

Articulations (Joints) – Ch. 9
Human Anatomy lecture

I. Overview

A. Definitions:

-- a point of contact between hard tissues (usually between bones or between bone and cartilage)

-- arthrology vs. kinesiology

“joint” ← “move”

B. designed to allow movement and bear weight

1. Strong joints:

2. Mobile joints:

--your body's joints form a continuum between these extremes

II. Classification (varies depending on authority)

A. Bony joint – synostosis

- no joint cavity

-

-

B. Fibrous joint (synarthrosis) – Fig. 9.1

- no joint cavity

-

-

C. Cartilaginous joint (amphiarthrosis)– Fig. 9.3

- no joint cavity

-

-

D. Synovial = “with egg” (diarthrosis)

- freely movable
- joint cavity and distinctive structure → **Know Fig 9.4**
- Ex:

- subclassified into 6 types (Fig. 9.6)

-- based on shapes of bones

plane	hinge	<u>condylar</u> ↳ “knuckle”
pivot	ball-and-socket	saddle

→ **complete handout**

→ Table 9.1 is a nice review/summary, but NRF all terminology

III. Factors affecting range of motion of synovial joints

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.

IV. Movements at synovial joints (Fig. 9.7-9.17)

A. Described with reference to three mutually perpendicular planes

- 0 nonaxial – tarsals (*note that your text disagrees*)

- 1
- 2
- 3

B. Some general categories

1. gliding –
2. angular

--

--

3. rotation

-- movement around long axis

Ex.:

4. special movements

-- at specific joints

Ex:

→ **Complete handout!**

ARTICULATIONS “Handout”
Human Anatomy

II.

D. Types of synovial joints

Complete the following chart.

TYPE	DESCRIPTION OF BONY SURFACES	AXES OF MOTION	2 EXAMPLES
	opposing flat surfaces		
	saddle on back of horse		
	pointed or rounded surface of one bone fits into bone/ligament ring of another		
	oval surface of one bone fits into complementary depression of another		
	ball-shaped end of one bone fits into cup-shaped end of another		
	spool in half-moon		

(over)

IV. Movements at synovial joints

Complete the following chart, defining each movement and naming a joint (not a joint “type”) at which the movement occurs.

NOTE: All movements measured from anatomical position, except pronation/supination.

MOVEMENT	DEFINITION	JOINT
Gliding	very slight sliding motions	
Flexion		
Lateral flexion		
Extension		
Hyperextension		
Abduction		
Adduction		
Circumduction		
Medial rotation		
Lateral rotation		
Elevation		
Depression		
Retraction (of mandible)		
Protraction (of mandible)		
Inversion		Intertarsal
Eversion		Intertarsal
Dorsiflexion		
Plantarflexion		
Supination		
Pronation		
Opposition		Carpal-1 st metacarpal