EDITED ER PAST PAPERS

بسم الله الرحمن الرَّحِيمِ
Miniosce collection
Chest pain

QUESTION 1:
The ideal time period after ER presentation within which percutaneous coronary angioplasty (PCI) should be performed in a patient with STEMI is:* FINAL018* **
A) 15 minutes
B) 30 minutes
C) 60 minutes
D) 90 minutes
ANSWER: D

HIGH-YIELD CONTEXT:

- **Choice of Reperfusion Strategy (ACS Slide 62):**
    - The ideal treatment for all STEMIs is acute PCI or in some cases emergency CABGs.
    - **Primary PCI is preferred for reperfusion therapy in patients with STEMI if it can be performed within 90 minutes of first medical contact.**
    - If this time frame is not possible, then fibrinolytic therapy is preferred for those without contraindications.
-
- **STEMI gold standard treatment (Test Bank Page 14, Q44):** PCI within 90 minutes.

QUESTION 2:
A very long case of a female patient who presented to the ER with chest pain for 1 hour. An ECG was done & she was diagnosed with STEMI. The question asked for the best treatment option? **
A. Aspirin & PCI
B. Aspirin & thrombolysis
C. Aspirin alone
D. Pacemaker
E. Something that didn't make sense
ANSWER: A

HIGH-YIELD CONTEXT:

- **ED management of STEMI (ACS Slide 59):** Includes relief of pain, oxygen, nitroglycerin, **antiplatelets** (Aspirin), and heparin.

- **Choice of Reperfusion Strategy (ACS Slide 62):**
    - Primary PCI is preferred if it can be performed within 90 minutes of first medical contact.
-
- **Anti-Platelet Therapy (ACS Slide 59):** In all patients with possible ACS and without genuine contraindications, aspirin (dissolved or chewed) should be given as soon as possible after presentation.
- **Aspirin (ACS Slide 60):** Aspirin 300 mg po then 100-150 mg daily thereafter. Continued indefinitely.

QUESTION 3:
Which of the following is wrong about STEMI? **
A. If O2 saturation is >98%, don't give oxygen
B. Aspirin is given to all the patients in the ER
C. Wait for biomarkers before you start treatment
D. Other 2 options that were obviously correct
ANSWER: C

HIGH-YIELD CONTEXT:

- **STEMI Diagnosis & Management:** STEMI (ST-segment Elevation Myocardial Infarction) is primarily an ECG diagnosis in the emergency setting. Treatment, especially reperfusion therapy, should not be delayed waiting for cardiac biomarker results (e.g., troponin). While biomarkers confirm myocardial injury, the ECG changes in STEMI indicate an acute, ongoing occlusion requiring immediate intervention.
- **ED management of STEMI (ACS Slide 59):** Includes oxygen (if indicated), nitroglycerin, antiplatelets (aspirin), and heparin. Reperfusion strategy (PCI or thrombolysis) is decided based on ECG and time factors, not biomarkers.
- **Biomarkers (CK-MB/Troponins) (ACS Slide 45):** These rise in STEMI and NSTEMI indicating infarction, but STEMI diagnosis on ECG triggers immediate reperfusion protocols.

QUESTION 4:
55year old, HTN, DM, Hypercholesterolemia with history of stable angina presented with chest pain radiating to the upper limbs what do you expect to find in ECG:
A. Short Qt
B. Normal ECG
C. Non specific ST changes
D. St depression
E. ST elevation
ANSWER: E

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HIGH-YIELD CONTEXT:

- **Pathophysiology of ACS (ACS Slide 45):**
    - **STEMI (ST-Elevation Myocardial Infarction):** Typically due to complete occlusion of an epicardial artery, leading to transmural infarction. The hallmark ECG finding is ST-segment elevation.
    - **NSTEMI/Unstable Angina:** Typically due to partial occlusion or subendocardial ischemia. ECG may show ST-segment depression, T-wave inversions, or may be normal.
-
- **ECG Evolution in STEMI (ACS Slide 52):** The earliest changes can be hyperacute T-waves, followed by ST-segment elevation. Q-waves may develop later.
- Given the acute presentation of chest pain radiating to upper limbs in a patient with multiple risk factors and a history of stable angina, a progression to an acute STEMI is a strong possibility, making ST elevation the most critical finding to look for.

PAGE 3

QUESTION 5:
Case of chest pain with no ecg changes, raised troponin:
A. Stable angina
B. Unstable angina
C. STEMI
D. NSTEMI
ANSWER: D

HIGH-YIELD CONTEXT:

- **Comparison: the different types of ACS (ACS Slide 45 & 48):**
    - **Stable Angina:** Chest pain on exertion, relieved by rest/nitrates. Troponins are normal. ECG normal or shows chronic changes.
    - **Unstable Angina:** Ischemic symptoms at rest or with minimal exertion, new onset, or crescendo pattern. ECG may show ST depression or T-wave inversion. Troponins are **normal**. (Slide 45 "No infarction").
    - **NSTEMI (Non-ST Elevation Myocardial Infarction):** Ischemic symptoms. ECG may show ST depression, T-wave inversion, or be normal. Troponins are **elevated**, indicating myocardial necrosis. (Slide 45 "Subendocardial infarction").
    - **STEMI (ST Elevation Myocardial Infarction):** Ischemic symptoms with ST-segment elevation on ECG. Troponins are **elevated**. (Slide 45 "Transmural infarction").

- In this case, "no ECG changes" (or non-specific changes) with "raised troponin" fits the definition of NSTEMI.

ECGS QUESTION 1:

What's the diagnosis depending on this ECG strip?

A. Normal ECG
B. First degree heart block
C. Second degree heart block
D. Atrial flutter
E. Atrial fibrillation
ANSWER: A
(The P-R interval was slightly less than 0.2, so one might think it's a first degree block, but it was not)

HIGH-YIELD CONTEXT:

- **Normal Sinus Rhythm Criteria:**
  - Rate: 60-100 bpm.
  - Rhythm: Regular.
  - P waves: Present, upright, one P wave before each QRS complex.
  - PR interval: 0.12-0.20 seconds (3-5 small squares).
  - QRS complex: <0.12 seconds (less than 3 small squares).
-
- **First Degree Heart Block:** Characterized by a PR interval consistently longer than 0.20 seconds. The rhythm is regular, and every P wave is followed by a QRS complex. (The note implies this was a distractor).

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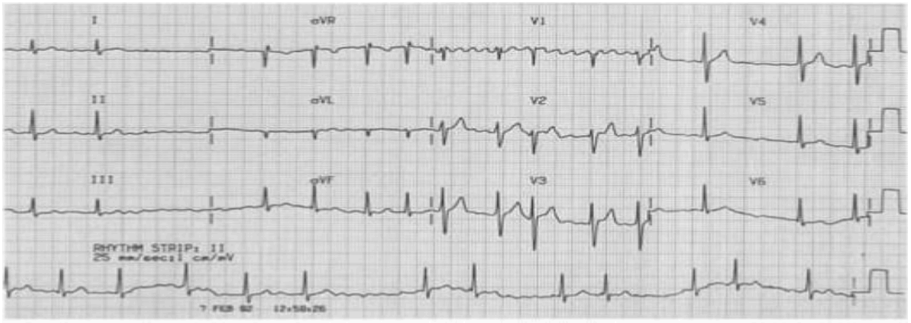
ECGS QUESTION 2:



A 73-year-old ICU patient who became unresponsive. An ECG was done, this is his ECG strip. His blood pressure was 70/40. What's the best next step for management?
A. Cardioversion with 50 Joules
B. Adenosine 6mg
C. Amiodarone 300mg
D. Diltiazem 0.25mg
E. Lidocaine 100mg
ANSWER: A

HIGH-YIELD CONTEXT:

- **How to approach Tachy-arrhythmias (ACS Slide 42 - Adult tachycardia algorithm):**
  - **Assess with the ABCDE approach.**
  - **Life-threatening features?** (Shock, Syncope, Myocardial ischaemia, Severe heart failure). The patient is unresponsive with BP 70/40, indicating shock (unstable).
  - **If UNSTABLE (life-threatening features present): Synchronised DC shock up to 3 attempts.**
    - Sedation or anaesthesia if conscious.
    - If unsuccessful: Amiodarone 300 mg IV over 10-20 min, then repeat synchronised DC shock.
  - **Cardioversion Joules (from algorithm diagram):**
    - QRS narrow and regular (e.g. SVT, Atrial Flutter): Suggested 50-100 Joules (initial) for synchronized cardioversion.
    - QRS narrow and irregular (e.g. Atrial Fibrillation): Suggested 120-200 Joules (initial) for synchronized cardioversion.
    - QRS wide and regular (e.g. VTach): Suggested 100 Joules (initial) for synchronized cardioversion.
    - QRS wide and irregular (e.g. Polymorphic VT/VF): Defibrillate (unsynchronized).
  - Since the patient is unstable, synchronized cardioversion is indicated. 50 Joules is a reasonable starting energy for a regular narrow or wide complex tachycardia.

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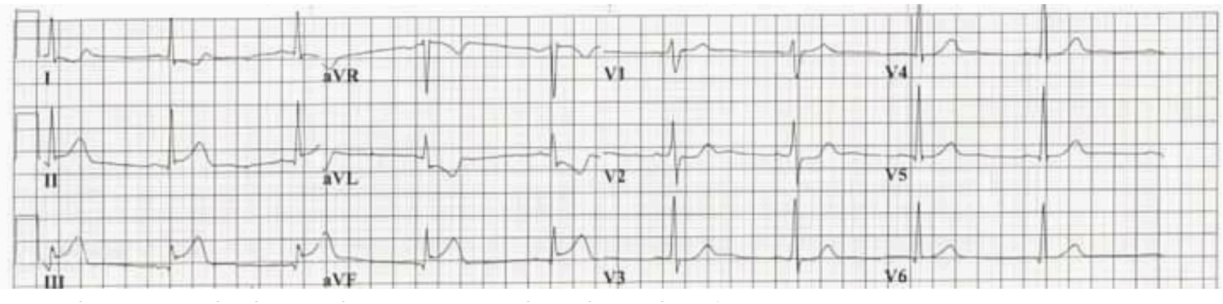
ECGS QUESTION 3:



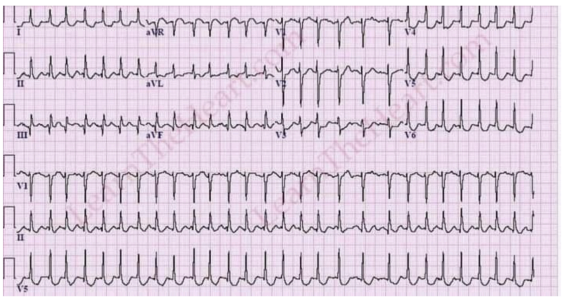
Which of the following is true about this ECG strip? **
A. It shows pathological Q wave in the chest leads
B. It shows ECG changes of a lateral MI
C. It shows ECG changes of an anterior MI
D. It shows ECG changes of an inferior MI
ANSWER: D

HIGH-YIELD CONTEXT:

- **Leads and Culprit Artery (ACS Slide 48):**
    - **Inferior MI:** Indicated by ST elevation in leads **II, III, and aVF**. The culprit artery is typically the Right Coronary Artery (RCA).
    - **Lateral MI:** Indicated by ST elevation in leads I, aVL, V5, V6. Culprit artery typically Left Circumflex (LCx) or diagonal branches of LAD.
    - **Anterior MI / Anteroseptal MI:** Indicated by ST elevation in precordial leads (V1-V4, sometimes extending to V5-V6 for extensive anterior). Culprit artery typically Left Anterior Descending (LAD).
-
- **ECG Evolution in STEMI (ACS Slide 52):** Pathological Q waves can develop as part of the evolution of an MI, indicating transmural infarction. They are typically deep (>25% of R wave height) and wide (>0.04s). However, the primary acute change is ST elevation. The question asks what the strip *shows*. If there are ST elevations in II, III, aVF, then it shows an inferior MI.

ECGS QUESTION 4:
A 55-year-old asthmatic patient who presented with the feeling that her heart is racing. An ECG was done & this is her ECG strip. She's stable. What's the best next step for management? ***

A. Diltiazem
B. Amiodarone
C. Cardioversion



D. Adenosine
E. Atropine
ANSWER: A [This ECG shows Afib]

HIGH-YIELD CONTEXT:

- **How to approach Tachy-arrhythmias (ACS Slide 42 - Adult tachycardia algorithm):**
  - Patient is **STABLE**.
  - **Is QRS narrow (<0.12s)?** Assuming Atrial Fibrillation (Afib) which typically has a narrow QRS unless there's a pre-existing bundle branch block or aberrant conduction.
  - **Is QRS regular?** Afib is characteristically **irregularly irregular**.
  - **For IRREGULAR NARROW QRS (Probable Atrial Fibrillation):**
    - **Control rate with beta-blocker OR diltiazem.**
    - Consider digoxin or amiodarone if evidence of heart failure.
    - Anticoagulate if duration > 48h.
  -
-
- **Asthmatic Patient Consideration:** Beta-blockers can exacerbate asthma. Therefore, a calcium channel blocker like **Diltiazem** is a preferred choice for rate control in a stable asthmatic patient with Afib.
- Adenosine is used for regular narrow complex tachycardias (SVT).
- Cardioversion is for unstable patients or elective cardioversion.
- Amiodarone can be used for rate/rhythm control but diltiazem or beta-blockers are often first-line for rate control in stable Afib.
- Atropine is for bradycardia.

PAGE 5

ECGS QUESTION 5:
A 75-year-old patient who became unresponsive, was brought to the ER but regained consciousness & is now feeling better. He's hypertensive & takes amlodipine. He's not complaining of anything but his heart rate is 35 BPM with the following ECG. What's the best next step? ***

A. Amiodarone
B. Stop amlodipine & arrange for a temporary pacemaker
C. Isoprenaline infusion
D. Manage as inpatient with a permanent pacemaker
E. Stop amlodipine & admit for 24-hour cardiac monitoring
ANSWER: D [This is a third degree block, NOT a second degree block type 2, the P-R intervals are NOT equal)

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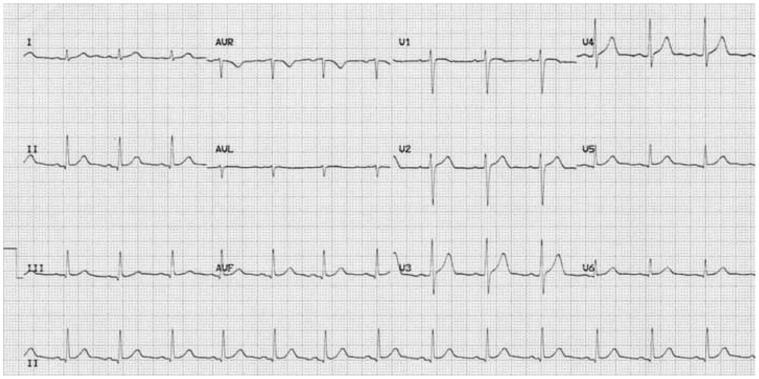
HIGH-YIELD CONTEXT:

- **Adult Bradycardia Algorithm (ACS Slide 43):**
    - Patient has a HR of 35 BPM (bradycardia).
    - **Evidence of life-threatening signs?** (Shock, Syncope, Myocardial ischaemia, Heart failure). The patient "became unresponsive" (syncope). Although now "feeling better," the history of unresponsiveness with profound bradycardia and a third-degree block is concerning.
    - **If life-threatening signs are present (or high risk of asystole):**
        - Atropine 500 mcg IV (if not effective or contraindicated)
        - Interim measures: Isoprenaline, Adrenaline, Alternative drugs, Transcutaneous pacing.
        - **Seek expert help / Arrange transvenous pacing.**
    -
    - **Risk of asystole?**
        - Recent asystole
        - Mobitz II AV block
        - **Complete heart block (3rd degree) with broad QRS**
        - Ventricular pause > 3s
    - Third-degree AV block (complete heart block) is a high-risk feature, especially if symptomatic (like the episode of unresponsiveness).
    - Amlodipine (calcium channel blocker) can cause bradycardia, but stopping it alone is unlikely to resolve a third-degree block sufficiently.
    - **Definitive treatment for symptomatic or high-risk third-degree AV block is a permanent pacemaker.** Managing as an inpatient for this is appropriate. Temporary pacing might be needed as a bridge if the patient is unstable or waiting for permanent pacemaker implantation.

