

ANATOMI FUNGSIONAL ARTICULATIO MANDIBULARIS/ TMJ

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INTRODUCTION

TMJ SYNONYMS:

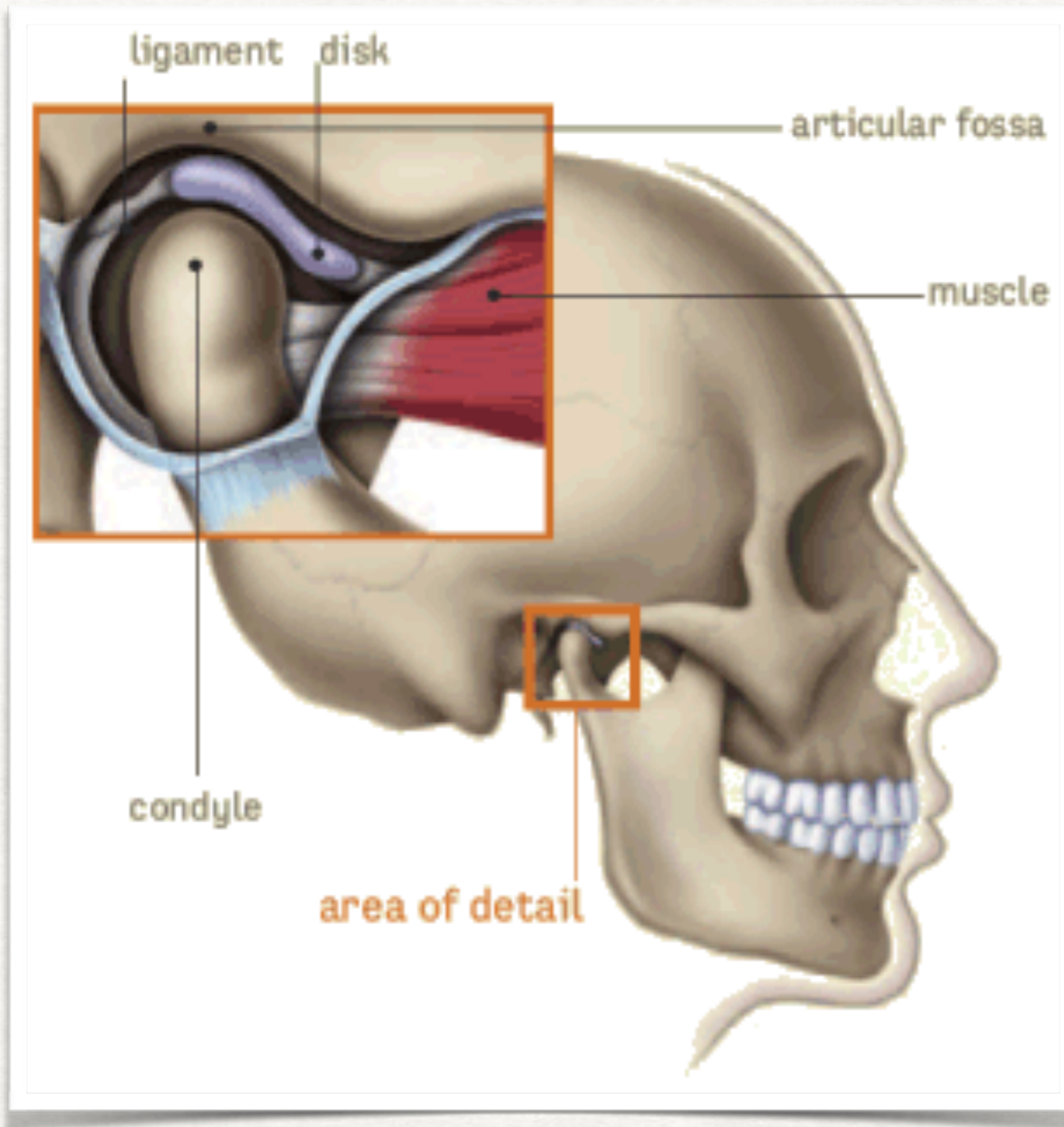
- CRANIOMANDIBULAR ARTICULATION
- GINGLYMUS JOINT
- DIARTHRODIAL JOINT
- MANDIBULAR JOINT
- SYNOVIAL JOINT

“ WHEN THE DENTAL PRACTITIONERS ENCOUNTERS TMJ DISORDERS THE DENTIST FACES A DAUNTING TASK. THEREFORE IT IS VERY ESSENTIAL FOR THE DENTAL PRACTITIONER TO HAVE BASIC KNOWLEDGE OF THIS UNIQUE JOINT”

