

NEET MDS Oral and Maxillofacial Surgery Sample Paper – 3

Duration: 90 Minutes

Maximum Marks: 400

Instructions: This paper contains 100 single-correct MCQs. Each correct answer carries +4 marks. Each wrong answer carries –1 mark. Unattempted questions carry 0 marks.

Third Molar Impaction (Q1–Q15)

- Q1.** Which complication is MOST commonly associated with removal of a deeply impacted mandibular third molar in close proximity to the inferior alveolar nerve?
- (A) Oro-antral fistula
 - (B) Dry socket
 - (C) Fracture of the mandible
 - (D) Paraesthesia of the lower lip and chin
- Q2.** The Pederson difficulty index for predicting the difficulty of mandibular third molar removal does NOT include which of the following factors?
- (A) Angulation of the impacted tooth
 - (B) Depth of impaction in bone
 - (C) Relationship to the mandibular ramus
 - (D) Crown-to-root ratio of the impacted tooth
- Q3.** Which angulation of mandibular third molar impaction is considered the MOST difficult to remove surgically?
- (A) Mesioangular
 - (B) Horizontal
 - (C) Distoangular
 - (D) Vertical
- Q4.** Coronectomy (deliberate root retention) of a mandibular third molar is PRIMARILY indicated to avoid injury to:
- (A) The lingual nerve
 - (B) The inferior alveolar nerve



- (C) The buccal long nerve
- (D) The facial nerve

Q5. Compared with OPG (orthopantomogram), CBCT for assessment of impacted third molars provides the additional advantage of:

- (A) Lower radiation dose to the patient
- (B) Three-dimensional relationship between tooth roots and the inferior alveolar canal
- (C) Better assessment of coronal caries
- (D) Panoramic field of view of entire dentition

Q6. Which radiographic sign on OPG is MOST suggestive of close relationship between the mandibular third molar root and the inferior alveolar canal?

- (A) Widening of the periodontal ligament space
- (B) Loss of lamina dura around the crown
- (C) Darkening and narrowing of the root where it crosses the canal
- (D) Sclerosis of the bone distal to the tooth

Q7. After surgical removal of a mandibular third molar, the socket is primarily filled during the FIRST 24 hours by:

- (A) Granulation tissue
- (B) Woven bone
- (C) Blood clot
- (D) Connective tissue

Q8. Lateral trepanation technique during surgical removal of a deeply impacted mandibular third molar is used to:

- (A) Create space for a drainage tube
- (B) Create a purchase point in the bone lateral to the tooth to facilitate elevation
- (C) Section the crown of the tooth



(D) Perform buccal cortex osteotomy for access

Q9. Pericoronitis associated with a partially erupted mandibular third molar can spread MOST directly to which space FIRST?

- (A) Submasseteric space
- (B) Pterygomandibular space
- (C) Parapharyngeal space
- (D) Buccal space

Q10. Which factor MOST increases the difficulty of removing a maxillary impacted third molar?

- (A) Mesioangular position
- (B) Proximity to the inferior alveolar nerve
- (C) Vertical position
- (D) Proximity to the maxillary sinus and presence of bulbous divergent roots

Q11. In the Pell and Gregory classification system for mandibular third molar impaction, Class III position refers to:

- (A) The tooth entirely within the ramus of the mandible
- (B) The tooth positioned between the anterior border of ramus and the distal surface of the second molar, with space less than the mesiodistal width
- (C) The tooth with its greatest diameter in line with the occlusal plane of adjacent teeth
- (D) The tooth below the occlusal plane of the adjacent second molar

Q12. Fractured root tips of mandibular third molars lying in direct contact with the inferior alveolar canal are BEST managed by:

- (A) Deliberate retention (leaving in situ) and radiographic monitoring
- (B) Immediate retrieval using fine root-tip picks



- (C) Immediate referral for surgical exploration under general anaesthesia
- (D) Application of 35% trichloroacetic acid to the root fragment

Q13. The maxillary third molar is impacted LESS frequently than the mandibular third molar. What is the approximate ratio of maxillary to mandibular impaction?

- (A) 3:1
- (B) 1:3
- (C) 1:1
- (D) 2:1

Q14. In transalveolar (surgical) extraction of an impacted lower third molar, which suture material and closure technique is PREFERRED for the flap?

- (A) Non-resorbable silk, mattress suture
- (B) Resorbable polyglactin, horizontal mattress suture
- (C) Resorbable polyglactin, interrupted simple suture
- (D) Non-resorbable monofilament, continuous suture

Q15. A patient presents with trismus, pain behind the lower right second molar and pus discharge from beneath an operculum. The MOST appropriate DEFINITIVE management is:

- (A) Antibiotic therapy alone for two weeks
- (B) Operculectomy or extraction of the third molar after acute infection resolves
- (C) Incision and drainage alone
- (D) Warm saline irrigation alone

Exodontia (Q16–Q25)

Q16. During extraction socket healing, granulation tissue begins to replace the blood clot by approximately:



- (A) Day 3
- (B) Day 7
- (C) Day 14
- (D) Day 1

Q17. Secondary haemorrhage after tooth extraction is defined as bleeding occurring:

- (A) Within the first hour after extraction
- (B) More than 24 hours after extraction, usually due to infection
- (C) Immediately at the time of extraction
- (D) During the first 24 hours due to reactionary causes

Q18. Which elevator utilises the wheel-and-axle mechanical principle?

- (A) Coupland elevator
- (B) Warwick James elevator
- (C) Cryer elevator
- (D) T-bar (crossbar) elevator

Q19. A patient undergoing dental extraction is on long-term warfarin therapy. According to current guidelines, extraction can be safely carried out without altering the anticoagulation regimen if the INR is:

- (A) Less than 2.0
- (B) 3.5 or less, with local haemostatic measures
- (C) Greater than 4.0
- (D) Exactly 1.0 (normal)

Q20. The SAFEST trimester for elective dental extractions in a pregnant patient is:

- (A) Second trimester (weeks 14–28)
- (B) First trimester (weeks 1–13)



- (C) Third trimester (weeks 29–40)
- (D) All trimesters are equally safe

Q21. Bisphosphonate-related osteonecrosis of the jaw (BRONJ/MRONJ) is characterised by exposed necrotic bone persisting for more than:

- (A) 1 week
- (B) 2 weeks
- (C) 4 weeks
- (D) 8 weeks

Q22. For extraction of the upper central incisor, the CORRECT movement applied with the appropriate forceps is:

- (A) Labio-palatal luxation followed by rotation and traction
- (B) Pure rotation only
- (C) Pure buccal traction only
- (D) Figure-of-eight movement with no rotation

Q23. Replantation of a tooth refers to:

- (A) Transplanting a tooth from one socket to another in the same patient
- (B) Transplanting a tooth from one patient to another
- (C) Surgical repositioning of an impacted tooth in its own socket
- (D) Reinsertion of an avulsed tooth back into its own socket

Q24. A patient on daily low-dose aspirin (75 mg) requires a routine dental extraction. The RECOMMENDED management is:

- (A) Continue aspirin and use local haemostatic measures (pressure, suturing, oxidised cellulose)
- (B) Stop aspirin 7 days before the procedure
- (C) Stop aspirin 3 days before the procedure
- (D) Double the aspirin dose peri-operatively



- Q25.** Complete epithelialisation of the extraction socket in a healthy patient occurs approximately:
- (A) By day 7
 - (B) By the end of week 6
 - (C) By day 3
 - (D) By the end of 6 months

Local Anaesthesia (Q26–Q40)

- Q26.** The long buccal nerve block anaesthetises the buccal gingiva and mucosa of:
- (A) Lower anterior teeth
 - (B) Lower incisors and canines only
 - (C) All mandibular teeth on the affected side
 - (D) Lower molar region – buccal gingiva and mucosa
- Q27.** Articaine differs from other amide local anaesthetics in that it contains a:
- (A) Thiophene ring, allowing better bone penetration
 - (B) Benzene ring with an ester linkage
 - (C) Piperidine ring
 - (D) Pyrrole ring
- Q28.** The Gow-Gates mandibular nerve block is deposited at the:
- (A) Lingula of the mandible
 - (B) Posterior border of the ramus
 - (C) Neck of the mandibular condyle (condylar neck)
 - (D) Mandibular foramen
- Q29.** Which supplemental technique is MOST effective when inferior alveolar nerve block fails for an acutely inflamed mandibular molar?



- (A) Infiltration over the apex of the tooth
- (B) Intraligamentary (periodontal ligament) injection
- (C) Mental nerve block
- (D) Inferior alveolar nerve block on the contralateral side

Q30. Buffering local anaesthetic with sodium bicarbonate (carbonation/buffering) achieves:

- (A) Faster onset of anaesthesia by raising the pH closer to physiologic level, increasing the unionised base fraction
- (B) Longer duration of action by slowing systemic absorption
- (C) Higher maximum safe dose
- (D) Reduced need for a vasoconstrictor

Q31. The MAXIMUM recommended dose of lignocaine (lidocaine) with adrenaline for a healthy adult is:

- (A) 3 mg/kg up to 200 mg
- (B) 4 mg/kg up to 300 mg
- (C) 5 mg/kg up to 400 mg
- (D) 7 mg/kg up to 500 mg

Q32. Which local anaesthetic agent is ABSOLUTELY contraindicated in patients with pheochromocytoma?