ECGS QUESTION 6:

Patient works as a farmer started having chest pain while working, he took a break for 10 minutes then resumed to work. He started having the same pain again:



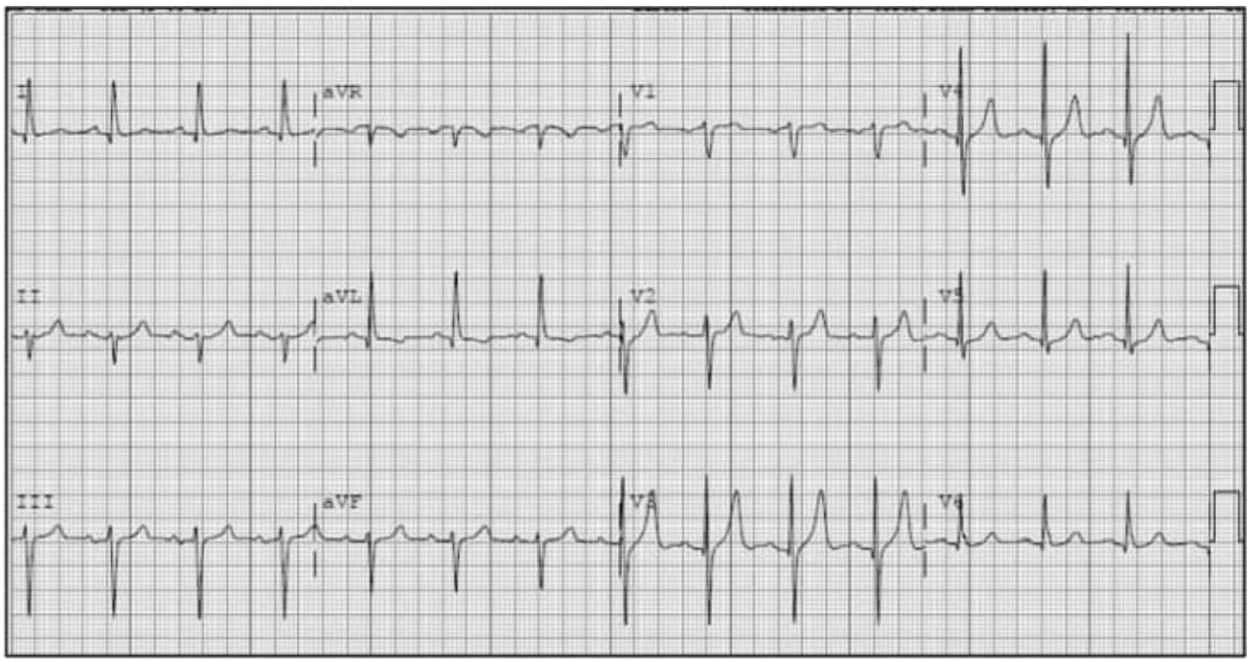
A. Angina
B. Abnormal chest discomfort
C. Acute pericarditis
D. Nonspecific ECG changes
ANSWER: A

HIGH-YIELD CONTEXT:

- **Typical Cardiac Chest Pain (ACS Slide 44):**
  - **Character:** Often described as pressure, ache, burning, not sharp or stabbing.
  - **Relation to Exertion/Rest:** Stable angina is classically precipitated by exertion and relieved by rest or nitroglycerin.
-
- **Pathophysiology of ACS (ACS Slide 45):**
  - **Stable Angina:** Implies a fixed coronary stenosis. Myocardial oxygen demand exceeds supply during exertion. No acute plaque rupture or thrombus. ECG during pain may show ST depression, but often normal at rest. Troponins normal.
-
- The scenario describes exertional chest pain relieved by rest, which is the hallmark of **angina pectoris**. If this is a new pattern or worsening, it could be unstable angina, but "angina" is the most direct fit for the description provided.

PAGE 6

ECGS QUESTION 7:
Which artery is affected depending on the following ECG panel? *FINAL*

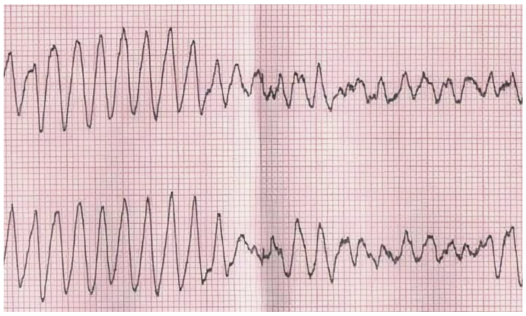


A. Left circumflex artery
B. Left marginal artery
C. Left main stem
D. Left anterior descending artery
E. Right coronary artery
ANSWER: D

HIGH-YIELD CONTEXT:

- **Leads and Culprit Artery (ACS Slide 48):**
    - **Left Anterior Descending Artery (LAD):** Supplies the anterior wall, septum, and apex of the left ventricle.
        - **Anteroseptal MI:** ST elevation in V1-V4.
        - **Anterior MI:** ST elevation in V3-V4 (often V2-V5).
        - **Anterolateral MI:** ST elevation in V3-V6, I, aVL.
    -
    - **Left Circumflex Artery (LCx):** Supplies the lateral wall and sometimes the posterior/inferior wall.
        - **Lateral MI:** ST elevation in I, aVL, V5-V6.
    - **Right Coronary Artery (RCA):** Supplies the inferior wall, right ventricle, and often the posterior wall.
        - **Inferior MI:** ST elevation in II, III, aVF.

ECGS QUESTION 8:
An ICU patient who became unresponsive, he was found to have no pulse & he's not breathing. An ECG was done & showed the following. What's the best next step for management? **



A. Amiodarone
B. Cardioversion
C. Epinephrine
D. Defibrillation
E. Secure the patient's airways
ANSWER: D

HIGH-YIELD CONTEXT:

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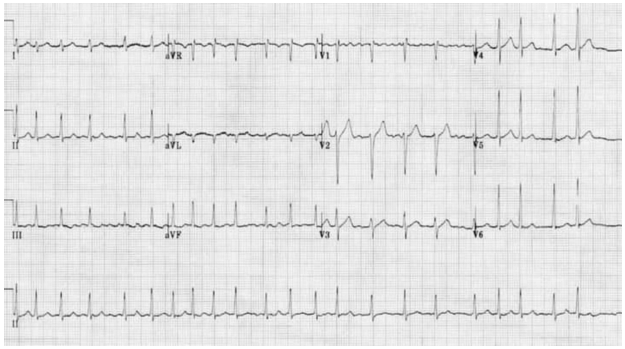
- **BLS Adult Algorithm (BLS Slides, e.g., Page 29 "Simple Adult BLS Algorithm", Page 31 "Adult BLS Algorithm"):**
    - Unresponsive, no breathing (or only gasping), no pulse -> Cardiac Arrest.
    - **Call EMS / Activate Emergency Response.**
    - **Start CPR** (compressions and breaths).
    - **Get AED & Defibrillate:** Attach AED pads when available. If a shockable rhythm (VF/pVT) is identified, deliver a shock.
-
- **Use of Automated External Defibrillator (AED) (BLS Slide 31):**
    - Ventricular fibrillation (VF) is a common cause of cardiac arrest.
    - Treatment for VF is defibrillation.
    - The AED recognizes VF and other shockable dysrhythmias and delivers a shock.
-
- "No pulse & not breathing" indicates cardiac arrest. If the ECG shows a shockable rhythm like VF (as implied by the need for defibrillation), **immediate defibrillation** is the priority alongside CPR. Airway management is part of CPR/ALS but defibrillation takes precedence for VF/pVT.
- Cardioversion is synchronized and used for tachycardias *with a pulse*. Defibrillation is unsynchronized.

Okay, let's continue with **PAGE 7**.

ECGS QUESTION 9:
Patient athletic presented with the feeling of heart racing, vitals stable, with this ECG what do you give: ****



A. Atropine
B. Diltiazim
C. Adenosine
D. Amiodarone
ANSWER: B

HIGH-YIELD CONTEXT:

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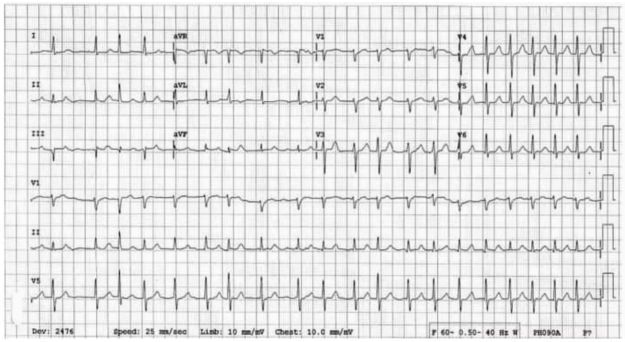
- **How to approach Tachy-arrhythmias (ACS Slide 42 - Adult tachycardia algorithm):**
    - Patient is **STABLE**.
    - **Is QRS narrow (<0.12s)?**
        - If **REGULAR (Probable SVT):**
            1. Vagal manoeuvres.
            2. If ineffective: Adenosine (6mg rapid IV bolus, then 12mg, then 18mg if needed).
            3. If ineffective or SVT recurs: Verapamil or **Diltiazem** or Beta-blocker.
        - If **IRREGULAR (Probable Atrial Fibrillation):**
            1. Control rate with Beta-blocker OR **Diltiazem**.
            2. Consider digoxin or amiodarone if evidence of heart failure.

Given the answer is Diltiazem, the ECG likely showed Atrial Fibrillation (as in Q4, Page 4) or SVT where adenosine was not chosen or was ineffective/contraindicated. For a stable patient, Diltiazem is a valid option for rate control in Afib or for termination/rate control in some SVTs.

- Atropine is for bradycardia.
- Amiodarone is a broader antiarrhythmic, often used if others fail or in specific structural heart disease.

ECGS QUESTION 10:
What does this ECG present:



A. Atrial flutter
B. Heart block
C. Atrial fibrillation
ANSWER: C

HIGH-YIELD CONTEXT:

- **ECG Characteristics of Atrial Fibrillation (Afib):**
    - **Rhythm:** Irregularly irregular ventricular response.

    - **Rate:** Atrial rate is very high (300-600 bpm), ventricular rate varies (can be fast or slow).
    - **P waves:** Absent. Replaced by fibrillatory waves (f-waves), which are chaotic, irregular baseline undulations. These may be fine or coarse.
    - **QRS complex:** Usually narrow, unless there's a pre-existing bundle branch block or aberrant conduction.
-
- **ECG Characteristics of Atrial Flutter:**
    - **Rhythm:** Often regular ventricular response (e.g., 2:1, 3:1, 4:1 block) but can be irregular if the AV block is variable.
    - **Rate:** Atrial rate typically 250-350 bpm.
    - **P waves:** Replaced by flutter waves (F-waves), which have a characteristic "sawtooth" appearance, best seen in inferior leads (II, III, aVF) or V1.
    - **QRS complex:** Usually narrow.
-
- **Heart Block:** Refers to delays or blocks in conduction through the AV node or His-Purkinje system. Types include 1st degree, 2nd degree (Mobitz I and II), and 3rd degree (complete) AV block. These primarily affect the PR interval and the relationship between P waves and QRS complexes.

ECGS QUESTION 11:
Similar to this ECG whats the type of block:

A. Complete
B. First degree
C. second degree morbitz 1

E. Second degree morbitz 2
ANSWER: A? (The pic given in the exam wasn't debatable)

HIGH-YIELD CONTEXT:

- **Types of AV Block:**
  - **First Degree AV Block:** PR interval is constantly prolonged (>0.20 seconds). Every P wave is followed by a QRS.
  - **Second Degree AV Block, Mobitz Type I (Wenckebach):** Progressive prolongation of the PR interval until a P wave is not conducted (dropped QRS). The P-P interval is regular.
  - **Second Degree AV Block, Mobitz Type II:** Intermittent non-conducted P waves (dropped QRS) without prior PR prolongation. The PR interval of conducted beats is constant. Often associated with a wider QRS. More serious than Mobitz I.
  - **Third Degree AV Block (Complete Heart Block):** Complete dissociation between atrial (P waves) and ventricular (QRS complexes) activity. P waves march through at their own regular rate, and QRS complexes march through at their own (slower) regular escape rhythm rate. There is no consistent relationship between P waves and QRS complexes. PR intervals are variable.

PAGE 8

ECGS QUESTION 12:
(Not the same ECG but similar idea), What is the diagnosis? *FINAL018*

a. Type 1 av block
b. Type 2 mobitz I av block

c. Type 2 mobitz II av block
d. Complete heart block
ANSWER: c
**Note: theoritically both c and d could be correct answers*

HIGH-YIELD CONTEXT:

- Refer to the AV block definitions under ECGS Question 11 on Page 7.
- **Second Degree AV Block, Mobitz Type II:**
    - Intermittent P waves that are not followed by a QRS complex (dropped beats).
    - The PR interval of the conducted beats is constant.
    - P-P intervals are regular.
    - Often indicates infranodal block (below AV node) and can progress to complete heart block.
-
- **Distinguishing Mobitz II from Complete Heart Block:**
    - In Mobitz II, there is *some* relationship between P waves and QRS complexes (some P waves conduct with a fixed PR).
    - In Complete Heart Block, there is *no* relationship; atria and ventricles beat independently. P waves "march through" the QRS complexes. If many P waves are non-conducted in Mobitz II (e.g., 3:1 or 4:1 block), it can sometimes be difficult to distinguish from complete heart block without a longer rhythm strip to see if any P waves consistently conduct.
-

ECGS QUESTION 13:
Progressive prolongation of PR intervals with dropped p waves is seen in:
A. Complete heart block
B. First degree
C. Second degree mobitz 1
D. Second degree mobitz 2
ANSWER: C

HIGH-YIELD CONTEXT:

- **Second Degree AV Block, Mobitz Type I (Wenckebach):** This is the definition.
    - **PR interval:** Progressively lengthens with each beat.
    - **Dropped P wave:** Eventually, a P wave occurs that is not followed by a QRS complex (a "dropped beat").
    - **Grouping:** Beats often occur in groups (e.g., 3 P waves with 2 QRS complexes, or 4 P waves with 3 QRS complexes). The cycle then repeats.
    - **Location:** Usually due to a block within the AV node itself. Generally considered more benign than Mobitz Type II.

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ECGS QUESTION 14:
Palpitations in asthmatic patient and shown ECG of Afib, first line treatment?
Diltiazim.
ANSWER: Diltiazim.

HIGH-YIELD CONTEXT:

- This is a repeat of the concept in ECGS Question 4 on Page 4.
- **How to approach Tachy-arrhythmias (ACS Slide 42 - Adult tachycardia algorithm):**
    - For stable Atrial Fibrillation (Afib), rate control is a primary goal.
    - Options include Beta-blockers or Calcium Channel Blockers (like Diltiazem or Verapamil).
    - **Asthmatic Patient Consideration:** Beta-blockers are generally avoided or used with extreme caution in asthmatics due to the risk of bronchospasm.
    - Therefore, **Diltiazem** is a preferred first-line agent for rate control of Afib in a stable asthmatic patient.
-

ECGS QUESTION 15:
Progressive prolongation of PR interval is seen in: mobitz type 1 heart block.
ANSWER: mobitz type 1 heart block. (This is a statement confirming the definition, not a multiple-choice question as formatted in the OCR.)

HIGH-YIELD CONTEXT:

- This directly refers to the definition of **Second Degree AV Block, Mobitz Type I (Wenckebach)**, as detailed under ECGS Question 13 on Page 8.

ECGS QUESTION 16:
First line treatment in symptomatic bradycardia is: *FINAL*
A. Atropine
B. Diltizim
C. Amiodarone
D. Adenosine
ANSWER: A

HIGH-YIELD CONTEXT:

- **Adult Bradycardia Algorithm (ACS Slide 43):**
    - Assess with ABCDE approach.
    - **Evidence of life-threatening signs?** (Shock, Syncope, Myocardial ischaemia, Heart failure). If yes, the patient is symptomatic.
    - **First-line drug for symptomatic bradycardia (if life-threatening signs present): Atropine 500 mcg IV.**
        - Can be repeated to a maximum of 3 mg.
    -
    - If Atropine is ineffective or contraindicated, or if there's risk of asystole, proceed to interim measures like transcutaneous pacing, isoprenaline, adrenaline, or other drugs, while seeking expert help and arranging transvenous pacing.
-
- Diltiazem is for tachycardia (rate control).
- Amiodarone is for tachyarrhythmias or as an alternative in bradycardia (but not first-line).
- Adenosine is for regular narrow complex tachycardias.

ECGS QUESTION 17:
Bradycardia with poor perfusion what are the steps of management:
(Options are not listed in the OCR but the context from Q16 is directly applicable.)
ANSWER: (Implied based on Q16 and standard ACLS) Atropine, then pacing/other drugs if unresponsive.

