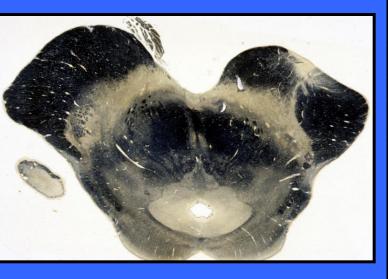
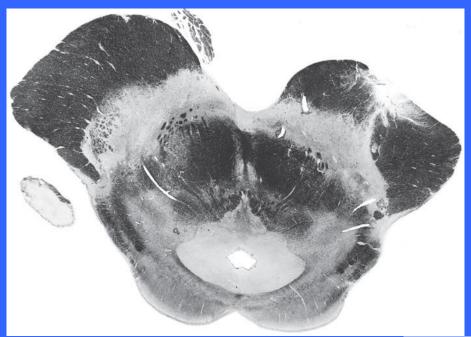


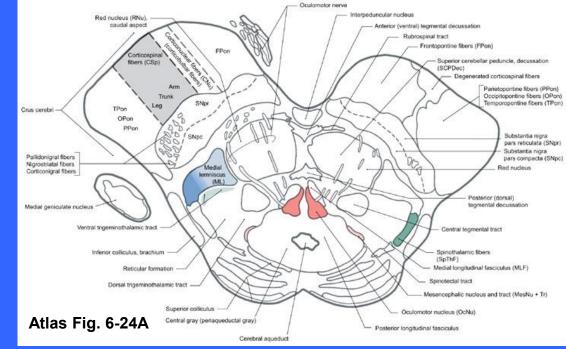
The Reality of the Clinical Environment







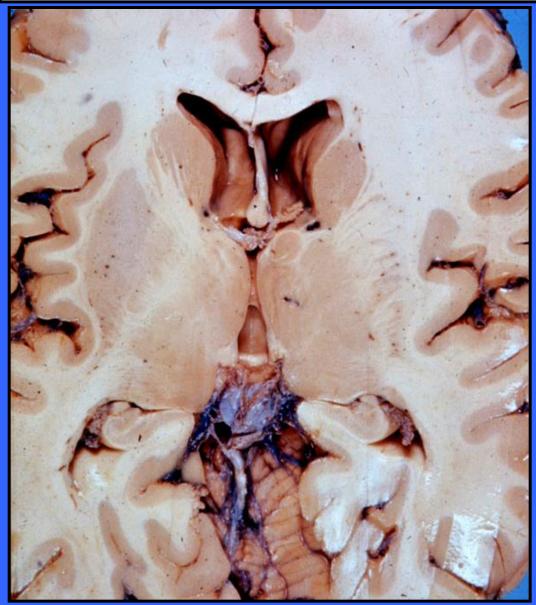