- (A) Lignocaine plain
- (B) Prilocaine plain
- (C) Lignocaine with adrenaline (epinephrine)
- (D) Mepivacaine plain

Q33. The AMSA (anterior middle superior alveolar) nerve block, when successfully performed, can anaesthetise teeth from the:

- (A) Central incisor to first premolar on one side



- (B) Central incisor to the second premolar including the palatal mucosa on the ipsilateral side
- (C) Central incisor to the second molar on one side
- (D) All upper teeth bilaterally

Q34. Hyaluronidase as an adjuvant to local anaesthetic injections works by:

- (A) Directly blocking sodium channels
- (B) Increasing vasoconstriction at the injection site
- (C) Breaking down hyaluronic acid in connective tissue, increasing diffusion of the anaesthetic
- (D) Raising the pH of the local anaesthetic solution

Q35. The incisive nerve block provides pulpal anaesthesia to which teeth?

- (A) All lower teeth on one side
- (B) Lower molars and premolars on one side
- (C) Lower molars, premolars, canines and incisors on one side
- (D) Lower incisors, canines and premolars bilaterally (up to mental foramen)

Q36. Prilocaine is the local anaesthetic MOST associated with which systemic side-effect at high doses?

- (A) Cardiac arrhythmia
- (B) Methaemoglobinaemia
- (C) Seizures
- (D) Acute renal failure

Q37. The Akinosi (closed-mouth) mandibular nerve block technique is indicated in patients who:

- (A) Cannot open their mouth due to trismus or ankylosis
- (B) Have a needle phobia



- (C) Have severe gag reflex
- (D) Have a bifid mandibular canal

Q38. A vasoconstrictor (e.g., adrenaline) added to local anaesthetic in an area of acute infection is:

- (A) Less effective because the low pH reduces the ionisation of adrenaline and the increased vascularity removes the drug more rapidly
- (B) More effective because the hyperaemia aids drug distribution
- (C) Contraindicated due to risk of abscess enlargement
- (D) Equally effective as in healthy tissue

Q39. The maximum safe dose of articaine (4%) with adrenaline in an adult patient is:

- (A) 3 mg/kg up to 300 mg
- (B) 5 mg/kg up to 400 mg
- (C) 7 mg/kg up to 500 mg
- (D) 4 mg/kg up to 350 mg

Q40. In weight-based dosing of local anaesthetics for paediatric patients, the guiding principle is:

- (A) Always use the same dose as the adult
- (B) Use half the adult dose regardless of weight
- (C) Use the maximum adult dose if the child is over 10 years
- (D) Calculate based on mg/kg body weight and never exceed the calculated maximum

Orofacial Infections (Q41–Q52)

Q41. Pterygomandibular space infection most commonly arises as a complication of:

- (A) Pericoronitis of the maxillary third molar
- (B) Parotid gland infections



- (C) Inferior alveolar nerve block injection or infection from mandibular third molar
- (D) Ludwig's angina spreading from the sublingual space

Q42. The masticator space is bounded laterally by the masseter muscle and contains all of the following EXCEPT:

- (A) Parotid gland (major part)
- (B) Medial pterygoid muscle
- (C) Inferior alveolar nerve and vessels
- (D) Ramus and posterior body of mandible

Q43. Descending necrotising mediastinitis (deep neck infection spreading to the chest) most commonly occurs via the:

- (A) Submandibular space
- (B) Buccal space
- (C) Masticator space
- (D) Retropharyngeal/parapharyngeal space (danger space)

Q44. Odontogenic infections are PREDOMINANTLY polymicrobial, consisting of:

- (A) Exclusively aerobic Gram-positive cocci
- (B) Mixed aerobic (Streptococcus) and anaerobic (Peptostreptococcus, Fusobacterium, Prevotella) organisms
- (C) Exclusively anaerobic organisms
- (D) Pseudomonas and Staphylococcus only

Q45. Chronic osteomyelitis of the mandible is BEST managed by:

- (A) Long-term oral antibiotics alone
- (B) Hyperbaric oxygen alone
- (C) Sequestrectomy, decortication and appropriate antibiotic therapy



(D) Immediate hemimandibulectomy

Q46. Lemierre syndrome is characterised by:

- (A) Spreading orbital cellulitis following dental infection
- (B) Internal jugular vein thrombophlebitis following pharyngeal or peritonsillar infection with *Fusobacterium necrophorum*
- (C) Cavernous sinus thrombosis from maxillary tooth infection
- (D) Cervical lymphadenitis progressing to abscess

Q47. Hyperbaric oxygen (HBO) therapy is used as an ADJUNCT in the management of jaw osteomyelitis primarily because it:

- (A) Directly kills bacteria
- (B) Replaces the need for surgical debridement
- (C) Enhances oxygen-dependent killing by neutrophils and promotes angiogenesis in hypoxic bone
- (D) Prevents recurrence of carious lesions

Q48. The Cierny-Mader classification of osteomyelitis is based on:

- (A) Duration of symptoms only
- (B) Causative organism only
- (C) Radiographic appearance only
- (D) Anatomic type of bone involvement combined with physiologic class of the host

Q49. The antibiotic of CHOICE for empirical treatment of a spreading odontogenic infection in a penicillin-non-allergic patient is:

- (A) Amoxicillin with clavulanate (co-amoxiclav)
- (B) Erythromycin
- (C) Tetracycline
- (D) Ciprofloxacin



- Q50.** In Ludwig's angina, the infection primarily involves which spaces bilaterally?
- (A) Buccal and masticator spaces
 - (B) Submandibular, sublingual and submental spaces
 - (C) Parapharyngeal and retropharyngeal spaces
 - (D) Pterygomandibular and temporal spaces
- Q51.** The PRINCIPAL immediate life-threatening danger in Ludwig's angina is:
- (A) Septicaemia
 - (B) Aspiration of pus
 - (C) Airway obstruction due to elevation and posterior displacement of the tongue
 - (D) Spread of infection to the mediastinum
- Q52.** MRSA (methicillin-resistant *Staphylococcus aureus*) head and neck infections are BEST treated with:
- (A) Vancomycin or linezolid
 - (B) Amoxicillin with clavulanate
 - (C) Penicillin G
 - (D) Metronidazole

Maxillofacial Fractures (Q53–Q64)

- Q53.** According to Dingman and Natvig's classification, the MOST common site of mandibular fracture is:
- (A) Condylar region
 - (B) Angle of the mandible
 - (C) Symphysis/parasymphysis
 - (D) Body of the mandible
- Q54.** A diacapitular (intracapsular) condylar fracture in an adult is BEST managed by:



- (A) Intermaxillary fixation for 6 weeks
- (B) Immediate open reduction with rigid internal fixation
- (C) Functional therapy with early mobilisation and physiotherapy
- (D) Prolonged MMF for 8 weeks followed by physiotherapy

Q55. The Gillies temporal approach is used for:

- (A) Open reduction of mandibular fractures
- (B) Excision of parotid gland tumours
- (C) Access to the zygomatic arch for elevation by elevator instrument
- (D) Drainage of the infratemporal fossa

Q56. In a Le Fort I fracture repair, the CORRECT sequence of plating is:

- (A) Piriform rim first, then zygomatic buttress, then establish posterior vertical height
- (B) Zygomatic buttress first, then posterior vertical height, then piriform rim
- (C) Any order is acceptable
- (D) Mandible first, then maxilla is reduced to mandible

Q57. Bilateral condylar fractures in an edentulous patient are an indication for:

- (A) Prolonged maxillomandibular fixation with gunning splints for 8 weeks
- (B) Conservative management with soft diet only
- (C) Open reduction and internal fixation to restore vertical dimension of occlusion
- (D) Condylectomy bilaterally

Q58. Post-traumatic malocclusion following a mandibular fracture is MOST commonly caused by:

- (A) Damage to the temporomandibular joint disc



- (B) Malunion of the fracture with displacement of fragments
- (C) Damage to the inferior alveolar nerve
- (D) Excessive intermaxillary fixation time

Q59. A posterior wall fracture of the frontal sinus that displaces into the anterior cranial fossa is managed by:

- (A) Conservative observation with sinus precautions
- (B) Endoscopic sinus surgery alone
- (C) Anterior wall repair with titanium mesh only
- (D) Neurosurgical cranialisation of the sinus with obliteration

Q60. A patient with a gunshot wound to the midface presents with massive haemorrhage. The IMMEDIATE priority is:

- (A) Definitive fracture fixation
- (B) Airway management and haemorrhage control (packing, angiographic embolisation)
- (C) Panoramic radiograph
- (D) CT scan of the face

Q61. The zygomaticomaxillary complex (ZMC) fracture classically produces which triad of signs?

- (A) Epistaxis, circumorbital ecchymosis, CSF rhinorrhoea
- (B) Enophthalmos, diplopia from orbital floor blow-out, periorbital oedema
- (C) Flattening of the malar eminence, trismus, anaesthesia of the cheek/upper lip from infraorbital nerve injury
- (D) Anterior open bite, bilateral circumorbital ecchymosis, "dish-face" deformity

Q62. Naso-orbito-ethmoid (NOE) fractures are classified by the status of the:

- (A) Nasal septum
- (B) Orbital floor



- (C) Central fragment containing the medial canthal tendon insertion
- (D) Cribriform plate

Q63. Which approach is used to access the zygomatic arch for direct plating in a comminuted ZMC fracture?

- (A) Bicoronal (coronal) flap approach
- (B) Temporal (Gillies) approach supplemented by infraorbital and intraoral approach
- (C) Transconjunctival approach alone
- (D) Direct percutaneous approach over the arch

Q64. A "tripod fracture" of the zygoma involves fractures at which THREE sites?

