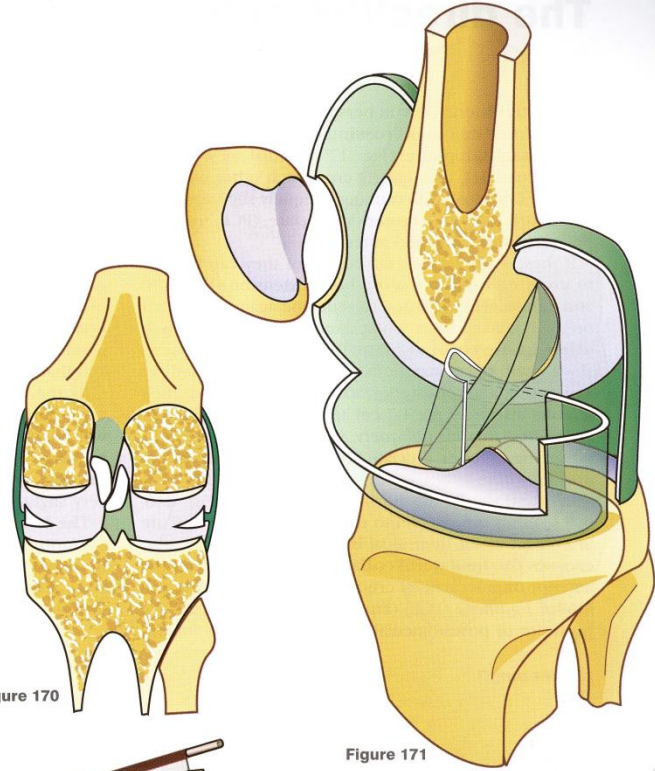


Figure 170

Figure 171

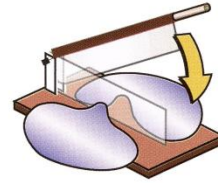


Figure 174

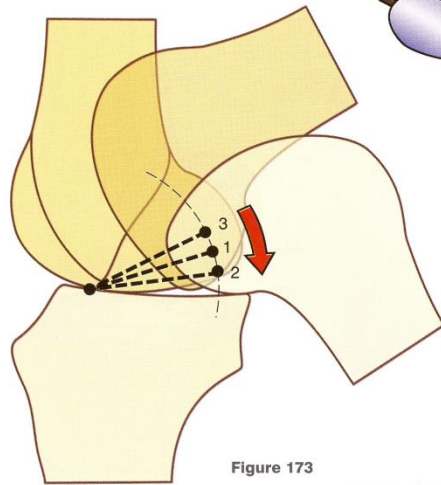


Figure 173

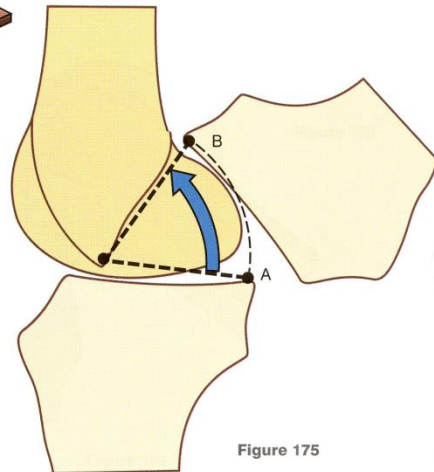
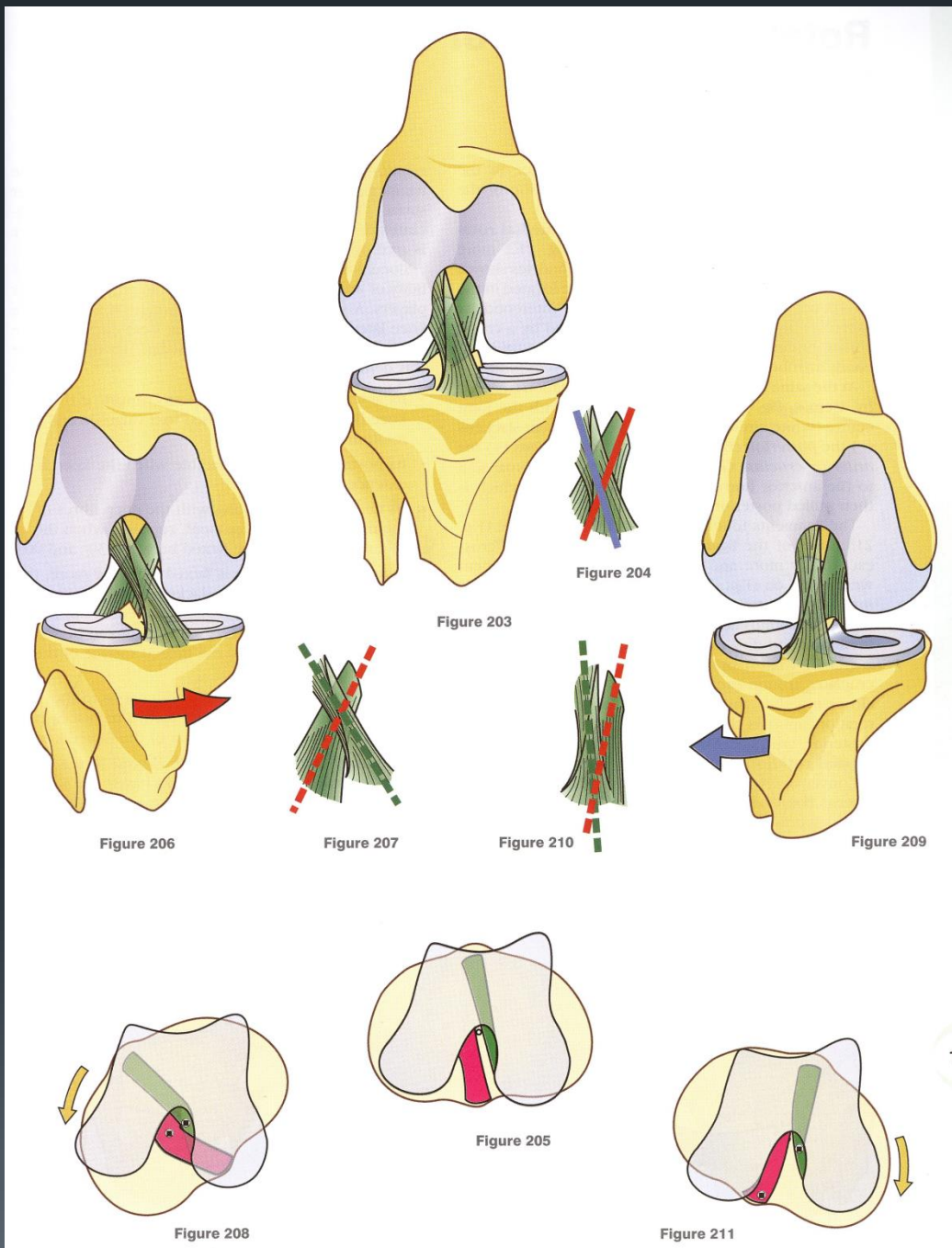