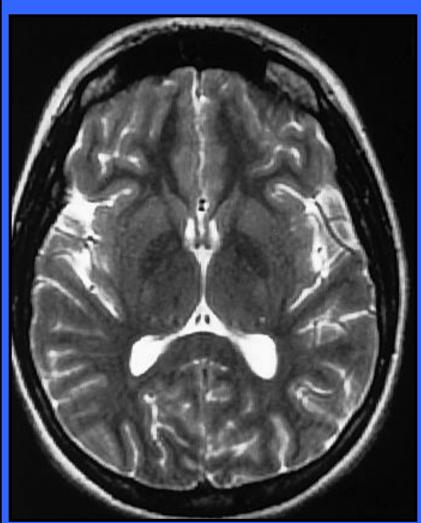


One Cardinal Plane to Learn AND Understand - Midsagittal



A Second Cardinal Plane to Learn AND Understand-Mid-Axial



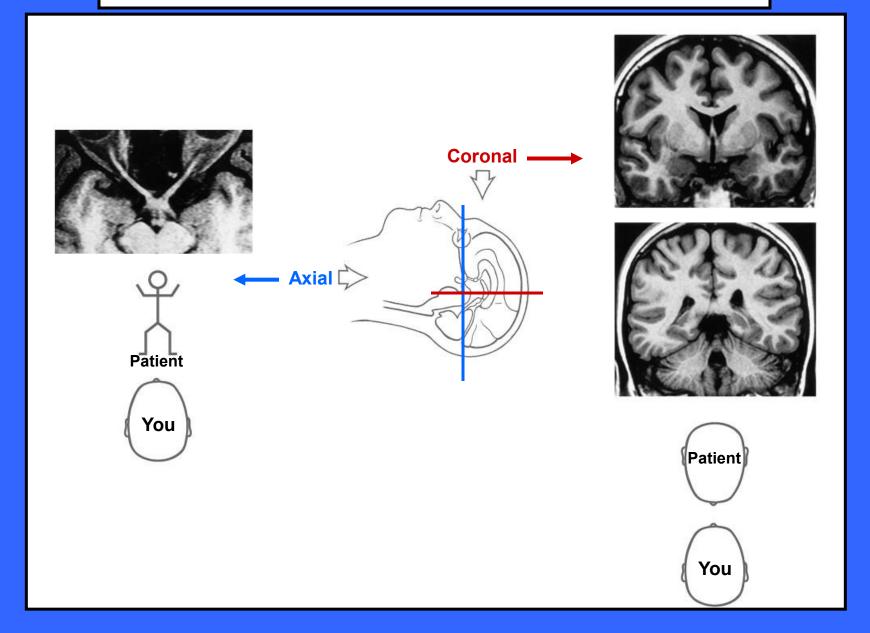