HIGH-YIELD CONTEXT:

- **Adult Bradycardia Algorithm (ACS Slide 43):**
    - "Poor perfusion" indicates life-threatening signs are present (e.g., shock).
    - **Initial Step: Atropine 500 mcg IV.**
    - **If Atropine is unsatisfactory:**
        - **Interim Measures:**
            - Transcutaneous pacing (TCP).
            - Isoprenaline 5 mcg min^{-1} IV.
            - Adrenaline 2-10 mcg min^{-1} IV.
            - Alternative drugs (Aminophylline, Dopamine, Glucagon if beta-blocker/CCB overdose, Glycopyrrolate).
        -
        - **Seek expert help.**
        - **Arrange transvenous pacing.**

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Okay, let's continue with **PAGE 9**.

ECGS QUESTION 18:
Whats the first thing to check in bradycardia algorithm:
A. Perfusion
B. BP
C. HR
D. Rhythm
ANSWER: A (though closely related to BP as an indicator of perfusion)

HIGH-YIELD CONTEXT:

- **Adult Bradycardia Algorithm (ACS Slide 43):**
    - The algorithm starts with "Assess with ABCDE approach."
    - The very next decision point is **"Evidence of life threatening signs?"**
        - These signs are listed as: **Shock, Syncope, Myocardial ischaemia, Heart failure.**
    -
    - These life-threatening signs are direct or indirect indicators of **poor perfusion**.
        - **Shock** is a state of inadequate tissue perfusion. BP is a key vital sign to assess for shock, but the overall clinical picture of perfusion (mental status, skin signs, urine output) is critical.
        - **Syncope** (fainting) due to bradycardia is a clear sign of inadequate cerebral perfusion.
        - **Myocardial ischaemia** (chest pain) from bradycardia indicates poor coronary perfusion.
        - **Heart failure** symptoms (e.g., pulmonary edema) indicate poor systemic perfusion and cardiac function.
    -
    - While HR and Rhythm are assessed (ECG monitoring is advised), the immediate critical question is whether the bradycardia is causing **adverse signs due to poor perfusion**. This determines the urgency and pathway of treatment (e.g., atropine vs. observation).
-

ECGS QUESTION 19:
Management of Bradycardia with poor perfusion(yes,again, different choices): prepare for trans venous pacing and give atropine and IV adrenaline while preparing. **
(This is presented as a statement of management rather than a multiple-choice question)

HIGH-YIELD CONTEXT:

- This statement aligns with the steps in the **Adult Bradycardia Algorithm (ACS Slide 43)** for a patient with symptomatic bradycardia (poor perfusion) who may not be responding adequately to initial measures or is at high risk.
    - **Atropine** is the first-line drug.
    - If atropine is ineffective or if there's a high risk of asystole (e.g., certain types of AV block), **interim measures** are needed while preparing for definitive pacing.
    - These interim measures include:
        - **Transcutaneous pacing (TCP)** (the OCR mentions "trans venous pacing" which is more definitive, but TCP is the immediate non-invasive option).
        - **Adrenaline (epinephrine) infusion** (2-10 mcg/min IV).
        - Isoprenaline infusion.
    -
    - **"Prepare for transvenous pacing"** is the definitive step for persistent symptomatic bradycardia unresponsive to drugs or when TCP is a bridge.
-

ECGS QUESTION 20:
Best leads presenting the anterior heart: *FINAL018*
A. I, aVL
B. V3-V4
C. V5-V6
D. V1-V2
ANSWER: B

HIGH-YIELD CONTEXT:

- **Leads and Culprit Artery (ACS Slide 48):**
    - **Anterior Wall:** Primarily represented by leads **V3 and V4**.
    - **Septal Wall:** Primarily represented by leads V1 and V2.
    - **Anteroseptal:** V1-V4.
    - **Lateral Wall:** Represented by leads I, aVL, V5, V6.
    - **Inferior Wall:** Represented by leads II, III, aVF.
-
- **Precordial Leads (ACS Slide 47 diagram & Slide 48 V1-V6 labels):**
    - V1, V2: Septal
    - V3, V4: Anterior
    - V5, V6: Lateral (apical/low lateral)
-

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ECGS QUESTION 21:
ECG changes in leads I, aVL (V4-V6):
A. Anteroseptal
B. Anterolateral
C. Lateral
D. Inferior
E. Posterior
ANSWER: Should be lateral because changes must be consecutive in V3-V4 for it to be anterolateral, But doctor said in one of rotations shes gonna consider both B, C correct

HIGH-YIELD CONTEXT:

- **Leads and Culprit Artery / ECG Territories (ACS Slide 47 diagram & Slide 48):**
    - **Lateral Wall:** Leads **I, aVL, V5, V6**.
        - High lateral: I, aVL
        - Low lateral/apical: V5, V6
    -
    - **Anterolateral MI:** Involves anterior leads (e.g., V3, V4) AND lateral leads (I, aVL, V5, V6). So, ST elevation in V3, V4, V5, V6, I, aVL would be a classic anterolateral MI.
    - The question specifies "ECG changes in leads I, aVL (V4-V6)". The parentheses suggest V4-V6 are also involved.
        - If changes are *only* in I and aVL, it's a **high lateral** MI.
        - If changes are in I, aVL, V5, V6, it's a **lateral** MI.
        - If changes are in I, aVL, *and* V4, V5, V6 (and possibly V3), it would be **anterolateral**.
    -
    - The note about "changes must be consecutive in V3-V4 for it to be anterolateral" is a bit confusing. Anterolateral implies involvement of both anterior (like V3, V4) and lateral (I, aVL, V5, V6) territories. If only I, aVL, V5, V6 are involved, it's purely lateral. If V4 is added, it starts to become anterolateral.
    - Given the options, if V4-V6 are indeed involved with I and aVL, **Anterolateral (B)** is more encompassing than just Lateral (C). However, if it's just I, aVL and V5, V6, then Lateral is most accurate. The doctor's comment suggests an overlap in definitions or common usage.
-

ECGS QUESTION 22:
An old female patient was at the grocery store when she experienced chest pain that radiated to her left arm. She also reported diaphoresis. At the emergency department, an ECG was performed. (An ECG was shown. Findings included ST elevation in leads II, III and aVF). The most likely location for the patient's MI is: ****FINAL018*
A) Anterolateral

B) Septal
C) Inferior
ANSWER: C

HIGH-YIELD CONTEXT:

- **Leads and Culprit Artery / ECG Territories (ACS Slide 47 diagram & Slide 48):**
    - **Inferior Wall Myocardial Infarction:** Characterized by ST-segment elevation in leads **II, III, and aVF**.
    - The RCA (Right Coronary Artery) is the most common culprit artery for inferior MIs.
-
- The question explicitly states "ST elevation in leads II, III and aVF", which is the classic ECG finding for an **Inferior** MI.

ECGS QUESTION 23:
The exact same question stem as in question, but a different ECG was shown. (ECG findings included ST elevations in leads I, aVL, V3, V4, V5 and V6). The most likely location for the patient's MI is: **
A) Anterolateral
B) Septal
C) Inferior
D) Posterior
ANSWER: A

HIGH-YIELD CONTEXT:

- **Leads and Culprit Artery / ECG Territories (ACS Slide 47 diagram & Slide 48, and text box on Test Bank Page 10):**
    - **Anterior Wall:** V3, V4.
    - **Lateral Wall:** I, aVL, V5, V6.
    - **Anterolateral STEMI:** Involves ST elevation across both anterior and lateral leads. The combination of ST elevation in I, aVL, V3, V4, V5, and V6 indicates an extensive **Anterolateral** MI.
    - The text box on page 10 confirms: "ECG with ST elevation in leads V3-V6, lead I, aVL (anterolateral STEMI)".
-

ECGS QUESTION 24:
Patient with palpitations and has pulse, ECG shown of Vtach, no loss of consciousness or chest

pain, first step in management: amiodarone.
(This is presented as a statement of management rather than a multiple-choice question. It implies the patient is stable.)

HIGH-YIELD CONTEXT:

- **How to approach Tachy-arrhythmias (ACS Slide 42 - Adult tachycardia algorithm):**
    - Patient has pulse, no loss of consciousness, no chest pain -> **STABLE**.
    - ECG shows Ventricular Tachycardia (VTach), which is a **WIDE QRS** (>0.12s) complex tachycardia.
    - **Is QRS regular?** Monomorphic VTach is regular.
    - **For STABLE, REGULAR, WIDE QRS Tachycardia (likely VT or SVT with aberrancy):**
        - **If VT (or uncertain rhythm): Amiodarone 300 mg IV over 10-60 min.** (The slide says 20-60 min in text, 10-60 min in the diagram box).
        - Then an infusion of 900mg over 24 hours.
        - Alternatively, Procainamide or Sotalol could be considered (not explicitly on the simplified algorithm provided but are ACLS options).
        - If known SVT with bundle branch block: treat as for regular narrow complex tachycardia (vagal maneuvers, adenosine).
    -
-
- Since the patient is stable with VTach, antiarrhythmic drug therapy is the first step. **Amiodarone** is a standard choice.

ECGS QUESTION 25:
An unresponsive patient with ventricular fibrillation received a shock and the ECG rhythm converted into third degree AV block. What is the next most appropriate step in management?
***
A) High dose epinephrine
B) Transcutaneous pacing
C) Defibrillation
D) Amiodarone
ANSWER: B? Debate over A or B. (Note: The question did not specify whether the pulse had returned after conversion to AV block)

HIGH-YIELD CONTEXT:

- **Post-Cardiac Arrest Care / Bradycardia Management:**
    - The patient was in VF (shockable rhythm) and received a shock. The rhythm is now third-degree AV block.
    - **Crucial First Step Post-Defibrillation:** Check for Return of Spontaneous Circulation (ROSC) – i.e., **check for a pulse**.

    - **If NO PULSE:** Resume CPR immediately. Epinephrine would be part of ongoing CPR for PEA/Asystole or recurrent VF/pVT. Defibrillation is only for VF/pVT.
    - **If PULSE IS PRESENT (ROSC achieved) but the rhythm is symptomatic bradycardia (like 3rd-degree AV block leading to unresponsiveness or poor perfusion):**
        - Manage according to the **Adult Bradycardia Algorithm (ACS Slide 43)**.
        - "Unresponsive" even with a pulse suggests the bradycardia is causing severe symptoms (poor perfusion/syncope).
        - **Atropine** 500 mcg IV would be the first drug.
        - If atropine is ineffective or contraindicated, and the patient has life-threatening signs due to the bradycardia (like unresponsiveness): **Transcutaneous Pacing (TCP)** is indicated.
        - Epinephrine (adrenaline) infusion can also be used as an interim measure.
    -
-
- **Debate Context:**
    - If the patient remains pulseless despite the rhythm change to 3rd-degree AV block (now PEA), then high-dose epinephrine and continued CPR are appropriate.
    - If a pulse *has* returned but the patient is unresponsive due to the severe bradycardia of the 3rd-degree block, then **Transcutaneous Pacing (B)** is the most appropriate next step (after/if atropine fails or is not indicated).
    - Given "unresponsive patient," it strongly suggests a symptomatic bradycardia *if* a pulse is present. If no pulse, it's PEA. The ambiguity of "pulse returned" is key. However, pacing is specifically for bradycardia *with a pulse* causing symptoms.
-

ECGS QUESTION 26:
The most appropriate management for pulseless electrical activity: **
A) Amiodarone
B) Epinephrine
C) Beta blocker
D) Atropine
ANSWER: B

HIGH-YIELD CONTEXT:

- **Adult Cardiac Arrest Algorithm (Implied from BLS/ACLS principles):**
    - Pulseless Electrical Activity (PEA) is a non-shockable rhythm in cardiac arrest (along with Asystole).
    - Management involves:
        - **High-quality CPR:** Continuous chest compressions and ventilations.

        - **Epinephrine (Adrenaline):** 1 mg IV/IO every 3-5 minutes. This is the primary drug used in PEA/Asystole.
        - **Identify and Treat Reversible Causes (Hs and Ts):** Hypovolemia, Hypoxia, Hydrogen ion (acidosis), Hypo/Hyperkalemia, Hypothermia; Tension pneumothorax, Tamponade (cardiac), Toxins, Thrombosis (pulmonary or coronary).
    -
-
- Amiodarone is an antiarrhythmic used for VF/pulseless VT.
- Beta-blockers are not used in acute cardiac arrest management for PEA.
- Atropine was previously used for asystole/PEA but is no longer routinely recommended in the cardiac arrest algorithm for these rhythms (its primary use now is for symptomatic bradycardia *with a pulse*).

PAGE 11

ECGS QUESTION 27:
Unresponsive patient who developed shockable rhythm, best treatment? (answer: Defibrillation
(This is a statement of fact.)

HIGH-YIELD CONTEXT:

- **Adult Cardiac Arrest Algorithm / Use of AED (BLS Slide 31 & 32):**
    - Shockable rhythms in an unresponsive (cardiac arrest) patient are Ventricular Fibrillation (VF) and pulseless Ventricular Tachycardia (pVT).
    - The "best treatment" and immediate priority for these rhythms is **Defibrillation**.
    - CPR should be performed until a defibrillator is available and then resumed immediately after the shock.
-

ECGS QUESTION 28:
nurse was connecting a patient to a monitor to keep track of his vitals when the patient suddenly became unresponsive. His ECG was shown (ECG showed ventricular fibrillation). The most appropriate next step in management is: ***
A) Wait a few minutes to see if the patient wakes up on his own
B) Synchronized DC shock (100 j)
C) Defibrillation (200 j)
D) Epinephrine
E) Amiodarone
ANSWER: C

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HIGH-YIELD CONTEXT:

- **Adult Cardiac Arrest Algorithm / Use of AED (BLS Slide 31 & 32):**
    - Patient is unresponsive and ECG shows Ventricular Fibrillation (VF) -> Cardiac Arrest with a shockable rhythm.
    - Immediate **Defibrillation** is indicated.
    - Energy for defibrillation: Biphasic defibrillators typically use 120-200 Joules for the first shock (manufacturer-specific, but 200J is a common value). Monophasic defibrillators use 360 Joules.
    - Synchronized DC shock (cardioversion) is used for unstable tachycardias *with a pulse*. For pulseless rhythms like VF, unsynchronized defibrillation is used.
    - Epinephrine and Amiodarone are drugs used in cardiac arrest, but defibrillation is the priority for VF.
-

ECGS QUESTION 29:
Description of a patient who presented to the ER with palpitations. The patient was stable and there was no chest pain/signs of heart failure. His heart rate was 130. His ECG was shown (Findings: Atrial flutter). The best next step in management is: **
A) Adenosine
B) Synchronized DC shock
C) Beta blocker
ANSWER: C

HIGH-YIELD CONTEXT:

- **How to approach Tachy-arrhythmias (ACS Slide 42 - Adult tachycardia algorithm):**
    - Patient is **STABLE**. HR 130. ECG shows Atrial Flutter.
    - Atrial Flutter is a **NARROW QRS** complex tachycardia (usually).
    - It is typically **REGULAR** (e.g., with 2:1 AV conduction, if atrial rate is ~260, ventricular rate is ~130).
    - **For STABLE, REGULAR, NARROW QRS Tachycardia (SVT, which includes Atrial Flutter with regular conduction):**
        1. Vagal manoeuvres.
        2. If ineffective: Adenosine (6mg rapid IV bolus, then 12mg, then 18mg if needed). Adenosine can terminate re-entrant SVTs or slow AV conduction in atrial flutter, revealing the flutter waves.
        3. If ineffective or rhythm recurs: **Beta-blocker** OR Verapamil/Diltiazem for rate control or rhythm conversion.
    -
-
- While adenosine can be used diagnostically/therapeutically for atrial flutter to slow AV conduction and confirm the diagnosis, **beta-blockers** are a primary strategy for **rate**

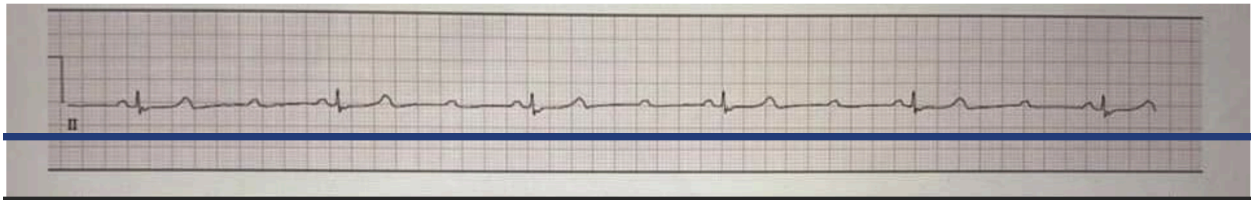
control in stable atrial flutter. Synchronized DC shock is for unstable patients or elective cardioversion.