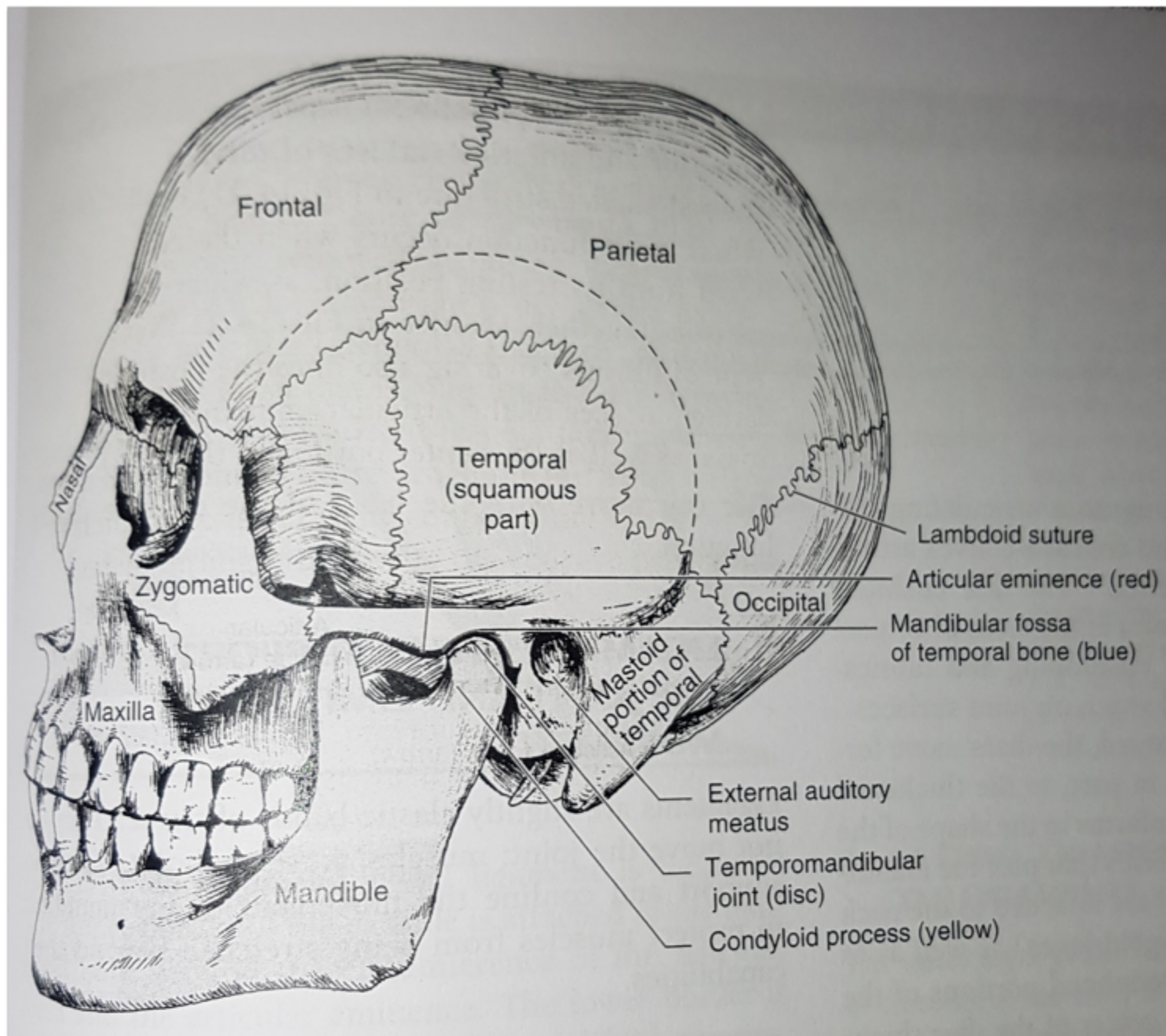
ANATOMY OF THE TEMPOROMANDIBULAR JOINT

TMJ is the articulation between the mandible and the two bones on the base of the skull called the temporal bones. This joint is the only visible, free moving articulation in the head. The TMJ is a bilateral articulation, that is, the right and left sides work as a unit.

Structures involved in the TMJ



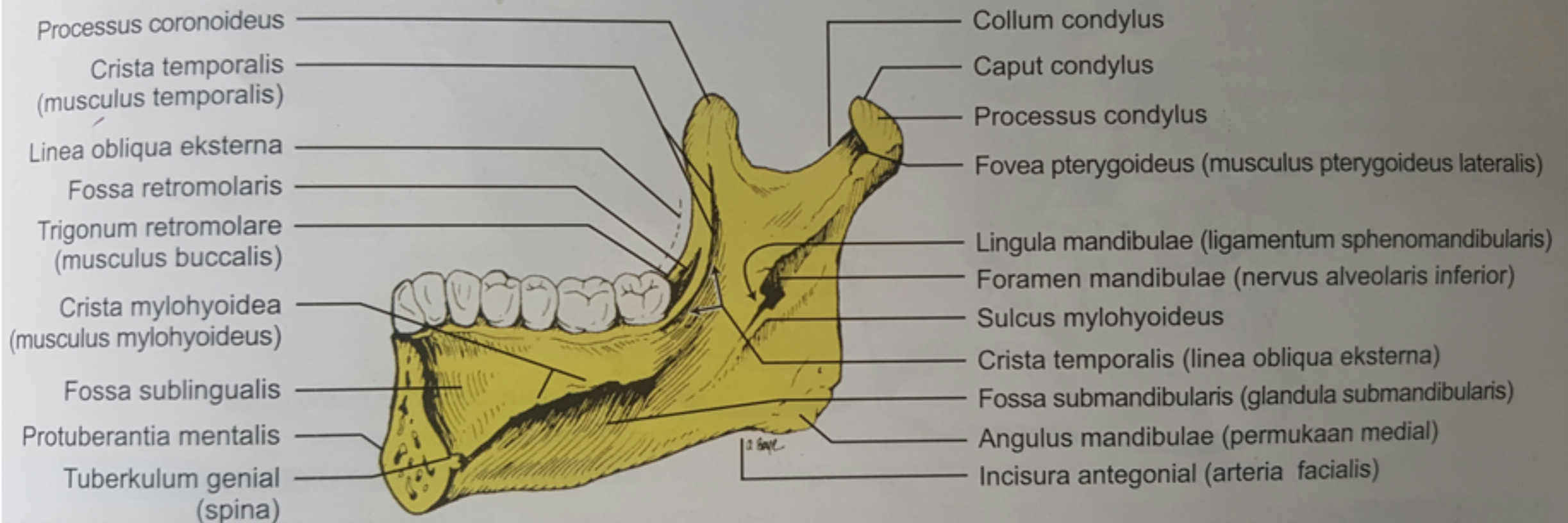
- **Mandible Condyle**
- **Articular fossa**
- Articular eminence
- **Articular disc**
- Ligaments
- Synovial lining