CT & MRI

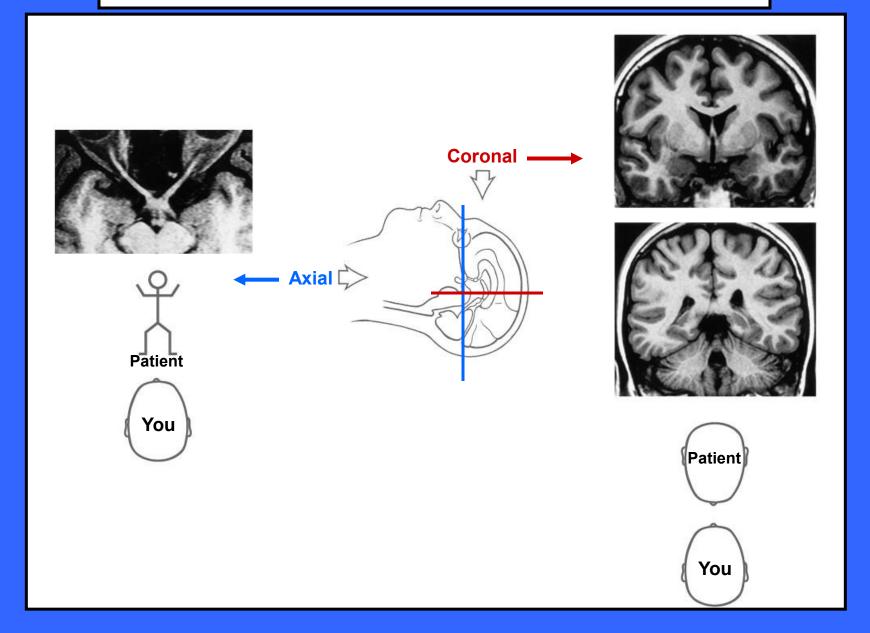


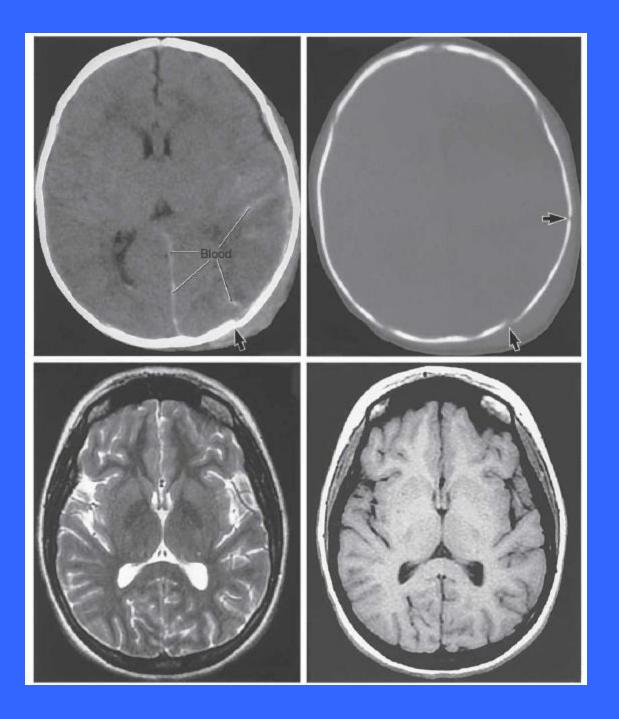


Remember, Your Right is the Patient's Left



Remember, Your Right is the Patient's Left



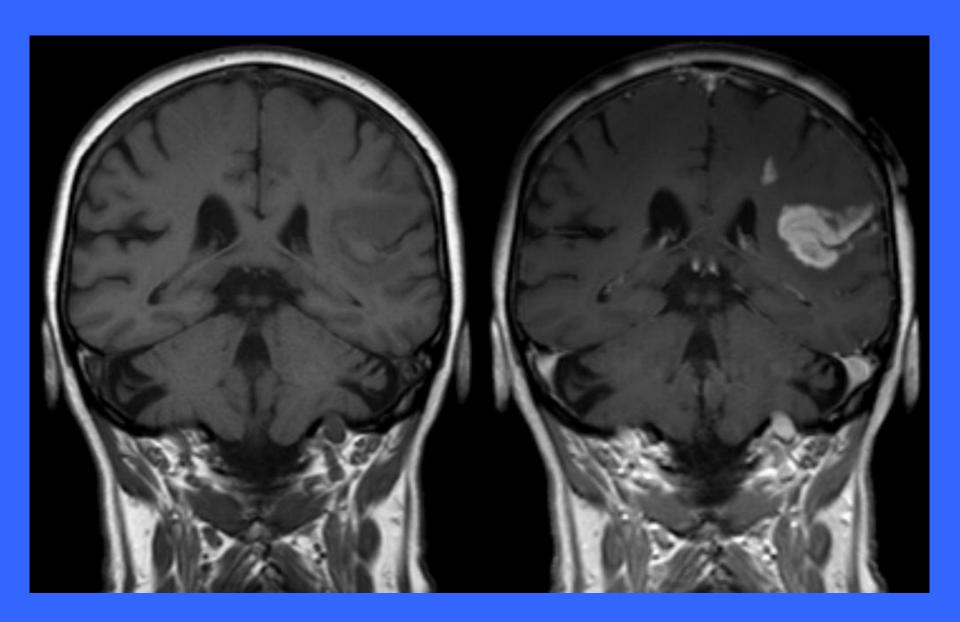