ECGS QUESTION 30:
A young patient (teenager) was brought to the ER after he collapsed while playing football. His ECG was shown. (It showed Torsades de Pointes). The rhythm shown is consistent with which arrhythmia: **
A) SVT
B) Atrial fibrillation
C) Wolff-Parksinons-White syndrome
D) Torsades de Pointes
ANSWER: D

HIGH-YIELD CONTEXT:

- **Torsades de Pointes (TdP):**
  - A specific type of polymorphic ventricular tachycardia.
  - Characterized by QRS complexes that appear to "twist" around the isoelectric baseline.
  - Associated with a **prolonged QT interval**.
  - Can be caused by electrolyte abnormalities (hypokalemia, hypomagnesemia, hypocalcemia), certain medications (antiarrhythmics, antipsychotics, antibiotics), congenital long QT syndromes.
  - Can degenerate into ventricular fibrillation.
-
- The question states the ECG showed Torsades de Pointes. Therefore, the rhythm is Torsades de Pointes.

ECGS QUESTION 31:
An 85-year-old female patient who was previously healthy presented with recurrent syncopal episodes, the last of which was an hour ago. An ECG was shown. What type of block does she have?



A) First degree AV block
B) Mobitz type 1
C) Mobitz type 2

ANSWER: Most probably C (Answer from page 12 for Q31 says "Debate over C and D. Most probably C", implying Complete Heart Block was also an option)

HIGH-YIELD CONTEXT:

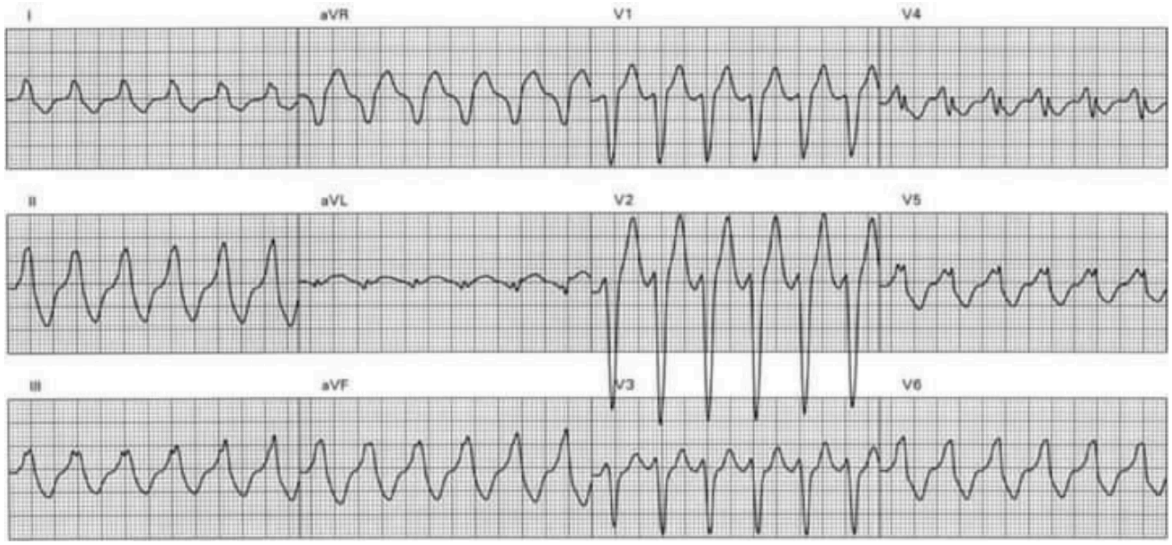
- Refer to AV block definitions under ECGS Question 11 on Page 7.
- **Mobitz Type II AV Block:**
    - Intermittent non-conducted P waves (P wave occurs but no QRS follows).
    - The PR interval of the conducted beats is constant.
    - P-P intervals are regular.
    - Often associated with a wide QRS complex.
    - Indicates a block below the AV node (in the His-Purkinje system).
    - Carries a higher risk of progression to complete heart block and asystole than Mobitz Type I.
    - Recurrent syncope is a serious symptom that, in the context of Mobitz II AV block, would likely warrant pacemaker implantation.
-

PAGE 12

(Continuation of Q31 answer options and its own question Q32, Q34, Q35)

D) Complete heart block
ANSWER for Q31: Debate over C and D. Most probably C

ECGS QUESTION 32:
Patient with normal vitals, HR is 170, with the following ECG what do you give:



A. Synchronized DC
B. Adenosine

C. Diltiazim
D. Amiodarone
ANSWER: D (This answer is unusual if it's a stable regular narrow complex SVT. Adenosine would be first-line. Amiodarone is typically used for wide complex tachycardias or if other agents fail for narrow complex, or if structural heart disease is present. Perhaps the ECG showed something atypical or wide.)

HIGH-YIELD CONTEXT:

- **How to approach Tachy-arrhythmias (ACS Slide 42 - Adult tachycardia algorithm):**
    - Patient has **NORMAL VITALS** (implying STABLE). HR 170.
    - **If NARROW QRS, REGULAR (SVT):**
        1. Vagal manoeuvres.
        2. If ineffective: **Adenosine** 6mg IV, then 12mg, then 18mg.
        3. If ineffective: Verapamil/Diltiazem or Beta-blocker.
    -
    - **If WIDE QRS, REGULAR (VT or SVT with aberrancy):**
        1. **Amiodarone** 300mg IV over 10-60 min.
    -
-
- If the answer is D (Amiodarone), the ECG likely showed a regular wide complex tachycardia (Ventricular Tachycardia) in a stable patient. If it was narrow complex, Adenosine (B) would be the more typical first-line drug after vagal maneuvers. Synchronized DC cardioversion (A) is for unstable patients. Diltiazem (C) is an option for narrow complex SVT if adenosine fails or for Afib rate control.

ECGS QUESTION 34:
Case with patient who has family history of his father's early death due to cardiac disease + an ECG (answer: torsade de pointes)
(This is a statement of a case and its ECG finding.)

HIGH-YIELD CONTEXT:

- **Torsades de Pointes (TdP):** (As per Q30, Page 11)
    - Polymorphic VT associated with prolonged QT interval.
    - Family history of early cardiac death can suggest inherited channelopathies, including congenital Long QT Syndrome, which predisposes to TdP.
    - Management includes IV magnesium, correcting electrolyte abnormalities, and overdrive pacing if needed. Beta-blockers are used for congenital long QT.
-

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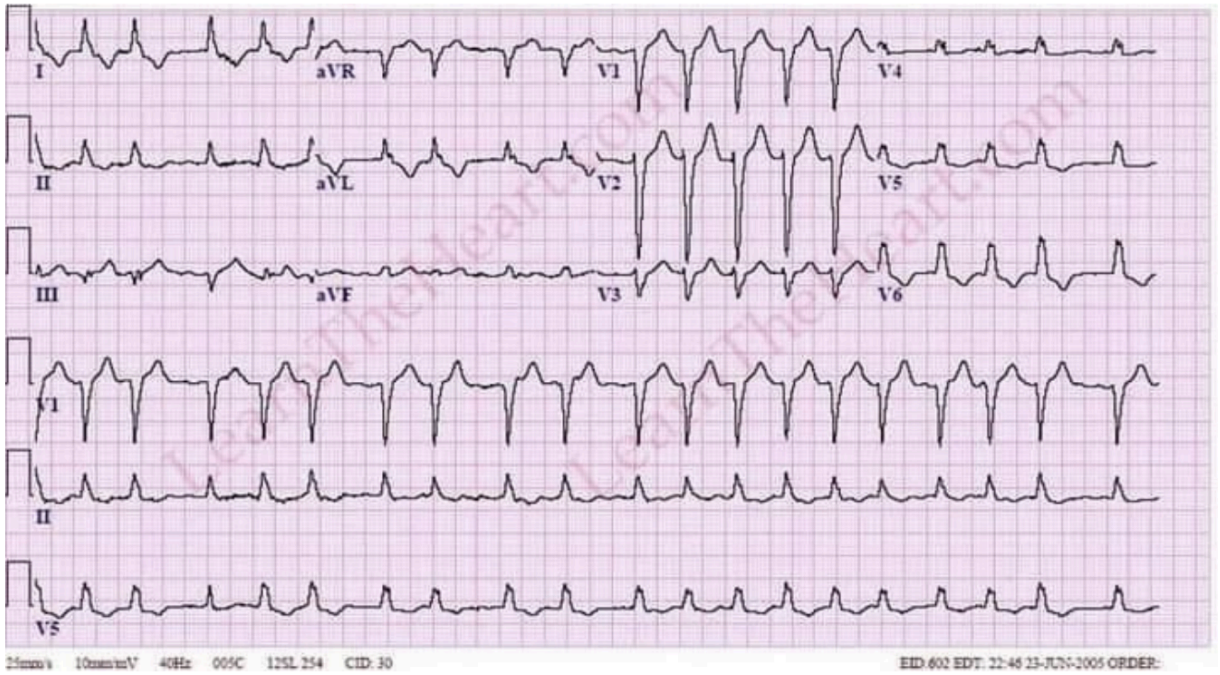
ECGS QUESTION 35:
Ecg showing:



a. Lbbb + atrial fibrillation

HIGH-YIELD CONTEXT:

- **Atrial Fibrillation (Afib):**
  - Irregularly irregular rhythm.
  - Absent P waves, replaced by fibrillatory (f) waves.
  - Ventricular rate can be variable.
-
- **Left Bundle Branch Block (LBBB):**
  - Causes a wide QRS complex (typically ≥0.12 seconds).
  - Characteristic QRS morphology:
    - Dominant S wave in V1 ("W" shape).
    - Broad, notched ("M" shape) or slurred R wave in lateral leads (I, aVL, V5, V6).
    - Absence of Q waves in lateral leads.
    - Appropriate ST-T wave discordance (ST segments and T waves are usually directed opposite to the major deflection of the QRS complex).
  -
-
- **Afib with LBBB:** The ECG would show an irregularly irregular rhythm with wide QRS complexes that have the morphology characteristic of LBBB. This can sometimes be

mistaken for ventricular tachycardia if the rate is very fast, but the irregularity is a key distinguishing feature for Afib.

PAGE 13

ECGS QUESTION 36:
A patient with diabetes, hypertension and hypercholesterolemia presented to the ER with chest pain that radiates to his left arm. His ECG showed T wave inversions in the lateral leads (There was no ECG picture in this question. The question stated the findings in the question stem). The best next step in management is: ***
A) Call cardiology and arrange for immediate PCI
B) Connect him to a cardiac monitor and administer aspirin and nitroglycerin
ANSWER: B

HIGH-YIELD CONTEXT:

- **Initial ED Management of ACS (ACS Slide 59):**
    - For a patient presenting with symptoms suggestive of ACS (chest pain radiating to arm, risk factors):
        - Relief of pain and anxiety.
        - Oxygen supplement (if hypoxic).
        - **Nitroglycerin** (sublingual, spray, or IV if ongoing pain/hypertension/heart failure).
        - **Antiplatelets: Aspirin** (chewed or dissolved) as soon as possible.
        - Heparin (or other anticoagulants).
    -
-
- **ECG Findings (ACS Slide 45, 49):**
    - T-wave inversions in lateral leads (I, aVL, V5, V6) are suggestive of myocardial ischemia, potentially Unstable Angina or NSTEMI.
    - These findings do not automatically qualify for immediate PCI (which is primarily for STEMI).
-
- **Management Steps:**
    - Connecting to a cardiac monitor, administering aspirin, and nitroglycerin are immediate first steps for suspected ACS.
    - Further workup (serial ECGs, troponins) will determine if it's Unstable Angina or NSTEMI and guide further management (e.g., risk stratification for NSTEMI to decide on early invasive strategy vs. conservative). PCI is not "immediate" for all ACS; it's immediate for STEMI.
-

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ECGS QUESTION 37:
Patient with apnea and loss of consciousness, ECG shown of vfib, sequence of management: chest compression, defibrillation, invasive airway.
(This is a statement of management sequence.)

HIGH-YIELD CONTEXT:

- **Adult Cardiac Arrest Algorithm (BLS/ACLS principles):**
    - Apnea and loss of consciousness with VFib = Cardiac Arrest.
    - **Immediate sequence:**
        1. Recognize arrest, Call for help/Activate EMS.
        2. **Start CPR (Chest Compressions are paramount).**
        3. Attach AED/Defibrillator as soon as available.
        4. If VF/pVT, **Defibrillate**.
        5. Resume CPR immediately after shock.
        6. **Airway management** (e.g., bag-mask ventilation initially, then consider advanced/invasive airway like endotracheal tube or supraglottic airway as per ALS guidelines, often after initial rounds of CPR/defibrillation unless it can be done without interrupting compressions significantly).
    -
-
- The sequence given (chest compression, defibrillation, invasive airway) generally aligns with priorities in cardiac arrest due to VFib, with compressions and defibrillation being the most critical initial interventions.

ECGS QUESTION 38 (صورة جديدة showing post wall infarct):
Which artery is affected depending on the following ECG panel?
(Question implies ECG showed posterior wall infarct)
A. Left circumflex artery
B. Left marginal artery
C. Left main stem
D. Left anterior descending artery
E. Right coronary artery
ANSWER: E (This is the typical answer. LCx can also cause posterior MI)

HIGH-YIELD CONTEXT:

- **Posterior Myocardial Infarction:**
    - Often occurs in conjunction with inferior or lateral MI.
    - **ECG findings can be subtle on standard 12-lead:**
        - **Reciprocal changes in anterior leads (V1-V3/V4):** ST depression, tall R waves (R/S ratio >1 in V1/V2), upright T waves.

        - **Posterior leads (V7-V9):** ST elevation in these leads confirms posterior MI. (ACS Slide 54 shows placement of V7-V9).
    -
    - **Culprit Arteries:**
        - Most commonly the **Right Coronary Artery (RCA)** (especially if it's dominant and gives rise to the Posterior Descending Artery - PDA).
        - Can also be caused by the **Left Circumflex Artery (LCx)** if it supplies the posterior wall.
    -
-
- Given "E. Right coronary artery" is chosen, it implies the common scenario or the specific ECG findings were more typical for RCA occlusion.

ECGS QUESTION 38 (DIFFERENT Q NUMBER, SAME TEXT AS Q8 PAGE 6):
Patient became unresponsive his ECG is the following (V. Fib) what do you do next: *FINAL018*
A. Cardioversion
B. Defibrillation
C. Amiodarone
D. Adenosine
E. B blocker
ANSWER: B

HIGH-YIELD CONTEXT:

- This is a repeat of ECGS Question 8 on Page 6.
- Patient unresponsive with Ventricular Fibrillation (V. Fib) = Cardiac Arrest with a shockable rhythm.
- Immediate **Defibrillation** is the priority.

ECGS QUESTION 39:
A question about the management of asystole: **
Answer: Adminsiter epinephrine
(This is a statement of management.)

HIGH-YIELD CONTEXT:

- **Adult Cardiac Arrest Algorithm (Implied from ACLS principles):**
    - Asystole is a non-shockable rhythm in cardiac arrest (flat line).
    - Management involves:
        - **High-quality CPR.**
        - **Epinephrine (Adrenaline):** 1 mg IV/IO every 3-5 minutes.
        - Identify and Treat Reversible Causes (Hs and Ts).

        - Confirm asystole in more than one lead. Do not defibrillate asystole.
    -
-

ECGS QUESTION 40:
A question about management of a patient with STEMI. Choose the best next step among the following: **
A) Transfer to a hospital with fibrinolysis capabilities only (no PCI), 15 minutes away
B) Transfer to a hospital with PCI capabilities only, 15 minutes away
ANSWER: B

HIGH-YIELD CONTEXT:

- **Choice of Reperfusion Strategy for STEMI (ACS Slide 62):**
    - **Primary PCI is the preferred reperfusion strategy for STEMI** if it can be performed in a timely manner.
    - Guideline target: Door-to-balloon time (for PCI) within 90 minutes of first medical contact if patient presents to a PCI-capable hospital, or within 120 minutes if transfer from a non-PCI hospital is required.
    - If timely PCI is not available, fibrinolysis is indicated (target door-to-needle time <30 minutes).
-
- **Decision Making:** If both a fibrinolysis-capable hospital and a PCI-capable hospital are 15 minutes away, **transferring to the PCI-capable hospital (B) is the superior option** because PCI generally has better outcomes than fibrinolysis if performed timely. The travel time of 15 minutes allows for a good chance of meeting PCI timelines.

PAGE 14

ECGS QUESTION 41:
A patient with an SVT who was unstable. Next step in management: synchronized cardioversion.
(This is a statement of management.)