- (A) Zygomaticofrontal suture, zygomaticomaxillary buttress and zygomatic arch
- (B) Zygomaticofrontal, zygomaticonasal and zygomatic arch
- (C) Infraorbital rim, orbital floor and zygomatic arch
- (D) Zygomatic arch, orbital floor and zygomaticomaxillary buttress

Jaw Cysts (Q65–Q74)

Q65. The radicular cyst develops from:

- (A) Reduced enamel epithelium
- (B) Epithelial cell rests of Malassez activated by periapical inflammatory stimuli
- (C) Dental lamina remnants
- (D) Serres rests in the gingival tissue

Q66. On aspiration of an odontogenic keratocyst (OKC), the aspirate typically contains:

- (A) Blood-stained fluid with low protein
- (B) Clear amber straw-coloured fluid



- (C) Keratin/cheesy white material with low protein content
- (D) Amber fluid with high soluble protein ($>4g\%$)

Q67. The HIGHEST recurrence rate among jaw cysts is associated with:

- (A) Radicular cyst
- (B) Dentigerous cyst
- (C) Nasopalatine duct cyst
- (D) Odontogenic keratocyst (OKC)

Q68. A botryoid OKC is BEST described as:

- (A) A multilocular variant of OKC with higher recurrence than the unilocular type
- (B) A unicystic variant of OKC with lower recurrence
- (C) Another name for orthokeratinised odontogenic cyst
- (D) An OKC associated with a supernumerary tooth

Q69. The nasopalatine duct cyst is surgically approached via:

- (A) Labial sulcus incision
- (B) Extraoral sublabial incision
- (C) Palatal incision with a palatal flap
- (D) Nasal approach endoscopically

Q70. Traumatic bone cyst of the jaw is characterised by all of the following EXCEPT:

- (A) Empty cavity on surgical exploration
- (B) Serosanguinous aspirate if fluid present
- (C) Scalloping between tooth roots on radiograph
- (D) Epithelial lining present histologically

Q71. Stafne's bone cyst (static bone cyst) is characteristically located:



- (A) Below the inferior alveolar canal in the posterior mandible
- (B) Above the inferior alveolar canal in the anterior mandible
- (C) In the midline of the mandible
- (D) In the anterior maxilla near the floor of the nose

Q72. The calcifying odontogenic cyst (Gorlin cyst) is histologically characterised by the presence of:

- (A) Rushton bodies and hyaline ring-like structures
- (B) Ghost cells (shadow cells) and areas of calcification
- (C) Liesegang ring calcifications and duct-like structures
- (D) Duct-like structures and amyloid-like material

Q73. Enucleation plus application of Carnoy's solution to the bony cavity is used in the management of OKC to:

- (A) Achieve haemostasis
- (B) Prevent infection post-operatively
- (C) Fix and chemically ablate any residual satellite cysts in the bony walls to reduce recurrence
- (D) Promote faster bone regeneration

Q74. The gingival cyst of the adult most commonly occurs at which site?

- (A) Attached gingiva of the upper anterior region
- (B) Interdental papilla or free gingival margin in the mandibular premolar-canine region
- (C) Palate, from the incisive papilla
- (D) Maxillary tuberosity region

Odontogenic Tumours (Q75–Q82)

Q75. Odontogenic myxoma is BEST managed by:

- (A) Enucleation alone



- (B) Marsupialization followed by enucleation
- (C) Long-term observation
- (D) Resection with adequate margins, due to high recurrence with curettage alone

Q76. The histological hallmark of odontogenic myxoma is:

- (A) Stellate and spindle-shaped cells embedded in a loose myxoid intercellular matrix with few collagen fibres
- (B) Islands of odontogenic epithelium in a fibrous stroma
- (C) Ghost cells with calcifications
- (D) Duct-like structures with amyloid-like material

Q77. Compound odontoma most commonly occurs in the:

- (A) Posterior mandible
- (B) Anterior maxilla
- (C) Posterior maxilla
- (D) Anterior mandible

Q78. The MOST common site for complex odontoma is the:

- (A) Anterior maxilla
- (B) Anterior mandible
- (C) Posterior mandible
- (D) Posterior maxilla

Q79. The adenomatoid odontogenic tumour (AOT) is MOST commonly associated with:

- (A) An unerupted maxillary canine
- (B) An unerupted mandibular premolar
- (C) An unerupted maxillary molar
- (D) A fully erupted tooth



- Q80.** Central cemento-ossifying fibroma (CCOF) differs from fibrous dysplasia (FD) in that CCOF:
- (A) Shows a ground-glass radiographic appearance and no defined border
 - (B) Is well-defined with a corticated border, does not expand after puberty, and is not associated with a chromosomal/Gs-alpha mutation
 - (C) Fuses with surrounding bone making enucleation impossible
 - (D) Is more common in the maxilla
- Q81.** Liesegang ring calcifications can be seen in the histological sections of:
- (A) Ameloblastoma
 - (B) Odontogenic myxoma
 - (C) Calcifying epithelial odontogenic tumour (CEOT/Pindborg tumour)
 - (D) Central ossifying fibroma
- Q82.** Squamous odontogenic tumour (SOT) characteristically arises:
- (A) Within the crown of an impacted tooth
 - (B) From the periapical region of non-vital teeth
 - (C) In the posterior mandible as a multilocular radiolucency
 - (D) Lateral to the root surface between teeth, causing a triangular radiolucency

TMJ Disorders (Q83–Q90)

- Q83.** The GOLD STANDARD imaging modality for diagnosing internal derangement of the temporomandibular joint is:
- (A) MRI (magnetic resonance imaging)
 - (B) CT scan
 - (C) Orthopantomogram
 - (D) Transcranial radiograph
- Q84.** Wilkes Stage III internal derangement of the TMJ is characterised by:



- (A) Disc displacement with reduction, no structural changes
- (B) Disc displacement without reduction, chronic; beginning structural changes (disc deformity, early degenerative changes)
- (C) Disc displacement with reduction, clicking only
- (D) Perforation of the disc with degenerative joint disease

Q85. Modified condylotomy for TMJ internal derangement (disc displacement without reduction) works by:

- (A) Removing the displaced disc
- (B) Repairing the disc directly
- (C) Creating a downward and forward repositioning of the condyle to decompress the joint and allow disc recapture
- (D) Ablation of the retrodiscal tissue with laser

Q86. The SINGLE most important factor in preventing re-ankylosis after gap arthroplasty for TMJ ankylosis is:

- (A) Type of interposition material used
- (B) Duration of post-operative antibiotics
- (C) Aggressive jaw physiotherapy begun early (within days) post-operatively
- (D) Use of alloplastic TMJ replacement

Q87. The stabilisation splint used in the management of temporomandibular disorders works by:

- (A) Eliminating posterior tooth contacts while providing bilateral simultaneous contacts, reducing parafunctional muscle activity
- (B) Repositioning the condyle anteriorly to recapture the disc permanently
- (C) Providing hard tissue contact on anterior teeth only
- (D) Preventing all jaw movements during sleep

Q88. TMJ dislocation (as opposed to subluxation) is defined as:



- (A) Partial displacement of the condyle from the fossa with spontaneous return
- (B) Anterior displacement of the condyle onto the articular eminence that self-reduces
- (C) Complete displacement of the condyle anterior to the articular eminence that cannot self-reduce and requires manipulation
- (D) Posterior dislocation of the condyle into the external auditory meatus

Q89. Which of the following is a common ADVERSE EFFECT of Silastic (silicone) interposition in TMJ arthroplasty that led to its discontinuation?

- (A) Immediate ankylosis
- (B) Fragmentation causing foreign body giant cell reaction and progressive condylar resorption (silicone synovitis)
- (C) Severe post-operative trismus
- (D) Perforation of the skull base

Q90. Pain dysfunction syndrome (myofascial pain dysfunction syndrome) of the TMJ is considered to be:

- (A) Primarily an articular disease caused by disc displacement
- (B) Primarily caused by occlusal discrepancies requiring occlusal adjustment
- (C) Primarily caused by degenerative joint disease
- (D) Multifactorial – involving stress, parafunctional habits (bruxism), muscle hyperactivity and psychological factors

Orthognathic Surgery (Q91–Q95)

Q91. Advancement genioplasty is indicated for correction of:

- (A) Microgenia (deficient chin projection) as an adjunct to Class III or Class II correction
- (B) Macrogenia (excess chin projection)
- (C) Vertical excess of the chin only



(D) Asymmetric chin with one side elevated

Q92. Virtual surgical planning (VSP) in orthognathic surgery uses:

- (A) Two-dimensional cephalometric tracings and model surgery only
- (B) 3D CT-based digital surgical simulation, custom cutting guides and pre-bent plates fabricated before surgery
- (C) Conventional model surgery with hand-articulated dental casts only
- (D) Intraoperative navigation only

Q93. Velopharyngeal insufficiency (VPI) is a recognised complication of:

- (A) Le Fort I maxillary advancement osteotomy
- (B) Bilateral sagittal split osteotomy (BSSO) setback
- (C) Genioplasty
- (D) Mandibular distraction osteogenesis

Q94. The COGS (Cephalometric for Orthognathic Surgery) analysis uses which reference plane as the primary horizontal reference?