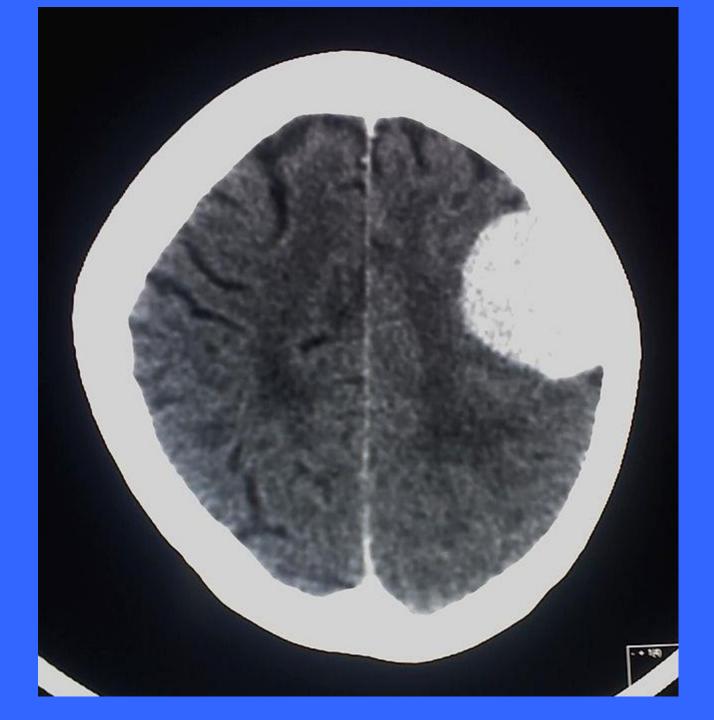


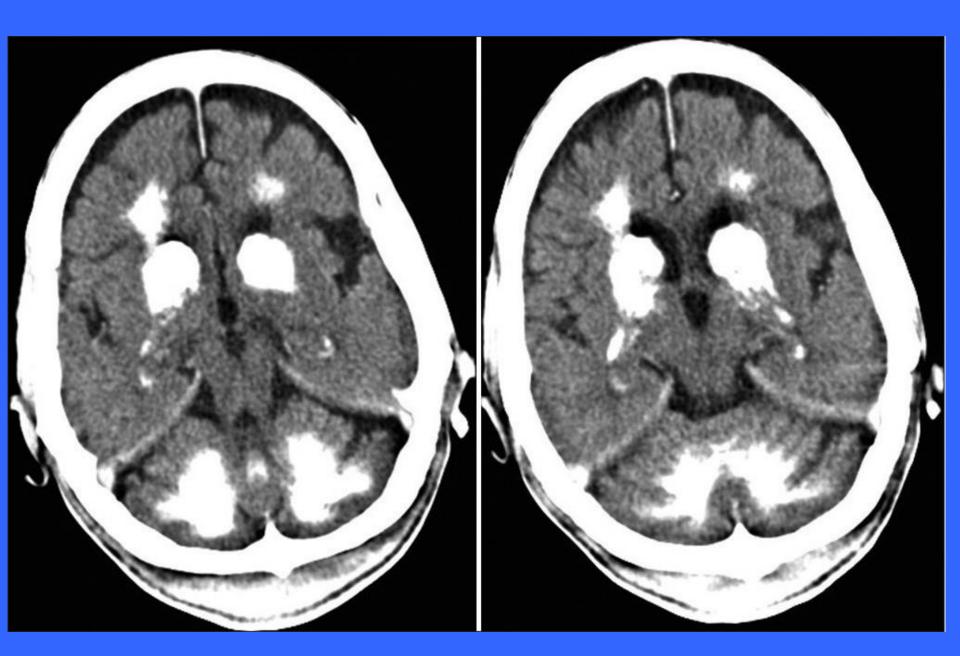
infarction



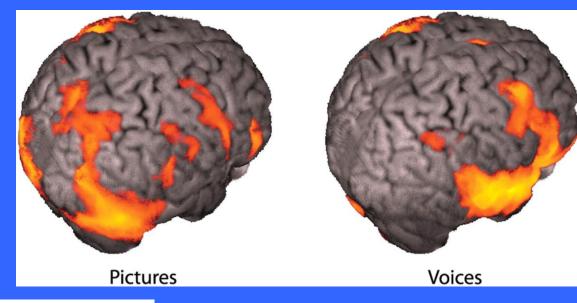
tumor

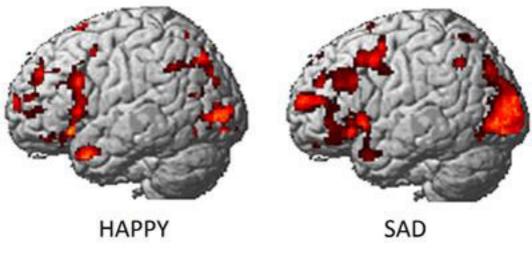