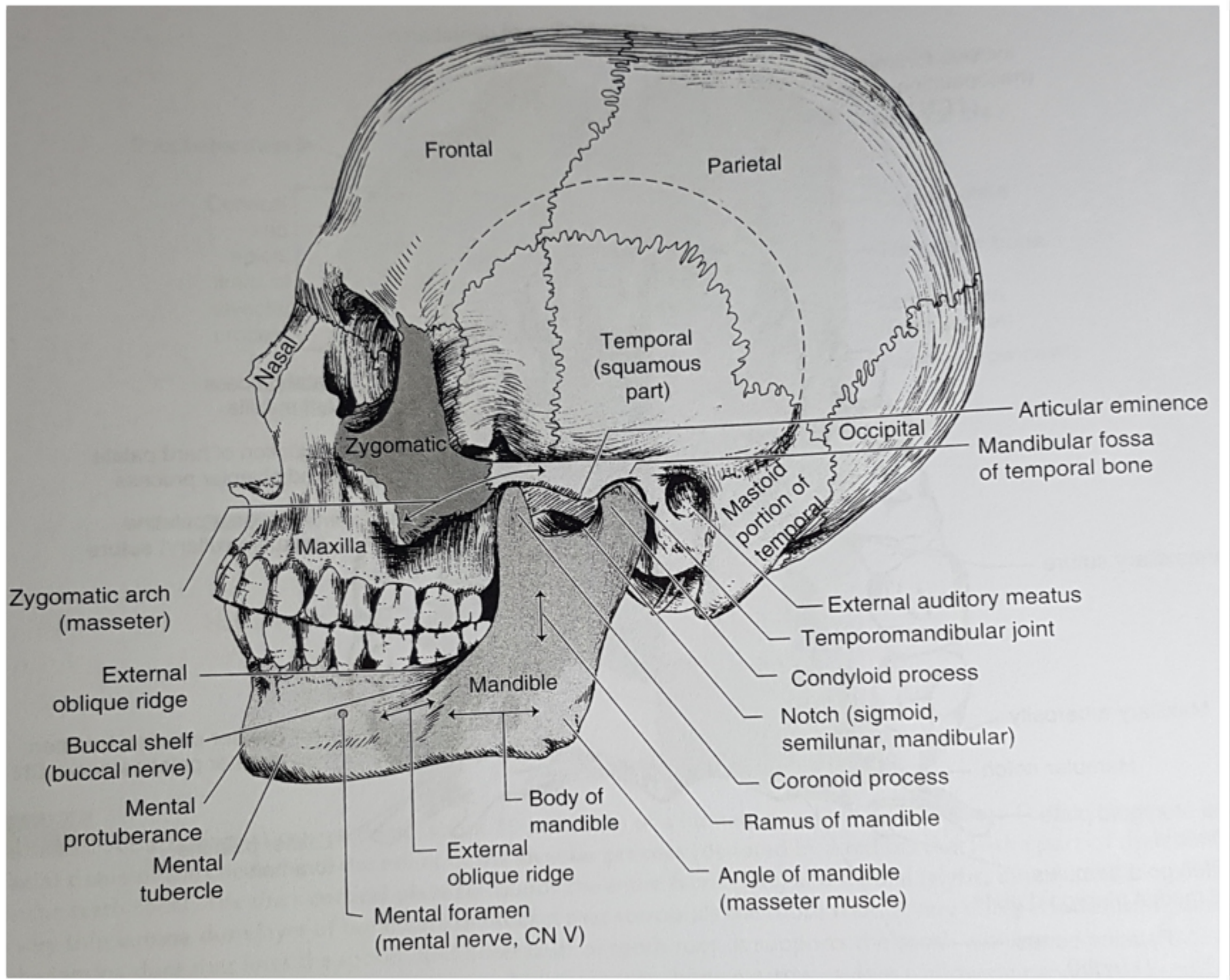


ANATOMY OF THE TEMPOROMANDIBULAR JOINT (TMJ)

1. MANDIBULAR CONDYLE (CONDILUS MANDIBULA)

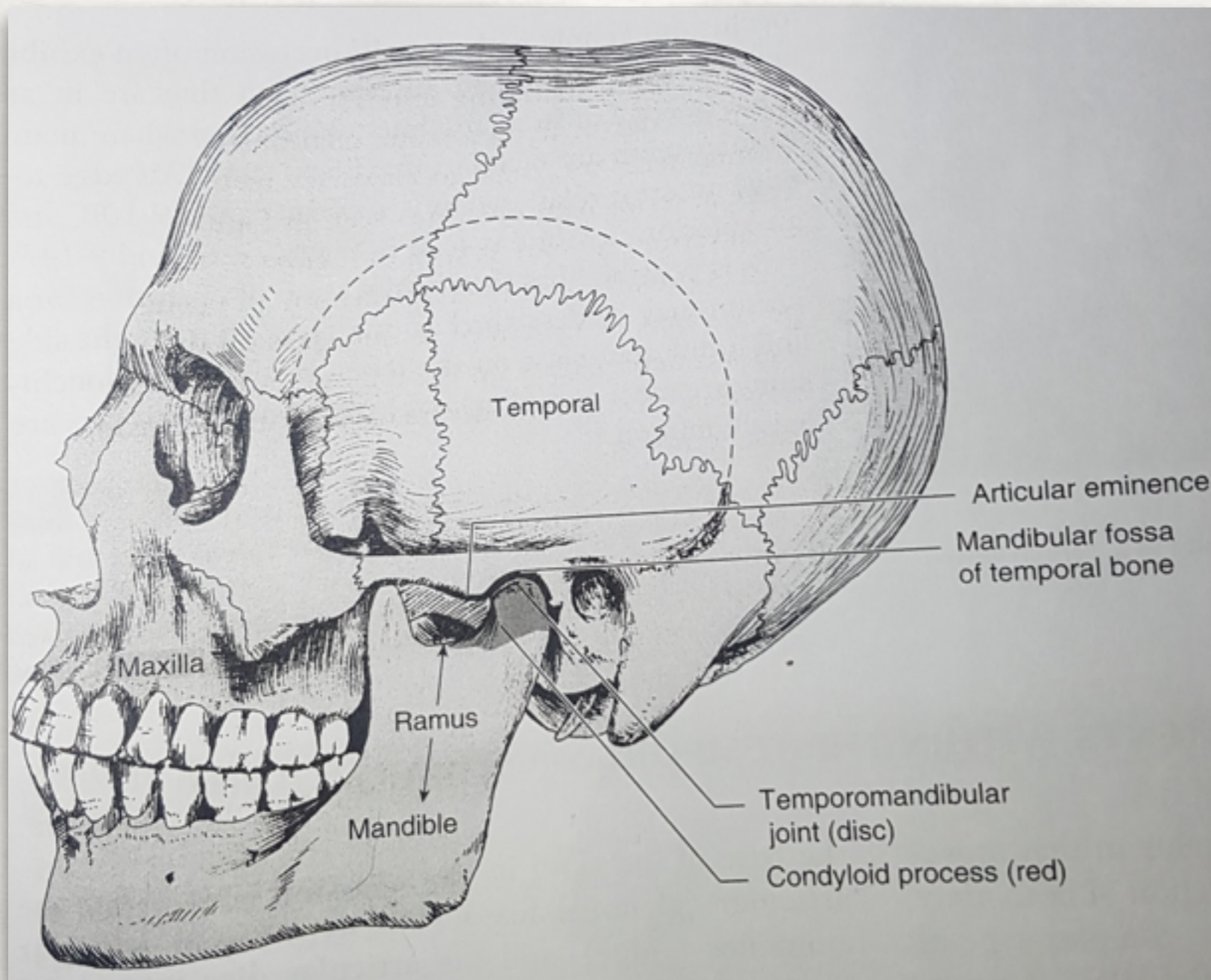
SUMBER : SCHEID, R. C., AND WEISS, G., 2002, WOELFEL, ANATOMI GIGI, EDISI 8, EGC