- (A) Sella-Nasion (SN) plane
- (B) Palatal plane (ANS-PNS)
- (C) Frankfort Horizontal plane (porion-orbitale)
- (D) Occlusal plane

Q95. Avascular necrosis of the maxilla after Le Fort I osteotomy is MOST likely to occur when:

- (A) The osteotomy is performed in a non-smoker
- (B) Rigid internal fixation is used bilaterally
- (C) The palatal mucoperiosteum is preserved
- (D) Both the palatal and buccal pedicles are disrupted, or excessive stripping of soft tissue occurs in a smoker



Preprosthetic Surgery & Medical Emergencies (Q96–Q100)

- Q96.** Dean's intraseptal alveoloplasty technique involves:
- (A) Removal of the interdental septa while preserving the buccal cortical plate to achieve a smooth, tapered alveolar ridge
 - (B) Removal of the entire alveolar ridge by radical reduction
 - (C) Simple socket compression only
 - (D) Onlay bone grafting to augment the alveolar ridge
- Q97.** Labial frenectomy is indicated when the labial frenum:
- (A) Is attached to the midline of the upper lip only
 - (B) Has a high attachment at the base of the interdental papilla and causes a midline diastema or interferes with denture stability
 - (C) Is low and attached near the mucogingival junction
 - (D) Causes upper lip restriction during smiling
- Q98.** The FIRST step in managing a patient who develops sudden syncope in the dental chair is:
- (A) Administer 0.5 mg atropine IV
 - (B) Place the patient supine with legs elevated (Trendelenburg position) and ensure airway is patent
 - (C) Give IV glucose
 - (D) Administer intramuscular adrenaline
- Q99.** The MONA protocol used in acute myocardial infarction management stands for:
- (A) Morphine, Oxygen, Nitrates, Aspirin
 - (B) Midazolam, Oxygen, Nitrates, Adrenaline
 - (C) Metoprolol, Oxygen, Nitrates, Aspirin



(D) Morphine, Oxygen, Nitrates, Aspirin – administered in that order

Q100. A patient collapses in the dental clinic with no palpable pulse and no breathing. After calling for help, the NEXT immediate action is:

(A) Administer 1 mg adrenaline IV

(B) Apply a precordial thump

(C) Check blood pressure

(D) Begin chest compressions at a rate of 100–120 per minute (CPR)

Answer Key – NEET MDS Oral and Maxillofacial Surgery Sample Paper 3

Detailed Solutions

Answer: (D) **Explanation:** The inferior alveolar nerve (IAN) runs in close proximity to the apices of the mandibular third molar. Surgical removal, particularly when roots are closely related to the canal (darkening/narrowing on OPG, or confirmed on CBCT), carries a risk of paraesthesia or anaesthesia of the lower lip and chin due to IAN injury. This is the most common significant complication, reported in up to 5–8% of cases involving very close proximity. Oro-antral fistula is a maxillary third molar complication. [Go Back to Q1](#)

Answer: (D) **Explanation:** The Pederson difficulty index scores: (1) angulation (mesioangular/vertical/horizontal/distoangular), (2) depth of impaction (A/B/C relative to occlusal plane), and (3) relationship to the ramus (Class I/II/III). Crown-to-root ratio is NOT a component of the Pederson index, though divergent or curved roots do increase difficulty in clinical practice. [Go Back to Q2](#)

Answer: (C) **Explanation:** The distoangular impacted mandibular third molar is the MOST difficult to extract. The crown is angulated distally, meaning the tooth must be moved in a distal direction to disengage from the second molar – directly into the ramus. This leaves little or no space for delivery. Horizontal is also difficult, but distoangular requires the most bone removal and is technically most demanding. [Go Back to Q3](#)

Answer: (B) **Explanation:** Coronectomy (deliberate root retention) was developed specifically to avoid injury to the inferior alveolar nerve when the roots of the mandibular third molar are in intimate contact with the IAN canal. The crown is removed and the roots are left in situ, reducing the risk of IAN damage. The roots are left below the alveolar crest and remodel or migrate superiorly over time. [Go Back to Q4](#)



Answer: (B) **Explanation:** CBCT provides three-dimensional imaging that clearly delineates the three-dimensional relationship between the roots of the third molar and the inferior alveolar canal. OPG provides only a two-dimensional superimposed image and cannot show buccal or lingual deflection of the canal. CBCT does carry a higher radiation dose than OPG in most cases, making routine use unjustified – it is reserved for cases where OPG shows close proximity signs. [Go Back to Q5](#)

Answer: (C) **Explanation:** Darkening of the root where it crosses the inferior alveolar canal (suggesting the canal wall is lost, i.e., the root is within or through the canal wall) and narrowing of the root at that point are the most specific radiographic signs of intimate relationship. Loss of the white cortical line of the canal at the point of crossing is also significant. [Go Back to Q6](#)

Answer: (C) **Explanation:** Immediately after extraction, the socket fills with blood that forms a clot (blood clot) within the first 24 hours. This is the first phase of socket healing. Granulation tissue begins to replace the clot around day 3. Connective tissue appears by week 2. Bone begins forming from the periphery inward after week 2, and epithelialisation is complete by approximately 6 weeks. [Go Back to Q7](#)

Answer: (B) **Explanation:** Lateral trepanation involves drilling a hole (trepan) in the lateral buccal cortical bone to create a purchase point (point d'appui) adjacent to the tooth. This allows an elevator to engage the tooth and deliver it without requiring excessive crestal bone removal. It is particularly useful for deeply buried roots or teeth with limited access from the crest. [Go Back to Q8](#)

Answer: (D) **Explanation:** Pericoronitis associated with the mandibular third molar most directly communicates with the buccal space initially, as the buccal mucosa overlies the operculum. However, the more clinically significant early spread is to the pterygomandibular and masticator spaces, which produce trismus. In practice, spread to the buccal space occurs as the first extraoral manifestation, while the pterygomandibular space is directly adjacent to the third molar socket. [Go Back to Q9](#)

Answer: (D) **Explanation:** For maxillary impacted third molars, the main factors increasing difficulty are: proximity to the maxillary sinus (risk of oro-antral communication), bulbous or divergent roots (which may fracture and be displaced into the sinus), the flexible nature of the tuberosity (risk of fracture), and limited access. These anatomical features, particularly divergent roots extending into the sinus, represent the greatest challenge. [Go Back to Q10](#)

Answer: (A) **Explanation:** In Pell and Gregory classification: Class I – sufficient space between the anterior border of ramus and the distal surface of the second molar to accommodate the crown. Class II – the space is less than the mesiodistal width of the crown of the third molar. Class III – the tooth is entirely within the ramus (no space anterior to the ramus for the crown). [Go Back to Q11](#)



Answer: (A) **Explanation:** When root fragments of the mandibular third molar are in direct contact with or within the inferior alveolar canal, the risk of causing permanent IAN damage by attempting retrieval may outweigh the benefit. The preferred management is deliberate retention with radiographic monitoring, as these fragments are often inert and do not cause problems. Retrieval is undertaken only if there is evidence of infection or other complications. [Go Back to Q12](#)

Answer: (B) **Explanation:** Mandibular third molars are impacted approximately three times more frequently than maxillary third molars, giving an approximate maxillary-to-mandibular ratio of 1:3. The mandible is more constrained in size, and the third molar space is frequently insufficient due to evolutionary reduction in jaw size. [Go Back to Q13](#)

Answer: (C) **Explanation:** For closure after third molar surgery, resorbable sutures (most commonly polyglactin/Vicryl or chromic gut) are preferred to avoid a second appointment for removal. Simple interrupted sutures provide good wound edge approximation, adequate tension distribution and allow drainage between sutures. Horizontal mattress sutures can cause ischaemia of wound edges if tied too tightly, and non-resorbable sutures require removal. [Go Back to Q14](#)

Answer: (B) **Explanation:** The definitive management of pericoronitis is either operculectomy (removal of the overlying operculum to allow the tooth to erupt and clean properly) or extraction of the third molar after the acute phase resolves. Acute pericoronitis is first managed with irrigation, antiseptic mouthwash and antibiotics if systemic involvement is present. Definitive treatment – extraction or operculectomy – follows resolution of the acute phase. [Go Back to Q15](#)

Answer: (A) **Explanation:** Socket healing sequence: Day 1 – blood clot formation. Day 3 – granulation tissue begins to replace the clot (fibroblasts, new capillaries from periphery). Day 7–14 – connective tissue. Week 6 – complete epithelialisation of the socket opening. Months – bony fill of the socket and remodelling of the alveolar ridge. [Go Back to Q16](#)

Answer: (B) **Explanation:** Haemorrhage classification after extraction: Primary haemorrhage – at time of extraction. Reactionary haemorrhage – within first 24 hours (reactive hyperaemia as vasoconstrictors wear off). Secondary haemorrhage – more than 24 hours after extraction, typically around day 5–10, caused by infection of the clot. Secondary haemorrhage is treated by controlling the infection (antibiotics) plus local haemostatic measures. [Go Back to Q17](#)

Answer: (D) **Explanation:** The T-bar elevator (crossbar elevator) utilises the wheel-and-axle principle: the crossbar acts as the wheel (larger radius), and the shank acts as the axle (smaller radius), providing mechanical advantage. Coupland elevators use the wedge principle. Warwick James and Cryer elevators use the lever principle. [Go Back to Q18](#)