HIGH-YIELD CONTEXT:

- **How to approach Tachy-arrhythmias (ACS Slide 42 - Adult tachycardia algorithm):**
    - Patient with SVT (Supraventricular Tachycardia - a regular narrow complex tachycardia).
    - Patient is **UNSTABLE** (e.g., shock, syncope, severe chest pain, acute heart failure).
    - **Management for UNSTABLE tachycardia: Synchronized DC Cardioversion.**

        - Sedation is given if the patient is conscious.
        - Starting energy for SVT typically 50-100 Joules (synchronized).
    -
-

ECGS QUESTION 42:
Old patient who is stable with SVT, treatment? (answer: carotid massage)
(This is a statement of treatment.)

HIGH-YIELD CONTEXT:

- **How to approach Tachy-arrhythmias (ACS Slide 42 - Adult tachycardia algorithm):**
    - Patient is **STABLE** with SVT.
    - **First-line treatment for STABLE, REGULAR, NARROW QRS Tachycardia (SVT): Vagal Manoeuvres.**
        - **Carotid sinus massage** is one type of vagal maneuver (contraindicated if carotid bruits or history of TIA/stroke).
        - Other vagal maneuvers include modified Valsalva maneuver.
    -
    - If vagal maneuvers are ineffective, adenosine is the next step.
-

ECGS QUESTION 43:
CPR to unstable patient who became stable and rhythm reverted to complete heart block, next best step? (answer: Transcutaneous pacer)
(This is a statement of management.)

HIGH-YIELD CONTEXT:

- This scenario is similar to ECGS Question 25 on Page 10.
- Patient was initially unstable (requiring CPR - likely cardiac arrest), achieved ROSC ("became stable"), but is now in complete heart block.
- If the complete heart block is causing symptoms (e.g., hypotension, altered mental status, signs of shock – which would make them "unstable" again despite initial ROSC), then the **Adult Bradycardia Algorithm (ACS Slide 43)** applies.
- For symptomatic complete heart block:
    1. Atropine.
    2. If atropine ineffective or contraindicated: **Transcutaneous Pacing (TCP)** or drug infusions (adrenaline/isoprenaline) while preparing for transvenous pacing.
-
- "Next best step" implies the complete heart block is problematic.

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ECGS QUESTION 44:
STEMI gold standard treatment (answer: PCI within 90 minutes))
(This is a statement of fact.)

HIGH-YIELD CONTEXT:

- **Choice of Reperfusion Strategy for STEMI (ACS Slide 62):**
    - Primary PCI is the preferred reperfusion strategy if it can be performed timely.
    - Target: First medical contact to PCI (device deployment) within **90 minutes** if presenting to a PCI-capable hospital.
-
- This is a core concept in STEMI management.

ECGS QUESTION 45:
ECG showing ventricular tachycardia, stable patient. Best treatment? (answer: Amiodarone)
(This is a statement of treatment.)

HIGH-YIELD CONTEXT:

- This is a repeat of ECGS Question 24 on Page 10.
- **How to approach Tachy-arrhythmias (ACS Slide 42 - Adult tachycardia algorithm):**
    - Patient is **STABLE**. ECG shows Ventricular Tachycardia (VTach - wide, regular QRS).
    - **Treatment for STABLE, REGULAR, WIDE QRS Tachycardia (if VT or uncertain): Amiodarone** 300mg IV over 10-60 minutes.
-

ECGS QUESTION 46:
Best treatment for cardiac arrest (answer: Early defibrillation)
(This is a statement of fact, specifically for shockable rhythms.)

HIGH-YIELD CONTEXT:

- **Adult Cardiac Arrest / BLS (BLS Slides, especially Chain of Survival):**
    - For cardiac arrest caused by shockable rhythms (Ventricular Fibrillation or pulseless Ventricular Tachycardia), **early defibrillation** is a critical link in the Chain of Survival and significantly improves outcomes.
    - High-quality CPR is also essential.
-

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ECGS QUESTION 47:
ECG shows ventricular fibrillation. The most appropriate next step in management is: Defibrillation
(This is a statement of management.)

HIGH-YIELD CONTEXT:

- This is a repeat of the concept in ECGS Question 8 (Page 6), Q27 (Page 11), and Q28 (Page 11), Q38 (Page 13).
- For Ventricular Fibrillation (VFib) in cardiac arrest, immediate **Defibrillation** is the priority.

ECGS QUESTION 48:
The most appropriate management for pulseless electrical activity: Epinephrine
(This is a statement of management.)

HIGH-YIELD CONTEXT:

- This is a repeat of ECGS Question 26 on Page 10.
- For Pulseless Electrical Activity (PEA), management includes high-quality CPR and **Epinephrine** 1mg IV/IO every 3-5 minutes, along with searching for and treating reversible causes.

ECGS QUESTION 49:
Description of a patient with STEMI. The definitive management is: ** Percutaneous angioplasty
(This is a statement of management.)

HIGH-YIELD CONTEXT:

- **Choice of Reperfusion Strategy for STEMI (ACS Slide 62):**
    - **Percutaneous Coronary Intervention (PCI)**, which includes angioplasty and often stenting, is the **definitive and preferred reperfusion strategy** for STEMI when available and performed in a timely manner.
    - It aims to restore blood flow to the occluded coronary artery.
-

ECGS QUESTION 50:
You're in an ambulance, patient with STEMI, best treatment?

A) Fibrinolytics within 15 minutes
B) go to nearest hospital with CABG capacity
C) PCI with fibrinolytics within 15 minutes
D) PCI within 15 minutes
ANSWER: D (This assumes the PCI-capable hospital is extremely close or PCI can be initiated very rapidly in the field, which is rare for "within 15 minutes" from field contact.) More realistically, the decision is PCI vs. Fibrinolysis based on transport times. If PCI can be achieved within guideline-recommended times (e.g., <90-120 min from first medical contact depending on context), it's preferred.

HIGH-YIELD CONTEXT:

- **Pre-hospital STEMI Management / Reperfusion Strategy (ACS Slide 62):**
    - The goal is rapid reperfusion.
    - **Primary PCI is preferred** if it can be achieved within recommended timeframes (e.g., <90 minutes from FMC to device if direct to PCI center, or <120 minutes if transfer is needed).
    - If timely PCI is NOT possible, pre-hospital or early hospital **fibrinolysis** is indicated (target <30 minutes from STEMI diagnosis/FMC).
-
- **Analyzing Options:**
    - A) Fibrinolytics within 15 minutes: This is a good target for fibrinolysis if PCI is not an immediate option.
    - B) Go to nearest hospital with CABG capacity: CABG is not the *initial* emergency treatment for most STEMIs; PCI or fibrinolysis is. CABG might be needed later or if PCI fails or for complex anatomy.
    - C) PCI with fibrinolytics within 15 minutes: These are generally alternative strategies, not typically combined immediately unless it's a facilitated PCI strategy (less common now) or rescue PCI after failed fibrinolysis.
    - D) PCI within 15 minutes: If truly achievable, this would be ideal. However, "within 15 minutes" of *ambulance contact* for PCI is exceptionally fast and implies either a field PCI system or being very close to a PCI center with immediate activation.
-
- Given the options and the preference for PCI, if option D is truly feasible, it would be chosen. If not, the choice would be between the fastest appropriate reperfusion (PCI if transport times allow, otherwise fibrinolysis). The answer D suggests an ideal scenario where PCI is immediately accessible.

BLS and ALS

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BLS/ALS QUESTION 1:
Change between rescures should be: *FINAL018*
A. Every two cycles
B. Every ten cycles
C. Every five cycles
D. Every three cycles
ANSWER: C

HIGH-YIELD CONTEXT:

- **Two-Rescuer BLS/CPR for Adults (BLS Slide 30, point 5):**
    - "Switch roles after every **five cycles** of compressions and breaths. One cycle consists of 30 compressions and two breaths."
    - "Switch roles after about 2 minutes." (Five cycles of 30:2 CPR takes approximately 2 minutes).
-
- **Reason:** To prevent rescuer fatigue and maintain the quality of chest compressions.

BLS/ALS QUESTION 2:
In an unresponsive patient, you should check the carotid pule for no more than _____ seconds
A. Five
B. Two
C. Ten
D. One
ANSWER: C

HIGH-YIELD CONTEXT:

- **One-Rescuer BLS/CPR for Adults - CPR STEPS (BLS Slide 29, point 1):**
    - "Check for the carotid pulse on the side of the neck (Figure 4a). Keep in mind not to waste time trying to feel for a pulse; feel for **no more than 10 seconds**. If you are not sure you feel a pulse, begin CPR..."
-
- **One-Rescuer BLS for Children - Steps (BLS Slide 33, point 3):**
    - "Assess for breathing while simultaneously checking for the child's carotid pulse (on the side of the neck) or femoral pulse... for 5 but **no more than 10 seconds**."
-
- **One-Rescuer BLS for Infants - Steps (BLS Slide 35, point 2):**
    - "Assess if they are breathing... while simultaneously checking for the infant's brachial pulse for 5 but **no more than 10 seconds**."
-

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PAGE 15

BLS/ALS QUESTION 3:
The chest compression to rescue breath ratio in a pediatric patient during CPR is:
FINAL018, choices were wrong : 15:2 ,15:3, 06, 06, 10:1
A) 15:2
B) 15:3
C) 30:2
D) 30:3
ANSWER: C (it's 15:2 if 2 rescuers)

HIGH-YIELD CONTEXT:

- **BLS for Children (1 to Puberty) (BLS Slide 33):**
  - "For children, the compression to breaths ratio is **15:2 for all age groups**." (This statement on slide 33 is then clarified/updated).
-
- **Updates in the ratio of rescue breath in Pediatrics (BLS Slide 28):**
  - "The 2015 guidelines recommended traditional CPR cycles of 30 chest compressions to two rescue breaths for **one-rescuer CPR in all age groups** and for two-rescuer CPR in adults."
  - "The **15:2 ratio** of compressions to breaths that was presented in the 2015 guidelines only for use in **two-rescuer CPR for children and infants** is now the recommended assisted ventilation rate for all pediatric resuscitation scenarios (rescue breathing or advanced airway)."
-
- **One-Rescuer BLS for Children (BLS Slide 33):**
  - Point 4 refers to "15 compressions followed by two breaths" if you cannot feel a pulse.
  - Point 5 refers to "ten cycles of 15 compressions and two breaths".
-
- **Two-Rescuer BLS for Children (BLS Slide 33):**
  - Point 4 refers to "15 compressions followed by two breaths".
  - Point 5 refers to "performing 15 compressions by one rescuer and two breaths by the second rescuer".
-
- **Discrepancy and Clarification:** The "Answer: C (it's 15:2 if 2 rescuers)" in the test bank contradicts the BLS slide 33 which consistently states 15:2 for children (both 1 and 2 rescuers) and the update on slide 28 seems to reinforce this. The 30:2 ratio is for single-rescuer adult CPR or if the rescuer is untrained or alone and unwilling/unable to do rescue breaths with compressions.
  - **However, the 2020 AHA guidelines (which the BLS slides state they are based on) indeed specify:**
    - **For single rescuers (adult, child, infant): 30 compressions to 2 breaths.**

        - **For two rescuers (child, infant): 15 compressions to 2 breaths.**
    -
    - Therefore, the test bank answer **C (30:2)** would be correct if it refers to a **single rescuer** for a child. The note "(it's 15:2 if 2 rescuers)" aligns with the 2020 AHA guidelines. The options provided in the FINAL018 seem to have been problematic as noted. If the question refers to "a pediatric patient" without specifying number of rescuers, and A) 15:2 is an option, it's tricky. But for **single rescuer child CPR, it is 30:2.**
-

BLS/ALS QUESTION 4:
Choose the correct steps of basic life support (BLS):
A) Assess the victim, activate EMS and bring AED, perform chest compressions, rescue breaths
B) Assess the victim, perform chest compression, rescue breathe, defibrillation
ANSWER: A

HIGH-YIELD CONTEXT:

- **Simple Adult BLS Algorithm (BLS Slide 28, and more detailed flow on Slide 29 & 31):**
    1. **Assess the Person/Scene Safety** (Unresponsive? No breathing/only gasping?).
    2. **Activate Emergency Response / Call EMS** (Send someone or call yourself). **Get an AED.**
    3. Check pulse (briefly).
    4. **Start CPR** (Chest compressions and rescue breaths).
    5. **Defibrillate** (Attach AED pads when available, follow prompts).
-
- Option A generally follows this sequence: Assess -> Activate EMS & Get AED -> CPR (compressions, breaths). "Bring AED" is part of the activation/preparation phase before starting prolonged CPR if an AED is immediately retrievable.
- Option B misses the crucial "Activate EMS and bring AED" step early on and puts defibrillation at the end of one cycle, which is not the correct flow.

BLS/ALS QUESTION 5:
Patient with apnea and loss of consciousness, ECG shown of vfib, sequence of management: chest compression, defibrillation, invasive airway.
(This is a statement, same as Q37 on page 13.)

HIGH-YIELD CONTEXT:

- Repeat of Q37, Page 13. Key is CPR (chest compressions), early defibrillation for Vfib, then airway management as part of ongoing resuscitation.

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BLS/ALS QUESTION 6:
When giving rescue breaths to an apneic patient with a pulse, when should you re-check the pulse?
A) Every 10 seconds
B) Every minute
C) Every 2 minutes
D) Every 5 minutes
ANSWER: C

HIGH-YIELD CONTEXT:

- **Rescue Breathing (BLS Slide 37, Table 2 & Adult BLS Algorithm Slide 31):**
    - If a patient has a pulse but is not breathing adequately (apneic or agonal breaths), provide rescue breaths.
    - **Adults:** 1 breath every 5-6 seconds (10-12 breaths/minute).
    - **Children/Infants:** 1 breath every 2-3 seconds (20-30 breaths/minute) - *Note: Slide 37 says 3-5 seconds (12-20 breaths/min) which was the older guideline. The 2020 update on Slide 28 mentions 1 breath every 2-3 seconds for pediatrics.*
    - **Reassessment:** The Adult BLS Algorithm on slide 31 (for "NO NORMAL BREATHING, HAS PULSE") states: "Administer one breath every 5 to 6 seconds. **Assess pulse every two minutes**."
    - During rescue breathing, continue and recheck pulse approximately **every 2 minutes**. If pulse is lost, start CPR.
-

BLS/ALS QUESTION 7:
After finding an unresponsive child, yelling for help, & confirming the child isn't breathing, what would be your next course of action? **
A. Leave the child & search for an AED
B. Deliver rescue breaths as most cardiac arrest occur due to breathing problems
C. Begin back blows & chest thrusts
D. Deliver 30 chest compressions
E. Start Heimlich maneuver
ANSWER: D (assuming no pulse or pulse <60 with poor perfusion after assessment)

HIGH-YIELD CONTEXT:

- **One-Rescuer BLS for Children (BLS Slide 33):**
    - Tap and talk loudly to determine responsiveness.
    - If unresponsive and not breathing (or only gasping), yell for help. (If someone answers, send them to call 911/EMS and get an AED).

    - **Assess for breathing AND PULSE** (carotid/femoral) for 5 but no more than 10 seconds.
    - **If you cannot feel a pulse (or if unsure), OR if pulse is <60 bpm with signs of poor perfusion: Begin CPR (Compressions first).**
        - Single rescuer child CPR: **30 compressions** then 2 breaths.
        - Two rescuer child CPR: 15 compressions then 2 breaths.
    -
    - If alone and unwitnessed collapse: Perform CPR for about 2 minutes *before* leaving to call EMS and get an AED. If witnessed collapse, or if using a mobile phone, call EMS then start CPR.
-
- The question states "confirming the child isn't breathing." The crucial missing piece is pulse check.
    - If there *is* a pulse and it's adequate (>60 and good perfusion), but no/inadequate breathing, then rescue breaths (B) would be correct.
    - However, if after confirming no breathing, the pulse check reveals no pulse/unsure/pulse <60 with poor perfusion, then starting chest compressions (D) is the correct next step (as part of C-A-B sequence of CPR).
    - Leaving the child to search for an AED (A) is only done after 2 minutes of CPR if alone and unwitnessed.
    - Back blows/chest thrusts/Heimlich (C, E) are for choking, not for an unresponsive, non-breathing child unless choking was the witnessed cause of collapse.
-

BLS/ALS QUESTION 8:
While performing CPR on an infant, another rescuer appears on the scene, what do you do next? ***
A. Immediately transport the patient
B. Wait until exhausted, then switch
C. Have the second rescuer help with CPR, to minimize fatigue
ANSWER: C

HIGH-YIELD CONTEXT:

- **Two-Rescuer BLS/CPR Principles (General, and BLS Slide 30 for adults, applied to infants):**
    - When a second rescuer arrives, the team should coordinate efforts.
    - One rescuer performs compressions, the other provides breaths.
    - **Switch roles approximately every 2 minutes (or 5 cycles) to prevent fatigue** and maintain high-quality CPR. The second rescuer can also prepare/operate the AED if available.
-

- **One-Rescuer BLS for Infants (BLS Slide 35) & Two-Rescuer BLS for Infants (BLS Slide 35):**
    - The arrival of a second rescuer allows transition to two-rescuer CPR, which is generally more effective and less tiring.
    - For infants, two-rescuer CPR allows for the two-thumb encircling hands technique for compressions (often preferred if hands are large enough) and a 15:2 compression-to-ventilation ratio.
-
- Option A is incorrect; transport is an EMS function and immediate on-scene CPR is vital.
- Option B is incorrect; you don't wait until exhaustion.
- Option C is the correct approach to utilize the second rescuer effectively for team-based CPR.