Figure 175

ZKŘÍŽENÉ VAZY

rotační stabilita kolene v EXT



ZKŘÍŽENÉ VAZY

rotační stabilita kolene v EXT

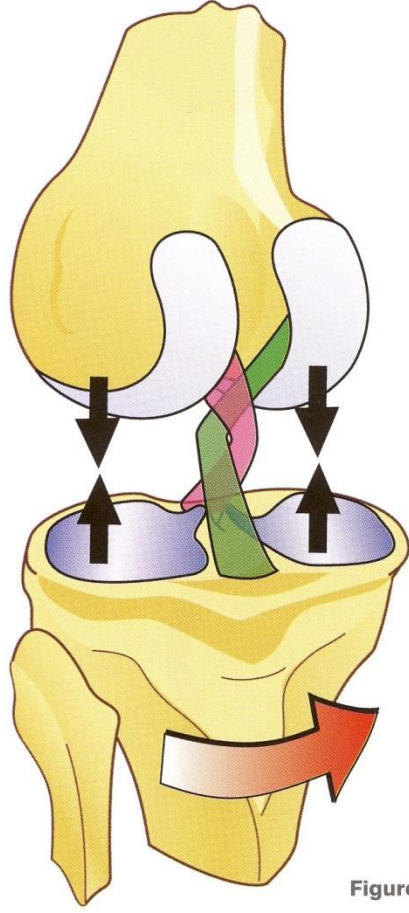


Figure 214

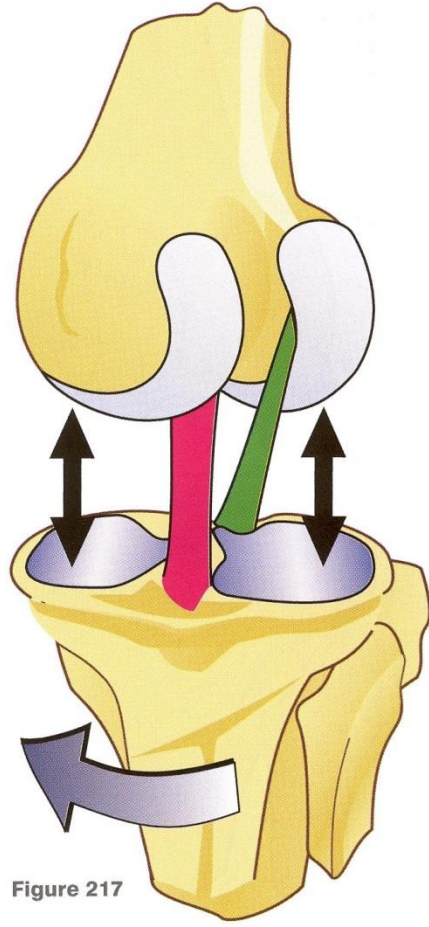


Figure 217

ZKŘÍŽENÉ VAZY

rotační stabilita kolene

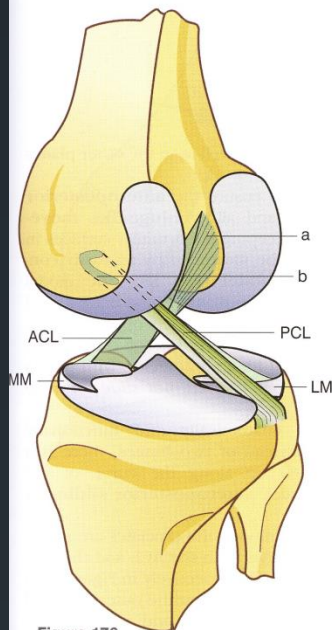


Figure 176

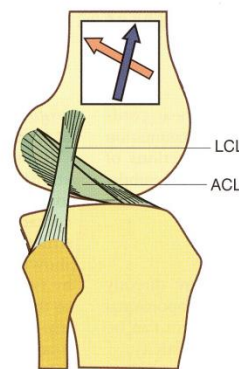


Figure 181