ANATOMY OF THE TEMPOROMANDIBULAR JOINT (TMJ)

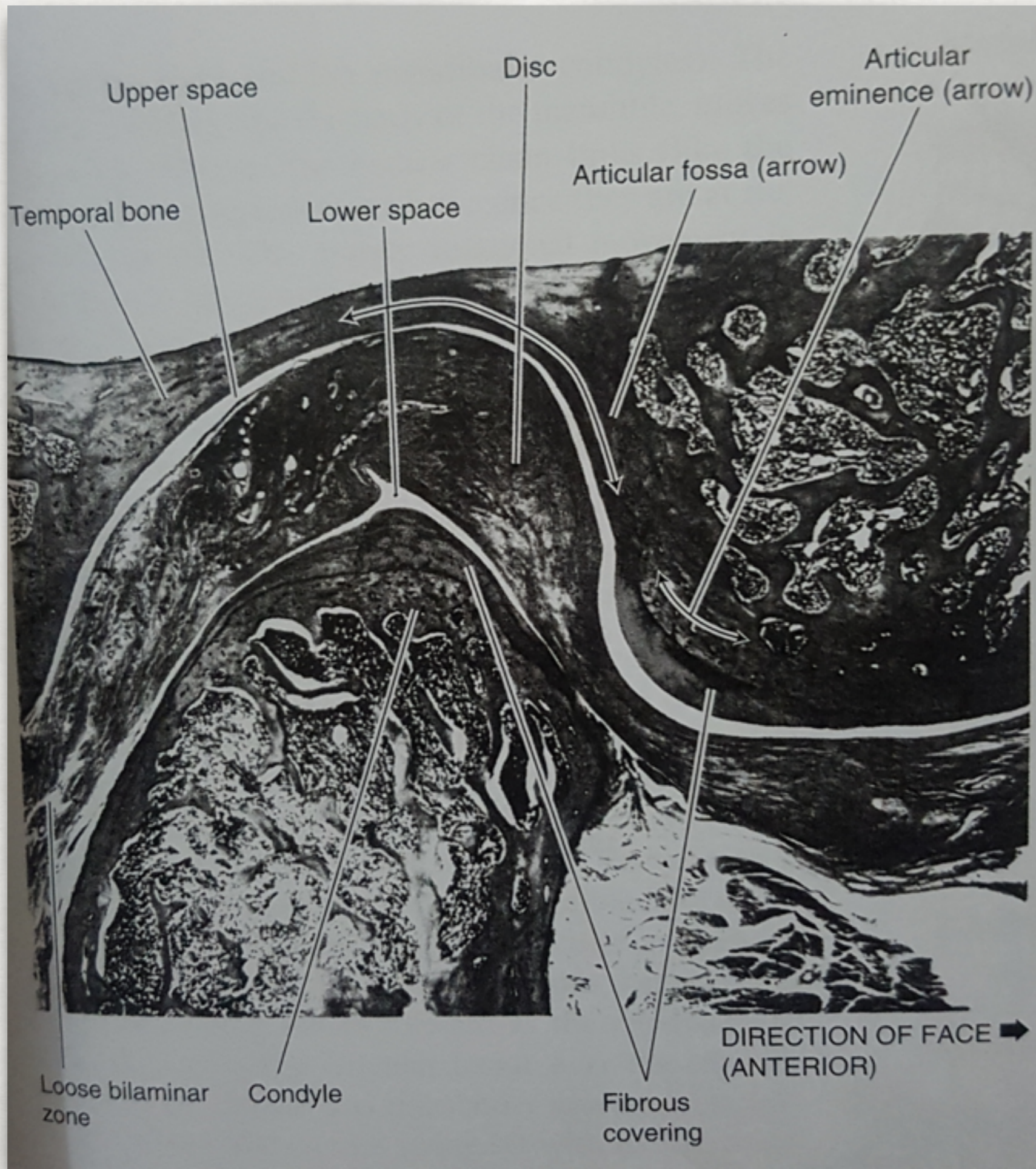
2. ARTICULAR FOSSA AND ARTICULAR EMINENCE



articular fossa :
clearly outlines the **concave**
on the inferior border of the
processus of the temporal bone