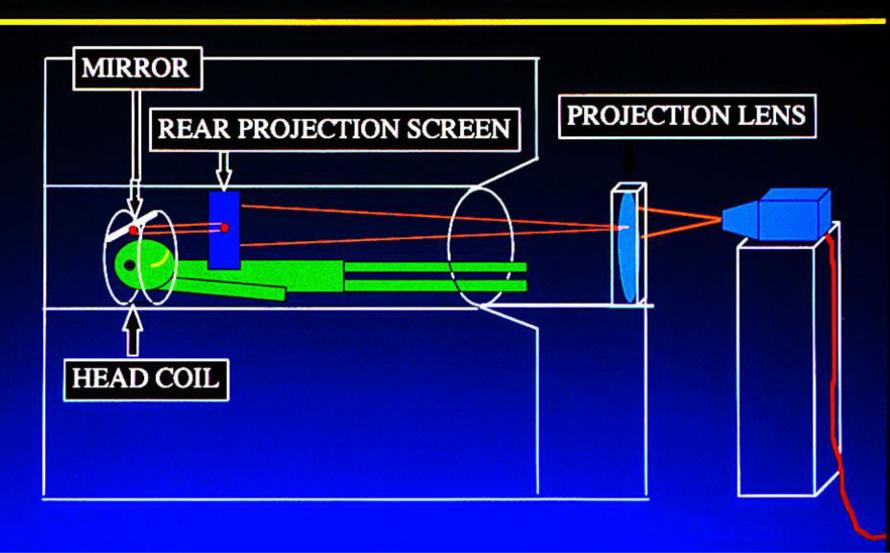


Functional MRI

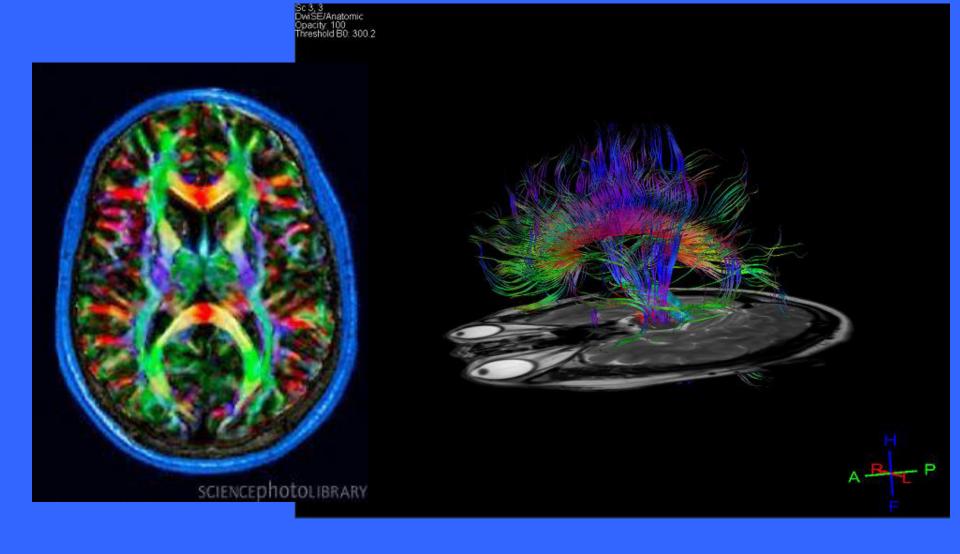




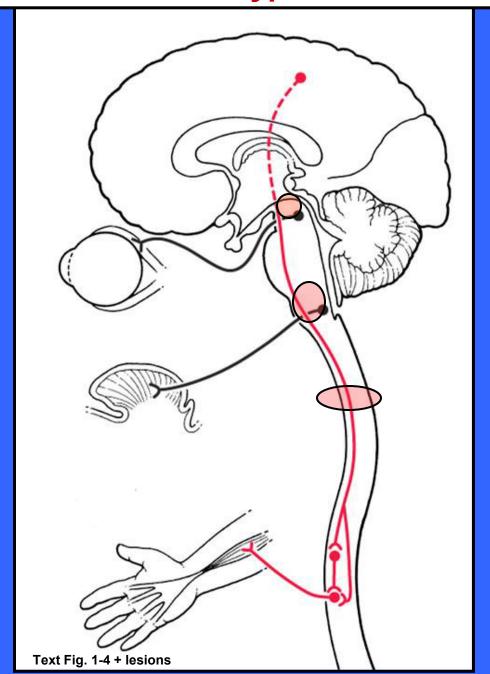
Methods: fMRI Testing Environment



Diffusion MRI