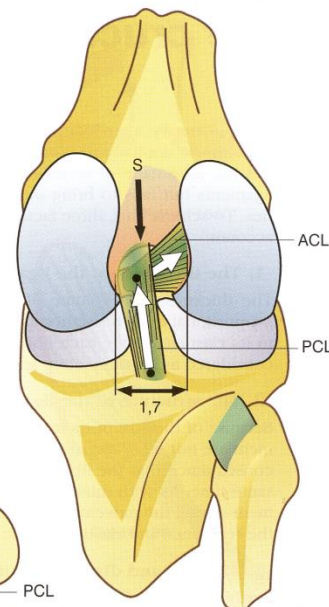


Figure 180

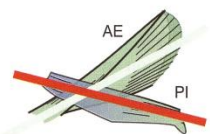


Figure 178

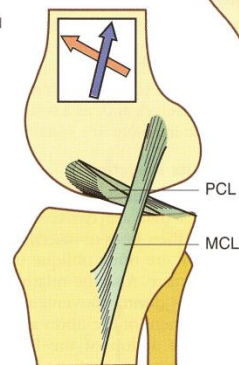


Figure 182

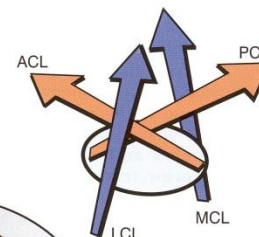


Figure 183

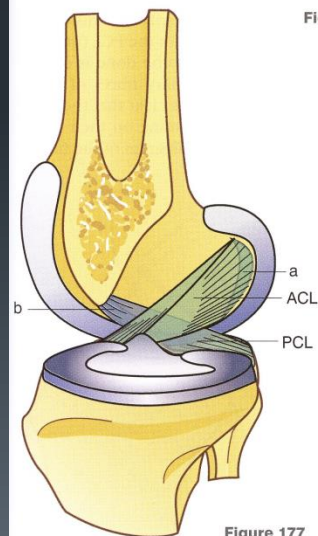


Figure 177

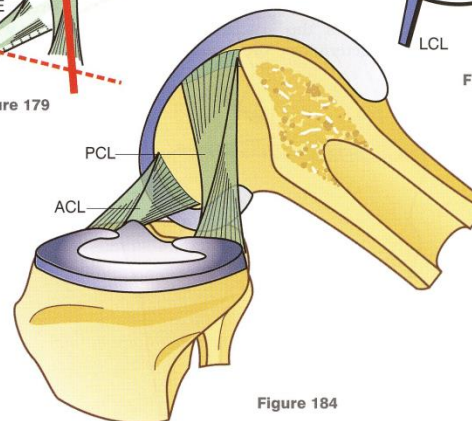
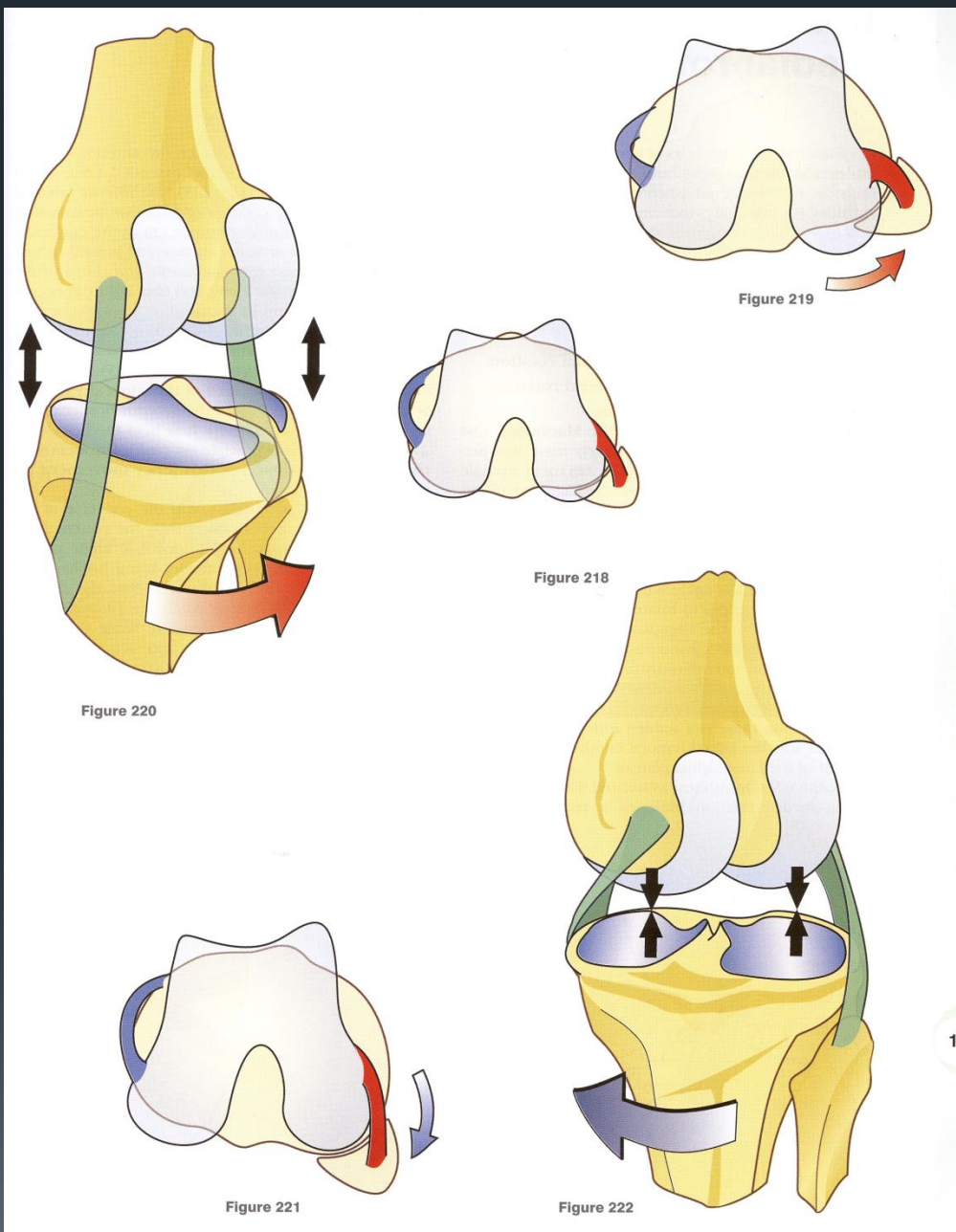