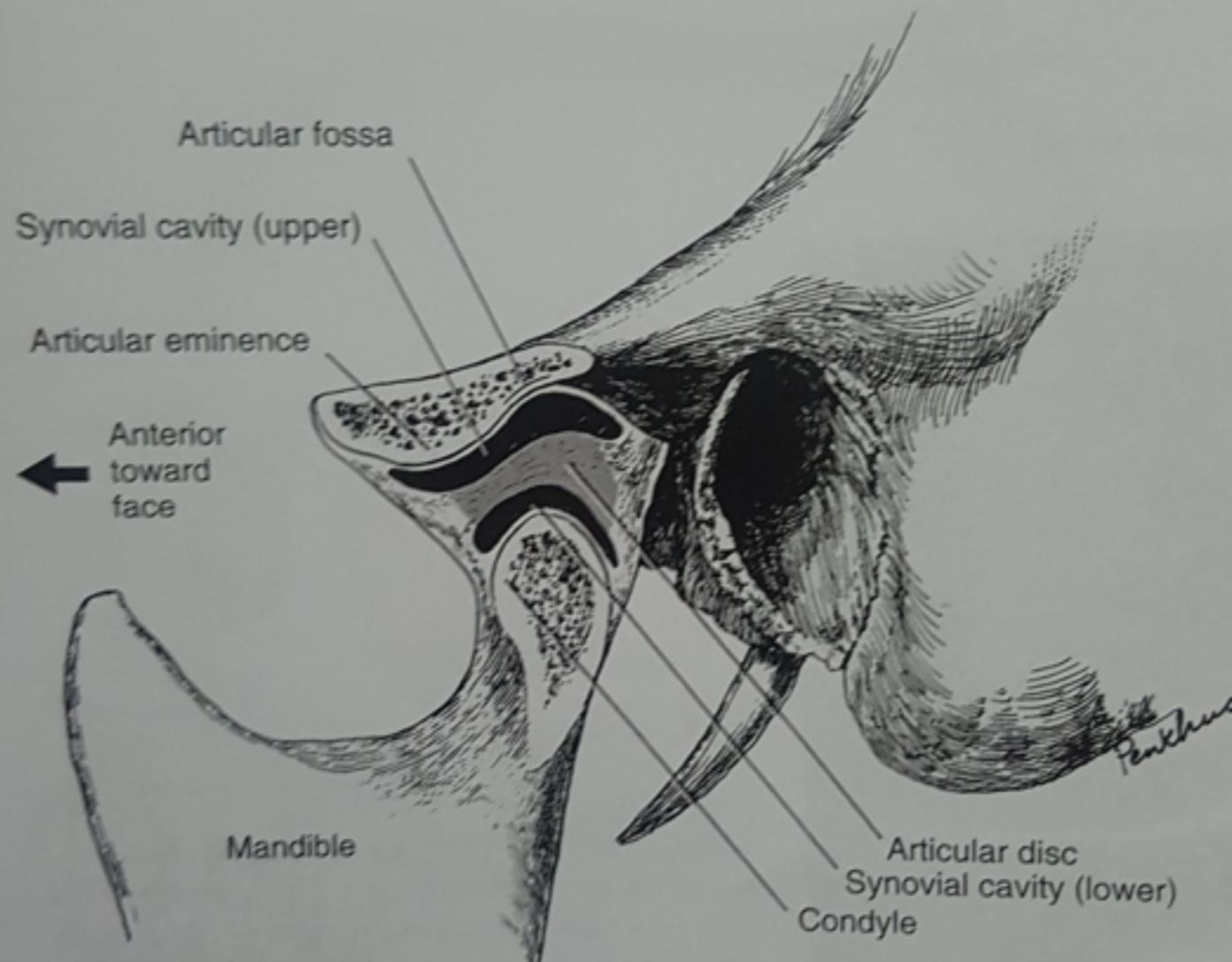
articular eminence :
clearly outlines the **convex**
on the inferior border of the
processus of the temporal bone,
just anterior to articular fossa

- the articular fossa is considered to be **nonfunctioning portion** of the joint because when the teeth are in tight occlusion, there is no forceful contact between head of the condyle and the concave part of the articular fossa
- The **functional region** of each condyle and eminence (the **superior and anterior** surface of the condyle and the **posterior** surface of the articular eminence) is padded with a thick layer of tough fibrous tissue



ANATOMY OF THE TEMPOROMANDIBULAR JOINT (TMJ)