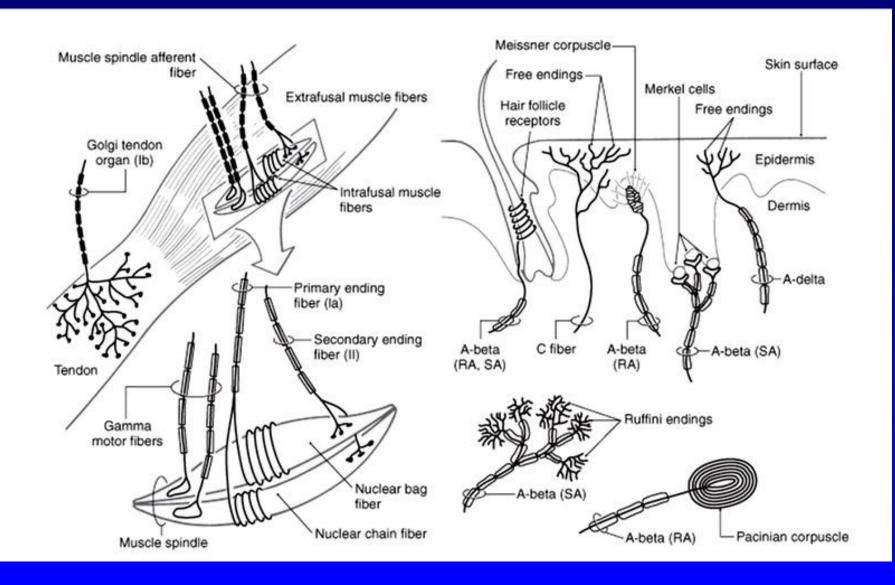
Lesions: localization and types in nervous system



Types of sensation

- types of sensations
 - General sensation
 - Somatic
 - visceral
 - Special senses
 - Smell, taste, vision etc