Answer: (B) **Explanation:** Current British Society for Haematology and SDCEP guidelines recommend that patients on warfarin with an INR of 3.5 or below can safely undergo



routine dental extractions (up to 3 teeth) without altering their anticoagulation, provided local haemostatic measures (oxidised cellulose, tranexamic acid mouthwash, pressure packs, suturing) are used. Stopping warfarin increases the risk of thromboembolic events, which is more dangerous than the bleeding risk of a single tooth extraction. [Go Back to Q19](#)

Answer: (A) **Explanation:** The second trimester (weeks 14–28) is the safest period for elective dental procedures and extractions in pregnancy. In the first trimester, organogenesis is occurring and medications/anaesthetics carry theoretical teratogenic risks. In the third trimester, the patient is uncomfortable in the supine position (risk of supine hypotensive syndrome), pre-term labour can be triggered, and drug metabolism changes. [Go Back to Q20](#)

Answer: (D) **Explanation:** The American Association of Oral and Maxillofacial Surgeons (AAOMS) definition of MRONJ (medication-related osteonecrosis of the jaw) requires: (1) current or previous treatment with antiresorptive agents; (2) exposed bone or bone that can be probed through an intraoral or extraoral fistula in the maxillofacial region that has persisted for more than 8 weeks; (3) no history of radiation therapy to the jaws and no metastatic disease to the jaws. [Go Back to Q21](#)

Answer: (A) **Explanation:** The upper central incisor has a single conical root that can rotate. The correct extraction technique uses the upper incisor forceps (or straight Ash No. 1 forceps): labio-palatal luxation to expand the socket, followed by rotation of the root on its long axis, and finally delivery by traction in a labial and slightly downward direction. Rotation alone without luxation is insufficient. [Go Back to Q22](#)

Answer: (D) **Explanation:** Replantation = reinsertion of an avulsed (knocked out) tooth back into its own socket (same socket in the same patient). Transplantation = moving a tooth from one site to another (e.g., a third molar transplanted to replace a missing first molar). This distinction is important: replantation involves the same tooth in the same socket; transplantation involves relocation to a different site. [Go Back to Q23](#)

Answer: (A) **Explanation:** Current evidence and guidelines (SDCEP, NICE, British Committee for Standards in Haematology) recommend continuing low-dose aspirin (75–100 mg/day) for routine dental extractions and using local haemostatic measures. The risk of stopping aspirin (rebound platelet hyper-reactivity and increased thrombotic events) outweighs the small additional bleeding risk, which is easily controlled locally. [Go Back to Q24](#)

Answer: (B) **Explanation:** The socket opening is completely covered by epithelium at approximately 6 weeks (4–6 weeks). Before this, the socket has granulation tissue and connective tissue in the deeper portions, with epithelium advancing from the periphery inward. By 6 months, the socket is filled with woven bone; mature lamellar bone takes 6–12 months. Soft-tissue healing of the surface is complete by week 6. [Go Back to Q25](#)

Answer: (D) **Explanation:** The long buccal nerve (buccal nerve) is a branch of the ante-



rior division of V3 (mandibular nerve). It supplies sensory innervation to the buccal gingiva, mucosa and skin overlying the lower molar region. It does NOT supply pulpal innervation (hence why the IANB must be combined with a long buccal block for extractions of lower molars when the buccal gingiva is to be anaesthetised). [Go Back to Q26](#)

Answer: (A) **Explanation:** Articaine (4%) is unique among amide local anaesthetics in containing a thiophene ring (instead of the benzene ring of other amides). This makes it more lipophilic and allows better penetration through bone cortex, making it effective for mandibular infiltrations where other agents require nerve blocks. It also has an ester side chain that is hydrolysed by plasma cholinesterases, making it metabolised partly in the plasma – reducing systemic accumulation. [Go Back to Q27](#)

Answer: (C) **Explanation:** The Gow-Gates technique is a true mandibular nerve (V3 trunk) block. The needle is directed to the neck of the condyle (condylar neck/head), just below the lateral pterygoid attachment, where the mandibular nerve exits the foramen ovale and before it branches. This single injection anaesthetises all branches of V3 including the IAN, lingual, long buccal, mental, mylohyoid and auriculotemporal nerves. [Go Back to Q28](#)

Answer: (B) **Explanation:** Intraligamentary (periodontal ligament / PDL) injection is the most effective supplemental technique when IANB fails for an acutely inflamed mandibular molar. Inflammation lowers tissue pH, reducing the unionised (active) fraction of LA – making conventional infiltrations unreliable. The PDL injection delivers anaesthetic directly to the apex via the periodontal ligament space under high pressure, bypassing the pH problem and achieving pulpal anaesthesia rapidly. [Go Back to Q29](#)

Answer: (A) **Explanation:** Commercial LA cartridges have a pH of approximately 3.5–4.5 (acidic, to maintain stability of the vasoconstrictor). Adding sodium bicarbonate raises the pH to physiologic levels (≈ 7.4), increasing the proportion of the unionised lipophilic base form of the anaesthetic that can cross nerve membranes. This results in faster onset of anaesthesia and may reduce injection discomfort. Duration is not significantly changed. [Go Back to Q30](#)

Answer: (D) **Explanation:** The maximum recommended dose for lignocaine (lidocaine) WITH adrenaline (epinephrine) in a healthy adult is 7 mg/kg, up to an absolute maximum of 500 mg. For plain lignocaine (without vasoconstrictor), the maximum is 4.4 mg/kg up to 300 mg. The vasoconstrictor slows systemic absorption, allowing a higher total dose. This corresponds to approximately 13–14 cartridges of 2% lignocaine with 1:80,000 adrenaline in a 70 kg adult. [Go Back to Q31](#)

Answer: (C) **Explanation:** Vasoconstrictors (adrenaline/epinephrine) are contraindicated in patients with pheochromocytoma, a catecholamine-secreting tumour. In pheochromocytoma, injected adrenaline can trigger a hypertensive crisis (extreme hypertension, tachycardia) due to the already elevated catecholamine levels and sensitised adrenergic receptors. Plain local anaesthetics can be used. Uncontrolled hyperthyroidism and tricyclic antidepressants



sant therapy are relative contraindications to epinephrine. [Go Back to Q32](#)

Answer: (B) **Explanation:** The AMSA (anterior middle superior alveolar) nerve block, described by Friedman and Hochman, anaesthetises the anterior and middle superior alveolar nerves from a single palatal injection near the second premolar region. It provides pulpal anaesthesia to the central incisor through the second premolar (five teeth) and the associated palatal mucosa, all on the ipsilateral side. It reduces the need for multiple injections for anterior maxillary procedures. [Go Back to Q33](#)

Answer: (C) **Explanation:** Hyaluronidase is an enzyme that breaks down hyaluronic acid, a component of connective tissue ground substance. This reduces tissue viscosity and increases permeability, allowing the local anaesthetic solution to diffuse more rapidly and over a larger area. Clinically, this results in faster onset and wider spread of anaesthesia. It is used as an adjuvant in retrobulbar blocks and occasionally in dental anaesthesia. [Go Back to Q34](#)

Answer: (D) **Explanation:** The incisive nerve block targets the mental foramen, where the mental nerve (continuation of the IAN below the mental foramen) and the incisive branch (which continues anteriorly within the mandible) can be blocked. It provides pulpal anaesthesia to the mandibular premolars, canines, and incisors on both sides (the incisive nerve crosses the midline and has contralateral overlap). It does NOT anaesthetise the molars. [Go Back to Q35](#)

Answer: (B) **Explanation:** Prilocaine at high doses causes methaemoglobinaemia. Its metabolite o-toluidine oxidises haemoglobin (Fe^{2+}) to methaemoglobin (Fe^{3+}), which cannot carry oxygen. This produces cyanosis and reduced oxygen-carrying capacity. This is particularly relevant in patients with G6PD deficiency, anaemia or who receive other oxidising agents, and in neonates (who have reduced methaemoglobin reductase). The maximum dose for prilocaine should not be exceeded (6 mg/kg). [Go Back to Q36](#)

Answer: (A) **Explanation:** The Akinosi closed-mouth mandibular block (also called the Vazirani-Akinosi technique) is specifically designed for patients with limited mouth opening – trismus from infection, ankylosis, fibrosis, or any other cause – since the technique is performed with the mouth CLOSED. The needle is inserted at the level of the maxillary mucogingival junction lateral to the maxillary tuberosity and directed posteriorly parallel to the occlusal plane. [Go Back to Q37](#)

Answer: (A) **Explanation:** In acutely infected tissue, the local pH is lower (more acidic) due to bacterial metabolic products. This unfavourable pH also reduces the efficacy of adrenaline. Additionally, the hyperaemia and increased vascularity of inflamed tissue causes more rapid systemic absorption of both the local anaesthetic and the vasoconstrictor, further reducing their local concentration and duration. Therefore vasoconstrictors are LESS effective in infected tissue. [Go Back to Q38](#)

Answer: (C) **Explanation:** The maximum safe dose of articaine (4%) with adrenaline



for a healthy adult is 7 mg/kg, with an absolute maximum of 500 mg. At 4% concentration (40 mg/mL) in a 1.7 mL cartridge (68 mg/cartridge), this corresponds to approximately 7 cartridges for a 70 kg adult. This is higher than plain articaine due to the vasoconstrictor effect. [Go Back to Q39](#)