Figure 184



KOLATERÁLNÍ VAZY

rotační stabilita kolene



ZKŘÍŽENÉ VAZY

TESTY AP STABILITY

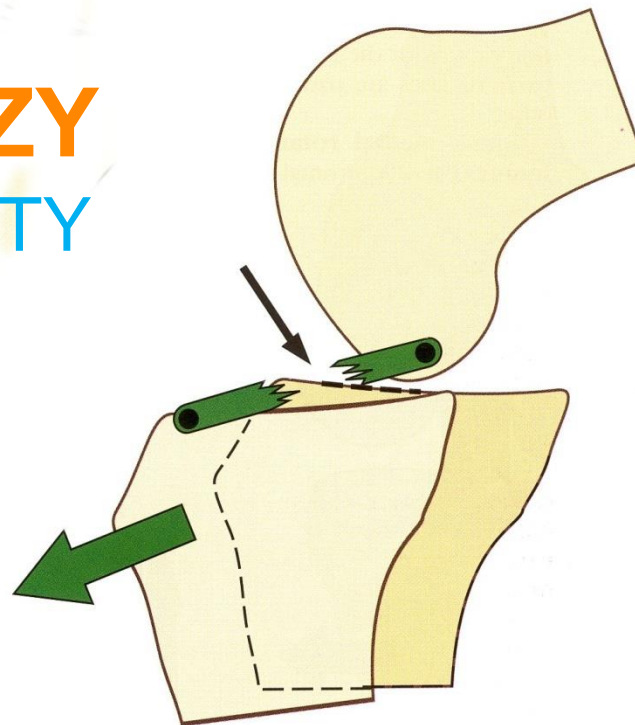
