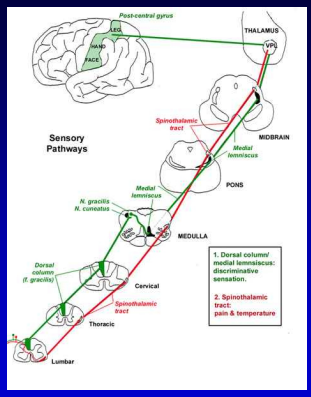
Peripheral receptors
1.Discriminative touch

- There are three different categories (modalities) of the somatosensory system. The first, **discriminative touch**, is the perception of pressure, vibration, and texture. This system relies on four different receptors in the skin. They are:
- 1) Meissner's corpuscles
  2) Pacinian corpuscles
  3) Merkel's disks
  4) Ruffini endings

Pain

- **There are two subtypes of pain.**
- **"Fast pain", carried by the Ad fibers, is the instantaneous pain that makes your arm jerk back before you even realized you were burned. It is sharp and piercing and over quickly.**
- **"Slow pain" is carried by C fibers. C fibers are not only small, they are unmyelinated (the only sensory axons without myelin), so their conduction velocity is quite slow. Slow pain is primarily mediated by tissue-damage peptides, and can go on indefinitely. It is distressing, it can be dull and aching, and it does not trigger withdrawal reflexes like the fast pain.**

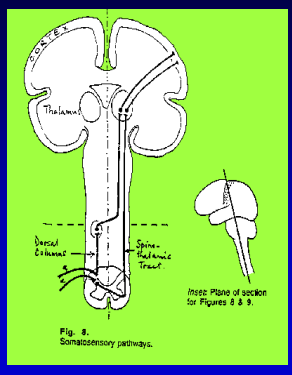


Patological sensations

- **Hypesthesia**
- **Anesthesia**
- **Hyperesthesia**
- **Dyzesthesia**

The proprioceptive system

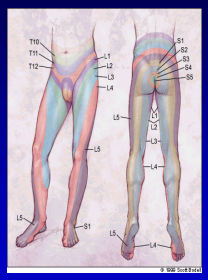
- **The proprioceptive system arises from primarily the Aa afferents entering the spinal cord.**
- **These are the afferents from muscle spindles, Golgi tendon organs, and joint receptors.**
- **The axons travel for a little while with the discriminative touch system, in the posterior columns. Within a few segments, however, the proprioceptive information slips out of the dorsal white matter and synapses.**
- **After synapsing it ascends without crossing.**

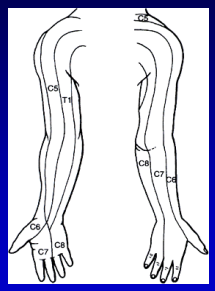


Syndromes – Periferal nerves

Fig. 7
Receptive fields of individual sensory units. These are smallest in areas such as the fingers.

Roots





Decreased reflexes

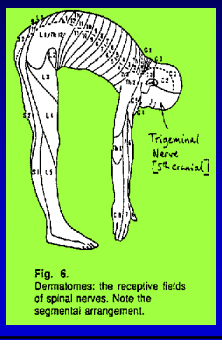
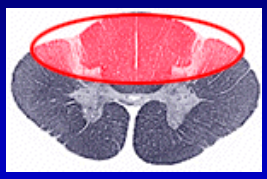


Fig. 6.
Dermatomes: the receptive fields of spinal nerves. Note the segmental arrangement.

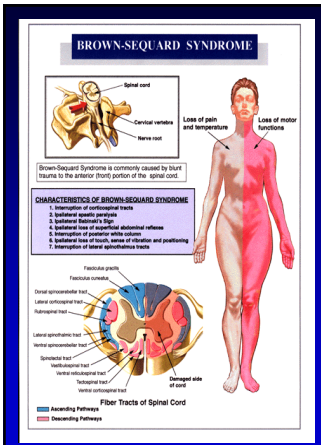
Dorsal columns

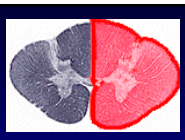


- Hypotónia, ↓ - 0 reflexes
- Spinal ataxia
- Tabic dyssociation
- Tabes dorsalis
- Extramedul tumors

comissura anterior alba

- Paint, term sensitivity – syringomyelic dyssociation
- Syringomyelia
- Intramedul tumors



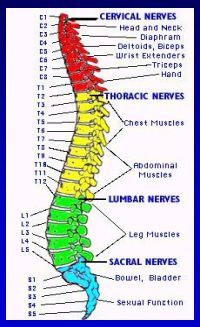


- Ipsilateral – deep sensitivity
- Contralateral – pain, term sensitivity
  Bilateral – touch sensitivity

Transversal lesion

- Anesthesia below lesion

Vertebromedullar topography



- C-part. + 1 segment
- Upper Th + 2 segments
- Lower Th + 3 segments

sy cauda equina

- Pain and hypesthesia S3 – S5
- Perianal and perigenital localisation
- ↓ reflexes
- Periferal paresis