PAGE 16

BLS/ALS QUESTION (continuation of Q8 options or new question header):
D. Have the second rescuer begin ventilations; ratio 30:2
E. Ask the second rescuer to call for help
ANSWER: C (from page 15 for Q8)

HIGH-YIELD CONTEXT (for options D & E relating to Q8):

- **Regarding Option D:** If it's an infant and two rescuers are present, the ratio changes to **15:2**. The first rescuer would continue compressions (or switch), and the second would do ventilations. So, "ratio 30:2" would be incorrect for two-rescuer infant CPR.
- **Regarding Option E:** If help has not already been called (e.g., if the first rescuer was alone and started CPR immediately for an unwitnessed collapse), then one of the first tasks for the second rescuer would be to **call for help (activate EMS)** and get an AED. The question stem for Q8 says "another rescuer appears on the scene," implying the first rescuer was already engaged. Whether EMS was activated prior is not specified. If not, E would be a high priority. However, C (having the second rescuer *help with CPR*) directly addresses what to do with the newly arrived help regarding the CPR effort itself.

BLS/ALS QUESTION 9:
Best order for CPR: (answer: Assess patient, Call EMS and bring AED, Check Pulse, Chest Compressions)
(This is a statement of the correct order.)

HIGH-YIELD CONTEXT:

- This summarizes the initial steps of BLS:
    1. **Assess patient** (scene safety, responsiveness, breathing).

2. **Call EMS (Activate Emergency Response) and bring/get an AED.**
3. **Check Pulse** (carotid for adult/child, brachial for infant) – for no more than 10 seconds.
4. If no pulse (or pulse <60 with poor perfusion in children/infants, or unsure): **Start Chest Compressions** (as part of C-A-B sequence).

-

BLS/ALS QUESTION 10:
After finding someone who is unresponsive, has a pulse but does not appear to be breathing, you find you are unable to give them CPR, what do you do next? ***
A. Begin CPR
B. Repeat the head tilt/chin lift maneuver & attempt the breath again
C. Abdominal thrusts
D. Heimlich maneuver
E. Leave the child & search for an AED
ANSWER: B

HIGH-YIELD CONTEXT:

- **Rescue Breathing / Airway Management (BLS Slide 37 "Mouth-to-Mouth Rescue Breathing"):**
    - Scenario: Unresponsive, has a pulse, but not breathing adequately (requires rescue breaths, not full CPR as pulse is present).
    - If the first attempt to give a rescue breath does not make the chest rise:
        - **"Tilt the victim's head further back if the chest does not rise."** (Point 4)
        - This implies re-attempting the head tilt/chin lift to ensure an open airway.
        - "If you cannot see the chest rise in two breaths, continue giving chest compressions." (Point 6) - *This last part seems to imply a transition to CPR if ventilation is impossible, but the immediate step if a breath doesn't go in is to reposition the airway.*
    -
-
- If initial breaths are unsuccessful, the most common reason is an inadequate airway opening. Therefore, **repeating the head tilt/chin lift maneuver and attempting the breath again** is the correct immediate next step.
- Abdominal thrusts/Heimlich are for conscious choking or if airway obstruction is strongly suspected after failed ventilation attempts.
- Beginning full CPR (A) is not indicated yet as a pulse is present.
- Leaving to search for an AED (E) is not the priority when the issue is failed ventilation in a patient with a pulse.

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BLS/ALS QUESTION 11:
Arriving first to the scene, you find an unresponsive person with no pulse that has thrown up. You feel CPR is not something you are comfortable giving them. What would be the next best thing for you to do? ****
A. Wipe off the face or cover with a shirt
B. Compression only CPR
C. Go & get help
D. Do not initiate resuscitation
E. One last choice that made no sense
ANSWER: B

HIGH-YIELD CONTEXT:

- **Hands-Only CPR / Compression-Only CPR:**
    - For bystanders who are untrained or unwilling/unable to perform conventional CPR (compressions and breaths), **compression-only CPR (Hands-Only CPR)** is recommended for adult victims of out-of-hospital cardiac arrest.
    - It is better than no CPR.
    - The emphasis is on continuous, high-quality chest compressions.
-
- **BLS Principles:**
    - Unresponsive, no pulse = Cardiac Arrest.
    - **Calling for help (EMS) is critical (Option C), but should be done in conjunction with or immediately before starting compressions if possible.** The question asks "next best thing to *do*," implying an action on the patient.
    - Wiping the face (A) is reasonable if using a barrier device or for mouth-to-mouth, but doesn't address the arrest itself.
    - If uncomfortable with full CPR, **Compression-Only CPR (B)** is the recommended action for an adult.
-

BLS/ALS QUESTION 12:
How long should you check for breathing while performing CPR?
A. Do not check for breathing, continue chest compressions
B. 2 seconds
C. 3 seconds
D. 5 seconds
E. No longer than 10 seconds
ANSWER: E

HIGH-YIELD CONTEXT:

- **Initial Assessment in BLS (BLS Slide 29, "Assess the Person"):**

    - "Check to see if the person is breathing. (Agonal breathing, which is occasional gasping and is ineffective, does not count as breathing.)"
    - This initial check for breathing (and pulse) should take **no more than 10 seconds**.
-
- **During CPR:**
    - Once CPR is initiated (compressions and breaths), you don't stop compressions frequently to re-check for spontaneous breathing.
    - You would reassess for signs of life (including breathing and pulse) typically **every 2 minutes** when rescuers switch, or when an AED prompts for rhythm analysis, or if the patient starts to move/breathe on their own.
    - The question "while performing CPR" might be interpreted as the initial assessment phase *before* deciding to start CPR or the reassessment phases. In either case, a prolonged check is avoided. "No longer than 10 seconds" is the standard for pulse and initial breathing check.
-

BLS/ALS QUESTION 13:
Which of the following is wrong about CPR?
A. Push 2 inches deep
B. Minimize interruptions
C. 30:2 ratio
D. Allow for partial recoil
E. One last thing that was clearly correct
ANSWER: D

HIGH-YIELD CONTEXT:

- **High-Quality CPR Components (BLS Slides, e.g., Slide 29 CPR Steps, Slide 31 "Criteria for high-quality CPR"):**
    - **Compression Depth (Adult):** At least 2 inches (5 cm) but not more than 2.4 inches (6 cm). (A is correct as "push 2 inches deep" falls within this).
    - **Minimize Interruptions:** Interruptions in chest compressions should be minimized (e.g., <10 seconds). (B is correct).
    - **Compression-Ventilation Ratio (Adult, single rescuer or two rescuers):** 30 compressions to 2 breaths. (C is correct).
    - **Chest Recoil: Allow for COMPLETE chest recoil** after each compression. Do not lean on the chest. This allows the heart to fill with blood. (D is incorrect as it states "partial recoil").
-
- Therefore, "Allow for partial recoil" is wrong. Complete recoil is essential.

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PAGE 17

Answer: D

STROKE

STROKE QUESTION 1:
A patient with a history of diabetes and hypertension presented with vertigo, double vision and difficulty speaking. The symptoms shortly resolved afterwards (within an hour or two?). The most likely diagnosis and the affected vessel are: ***
A) Embolic stroke - Middle cerebral artery
B) Thrombotic stroke - Middle cerebral artery
C) TIA - vertebrobasilar artery
D) TIA - middle cerebral artery
E) Thrombotic stroke - Anterior cerebral artery
ANSWER: C

HIGH-YIELD CONTEXT:

- **Transient Ischemic Attack (TIA) Definition (Stroke Slide 25):**
    - "A transient ischaemic attack is defined as stroke symptoms and signs that resolve **within 24 hours**."
    - "Transient ischemic attack (TIA) is defined as a transient episode of neurologic dysfunction caused by focal brain, spinal cord, or retinal ischemia, **without acute infarction**."
    - The symptoms resolving within "an hour or two" strongly suggests a TIA.
-
- **Vascular Territories and Symptoms (Stroke Slide 22):**
    - **Vertebrobasilar Artery System:** Supplies the brainstem, cerebellum, and occipital lobes.
        - Symptoms of vertebrobasilar insufficiency include: **Vertigo, Dysarthria (difficulty speaking), Diplopia (double vision)**, ataxia, visual field defects, syncope, ipsilateral cranial nerve deficits, contralateral motor deficit.
    -
    - **Middle Cerebral Artery (MCA):** Symptoms typically include contralateral hemiparesis and sensory loss (face/arm > leg), aphasia (if dominant hemisphere), neglect (if non-dominant). Vertigo, diplopia are less typical as primary MCA signs.

    - **Anterior Cerebral Artery (ACA):** Symptoms typically include contralateral leg weakness/sensory loss > arm, disinhibition, speech preservation, altered mental status.
-
- The patient's symptoms (vertigo, double vision, difficulty speaking) are classic for **vertebrobasilar** territory involvement. Since the symptoms resolved quickly, the diagnosis is **TIA - vertebrobasilar artery**.

STROKE QUESTION 2:
Left hand weakness, pronator drift, no sensory loss, location of lesion:
A. right frontal lobe
B. Left cerebellum
C. right cerebellum
D. right parietal
E. left parietal.
ANSWER: A

HIGH-YIELD CONTEXT:

- **Motor Pathways and Frontal Lobe Function (Stroke Slide 21 - Brain diagram):**
    - The **frontal lobe** contains the **primary motor cortex (precentral gyrus)**, which controls voluntary movements on the contralateral (opposite) side of the body.
    - "Motor control (premotor cortex)" is listed under Frontal Lobe functions.
-
- **Pronator Drift:** A sensitive sign of upper motor neuron weakness (corticospinal tract lesion). When the patient holds both arms outstretched with palms up and eyes closed, the affected arm will pronate (turn palm down) and drift downwards.
- **Localization:**
    - Left hand weakness and pronator drift indicate a lesion affecting the motor pathways controlling the left upper limb.
    - These pathways originate in the **right primary motor cortex**, located in the **right frontal lobe**.
    - "No sensory loss" suggests the lesion is primarily affecting motor areas, though motor and sensory cortices are close.
    - Cerebellar lesions (B, C) cause ataxia, incoordination, and issues with balance, not typically isolated weakness with pronator drift.
    - Parietal lobe lesions (D, E) are more associated with sensory deficits, neglect, apraxia, etc.
-

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STROKE QUESTION 4 (Question 3 is missing in OCR):
A stroke paient presented with intention tremor, dysdiadochokinesia, nystagmus, ataxia, & contralateral motor deficit. Which artery is affected in this patient? ***
A. Anterior cerebral artery
B. Middle cerebral artery
C. Posterior cerebral artery
D. Vertebrobasilar artery
E. External carotid artery
ANSWER: D

HIGH-YIELD CONTEXT:

- **Vertebrobasilar Artery System and Cerebellar/Brainstem Symptoms (Stroke Slide 22 - Clinical features):**
    - **Vertebrobasilar artery** supplies the brainstem and cerebellum.
    - **Cerebellar signs:**
        - **Intention tremor:** Tremor that worsens as the hand approaches a target.
        - **Dysdiadochokinesia:** Inability to perform rapid alternating movements.
        - **Nystagmus:** Involuntary rhythmic eye movements.
        - **Ataxia:** Uncoordinated gait and movements.
    -
    - **Brainstem signs:** Can include vertigo, dysarthria, diplopia, cranial nerve palsies, and **contralateral motor/sensory deficits** (due to involvement of descending motor tracts like the corticospinal tract or ascending sensory tracts passing through the brainstem).
-
- The constellation of cerebellar signs (intention tremor, dysdiadochokinesia, nystagmus, ataxia) combined with a contralateral motor deficit strongly points to a lesion in the **vertebrobasilar** territory, affecting the cerebellum and/or brainstem.

STROKE QUESTION 5:
You're assessing a patient's Glasgow Coma Scale at the bedside. What is the patient's score based on these findings:
When you arrive to the patient's bedside the patient's eyes are closed, but they open when you speak to the patient. The patient doesn't respond appropriately to questions asked & says words that don't make sense. In addition, the patient can't obey a motor command. Therefore, when you apply a central stimulus the patient moves to locate & remove the stimulus. **
(Options with GCS scores are on Page 18)

HIGH-YIELD CONTEXT (Glasgow Coma Scale Components):

- **Eye Opening (E):**
    - 4: Spontaneous

    - 3: To speech/sound
    - 2: To pain
    - 1: None
-
- **Verbal Response (V):**
    - 5: Orientated
    - 4: Confused
    - 3: Inappropriate words
    - 2: Incomprehensible sounds
    - 1: None
-
- **Motor Response (M):**
    - 6: Obeys commands
    - 5: Localizes to pain (purposeful movement towards painful stimulus)
    - 4: Withdraws from pain (normal flexion)
    - 3: Abnormal flexion to pain (decorticate posturing)
    - 2: Extension to pain (decerebrate posturing)
    - 1: None
-
- **Applying to the scenario:**
    - "eyes are closed, but they open when you speak to the patient" -> **E3**
    - "doesn't respond appropriately to questions asked & says words that don't make sense" (e.g., random words, not forming sentences) -> **V3 (Inappropriate words)**. If it were just confused speech but forming sentences, it would be V4. "Words that don't make sense" fits V3 better.
    - "can't obey a motor command. Therefore, when you apply a central stimulus the patient moves to locate & remove the stimulus" -> **M5 (Localizes to pain)**.
-

PAGE 18

(Continuation of Stroke Question 5 options and answer)
A. E3 V4 M5
B. E2 V4 M2
C. E3 V3 M5
D. E3 V3 M4
E. E3 V3 M3
ANSWER: C (E3 V3 M5 based on the breakdown above)

STROKE QUESTION 6:
Patient presented with left arm weakness, pronator drift, power of the lest side 2/5 intact

sensation and speech, where is the lesion? *FINAL018, the only difference is Lt->Rt*
(This implies the FINAL018 version asked about RIGHT arm weakness, thus a LEFT frontal lobe lesion. The OCR version has LEFT arm weakness.)
A. Right cerebellum
B. Right parietal lobe
C. Right frontal lobe
D. Left cerebellum
E. Left parietal lobe
ANSWER: C

HIGH-YIELD CONTEXT:

- This is very similar to Stroke Question 2 on Page 17.
- **Left arm weakness, pronator drift, power 2/5:** Indicates a significant lesion affecting the motor pathways for the left arm.
- **Location:** These pathways originate in the **right primary motor cortex**, located in the **right frontal lobe**.
- "Intact sensation and speech" further localizes the lesion to primarily motor areas, away from dominant hemisphere language centers (if left-handed for speech) or primary sensory cortex in the parietal lobe.
- Cerebellar lesions cause ataxia/coordination issues. Parietal lesions cause sensory deficits.

OTHERS QUESTION 1:
Severe sudden headache, photosensitivity, vomiting, neck stiffness, bp 190/110, first line treatment: nicardipine (other choices: ceftriaxone, ketorolac, platelets, vitamin K).
(This is a statement of a case and its first-line treatment, likely Subarachnoid Hemorrhage - SAH)

HIGH-YIELD CONTEXT:

- **Subarachnoid Hemorrhage (SAH):**
    - Often presents with a **sudden, severe ("thunderclap") headache**, often described as "the worst headache of my life."
    - Associated symptoms can include: **neck stiffness (meningismus), photophobia, vomiting**, altered level of consciousness, seizures.
    - A common cause is a ruptured cerebral aneurysm.
-
- **Management of SAH:**
    - **Airway, Breathing, Circulation (ABCs).**
    - **Blood Pressure Control:** Hypertension is common and can worsen rebleeding risk. The goal is often to lower BP cautiously. **Nicardipine** (a calcium channel blocker, often given as an IV infusion) is a common choice for BP control in SAH

because it's titratable and has less effect on cerebral vasospasm compared to some other agents. Labetalol is another option.
    - Nimodipine (oral calcium channel blocker) is given to prevent/treat cerebral vasospasm, a delayed complication.
    - Pain control, antiemetics.
    - Neurosurgical consultation for aneurysm treatment (clipping or coiling).
-
- Ceftriaxone is an antibiotic (for meningitis). Ketorolac is an NSAID (may worsen bleeding). Platelets/Vitamin K are for coagulopathy reversal.