3. ARTICULAR DISC



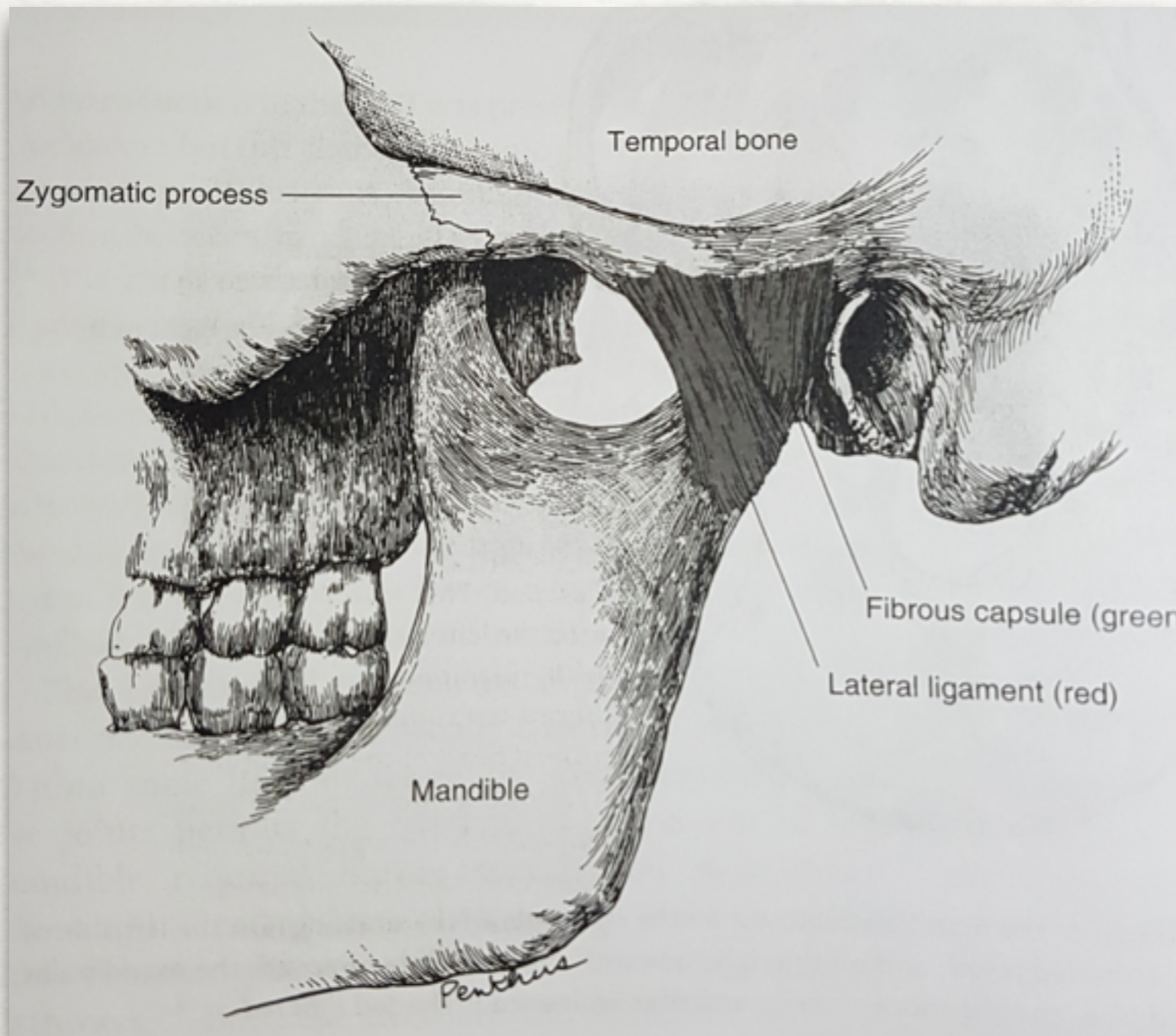
IS A PAD OF DENSE FIBROUS CONNECTIVE TISSUE THAT ACTS AS A SHOCK ABSORBER BETWEEN THE MANDIBULAR CONDYLE, AND THE ARTICULAR FOSSA AND ARTICULAR EMINENCE

THE DISC DEVIDES THE SPACE BETWEEN HEAD OF THE CONDYLE AND ARTICULAR FOSSA INTO UPPER AND LOWER JOINT SPACE (SYNOVIAL CAVITIES)

THE ARTICULAR DISC IS NOT ATTACHED TO THE SKULL, BUT ANTERIORLY IT IS ATTACHED TO THE FIBROUS CAPSULE

LIGAMENTS THAT SUPPORT THE JOINT AND LIMIT JOINT MOVEMENT

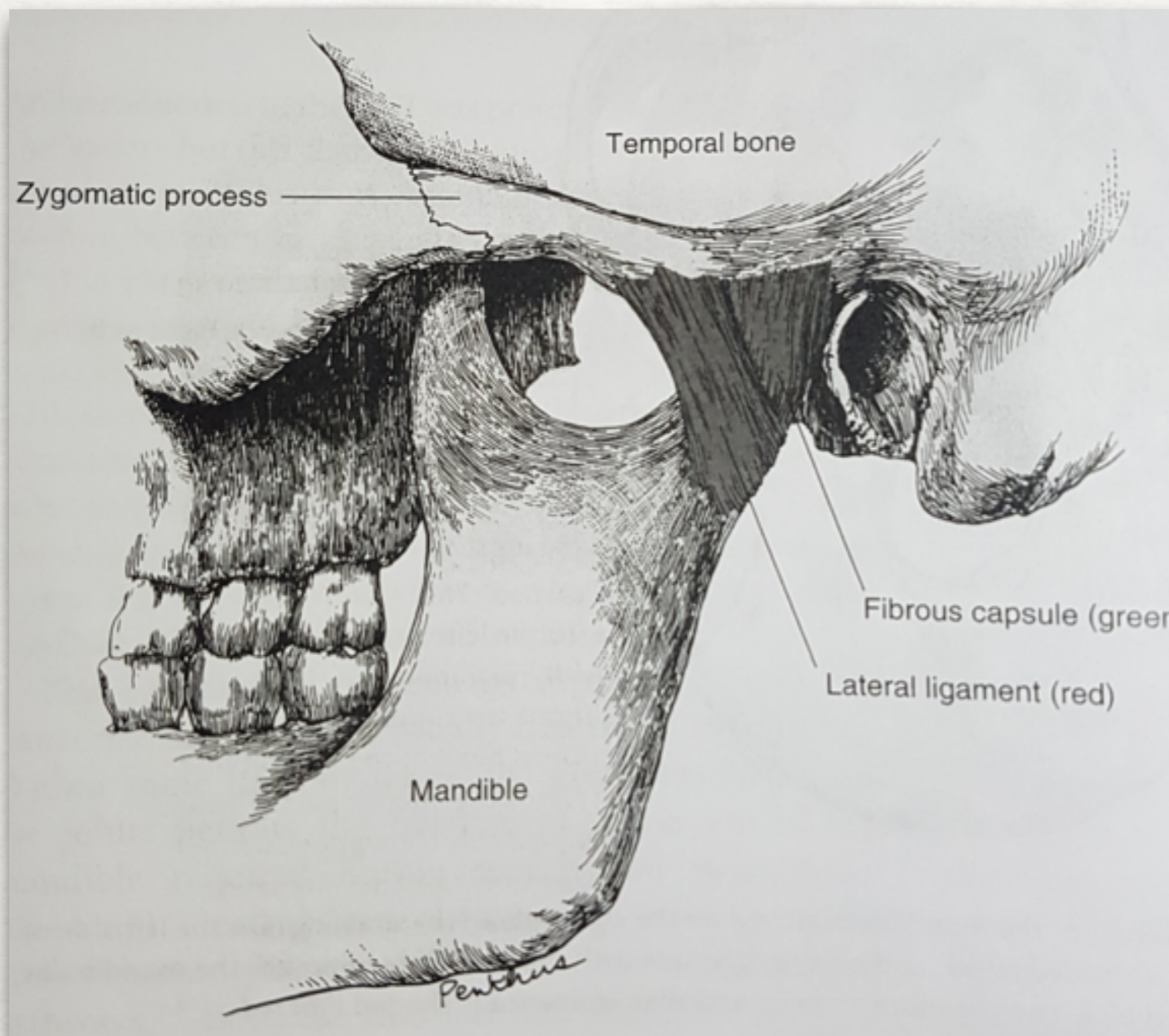
1. FIBROUS CAPSULE (CAPSULAR LIGAMENT)