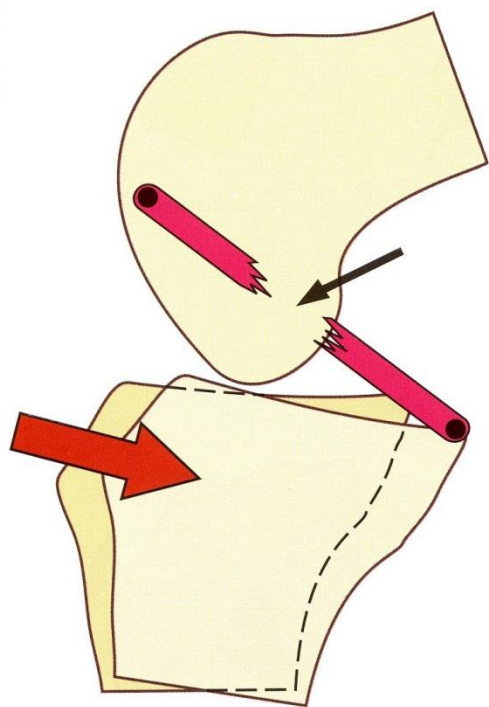
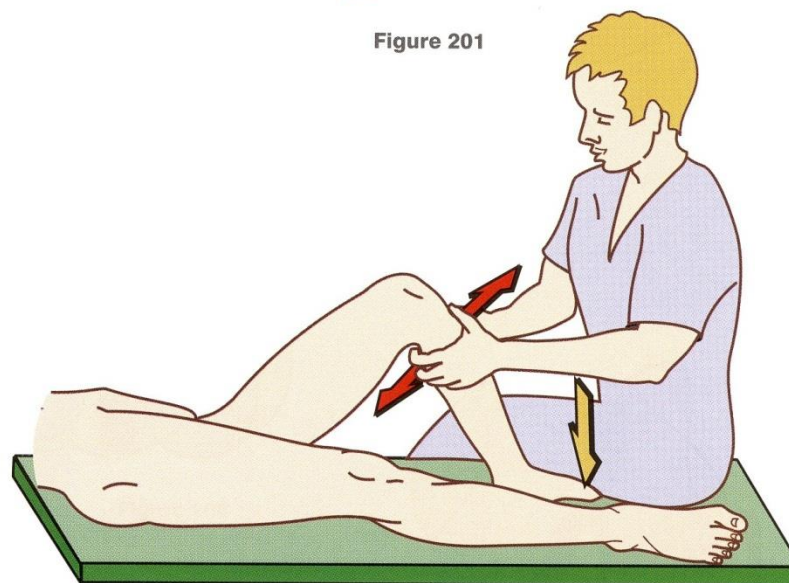
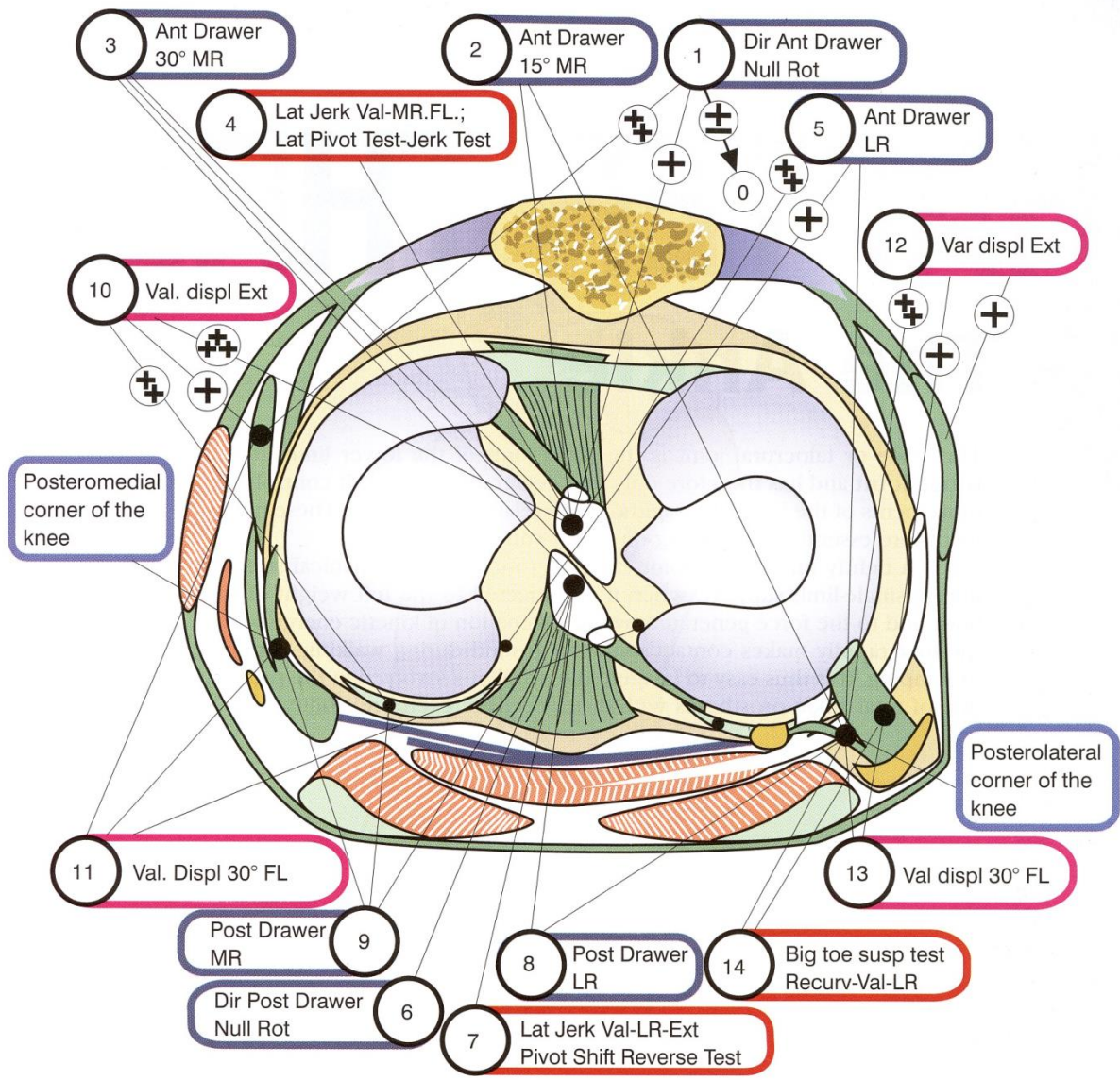