OTHERS QUESTION 2:
A patient with Ehlers-Danlos syndrome presented with a headache, stiff neck, photosensitivity and nausea. The next most appropriate medication to administer is: *FINAL018***
A) Nicardipine
B) Ceftriaxone
C) Beta blocker
ANSWER: A

HIGH-YIELD CONTEXT:

- **Ehlers-Danlos Syndrome (EDS):** A group of inherited connective tissue disorders. Vascular EDS (vEDS) is associated with fragile blood vessels, increasing the risk of arterial rupture, dissection, and aneurysm formation, including intracranial aneurysms which can lead to Subarachnoid Hemorrhage (SAH).
- **Clinical Presentation:** The symptoms described (headache, stiff neck, photosensitivity, nausea) are classic for SAH or meningitis. Given the EDS background, SAH is a very high concern.
- **Management Focus (similar to Q1):** If SAH is suspected, and assuming the patient is hypertensive (which often accompanies SAH), **blood pressure control is critical**.
    - **Nicardipine** is an appropriate choice for BP management in suspected SAH, as discussed in Q1.
-
- Ceftriaxone would be for suspected bacterial meningitis. Beta-blockers might be used for BP control in some contexts but nicardipine is often preferred in SAH for its cerebral effects.

OTHERS QUESTION 3:
All of the following are contraindications to thrombolysis therapy EXCEPT: **
A. The patient presented with weakness, but was noticed 5 hours ago by his spouse to be normal
B. INR >1.7

C. Platelets <150
D. Active bleeding
E. MCA territory of ischemic stroke is >1/3
ANSWER: C

HIGH-YIELD CONTEXT (Contraindications to Thrombolysis - Alteplase for Ischemic Stroke - Stroke Slide 24):

- **Key Contraindications (not an exhaustive list from one slide, but general principles):**
    - **Time Window:** Onset of symptoms > 4.5 hours (Option A: 5 hours ago is outside this window).
    - **Bleeding Risk / Coagulopathy:**
        - Active internal bleeding (Option D).
        - Current use of anticoagulants with INR >1.7 (Option B).
        - Platelet count <100,000/mm³ (Slide 24 lists "Plt less than 100" as contraindication for labs. The question has <150, so this is the "EXCEPT" as platelets between 100-149k might be acceptable if other factors are favorable, but typically <100k is the hard stop).
    -
    - **Extent of Stroke:** Evidence of large infarct on CT (e.g., >1/3 MCA territory) can increase risk of hemorrhagic transformation (Option E).
    - Recent intracranial or intraspinal surgery, serious head trauma, or previous stroke in last 3 months.
    - History of intracranial hemorrhage (ICH).
    - Severe uncontrolled hypertension (e.g., BP >185/110 mmHg despite treatment - Slide 24).
-
- **Platelets <150,000/mm³:** While a platelet count <100,000/mm³ is a definite contraindication, a count between 100,000 and 150,000/mm³ might be considered a relative contraindication or require careful assessment, but it's less absolute than the others listed. Thus, it's the most likely "EXCEPT" among strong contraindications.

OTHERS QUESTION 4:
All of the following are contraindications to thrombolysis therapy EXCEPT: (Yes, again)
(Options are on Page 19)

PAGE 19

(Continuation of Others Question 4 options and answer)
A. Brain tumour

B. BP >180/110
C. Previous stroke
D. & 2 other contraindications
ANSWER: All(A,B,C) are considered contraindications (This answer implies the question was flawed or the "EXCEPT" was among the "2 other contraindications" not listed.)

HIGH-YIELD CONTEXT (Contraindications to Thrombolysis for Ischemic Stroke - Stroke Slide 24 & General Knowledge):

- **Brain Tumour (A):** Intracranial neoplasm is generally a contraindication due to increased risk of hemorrhage.
- **BP >180/110 (B):** Specifically, BP >185/110 mmHg despite treatment is a contraindication (Stroke Slide 24 "Bp > 185/110"). The value 180/110 is very close and would require aggressive lowering before thrombolysis.
- **Previous Stroke (C):**
    - Ischemic stroke within the last 3 months is a contraindication.
    - *Any* history of intracranial hemorrhage is a contraindication.
    - The question is vague ("Previous stroke"). If it was a minor ischemic stroke many years ago, it might not be. If recent or hemorrhagic, it would be.
-
- Given the answer, it suggests all listed options A, B, and C are indeed considered contraindications or at least strong relative contraindications in most contexts.

OTHERS QUESTION 5:
ONE of the following is not a candidate for tissue plasminogen activator (tPA) ?
a) platelets 250
b) BP 210/110
c) symptoms of ischemia for 30 min
ANSWER: b

HIGH-YIELD CONTEXT (Contraindications to Thrombolysis for Ischemic Stroke - Stroke Slide 24):

- **a) Platelets 250,000/mm³:** This is a normal platelet count. Low platelets (<100,000/mm³) are a contraindication. So, this patient *IS* a candidate based on platelets.
- **b) BP 210/110 mmHg:** This is severe uncontrolled hypertension. BP must be lowered to <185/110 mmHg before tPA can be given. If it cannot be controlled, tPA is contraindicated. So, this patient *IS NOT* a candidate *at this BP*.
- **c) Symptoms of ischemia for 30 min:** This is well within the 4.5-hour time window for tPA. So, this patient *IS* a candidate based on time.
- Therefore, the patient with BP 210/110 is NOT a candidate unless the BP can be safely and rapidly lowered.

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OTHERS QUESTION 6:
A contraindication for tPA therapy:
A) BP 200/110
B) Symptoms of ischemia
C) Limb weakness for 2 hours duration
D) No findings on CT
ANSWER: A

HIGH-YIELD CONTEXT (Contraindications to Thrombolysis for Ischemic Stroke - Stroke Slide 24):

- **A) BP 200/110 mmHg:** This is severe uncontrolled hypertension (>185/110 mmHg) and is a contraindication unless it can be lowered.
- **B) Symptoms of ischemia:** This is an *indication* for tPA if other criteria are met, not a contraindication.
- **C) Limb weakness for 2 hours duration:** This is within the 4.5-hour time window, so it's an *indication* (if ischemic stroke).
- **D) No findings on CT:** In the hyperacute phase of ischemic stroke (first few hours), the non-contrast CT scan is often normal (shows no hemorrhage and no early ischemic changes). A normal CT *rules out hemorrhage* and thus supports the use of tPA if other criteria for ischemic stroke are met. Early ischemic changes on CT (e.g., >1/3 MCA territory) can be a contraindication. So, "no findings on CT" is actually favorable for tPA.
- Therefore, BP 200/110 is the clear contraindication among the options.

OTHERS QUESTION 7:
90yr old patient with unknown medical history and dysarthria only, next best step (answer: Glucocheck)
(This is a statement of management.)

HIGH-YIELD CONTEXT (Stroke Mimics and Initial Assessment - Stroke Slide 22 "Stroke mimics include...Hypoglycaemia"):

- **Initial Stroke Assessment:**
    - **Hypoglycemia** is a common stroke mimic and can present with focal neurological deficits, including dysarthria.
    - It is crucial to check blood glucose (e.g., with a fingerstick "Glucocheck") in all patients presenting with acute neurological symptoms to rule out hypoglycemia as the cause, as it is easily reversible.
-
- "Dysarthria only" is a focal neurological deficit. In an elderly patient with unknown history, a rapid bedside glucose check is essential and quick.

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Final 017(different topics were included)

FINAL 017 - QUESTION 1:
A 23-year-old male who was involved in a massive Road Traffic Accident (RTA) presented to the Emergency department with Glasgow Coma Score of 7. A definitive airway was required. One of the following are NOT considered as definitive airway device, Select one:
a. Tracheostomy tube
b. Surgical cricothyroidotomy tube
c. Nasotracheal tube
d. Orotracheal tube
e. Laryngeal mask airway device
ANSWER: E

HIGH-YIELD CONTEXT (Definitive Airway in Trauma - ATLS Slide 3 "Airway Maintenance"):

- **Indications for Definitive Airway:** GCS score of 8 or lower is a common indication. (Patient has GCS 7).
- **Definitive Airway:** Defined as a tube placed in the trachea with the cuff inflated below the vocal cords, connected to oxygen-enriched assisted ventilation, and secured in place.
    - **Orotracheal intubation (d)** is the most common method.
    - **Nasotracheal intubation (c)** is another method (less common in trauma, contraindicated with midface fractures).
    - **Surgical airways:**
        - **Cricothyroidotomy (b)**: A surgical airway through the cricothyroid membrane.
        - **Tracheostomy (a)**: A more formal surgical airway, usually performed for longer-term airway needs but can be a definitive airway.
    -
-
- **Laryngeal Mask Airway (LMA) (e):** This is a **supraglottic airway device**. It sits above the glottis. While useful as a temporary airway or rescue device, it **does not provide protection against aspiration** to the same degree as a cuffed tracheal tube and is **NOT considered a definitive airway** in the ATLS context. (ATLS Slide 3 mentions oropharyngeal airway is temporary; LMA is a step above but still not definitive like a cuffed ETT).

FINAL 017 - QUESTION 2:
In the initial assessment of trauma patients, one of the following conditions DOES NOT affect ventilation

a. Cardiac tamponade
b. Flail chest and pulmonary contusion
c. Airway obstruction
d. Hemothorax
ANSWER: A

HIGH-YIELD CONTEXT (Primary Survey - ABCDEs - ATLS Slides):

- **A - Airway:** Obstruction (c) directly prevents air entry and thus ventilation.
- **B - Breathing and Ventilation:**
    - **Flail chest and pulmonary contusion (b):** Flail chest causes paradoxical chest movement, and contusion damages lung tissue, both impairing effective ventilation. (ATLS has sections on these).
    - **Hemothorax (d):** Accumulation of blood in the pleural space collapses the lung, reducing the lung volume available for ventilation. Massive hemothorax is life-threatening. (ATLS Slide 5 "Injuries that significantly impair ventilation... massive hemothorax, open pneumothorax").
    - **Tension pneumothorax (related, on slide 5):** Air in pleural space under pressure, collapses lung, shifts mediastinum, impairs ventilation and circulation.
-
- **C - Circulation:**
    - **Cardiac tamponade (a):** Fluid (blood) in the pericardial sac compresses the heart, impairing diastolic filling and reducing cardiac output. This primarily affects **circulation**. While severe circulatory compromise can lead to respiratory distress/failure due to poor perfusion, tamponade itself doesn't *directly* obstruct airways or mechanically prevent lung expansion in the same way the other conditions affect ventilation. It's a circulatory problem with secondary effects on breathing if severe.
-

PAGE 20

(Continuation of Final 017 questions)
e. Tension pneumothorax
ANSWER (for Q2): A

FINAL 017 - QUESTION 3:
Not in the primary survey of trauma patients:
a. Pelvic x-ray
b. Chest x-ray
c. Nasogastric tube

d. Brain CT
e. Oxygen
ANSWER: C (and D, but C is more definitively NOT primary survey for ALL patients)

HIGH-YIELD CONTEXT (Primary Survey vs. Adjuncts/Secondary Survey - ATLS Slides):

- **Primary Survey (ABCDEs):** Focuses on immediate life threats.
    - **A - Airway** with c-spine protection.
    - **B - Breathing and Ventilation:** Includes assessment and interventions like giving **Oxygen (e)**. A **Chest X-ray (b)** is a common adjunct *during or immediately after* the primary survey to evaluate breathing issues (e.g., pneumothorax, hemothorax).
    - **C - Circulation** with hemorrhage control. A **Pelvic X-ray (a)** can be an adjunct in patients with suspected pelvic fractures and hemodynamic instability.
    - **D - Disability** (Neurologic status - GCS, pupils).
    - **E - Exposure** and Environment control.
-
- **Adjuncts to Primary Survey:** Include things like ECG, FAST scan, X-rays (chest, pelvis), ABGs.
- **Secondary Survey:** Head-to-toe examination, patient history, further investigations.
- **Nasogastric Tube (NGT) (c):** Placement of an NGT is typically considered during or after the secondary survey. It can help decompress the stomach but is not an immediate life-saving step in the primary survey for all trauma patients (contraindicated with severe midface fractures unless placed orally).
- **Brain CT (d):** This is a diagnostic study, usually performed after the primary survey and initial stabilization if head injury is suspected. It's not part of the immediate ABCDE assessment itself.
- Between C and D, NGT placement is less of a primary survey action than ensuring oxygenation or getting a critical X-ray. Both C & D are not strictly *in* the ABCDE assessment itself, but adjuncts or secondary survey components. However, oxygen (e) is definitely part of "B". Chest and pelvic X-rays can be critical early adjuncts tied to B and C.

FINAL 017 - QUESTION 4:
Brought to the ER with an altered level of consciousness after falling from 5 stories. HR 110, BP 70/50, and the patient was anxious. Which degree is her hypovolemic shock?
a. I
b. II
c. III
d. IV
e. Irreversible
ANSWER: C [Plz refer to the table in qs like this, HR should match the BP, the debate in this qs is due to book=old version .of tables]

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HIGH-YIELD CONTEXT (Classes of Hemorrhagic Shock - ATLS):
(ATLS manual provides a table for classes of shock. General parameters are:)

- **Class I:** Blood loss <15% (<750ml). HR <100. BP normal. RR normal. UO >30ml/hr. Mental status: slightly anxious.
- **Class II:** Blood loss 15-30% (750-1500ml). HR 100-120. BP normal/orthostatic. RR 20-30. UO 20-30ml/hr. Mental status: mildly anxious.
- **Class III:** Blood loss 30-40% (1500-2000ml). **HR 120-140**. **BP decreased**. RR 30-40. UO 5-15ml/hr. Mental status: **anxious, confused**.
- **Class IV:** Blood loss >40% (>2000ml). **HR >140**. **BP markedly decreased (hypotension)**. RR >35. UO negligible. Mental status: **confused, lethargic**.
- **Patient's Vitals:** HR 110, BP 70/50 (decreased/hypotensive), anxious, altered LOC.
    - BP 70/50 is definitely decreased.
    - HR 110 fits Class II or bridging to Class III.
    - Anxious + altered LOC points towards Class III or IV.
    - Given the **significant hypotension (BP 70/50)**, this patient is at least in **Class III shock**. If HR was >120, it would be more classic Class III. The note about matching HR and BP is important. With that BP, Class III is the minimum.
-

FINAL 017 - QUESTION 5:
In the initial assessment of trauma patients, one of the following conditions DOES NOT affect circulation:
a. Femoral fracture
b. Spinal cord injury
c. Brain trauma
d. 2nd degree burn of 20% BSA
e. Ruptured heart valve
ANSWER: D

HIGH-YIELD CONTEXT (Circulation in Trauma - ATLS):

- **a. Femoral fracture:** Can cause significant internal hemorrhage (1-1.5 liters or more), leading to hypovolemic shock and affecting circulation.
- **b. Spinal cord injury:** Can cause neurogenic shock (due to loss of sympathetic tone leading to vasodilation and bradycardia), which is a distributive shock affecting circulation.
- **c. Brain trauma:** Severe brain injury can lead to Cushing's triad (hypertension, bradycardia, irregular respirations) or, if associated with systemic hypotension (e.g., from other injuries or terminal brain herniation), will significantly impact cerebral and systemic circulation. Isolated brain trauma itself doesn't cause hypovolemic shock unless there's massive scalp bleeding. However, it impacts circulatory *regulation*.

- **d. 2nd degree burn of 20% BSA:** Burns lead to fluid loss through capillary leak and evaporation. A 20% BSA burn can cause significant fluid shifts and hypovolemia, but this typically develops over hours, not as an *immediate* cause of circulatory collapse in the *initial* assessment in the same way massive hemorrhage from trauma does. While it will affect circulation later, its immediate impact on "C" in the primary survey is less direct than active bleeding or acute cardiac failure.
- **e. Ruptured heart valve:** Acute valvular rupture (e.g., from blunt cardiac injury) can lead to cardiogenic shock and fulminant heart failure, directly and severely impacting circulation.
- Considering the *initial assessment* and immediate life threats to circulation, a 20% burn, while serious, is less likely to cause immediate circulatory collapse compared to a major hemorrhage (femoral fracture), acute cardiac failure (ruptured valve), or distributive shock (spinal cord injury). Brain trauma's effect on circulation is more complex but can be profound. Option D is the most likely to have a *delayed* major impact on circulation rather than an immediate one during the primary survey.