- IT IS A FIBROUS TUBE OF TISSUE THAT ENCLOSES THE JOINT.
- **FAIRLY THIN**, EXCEPT LATERALLY, WHERE THE THICKER LATERAL LIGAMENT IS LOCATED.
- THE INTERNAL SURFACE OF THE FIBROUS CAPSULE IS LINED WITH **SYNOVIAL MEMBRANE**.
- THIS THIN MEMBRANE SECRETS A FLUID, **SYNOVIAL FLUID**
- THE ANTERIOR PART OF THIS FIBROUS CAPSULE **PREVENTS EXCESSIVE MOVEMENT OF THE CONDYLE OF THE MANDIBLE ON WIDE OPENINGS**

LIGAMENTS THAT SUPPORT THE JOINT AND LIMIT JOINT MOVEMENT

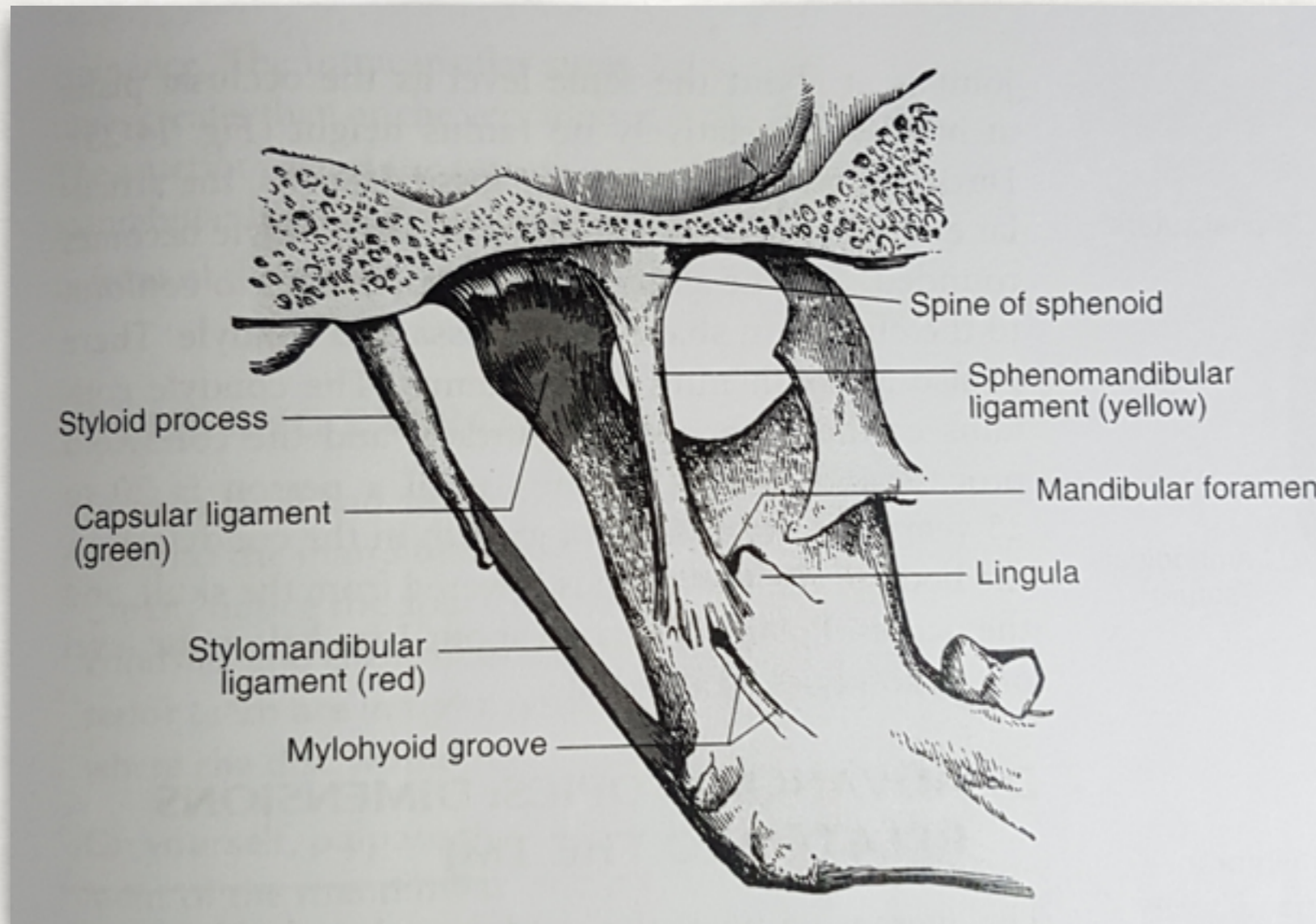
2. LATERAL LIGAMENT (FORMERLY TMJ LIGAMENT)



- IS THE STRONG REINFORCEMENT OF THE ANTERIOR LATERAL WALL OF THE FIBROUS CAPSULE
- IT ATTACHES TO THE ZYGOMATIC ARCH AND IS DIRECTED OBLIQUELY DOWN AND POSTERIOR TO LATERAL AND POSTERIOR NECK OF CONDYLE
- THIS LIGAMENT KEEP THE CONDYLE CLOSE TO THE FOSSA AND HELPS TO PREVENT LATERAL AND POSTERIOR DISPLACEMENT OF MANDIBLE