Figure 201



DALŠÍ TESTY



AKTIVNÍ POHYBOVÁ KOMPONENTA

40

- FLEXE - EXTENZE
- ZEVNÍ – VNITŘNÍ ROTACE

EXTENZE KOLENE

m. rectus femoris

- vzťah k m. gluteus max

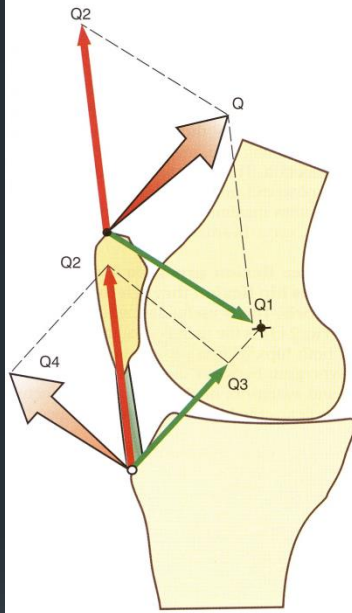


Figure 238

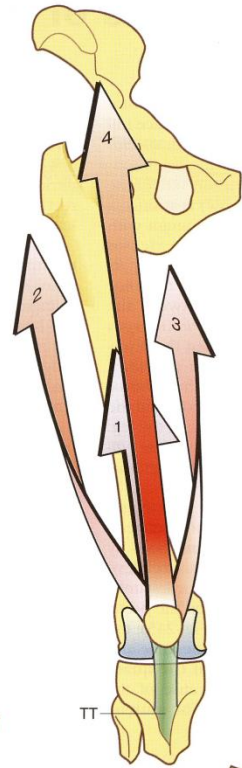


Figure 237

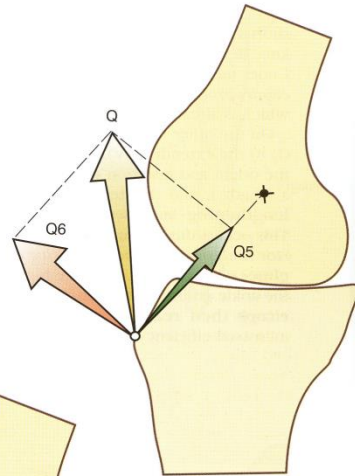


Figure 239

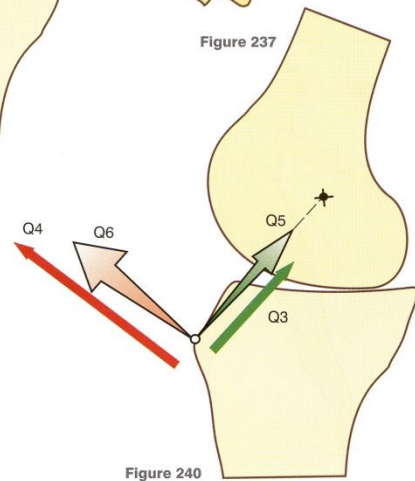
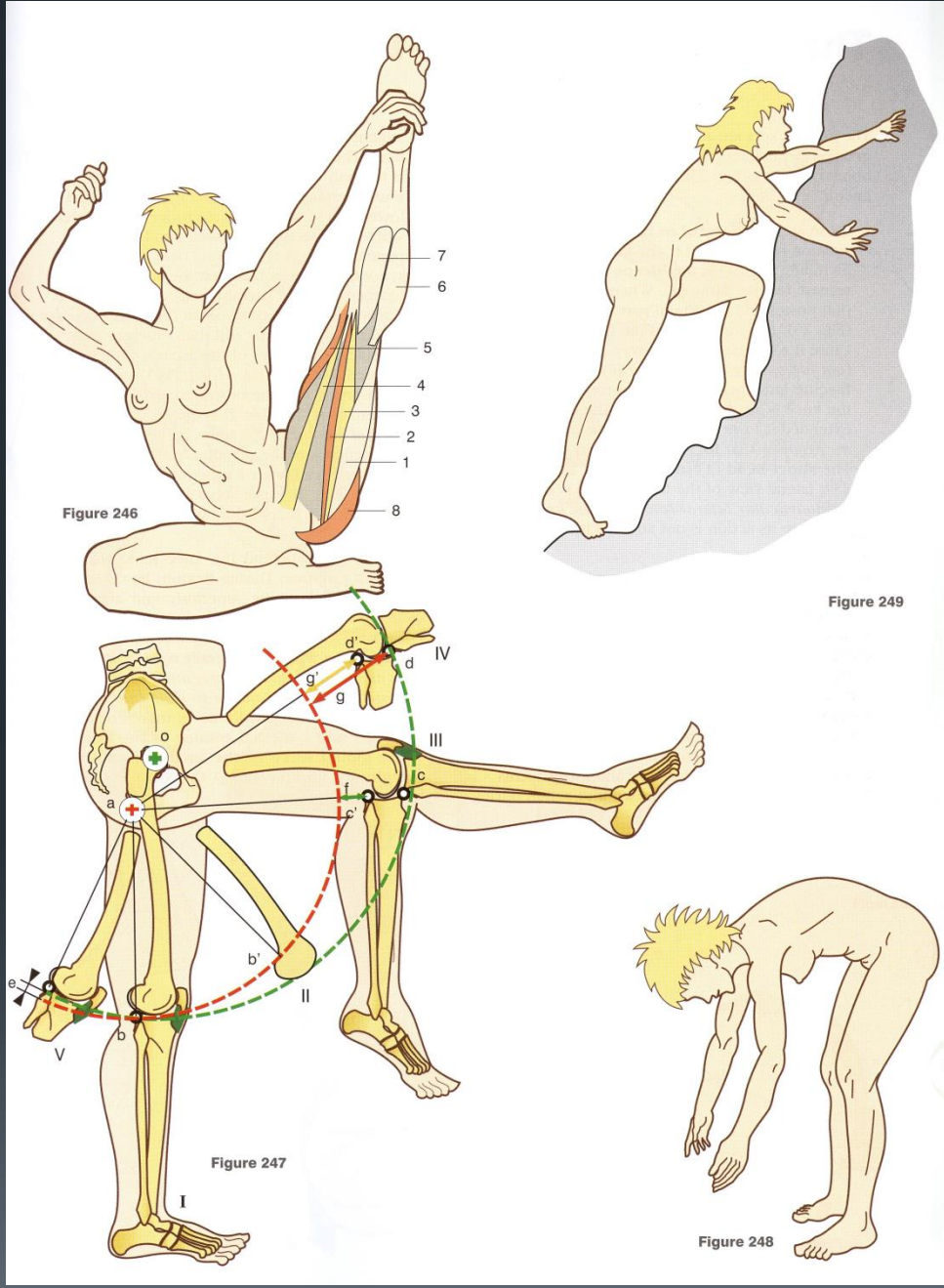