Answer: (D) **Explanation:** Paediatric local anaesthetic dosing is strictly weight-based (mg/kg). The calculated maximum dose based on body weight must never be exceeded. Children have lower body weight, smaller volume of distribution, and potentially reduced hepatic metabolism capacity. Using adult doses in children risks local anaesthetic systemic toxicity (LAST), presenting as CNS excitation (seizures) followed by cardiovascular collapse. Always calculate the maximum dose (mg/kg) and select the minimum effective volume. [Go Back to Q40](#)

Answer: (C) **Explanation:** The pterygomandibular space is bounded by the medial aspect of the ramus laterally, the medial pterygoid muscle medially and the pterygomandibular raphe anteriorly. It contains the inferior alveolar nerve, lingual nerve and vessels. Infection reaches it most commonly via: (1) the needle track of an inferior alveolar nerve block injection (carrying oral bacteria deep into the space), or (2) spread from pericoronitis of the mandibular third molar. [Go Back to Q41](#)

Answer: (A) **Explanation:** The masticator space (also called the masseteric-ptyergoid space complex) contains: the masseter muscle, medial pterygoid muscle, inferior alveolar nerve and vessels, the ramus and posterior body of mandible. The PAROTID gland is not within the masticator space – it is contained within the parotid space (parotid bed), separated from the masticator space by the parotideomasseteric fascia. [Go Back to Q42](#)

Answer: (D) **Explanation:** Deep neck infections, particularly descending necrotising mediastinitis, most commonly occur via the retropharyngeal and parapharyngeal spaces – known collectively as the “danger space.” The retropharyngeal space communicates directly with the superior mediastinum. Infections from the mouth track posteriorly to the pharyngeal spaces and then descend along the fascial planes of the neck into the chest, causing mediastinitis with mortality rates of 30–40%. [Go Back to Q43](#)

Answer: (B) **Explanation:** Odontogenic infections are polymicrobial in the majority of cases. Early infections are predominantly aerobic/facultative anaerobic streptococci (*Streptococcus milleri* group). As infections mature (48–72 hours), anaerobes become predominant: *Peptostreptococcus*, *Fusobacterium nucleatum*, *Prevotella*, *Porphyromonas*, and *Actinomyces* species. This mixed aerobe/anaerobe character explains why amoxicillin-clavulanate (covering both) or penicillin plus metronidazole is effective. [Go Back to Q44](#)

Answer: (C) **Explanation:** Chronic osteomyelitis of the jaw is managed surgically with sequestrectomy (removal of sequestrum – the dead bone) and decortication (removal of the sclerotic cortex to allow access of blood supply and antibiotics to the affected area), combined with appropriate long-term antibiotic therapy (often 6–12 weeks). Antibiotics alone are



insufficient without surgical removal of the avascular sequestrum. HBO is an adjunct, not primary treatment. [Go Back to Q45](#)

Answer: (B) **Explanation:** Lemierre syndrome (postanginal septicaemia) is a serious, potentially life-threatening condition caused predominantly by *Fusobacterium necrophorum*. It is characterised by septic thrombophlebitis of the internal jugular vein following a pharyngeal or peritonsillar infection. It presents with fever, neck swelling and tenderness, and septic emboli (classically to the lungs). It is more common in young adults and requires IV antibiotics (metronidazole-based) and sometimes anticoagulation. [Go Back to Q46](#)

Answer: (C) **Explanation:** Hyperbaric oxygen increases the dissolved oxygen in plasma (above normal haemoglobin-carried oxygen), delivering high-concentration oxygen to hypoxic and ischaemic bone tissue. In osteomyelitis, the infected bone has compromised vascularity. HBO enhances the oxygen-dependent killing mechanism of neutrophils (oxidative burst), promotes angiogenesis, and supports osteoblast function and collagen synthesis in the healing bone. It is used as an adjunct (not replacement) to surgery and antibiotics. [Go Back to Q47](#)

Answer: (D) **Explanation:** The Cierny-Mader classification has two components: (1) Anatomic type – Stage 1 (medullary), Stage 2 (superficial), Stage 3 (localised), Stage 4 (diffuse). (2) Physiologic class of the host – Class A (normal host), Class B (systemically or locally compromised), Class C (treatment worse than disease). The combination of anatomic type and host class determines management. [Go Back to Q48](#)

Answer: (A) **Explanation:** Co-amoxiclav (amoxicillin + clavulanic acid) is the antibiotic of first choice for spreading odontogenic infections in non-allergic patients. It covers the polymicrobial flora (aerobic streptococci AND anaerobes including beta-lactamase producers). Plain amoxicillin is less effective against beta-lactamase-producing anaerobes. Metronidazole alone covers anaerobes but not streptococci. Penicillin V is acceptable for mild infections but co-amoxiclav gives broader cover for spreading infection. [Go Back to Q49](#)

Answer: (B) **Explanation:** Ludwig's angina is a rapidly spreading bilateral cellulitis of the submandibular, sublingual and submental spaces simultaneously (all three spaces are involved). It most commonly arises from infection of the mandibular second or third molar. It does not suppurate in the classical sense (no fluctuation) and is a diffuse cellulitis. The tongue is displaced upward and backward, threatening the airway. [Go Back to Q50](#)

Answer: (C) **Explanation:** The most immediate life-threatening danger in Ludwig's angina is AIRWAY OBSTRUCTION. The rapidly spreading brawny cellulitis elevates the floor of the mouth, displacing the tongue upward and posteriorly, which can completely obstruct the oropharyngeal airway. Airway management (awake fiberoptic intubation, tracheostomy) is the FIRST priority before any other intervention. Mediastinitis is a serious but delayed complication. [Go Back to Q51](#)

Answer: (A) **Explanation:** MRSA (methicillin-resistant *Staphylococcus aureus*) is resis-



tant to all beta-lactam antibiotics (penicillins, cephalosporins, carbapenems). It is treated with glycopeptides (vancomycin IV) or oxazolidinones (linezolid, which can be given orally). Teicoplanin is another glycopeptide option. Daptomycin and tigecycline are alternatives. Amoxicillin-clavulanate, penicillin and metronidazole have NO activity against MRSA. [Go Back to Q52](#)

Answer: (B) **Explanation:** According to most epidemiological studies and Dingman and Natvig's classification, the angle of the mandible is the MOST common site of mandibular fracture. This is due to the thin cortical bone at the angle, the presence of the third molar (which acts as a stress-riser), and the biomechanics of force application. The order of frequency is approximately: angle > condyle > body > symphysis/parasymphysis > ramus > coronoid. [Go Back to Q53](#)

Answer: (C) **Explanation:** Diacapitular (intracapsular) condylar fractures in adults are generally managed conservatively with functional therapy – early mobilisation, jaw exercises and physiotherapy – rather than open reduction. Open reduction risks avascular necrosis of the condylar head fragment, and the condylar head has excellent remodelling capacity. The functional approach preserves joint function. Open reduction is generally reserved for severely displaced fractures with condylar head displacement into the middle cranial fossa. [Go Back to Q54](#)

Answer: (D) **Explanation:** The Gillies temporal approach (temporal approach to the zygomatic arch) involves making an incision in the temporal hairline above the zygomatic arch, dissecting down through the temporal fascia to a plane between the superficial and deep temporal fascia layers, and inserting an elevator (Bristow or Rowe's elevator) under the depressed zygomatic arch to elevate it from below. It is used for simple, depressed zygomatic arch fractures. [Go Back to Q55](#)

Answer: (A) **Explanation:** In Le Fort I fracture repair, the correct sequence is: (1) Establish proper occlusion with MMF; (2) Plate the piriform rim (L-shaped plates at the anterior buttress), which establishes the anterior height; (3) Plate the zygomaticomaxillary buttress (posterior lateral buttress), which establishes posterior vertical height. In combined Le Fort/ZMC fractures, the ZMC is reduced first to establish the lateral framework before the Le Fort I is plated. [Go Back to Q56](#)

Answer: (C) **Explanation:** In edentulous patients with bilateral condylar fractures, there are no teeth to guide occlusion and MMF cannot be applied without surgical splints. Open reduction and internal fixation (ORIF) is preferred to restore the vertical dimension of the lower face, prevent shortening of the ramus height, and avoid anterior open bite. Gunning splints can be used for MMF but ORIF provides more stable fixation in this challenging scenario. [Go Back to Q57](#)

Answer: (B) **Explanation:** Post-traumatic malocclusion most commonly results from malunion of mandibular fracture fragments in a displaced position. This may occur due to



inadequate reduction at the time of surgery, failure of fixation hardware, or non-compliance with MMF. The displaced segments heal in the wrong position, permanently altering the occlusion. This requires corrective osteotomy for definitive management. [Go Back to Q58](#)

Answer: (D) **Explanation:** Posterior wall fractures of the frontal sinus that displace into the anterior cranial fossa are managed neurosurgically. The sinus is “cranialised” – the posterior wall, sinus mucosa and frontonasal duct are all removed, and the anterior cranial fossa dura is repaired. This eliminates the frontal sinus entirely as a potential route of meningitis or intracranial complications. This is done in collaboration with neurosurgery. [Go Back to Q59](#)

Answer: (B) **Explanation:** In gunshot wounds to the midface with massive haemorrhage, the IMMEDIATE priority following Advanced Trauma Life Support (ATLS) principles is airway management (A) and haemorrhage control (B – via direct packing, anterior/posterior nasal packing, or angiographic embolisation of the internal maxillary artery). Definitive fracture repair is delayed until the patient is haemodynamically stable. CT imaging follows establishment of haemodynamic stability. [Go Back to Q60](#)