Sensations receptors



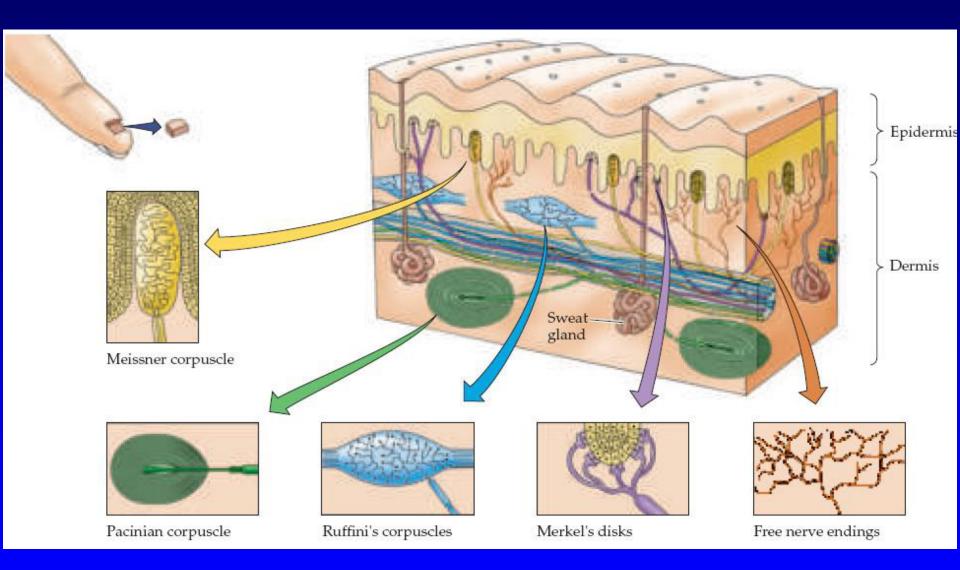


TABLE 8.1
The Major Classes of Somatic Sensory Receptors

Free nerve endings Minimally specialized nerve endings C, Aδ 2–20 m/s All skin temperature, temperature, crude touch Slow temperature, crude touch High temperature, crude touch Meissner's corpuscles Encapsulated; Aβ Aβ Principally glabrous skin (dynamic) Touch, pressure (dynamic) Rapid Low (dynamic) Pacinian corpuscles Encapsulated; Aβ Subcutaneous tissue, interosseous membranes, viscera Deep pressure, vibration (dynamic) Rapid Low vibration (dynamic) Merkel's disks Encapsulated; Aβ All skin, hair follicles Touch, pressure, vibration (dynamic) Slow Low vibration (dynamic) Ruffini's encapsulated; releasing cells Aβ All skin, hair follicles Touch, pressure, vibration (dynamic) Slow Low of skin Ruffini's encapsulated; releasing cells Aβ All skin Stretching of skin Slow Low of skin Muscle spindles Highly Ia and II Muscles Muscle Both slow and rapid Low and rapid Golgi tendon organs Highly Ib Tendons Muscle tension Slow Low tension Golgi tendon organs Highly Ib Tendons Muscle tension Slow	Receptor type	Anatomical characteristics	Associated axons ^a (and diameters)	Axonal conduction velocities	Location	Function	Rate of adaptation	Threshold of activatio
corpuscles between dermal papillae 6–12 μm skin glabrous skin pressure (dynamic) Pacinian Encapsulated; Aβ Subcutaneous tissue, vibration onolike covering 6–12 μm tissue, vibration interosseous (dynamic) Rapid Low Merkel's Encapsulated; Aβ Aβ All skin, hair follicles Touch, pressure (static) Slow Low disks associated with peptide-releasing cells follicles pressure (static) Low Ruffini's Encapsulated; Aβ All skin Stretching of skin Slow Low corpuscles oriented along stretch lines 6–12 μm Muscle Both slow Low Muscle Highly Ia and II Muscles Muscle Both slow Low spindles specialized (see Figure 8.5 and Chapter 15) Ib Tendons Muscle Slow Low Golgi tendon organs tension (see Chapter 15) Joints Joint position Rapid Low		specialized	C, Αδ	2-20 m/s	All skin	temperature,	Slow	High
corpuscles onionlike covering before the covering onionlike covering before c		between dermal			glabrous	pressure	Rapid	Low
disks associated with peptide-releasing cells Ruffini's Encapsulated; Aβ All skin Stretching Slow Low oriented along stretch lines Muscle Highly Ia and II Muscles Muscle Both slow Low spindles (see Figure 8.5 and Chapter 15) Golgi tendon organs specialized (see Chapter 15) Joint Minimally — Joints Joint position Rapid Low		onionlike	100 1 T. C.		tissue, interosseous membranes,	vibration	Rapid	Low
corpuscles oriented along stretch lines Muscle Highly Ia and II Muscles Muscle Both slow Low spindles specialized (see Figure 8.5 and Chapter 15) Golgi tendon organs specialized (see Chapter 15) Joint Minimally — Joints Joint position Rapid Low		associated with peptide-	Αβ		The state of the s	pressure	Slow	Low
spindles specialized (see Figure 8.5 and Chapter 15) Golgi tendon Highly Ib Tendons Muscle Slow Low organs specialized (see Chapter 15) Joint Minimally — Joints Joint position Rapid Low		oriented along			All skin		Slow	Low
organs specialized tension (see Chapter 15) Joint Minimally — Joints Joint position Rapid Low		specialized (see Figure 8.5	Ia and II		Muscles			Low
	~	specialized	Ib		Tendons		Slow	Low
	1 × 1 × 1 × 1 × 1 × 1 × 1 × 1	*	_		Joints	Joint position	Rapid	Low