Figure 240

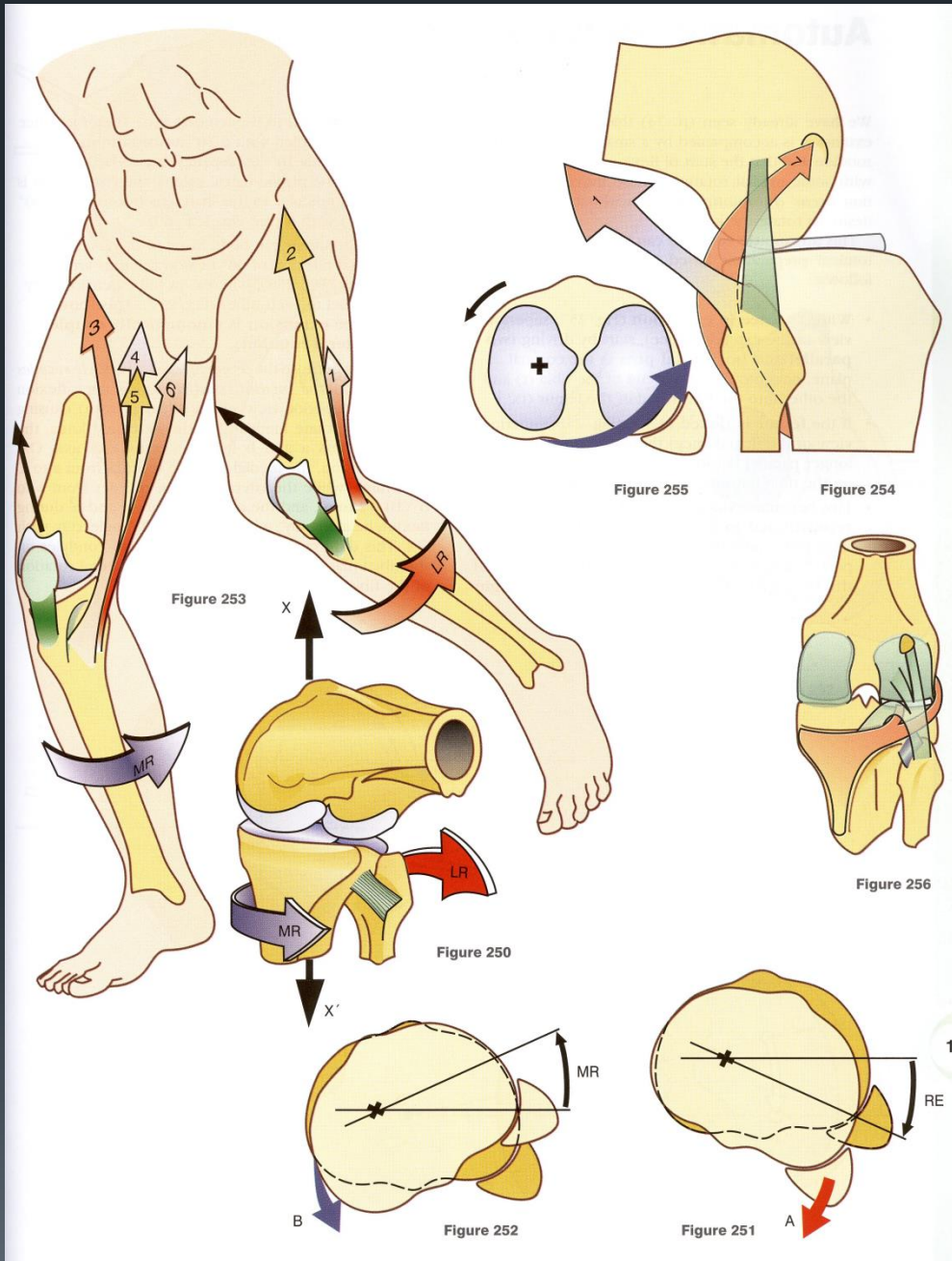
FLEXE KOLENE

HAMSTRINGY – vztah k m. glut. max. a m. iliopsoas (FL/EXT kyčle)