Answer: (C) **Explanation:** The classic clinical triad of ZMC fracture is: (1) Flattening of the malar eminence (loss of malar prominence due to medial and inferior displacement of the zygoma); (2) Trismus (impingement of the depressed zygomatic arch on the coronoid process of the mandible); (3) Anaesthesia/hypoesthesia of the cheek, upper lip, lateral nose and upper teeth due to infraorbital nerve injury. The “dish-face” deformity is seen in Le Fort fractures. [Go Back to Q61](#)

Answer: (C) **Explanation:** NOE fractures are classified by Markowitz et al. according to the integrity of the central fragment containing the medial canthal tendon (MCT) insertion on the anterior lacrimal crest: Type I – single central fragment (intact MCT); Type II – comminuted fracture with MCT still attached to a fragment; Type III – comminuted fracture with MCT avulsed from the fragment. This classification guides reconstruction (Type III requires transnasal canthopexy). [Go Back to Q62](#)

Answer: (B) **Explanation:** Comminuted ZMC fractures requiring direct plating need access to multiple suture lines (zygomaticofrontal, infraorbital rim, zygomatic arch, intraoral for zygomaticomaxillary buttress). The temporal (Gillies) approach provides access to the arch for elevation and lateral plating. It is combined with an infraorbital approach (for the infraorbital rim and floor) and an intraoral approach (for the ZM buttress). A bicoronal flap is used when the zygomatic arch needs plating under direct vision. [Go Back to Q63](#)

Answer: (A) **Explanation:** A tripod fracture (more correctly termed tetrapod, as four sites are classically disrupted; historically called tripod) involves fractures at: (1) The zygomaticofrontal suture; (2) The zygomaticomaxillary buttress (anterior wall of maxillary sinus / infraorbital rim); (3) The zygomatic arch; (4) The orbital floor (zygomatico-orbital suture). The “tripod” designation refers historically to the three visible suture/buttress frac-



tures, though the orbital floor is always involved. [Go Back to Q64](#)

Answer: (B) **Explanation:** Radicular cysts develop from the epithelial cell rests of Malassez – remnants of Hertwig's epithelial root sheath that persist in the periodontal ligament. Normally quiescent, these cells are stimulated to proliferate by inflammatory mediators from periapical granulomas (released by bacterial products from a necrotic pulp). The proliferating epithelium lines a fluid-filled cystic space that expands by osmotic pressure. [Go Back to Q65](#)

Answer: (C) **Explanation:** Aspiration of an OKC yields a cheesy, white or yellowish keratin-rich material (desquamated keratin from the parakeratin lining) that has LOW protein content (less than 4 g%). This distinguishes OKC aspirate from dentigerous cysts (straw-coloured, low protein) and from ameloblastomas or other cysts. The low protein distinguishes OKC from high-protein cysts where the protein content exceeds 4 g% (e.g., lateral periodontal cyst). [Go Back to Q66](#)

Answer: (D) **Explanation:** The odontogenic keratocyst has the highest recurrence rate among jaw cysts, reported between 25–60% following simple enucleation. This high recurrence is attributed to: thin friable lining (easy to leave remnants), satellite/daughter cysts in the wall, PTCH gene mutation driving epithelial proliferation, and possibly intrinsic growth potential of the lining. Carnoy's solution application and peripheral ostectomy are used to reduce recurrence. [Go Back to Q67](#)

Answer: (A) **Explanation:** Botryoid OKC is a multilocular variant of the odontogenic keratocyst. It has a grape-like (botryoid) appearance on imaging and microscopically shows multiple satellite cysts projecting into the connective tissue wall. It has a HIGHER recurrence rate than the unilocular OKC because the multiple locules are difficult to completely enucleate. It is not a separate entity but a morphological variant of OKC with worse prognosis. [Go Back to Q68](#)

Answer: (C) **Explanation:** The nasopalatine duct cyst, the most common non-odontogenic cyst of the jaws, is located in the incisive canal/papilla region of the anterior hard palate. It is accessed via a palatal incision (inverted-Y or U-shaped palatal flap). The cyst is enucleated through this approach. A labial approach risks damaging the nasopalatine nerve and vessels and does not give adequate access to the deeper portions of the cyst. [Go Back to Q69](#)

Answer: (D) **Explanation:** Traumatic bone cyst (simple bone cyst, haemorrhagic bone cyst) is characteristically an empty cavity or one containing a small amount of serosanguinous fluid when opened surgically. Crucially, it has NO epithelial lining – the cavity is lined by a thin fibrous membrane or compressed bone. This distinguishes it from all true cysts (which by definition have an epithelial lining). The scalloping between tooth roots on OPG (without root resorption) is a classic radiographic feature. [Go Back to Q70](#)

Answer: (A) **Explanation:** Stafne's bone cyst (static bone cavity, Stafne's bone defect) is a developmental depression (not a true cyst – no lining) on the lingual surface of the



posterior mandible, typically located below the inferior alveolar canal (inferior to the canal). It contains a lobe of submandibular salivary gland tissue. It is a well-defined unilocular radiolucency BELOW the IAN canal in the molar region, which is pathognomonic. It requires no treatment. [Go Back to Q71](#)

Answer: (B) **Explanation:** The calcifying odontogenic cyst (Gorlin cyst, now classified as calcifying cystic odontogenic tumour by WHO) is characterised histologically by: (1) Ghost cells (shadow cells, anucleate eosinophilic cells representing aberrant keratinisation); (2) Areas of calcification of ghost cells; and possibly (3) An associated solid ameloblastic component (in the neoplastic variant – dentinogenic ghost cell tumour). Ghost cells are the hallmark feature. Liesegang rings and duct-like structures are features of CEOT and AOT respectively. [Go Back to Q72](#)

Answer: (C) **Explanation:** Carnoy's solution (absolute ethanol, chloroform, glacial acetic acid and ferric chloride) is a fixative and chemical ablative agent applied to the bone cavity walls after enucleation of an OKC. It penetrates approximately 1.5 mm into bone, fixing and destroying any residual cyst epithelium, satellite cysts or daughter cysts in the bony walls that were not removed with the main cyst lining. This reduces the recurrence rate from 45% (enucleation alone) to 7% with Carnoy's. [Go Back to Q73](#)

Answer: (B) **Explanation:** The gingival cyst of the adult (lateral periodontal cyst of the soft tissue) most commonly occurs in the interdental papilla or free gingival margin of the mandibular premolar-canine region. It presents as a small (usually less than 1 cm), dome-shaped, bluish-grey soft tissue swelling of the gingiva. It arises from the rests of Serres (dental lamina remnants). Treatment is conservative surgical excision. [Go Back to Q74](#)

Answer: (D) **Explanation:** Odontogenic myxoma is an infiltrative tumour that permeates the medullary spaces of the jaw without forming a true capsule. Curettage and enucleation alone carry very high recurrence rates (25–43%) because microscopic tumour infiltrates beyond visible margins into adjacent bone. Resection with clear bony margins is therefore the recommended treatment for most odontogenic myxomas, particularly large lesions. Small, well-defined lesions may be treated with aggressive curettage and peripheral ostectomy. [Go Back to Q75](#)

Answer: (A) **Explanation:** Odontogenic myxoma is histologically characterised by loosely arranged stellate (star-shaped) and spindle-shaped cells embedded in an abundant loose myxoid intercellular matrix rich in glycosaminoglycans. Collagen fibres are sparse. Odontogenic epithelial rests may be present but are not the defining feature. The loose myxoid stroma distinguishes it from ameloblastic fibroma and other odontogenic tumours. [Go Back to Q76](#)

Answer: (B) **Explanation:** Compound odontoma most commonly occurs in the anterior maxilla (canine-incisor region) and is associated with an impacted tooth (commonly the maxillary canine). It contains multiple recognisable tooth-like structures (denticles) in disor-



ganised arrangement but each element resembles a tooth. Complex odontoma, by contrast, occurs most commonly in the posterior mandible. [Go Back to Q77](#)

Answer: (C) **Explanation:** Complex odontoma (an unorganised mass of enamel, dentine, cementum and pulp tissue without resemblance to teeth) most commonly occurs in the POSTERIOR MANDIBLE (molar region). It is often associated with an unerupted molar. This is in contrast to compound odontoma (anterior maxilla). Treatment is conservative enucleation; recurrence is virtually unknown. [Go Back to Q78](#)

Answer: (A) **Explanation:** The adenomatoid odontogenic tumour (AOT) is strongly associated with unerupted maxillary canines – approximately two-thirds of AOTs involve the anterior maxilla, and the majority are associated with the crown of an unerupted (usually canine) tooth in a follicular (pericoronal) configuration. The “two-thirds rule” is well-recognised: two-thirds occur in the maxilla, two-thirds in females, and two-thirds are associated with an unerupted canine. [Go Back to Q79](#)

Answer: (B) **Explanation:** CCOF differs from fibrous dysplasia in key respects: CCOF is a benign neoplasm with a well-defined corticated border on imaging, is encapsulated and can be enucleated cleanly, does not grow after puberty, and is not associated with activating mutations of the Gs-alpha gene. Fibrous dysplasia is a developmental anomaly with no capsule (fuses with surrounding bone – “bony union”), shows a ground-glass appearance with ill-defined borders, and is caused by GNAS1 (Gs-alpha) mutations. [Go Back to Q80](#)

