

# **Plexus lumbalis et sacralis**

# Plexus lumbalis L1-L4

## Sensory innervation

skin of the lumbar area and skin of anterior and medial surface of thigh and crus

## Motor innervation

posterior and partly lateral group of abdominal muscles, anterior group of pelvic muscles and anterior and medial group of thigh muscles

# The branches of lumbar plexus

- Rr. musculares (m. psoas major, m. psoas minor, m. quadratus lumborum)

1. Branches arising laterally to m. psoas major

2. větve vystupující skrze m. psoas major

1. větve vystupující mediálně od m. psoas major

# Nervus iliohypogastricus Th12-L1

- **rr. musculares** (m.obliquus internus a externus, m. transversus abdominis)
- **r. cutaneus lateralis**  
skin around hip joint and lig. inguinale
- **r. cutaneus medialis**  
skin above lig. inguinale and pubical region

# Nervus ilioinguinalis L1

- **rr. musculares** (mm. obliquus internus, m. transversus abdominis, m. cremaster)
- it passes through the ingunal canal
- **nn. scrotales (labiales anteriores)**
- skin of inguinal region and of external genital organs



# Nervus cutaneus femoris lateralis L2-L3

- Purely sensory
- through lacuna musculorum, close to spina iliaca anterior superior
- Skin of the lateral side of thigh

# Nervus femoralis L2-L4

- **rr. musculares**

(m. iliopsoas, m. quadriceps femoris, m. articularis genu, m. sartorius a m. pectineus)

- **rr. cutanei anteriores** anterior surface of thigh

- **n. saphenus**

skin on the medial side of crus and in front of malleolus medialis

- **Palsy:** inability to extend the knee and flex the hip, disorders of sensitivity in the area of innervation

genu recurvatum-  
hyperextension

# Nervus genitofemoralis L1-L2

- **r. genitalis** (through canalis inguinalis), m. cremaster, skin of medial side of thigh
- **r. femoralis** - (through lacuna vasorum, skin of the anterior surface of thigh (below the inguinal ligament))

# Nervus obturatorius L2-L4

- **r. anterior - r. cutaneus**  
(m. pectineus, m. adductor longus, m. gracilis)
- **r. posterior - r. articularis**  
(m. obturatorius externus, m. adductor magnus, m. adductor brevis)

**Palsy:** inability to adduct

# Plexus sacralis L4-S4 (S5+Co)

## Sensory innervation

skin of the gluteal region, skin of the posterior surface of thigh and crus and skin of external genital organs

## Motor innervation

muscles of posterior group of pelvis and thigh and muscles of crus and foot

# Branches of plexus sacralis

- rr. musculares: m. piriformis,  
m. obturatorius int., m. quadratus  
femoris, mm. gemelli

# Nervus gluteus superior L4-S1

- m. gluteus medius et minimus, m. tensor fasciae latae
- foramen suprapiriforme



# Nervus gluteus inferior L5-S2

m. gluteus maximus, posterior part of  
articular capsule of hip joint  
foramen infrapiriforme

# Nervus cutaneus femoris posterior S1-S3

skin of the posterior side of thigh, popliteal fossa and proximal part of crus

- **rr. perineales** - skin of perineum and scrotum (labia majora)
- **nn. clunium inf.** - skin of inferior part of gluteal region
- **rr. cutanei**- skin of regio femoris posterior

# Nervus ischiadicus L4-S3

The thickest nerve of human body

- **rr. musculares (posterior part of thigh + m. adductor magnus)**
- **rr. articulares (art. coxae)**

## **Terminal branches:**

- **n. peroneus communis**
- **n. tibialis**

# Nervus tibialis

- Direct continuation of n. ischiadicus (fossa poplitea, below arcus tendineus m. solei and further behind the malleolus medialis- canalis malleolaris - into planta pedis)

**n. cutaneus surae medialis** → r. communicans  
peronaeus

**n. suralis**- adjacent skin of crus, behind malleolus lateralis

- rr. calcanei lat.

- n. cutaneus dorsalis lateralis- lateral edge of foot and 5th finger

**rr. musculares** muscles of posterior group of crus

**n. interosseus cruris**

rr. calcanei mediales

- Terminal branches:
- **n. plantaris medialis**
- **rr. musculares:** m. abductor hallucis, m. flexor hallucis brevis, m. flexor digitorum brevis, I. and II. m. lumbricalis
- **nn. digitales plantares comm. et proprii**
- **n. digitalis plantaris proprius hallucis**
- **n. plantaris lateralis**
- **rr. musculares:** m. quadratus plantae, m. flexor dig. min.
- **r. superficialis:** (m. abductor digiti minimi) **nn. digitales plantares proprii**
- **r. profundus:** (alongpodél arcus plantaris) m. opponens and flexor dig. min. brevis, mm. interossei, 3., 4. m. lumbricalis, m. adductor hallucis

- **Motor innervation:** posterior group of crural muscles, muscles of planta
- **Sensory innervation:** majority of posterior surface of crus, foot and plantar surface of fingers
- It can be injured within fossa poplitea
- within sulcus malleolaris
- Palsy - pes calcaneus

•pes calcaneus

# Nervus peroneus communis

- rr. articulares
- *n. cutaneus surae lat.* - skin of lateral side of calf
  - anterior branch → skin of dorsolateral part of crus
  - posterior branch - *r. communicans peronaeus* → into n. suralis



# Nervus peroneus superficialis

- *n. peronaeus superficialis*
- rr. musculares - for mm. peronei
- n. cutaneus dorsalis medialis - nn. *digitales dors. ped.*
- n. cutaneus dorsalis intermedius - nn. *digitales dors. ped.*

# Nervus peroneus profundus

- n. digitalis dorsalis hallucis lateralis
- n. digitalis dorsalis digiti secundi medialis
- **rr. musculares** for long and short extensors

# Nervus pudendus S1-S5

- Through foramen infrapiriforme (together with artery) it turns around spina ischiadica → foramen ischiadicum minus → into fossa ischio-rectalis → through canalis pudendalis and reaches till symphysis
- nn. rectales inf.** - for m. sphincter ani ext. and skin of anus
- nn. perineales** - for skin of perineum and scrotum (labia majora) - **nn. scrotales (labiales) post.** and for muscles of perineum - m. transversus perinei prof. et superf. , m. bulbospongiosus, m. ischiocavernosus
- rr. musculares** - m. levator ani, m. coccygeus
- n. dorsalis penis (clitoridis)** - for skin of penis (clitoris) and mucosa of urethra

# Plexus coccygeus

Rami ventrales nn. spinalium S4-5, Co

Oi os located on anterior surface of m. coccygeus,

**nn. anococcygei** - for adjacent skin and to posterior part of diaphragma pelvis

**rr. musculares** - m. levator ani, m. coccygeus