ROTACE KOLENE

aktivní komponenta



ROTACE KOLENE

pasivní komponenta

flexe / extenze

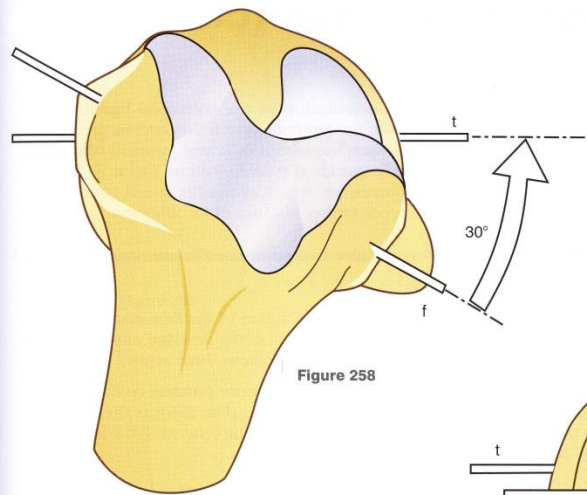


Figure 258

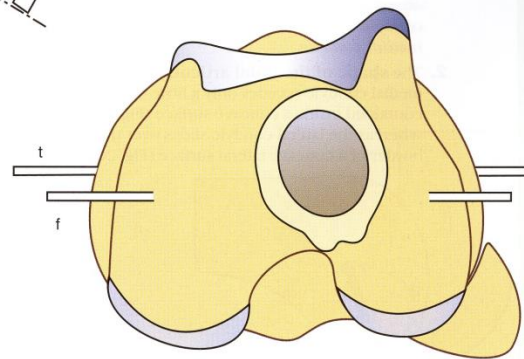


Figure 257

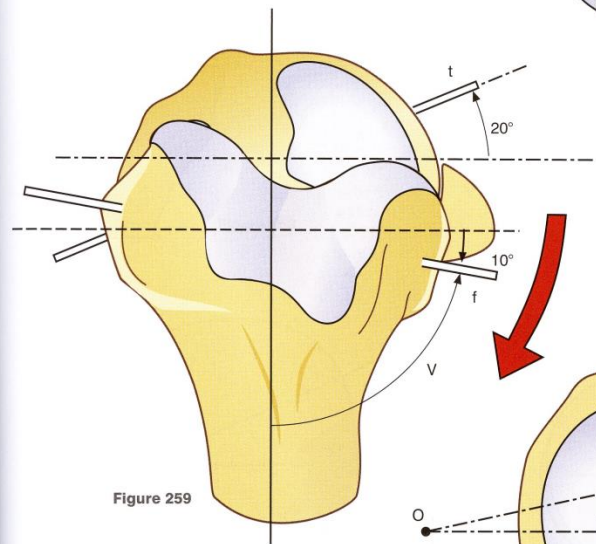


Figure 259

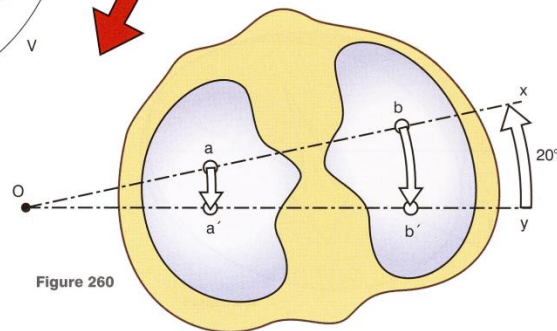


Figure 260

PATOLOGICKÉ STAVY

- VVV
 - Kongenitální dislokace kolene
 - Kongenitální luxace pately
 - Patella bipartita
- Onemocnění kolene z přetížení
 - M. Osgood Schlatter
 - Osteochondritis dissecans
 - entezopatie
- Traumatologie ...



Použitá literatura

- Kapanji, A., I. The physiology of the joints. Vol. 2: The lower limb. Churchill Livingstone Elsevier 2011, 6. vyd., 323 s. ISBN 978-0-7020-3942-3.
- Kolář, P. Rehabilitace v klinické praxi. Praha: Galén 2010, 1. vyd., 650 s. ISBN 978-80-7262-657-1.

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- Kapanji, A., I. The physiology of the joints. Vol. 2: The lower limb. Churchill Livingstone Elsevier 2011, 6. vyd., 323 s. ISBN 978-0-7020-3942-3.
- Kolář, P. Rehabilitace v klinické praxi. Praha: Galén 2010, 1. vyd., 650 s. ISBN 978-80-7262-657-1.
- Lewit, K. Manipulační léčba. Leipzig: J. A. Barth Verlag Heidelberg 2003, 5. vyd., 412 s. ISBN 80-7066-725-7.
- Oatis, C., A. Kinesiology. Lippincott Williams & Wilkins, a Wolters Kluwer business 2009, 2. vyd., 946 s. ISBN 978-0-7817-7422-2.
- Véle, F. Kineziologie. Praha: Triton 2007, 2. vyd., 376 s. ISBN 80-7254-837-9.