Answer: (C) **Explanation:** Liesegang ring calcifications (concentric calcific deposits resembling a target or bullseye) are a characteristic feature of the calcifying epithelial odontogenic tumour (CEOT – Pindborg tumour). CEOT also contains amyloid-like material (Congo red positive) and homogeneous eosinophilic deposits with variable calcifications. AOT also contains amyloid-like material and duct-like structures (but Liesegang rings are specifically associated with CEOT). [Go Back to Q81](#)

Answer: (D) **Explanation:** Squamous odontogenic tumour (SOT) arises from the periodontal ligament or inter-radicular bone, characteristically appearing as a triangular or semicircular radiolucency in the LATERAL aspect of the root surface between adjacent teeth. It is a benign, locally infiltrative tumour of odontogenic epithelium. It presents as a periradicular lesion adjacent to the side of a tooth root (not at the apex), causing a distinctive lateral defect visible on radiograph. [Go Back to Q82](#)

Answer: (A) **Explanation:** MRI is the gold standard for TMJ imaging because it provides excellent soft tissue contrast without ionising radiation. It can directly visualise the articular disc (position, morphology, signal), the condylar head (bone marrow signal), retrodiscal tissue, joint effusion, and periarticular soft tissues. CT is superior for bony pathology (condylar shape, erosions, osteophytes) but cannot directly image the disc. [Go Back to Q83](#)

Answer: (B) **Explanation:** Wilkes staging of TMJ internal derangement: Stage I – clicking, disc displacement with reduction, no structural changes. Stage II – occasional locking,



disc displacement with reduction, slight disc deformity. Stage III – frequent locking (displacement without reduction), significant disc deformity, beginning bone changes. Stage IV – crepitus, disc perforation/destruction, moderate-severe degenerative changes. Stage V – crepitus, gross disc destruction, perforation, severe degenerative joint disease with multiple adhesions. [Go Back to Q84](#)

Answer: (C) **Explanation:** Modified condylotomy involves a vertical subsigmoid osteotomy of the mandibular ramus (similar to a vertical ramus osteotomy) performed intraorally. This allows the condyle-disc complex to be displaced downward and forward, decompressing the posterior part of the joint and often allowing spontaneous recapture or repositioning of the displaced disc. It does not open the joint and avoids the risks of disc surgery (direct repair or discectomy). [Go Back to Q85](#)

Answer: (C) **Explanation:** Re-ankylosis after gap arthroplasty for TMJ ankylosis occurs due to new heterotopic bone formation in the gap. The SINGLE most important preventive measure is EARLY AND AGGRESSIVE JAW PHYSIOTHERAPY, beginning within days of surgery. The continuous movement prevents the raw bony surfaces from approximating and healing with bone. Physiotherapy must be maintained long-term. Interpositional material also helps but physiotherapy is universally agreed to be the cornerstone of prevention. [Go Back to Q86](#)

Answer: (A) **Explanation:** The stabilisation (flat plane/Michigan) splint covers all teeth on one arch and provides bilateral simultaneous and equal occlusal contacts with canine guidance, thereby eliminating any deflective tooth contacts and reducing the loading on the TMJ. This muscle-relaxing effect reduces parafunctional activity (bruxism), reduces TMJ loading and allows the masticatory muscles to reach a position of optimal resting length. It is the most evidence-based physical therapy for TMD. [Go Back to Q87](#)

Answer: (C) **Explanation:** TMJ dislocation: the condyle moves anterior to the articular eminence and CANNOT return spontaneously due to muscle spasm – requires manual reduction (Hippocratic method). Subluxation: the condyle moves past the articular eminence but SELF-REDUCES spontaneously (patient can close mouth without assistance). Dislocation is a clinical emergency requiring manipulation; subluxation is a nuisance but not an emergency. [Go Back to Q88](#)

Answer: (B) **Explanation:** Silastic (silicone elastomer) was used as an interpositional material in TMJ arthroplasty but was discontinued because silicone particles shed from the implant triggered a foreign body giant cell inflammatory reaction. This caused progressive condylar resorption, formation of fibrous scar tissue and subsequent collapse of the joint space – termed silicone synovitis or silicone-induced giant cell reaction. This led to FDA withdrawal of silicone joint implants in the early 1990s. [Go Back to Q89](#)

Answer: (D) **Explanation:** Myofascial pain dysfunction syndrome (MPDS / TMJ pain dysfunction syndrome) is a multifactorial condition. Contributing factors include: emotional



stress (causing muscle hyperactivity and bruxism), parafunctional habits (bruxism, clenching, nail-biting), muscle fatigue and hyperalgesia, psychological factors (anxiety, depression), and possibly minor occlusal discrepancies. However, occlusal adjustment does NOT reliably resolve MPD and is no longer considered a primary treatment. The biopsychosocial model is the current understanding. [Go Back to Q90](#)

Answer: (A) **Explanation:** Advancement genioplasty (horizontal sliding osteotomy of the chin with forward movement) is indicated for microgenia (deficient chin projection) – correction of a short or retruded chin – either as a primary procedure or as an adjunct to orthognathic surgery for Class II or Class III correction. Genioplasty allows three-dimensional repositioning: forward, backward, up, down or sideways to correct all chin deformities. [Go Back to Q91](#)

Answer: (B) **Explanation:** Virtual surgical planning (VSP) uses high-resolution CT scan data to create a 3D digital model of the patient's skull and facial skeleton. Software is used to simulate the planned osteotomies and repositioning movements. Custom surgical cutting guides (to guide saw cuts precisely) and pre-bent titanium plates (to the planned position) are manufactured from this virtual plan before surgery, making the procedure faster, more accurate and more predictable. [Go Back to Q92](#)

Answer: (A) **Explanation:** Velopharyngeal insufficiency (VPI – inadequate closure of the velopharyngeal sphincter, causing hypernasal speech and nasal air escape) is a recognised complication of Le Fort I maxillary ADVANCEMENT osteotomy. When the maxilla is moved forward (and sometimes downward), the soft palate, which is attached to the posterior hard palate, is carried forward and may no longer contact the posterior pharyngeal wall during speech. VPI is more common in patients with pre-existing borderline velopharyngeal function (e.g., repaired cleft palate). [Go Back to Q93](#)

Answer: (C) **Explanation:** The COGS (Cephalometrics for Orthognathic Surgery) analysis, introduced by Burstone and colleagues, uses the Frankfort Horizontal plane (FH plane, connecting porion to orbitale) as the primary horizontal reference plane. All vertical and horizontal linear measurements are made relative to the FH plane and a perpendicular from nasion. This differs from analyses using the SN plane (sella-nasion), which introduces variation from skull base flexion differences. [Go Back to Q94](#)

Answer: (D) **Explanation:** Avascular necrosis (AVN) of the maxilla is a rare but catastrophic complication of Le Fort I osteotomy. It occurs when the blood supply to the maxillary dento-osseous segment is severely compromised. The maxilla receives blood supply from the palatal mucoperiosteum (major contribution) and the descending palatine artery. Risk factors for AVN include: disruption of BOTH the palatal and buccal pedicles, excessive subperiosteal stripping, over-zealous repositioning, and cigarette smoking (which causes vasoconstriction and reduces wound healing). [Go Back to Q95](#)

Answer: (A) **Explanation:** Dean's intraseptal alveoloplasty involves removing the inter-



dental bone septa (interseptal bone) between adjacent sockets after multiple extractions, while preserving the intact buccal cortical plate. The buccal cortex is then compressed inward (with digital pressure) to collapse over the now-empty interdental spaces, resulting in a smooth, tapered alveolar ridge ideal for denture construction. This is distinguished from radical alveoloplasty (which removes the buccal plate) by its bone-conservative approach.

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Answer: (C) **Explanation:** Labial frenectomy is indicated when the maxillary labial frenum has a low attachment (inserting into or near the interdental papilla or onto the incisive papilla) causing: (1) a midline diastema between the central incisors; (2) interference with denture seating and stability; or (3) difficulty in maintaining oral hygiene. A frenum attaching at the mucogingival junction rarely causes problems. [Go Back to Q97](#)

Answer: (B) **Explanation:** Vasovagal syncope in the dental chair is managed by: (1) Placing the patient supine (laying flat) with legs elevated above the level of the heart (Trendelenburg position) – this increases venous return to the heart and restores cerebral blood flow. (2) Ensuring the airway is patent. (3) Loosening tight clothing. (4) Providing cool air and reassurance. This usually resolves syncope within seconds to minutes. If the patient does not recover, consider other diagnoses (hypoglycaemia, cardiac arrest). [Go Back to Q98](#)

Answer: (D) **Explanation:** The MONA acronym for acute myocardial infarction management stands for Morphine (analgesic and anxiolytic, given IV titrated to pain), Oxygen (given if SpO₂ less than 94%), Nitrates (sublingual GTN for vasodilation, relieves ischaemic pain – avoid if hypotensive), and Aspirin (300 mg stat, antiplatelet, chewed and swallowed). These are given in this sequence while awaiting emergency services and definitive reperfusion therapy (PCI or thrombolysis). [Go Back to Q99](#)

Answer: (D) **Explanation:** Cardiopulmonary arrest management follows the Basic Life Support (BLS) sequence: (1) Check safety; (2) Check response; (3) Call for help; (4) Open airway; (5) Check for breathing; (6) BEGIN CHEST COMPRESSIONS at 100–120 per minute with a depth of 5–6 cm (in adults) in a 30:2 ratio with rescue breaths. The current AHA/ERC guidelines emphasise early high-quality CPR as the most important intervention while awaiting a defibrillator and advanced life support. [Go Back to Q100](#)