LIGAMENTS THAT SUPPORT THE JOINT AND LIMIT JOINT MOVEMENT

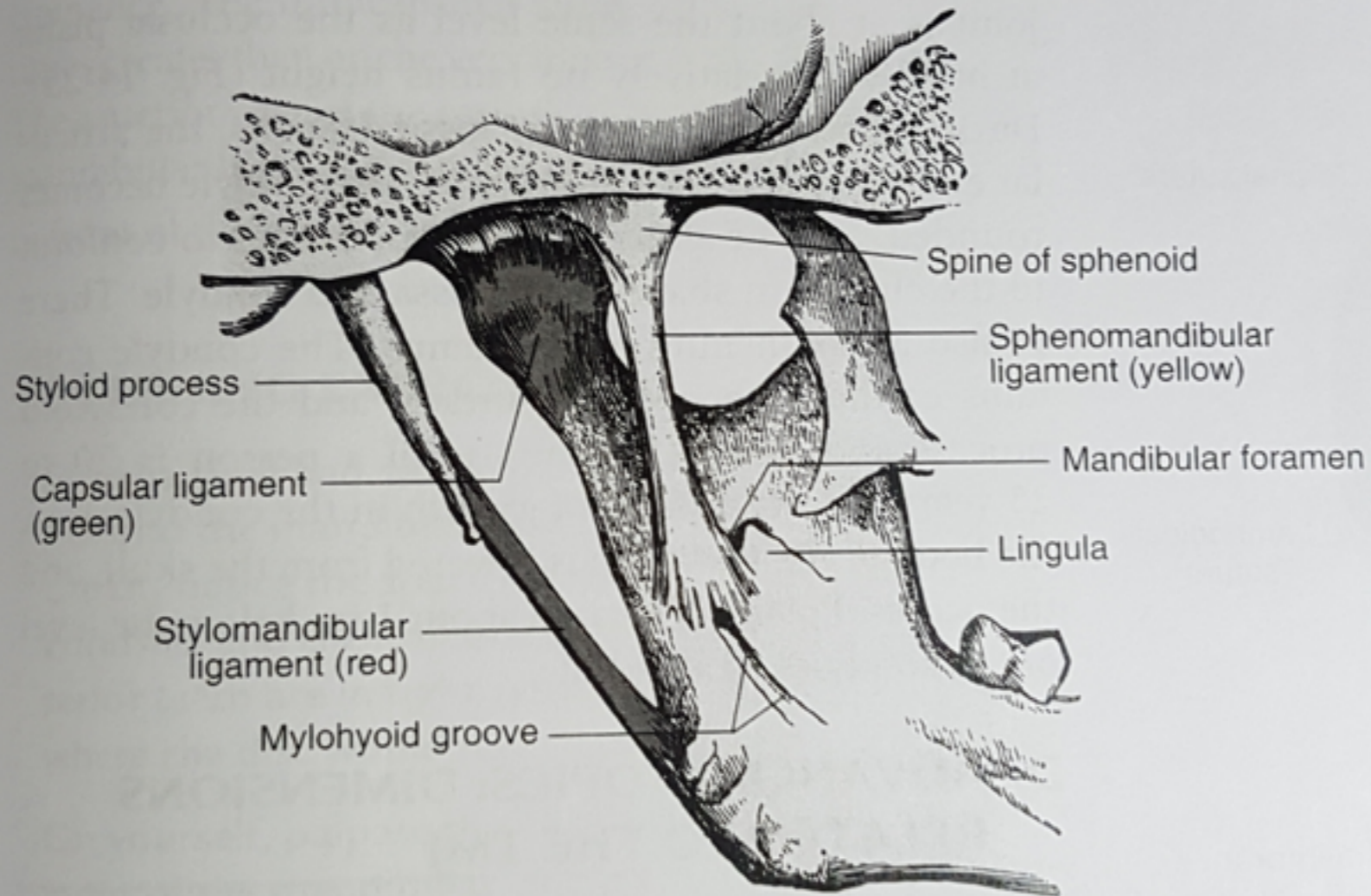
2. STYLOMANDIBULAR LIGAMENT



- IT IS RELAXED WHEN THE MOUTH IS CLOSED BUT BECOMES TENSE ON EXTREME PROTRUSION OF THE MANDIBLE
- IT IS ATTACHED ABOVE THE STYLOID PROCESSUS OF THE TEMPORAL BONE AND BELOW TO THE POSTERIOR BORDER AND ANGLE OF THE MANDIBLE

LIGAMENTS THAT SUPPORT THE JOINT AND LIMIT JOINT MOVEMENT

2. SPHENOMANDIBULAR LIGAMENT



- IS MEDIAL OF THE JOINT
- IT GIVES SOME SUPPORT TO THE MANDIBLE AND MAY HELP LIMIT MAXIMUM OPENING OF THE JAW.
- IT IS ATTACHED SUPERIORLY TO THE ANGULAR (SPENOIDAL) SPINE OF THE SPHENOID BONE AND FANS OUT INFERIORLY TO ATTACH ON THE LINGULA OF THE MANDIBLE NEAR THE MANDIBULAR FORAMEN

QUIZ

Gerakan yang terjadi dalam rongga sendi bawah adalah:

- A. Gerakan antara caput kondilus mandibulae dan permukaan inferior diskus
- B. Gerakan antara caput kondilus mandibulae dan permukaan superior diskus
- C. Gerakan antara permukaan superior diskus dan fossa artikularis
- D. Gerakan antara caput mandibularis terhadap permukaan posterior eminentia articularis
- E. Gerakan antara caput mandibularis terhadap permukaan inferior eminentia articularis

QUIZ

Ligamentum yang berfungsi mencegah gerakan condylus mandibulae berlebihan saat membuka mulut lebar adalah:

- A. Ligamentum TMJ
- B. Ligamentum capsularis
- C. Ligamentum lateralis
- D. Ligamentum stylomandibularis
- E. Ligamentum sphenomandibularis

SELAMAT BELAJAR SEMOGA SUKSES