BEFORE 017 - QUESTION 6:
Lady presents to the ER with headache, correct match :
a. band like - cluster
b. tenderness with touch - tension
c. With nick stiffness - SAH
d. early morning - migraine
e. Need more neurologic symptoms
ANSWER: c (assuming "nick stiffness" is a typo for neck stiffness)

HIGH-YIELD CONTEXT (Headache Types):

- **a. Band-like headache:** Characteristic of **Tension-type headache**, not cluster. Cluster headaches are severe, unilateral, orbital/temporal, with autonomic features.
- **b. Tenderness with touch (scalp tenderness):** Can be present in **Tension-type headache**, also sometimes in migraine or temporal arteritis. This is plausible for tension headache.
- **c. With neck stiffness - SAH (Subarachnoid Hemorrhage):** Neck stiffness (meningismus) is a classic sign of SAH due to blood irritating the meninges. (Stroke Slide 18, 23). This is a strong association.
- **d. Early morning headache:** Can be a feature of **migraine**, but also raised intracranial pressure, sleep apnea, etc. Not exclusively migraine.
- Comparing the options, neck stiffness with SAH (c) is a very well-established and critical association. Scalp tenderness with tension headache (b) is also common. If only one is "correct," SAH is a more specific and emergent link.

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BEFORE 017 - QUESTION 7:
Stage of shock? 3 4 9 ?
Answer: 3,[preshock, shock, end organ dysfunction]
(This seems to be asking for a 3-stage model of shock progression, rather than the 4 classes of hemorrhagic shock.)

HIGH-YIELD CONTEXT (Stages of Shock Progression - General Physiology):

- Shock can be conceptualized in stages of progression:
    1. **Preshock (Compensated Shock):** The body's compensatory mechanisms (e.g., tachycardia, vasoconstriction) maintain blood pressure and vital organ perfusion despite an initial insult. Subtle signs like mild anxiety or cool peripheries might be present.
    2. **Shock (Decompensated Shock):** Compensatory mechanisms begin to fail. Blood pressure may start to drop, signs of organ hypoperfusion become more evident (e.g., tachycardia, tachypnea, oliguria, altered mental status).
    3. **End-Organ Dysfunction / Irreversible Shock:** Prolonged or severe hypoperfusion leads to cellular damage, organ failure, and eventually irreversible shock where interventions are unlikely to reverse the process, leading to death.
- The answer "3, [preshock, shock, end organ dysfunction]" fits this physiological model of shock progression.

PAGE 21:
BEFORE 017 - QUESTION 8:
Not in primary survey : Taking full history
(This is a statement of fact.)

HIGH-YIELD CONTEXT (Primary Survey vs. Secondary Survey - ATLS Slide 1):

- **Primary Survey (ABCDEs):** Rapid assessment and management of immediate life-threatening injuries. It involves a quick physical examination focused on Airway, Breathing, Circulation, Disability, and Exposure.
- **Secondary Survey:** Begins *after* the primary survey is completed, resuscitation is underway, and the patient is demonstrating normalization of vital functions.
    - The secondary survey includes a **complete head-to-toe evaluation** and obtaining a **patient history** (e.g., AMPLE history: Allergies, Medications, Past medical history/Pregnancy, Last meal, Events/Environment related to injury).
- "Taking full history" is a component of the **secondary survey**, not the primary survey.

BEFORE 017 - QUESTION 9:
Not in E of ABCDE . (the qs in past isnt clearly stated however know each letterrefer to what, E

refers to exposure & environment control)
(This is a statement clarifying 'E' in ABCDE.)

HIGH-YIELD CONTEXT (Primary Survey - 'E' - ATLS Slide 2 & 10):

- **ABCDEs of Trauma Care (ATLS Slide 2):**
  - A: Airway maintenance with restriction of cervical spine motion
  - B: Breathing and ventilation
  - C: Circulation with hemorrhage control
  - D: Disability (assessment of neurologic status)
  - **E: Exposure/Environmental control**
-
- **Exposure and Environmental Control (ATLS Slide 10):**
  - "During the primary survey, completely undress the patient... to facilitate a thorough examination and assessment."
  - "After completing the assessment, cover the patient with warm blankets... to prevent him or her from developing hypothermia..."
  - "Maintain a warm environment."
- So, 'E' stands for completely **exposing** the patient to allow for a full examination and then controlling the **environment** to prevent hypothermia.

BEFORE 017 - QUESTION 10:
Not an indication of intubation : GCS of 10 (should be less than or equal 8)
(This is a statement of fact.)

HIGH-YIELD CONTEXT (Indications for Definitive Airway - ATLS Slide 3):

- **Airway Maintenance with Restriction of Cervical Spine Motion:**
  - "In addition, patients with severe head injuries who have an altered level of consciousness or a **Glasgow Coma Scale (GCS) score of 8 or lower usually require the placement of a definitive airway** (i.e., cuffed, secured tube in the trachea)."
- A GCS of 10, while indicating some impairment, is above the typical threshold of ≤8 for prophylactic intubation due to inability to protect the airway. Other factors like respiratory distress, hypoxia, or impending airway obstruction would also be considered.

BEFORE 017 - QUESTION 11:
Not an objective sign of airway obstruction : Neck vein distention
(This is a statement of fact.)

HIGH-YIELD CONTEXT (Signs of Airway Obstruction vs. Other Conditions):

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- **Objective Signs of Airway Obstruction (ATLS Slide 3 - "rapid assessment for signs of airway obstruction includes"; Clinical features on Test Bank Page 21):**
    - Noisy breathing (snoring, gurgling, stridor, hoarseness).
    - Increased work of breathing (retractions, accessory muscle use).
    - Paradoxical chest/abdominal movement.
    - Inability to speak or cough (complete obstruction).
    - Cyanosis (late sign).
    - See-saw respirations.
-
- **Neck Vein Distention (JVD):**
    - This is primarily a sign of impaired venous return to the heart or increased right atrial pressure.
    - Common causes include:
        - **Tension pneumothorax** (obstructive shock, impairs venous return).
        - **Cardiac tamponade** (obstructive shock, impairs diastolic filling).
        - Fluid overload.
        - Right heart failure.
    - While a patient with airway obstruction might develop JVD due to severe respiratory distress and increased intrathoracic pressure, JVD itself is not a direct sign *of* the airway being obstructed but rather a sign of a potential thoracic or cardiac issue.

BEFORE 017 - QUESTION 12:
which of following arteries is not part of circle of willis :
a- vertebral artery
b- basilar artery
c- anterior communicating artery
d- posterior communicating artery
e- internal carotid artery
Answer is a

HIGH-YIELD CONTEXT (Circle of Willis Anatomy - Stroke Slide 21 diagram):

- The Circle of Willis is an anastomotic ring of arteries at the base of the brain.
- **Components:**
    - **Anterior Cerebral Arteries (ACA)** (branches of Internal Carotid Artery).
    - **Anterior Communicating Artery (AComA):** Connects the two ACAs. (Option c)
    - **Internal Carotid Arteries (ICA):** Supply the ACAs and MCAs. (Option e)
    - **Posterior Cerebral Arteries (PCA):** Usually arise from the basilar artery.
    - **Posterior Communicating Arteries (PComA):** Connect the ICAs (or MCAs) to the PCAs. (Option d)
- **Arteries that feed into or arise near the Circle but are not typically considered *part* of the complete ring itself for anastomotic purposes:**

    - **Basilar Artery (b):** Formed by the junction of the two vertebral arteries; it bifurcates into the two PCAs. It's central to the posterior circulation that connects to the circle.
    - **Vertebral Arteries (a):** Fuse to form the basilar artery. They are *proximal* to the Circle of Willis.
- While the basilar artery is intimately connected and supplies the posterior part, the **vertebral arteries (a)** are clearly proximal feeders *before* the formation of the basilar artery and the Circle. The "Circle" itself refers to the anastomotic connections (communicating arteries) and the proximal parts of the cerebral arteries it connects.

BEFORE 017 - QUESTION 13:
most important factor for P.E
-DVT
(This is a statement of fact.)

HIGH-YIELD CONTEXT (Pulmonary Embolism - PE):

- **Virchow's Triad (risk factors for VTE - Venous Thromboembolism, which includes DVT and PE):**
    1. Venous stasis (e.g., immobility, surgery, paralysis).
    2. Endothelial injury (e.g., trauma, surgery, catheters).
    3. Hypercoagulability (e.g., cancer, inherited thrombophilias, pregnancy, estrogen therapy).
- **Deep Vein Thrombosis (DVT):** A blood clot in a deep vein, usually in the legs or pelvis.
- **Pulmonary Embolism (PE):** Occurs when a DVT (or part of it) dislodges, travels through the venous system to the right side of the heart, and then lodges in the pulmonary arteries.
- Therefore, **DVT is the most common source and thus the most important direct precursor/factor for PE.** Most PEs originate from DVTs in the lower extremities.

BEFORE 017 - QUESTION 14:
Which of the following doesn't need prolonged resuscitation ?
a- subarachnoid hg
b- hypothermia
c- electrical shock with alternating current??
d- drug addict comatose
Answer: D?

HIGH-YIELD CONTEXT (Resuscitation Efforts):

- "Prolonged resuscitation" implies a situation where initial efforts may not be immediately successful, or where specific conditions require extended support or observation.

- **a- Subarachnoid Hemorrhage (SAH):** Can cause cardiac arrest (e.g., due to arrhythmias, massive ICP rise). If ROSC is achieved, patients require intensive neurocritical care, often for a prolonged period due to risks of rebleeding, vasospasm, etc. So, prolonged management is typical.
- **b- Hypothermia:** Profound hypothermia can mimic death and can cause severe bradycardia or asystole. Patients are generally not declared dead until "warm and dead." Resuscitation efforts, including rewarming, can be very prolonged, and good neurological outcomes are possible even after extended CPR if hypothermia was the primary cause.
- **c- Electrical shock with alternating current:** Can cause immediate cardiac arrest (VF, asystole), respiratory arrest, rhabdomyolysis, burns. Resuscitation follows standard ACLS. If there's significant tissue damage or arrhythmias, prolonged care may be needed. The "alternating current" part might refer to the risk of tetanic muscle contraction making self-rescue difficult and increasing contact time.
- **d- Drug addict comatose:** Coma due to drug overdose (e.g., opioids, sedatives).
    - If the patient is comatose but has a pulse and is breathing (even if depressed), the primary management is airway support, ventilation if needed, and administration of antidotes (e.g., naloxone for opioids, flumazenil for benzodiazepines).
    - If the overdose leads to cardiac arrest, standard ACLS applies.
    - However, if the coma is due to a reversible drug effect and the patient is stabilized with airway/breathing support and an antidote, the "resuscitation" in terms of active CPR might be brief or not needed at all, followed by supportive care.

The "D?" answer suggests uncertainty. Compared to hypothermia which often mandates very prolonged efforts, or SAH which leads to long ICU stays, a drug overdose *if reversed successfully with an antidote and supportive care before cardiac arrest occurs*, might involve less "prolonged resuscitation" in the sense of active CPR. However, if it progresses to arrest, resuscitation can be prolonged. This question is highly dependent on the specific scenario of the "drug addict comatose."

BEFORE 017 - QUESTION 15:
Farmer presented with cyanosis, frothy mouth secretions, difficulty breathing, pinpoint pupils, the FIRST thing you should do is:
a- Clear Airways
b- Give Atropine
c- Give Pralodixime
answer: a

HIGH-YIELD CONTEXT (Organophosphate/Carbamate Poisoning & ABCs):

- The symptoms (cyanosis, frothy mouth secretions/excessive salivation, difficulty breathing/bronchospasm/respiratory muscle weakness, pinpoint pupils/miosis) are classic for **cholinergic crisis**, most commonly due to **organophosphate or carbamate insecticide poisoning** (common in agricultural settings).
- **Management Priorities (ABCs first):**
    - **A - Airway:** The "frothy mouth secretions" can obstruct the airway. **Suctioning and clearing the airway (a) is the immediate FIRST priority** to enable ventilation.
    - **B - Breathing:** Provide oxygen and assist ventilation if necessary (patient has difficulty breathing and cyanosis).
    - **C - Circulation:** Monitor vital signs.
- **Specific Antidotes (after ABCs are addressed):**
    - **Atropine (b):** An antimuscarinic agent, given to dry secretions, reverse bradycardia, and reduce bronchospasm. It's a key antidote but comes *after* ensuring a patent airway.
    - **Pralidoxime (2-PAM) (c):** A cholinesterase reactivator, used for organophosphate poisoning (less effective for carbamates) to regenerate acetylcholinesterase. Given after atropine.
- Decontamination (removing contaminated clothing, washing skin) is also important.
- The absolute first step in any patient with respiratory distress and secretions is to **ensure a patent airway**.

BEFORE 017 - QUESTION 16:
A story about an unconscious patient arriving comatose to the ER with the help of a witness after the victim was in a quarrel as the witness said upon examination he was noted to have a contusion on the frontal aspect of his head and wth the help of CT he was found to have a fracture in the frontal lobe and bilateral subarachnoid hemorrage, what can you say to the police:
(The options are on page 22)

PAGE 22

(Continuation of Before 017 - Q16 options and answer)
a. he was not in a quarrel
b. he was hit with a large stone
c. he was hit with a steak!
d. he fell on the ground
e. he collided a blunt object"
Answer: e

HIGH-YIELD CONTEXT (Forensic Implications in Trauma):

- The medical findings are: unconscious, comatose, frontal contusion, frontal lobe fracture, bilateral subarachnoid hemorrhage.
- These injuries are consistent with significant head trauma.
- The question asks what you can say to the police *based on the medical findings*.
- You cannot confirm or deny the witness's account of a "quarrel" (a).
- You cannot specify the exact object (b, c) without further forensic evidence.
- While a fall (d) can cause head trauma, the injuries described (frontal fracture, SAH) are severe and could be caused by various mechanisms.
- **"He collided a blunt object" (e)** is the most general and medically supportable statement. The injuries are consistent with blunt force trauma to the head. This statement describes the *type* of injury mechanism that could lead to the findings, without speculating on the specifics of the event or instrument, which is appropriate for a medical professional providing information to law enforcement based purely on injuries.

BEFORE 017 - QUESTION 17:
As a doctor who first receives a patient in the ER, the most important task you should do is:
a. write specific details about the injury
b. inform the police
c. indicate whether your report is primary or final
d. take full history
e. add the estimated moddet el ta38eel (duration of injury/delay)
answer: a

HIGH-YIELD CONTEXT (Medical Documentation in Trauma/ER):

- **Immediate Patient Care (Primary Survey - ABCDEs) is paramount and precedes detailed documentation.** However, the question asks about a "task you should do," implying something beyond the immediate physical interventions.
- **Accurate and Timely Documentation:** This is crucial in all medical care, especially in the ER and trauma.
    - **"Write specific details about the injury" (a):** This includes the mechanism (if known), physical findings, vital signs, interventions, and patient responses. This documentation forms the medical record, is vital for continuity of care, and has legal implications.

Other Options:

- b. Inform the police: May be necessary for certain types of injuries (e.g., assault, GSW), but documenting the injuries accurately is a prerequisite.
- c. Indicate whether your report is primary or final: This is part of good reporting, but the content (details of injury) is more fundamental.
- d. Take full history: Part of the secondary survey, after initial stabilization and primary assessment.

    - e. Add the estimated duration of injury/delay: This is an important detail to include in the history/documentation, but "writing specific details about the injury" is broader and more encompassing as the most important *documentation* task.
- While immediate life-saving actions are the priority, accurate documentation of the injuries and care provided is a fundamental and "most important" *non-direct-care* task for the receiving doctor.

BEFORE 017 - QUESTION 18:
Diseases that must be reported immediately, by wire or telephone, to health directorates or the Ministry of Health, include the following, except:
a. Cholera
b. plague
c. poliomyelitis
d. yellow fever
e. meningitis
Answer: e?

HIGH-YIELD CONTEXT (Reportable/Notifiable Diseases):

- Public health laws require reporting of certain infectious diseases to health authorities to enable surveillance, outbreak investigation, and control measures.
- The list of immediately notifiable diseases (often Category A or Group 1, requiring urgent reporting) typically includes those with high potential for epidemics, severe morbidity/mortality, or international public health concern.
- **Cholera (a), Plague (b), Poliomyelitis (c), Yellow Fever (d):** These are all classic examples of diseases that are typically on the *immediately* reportable list in most jurisdictions due to their epidemic potential and public health significance.
- **Meningitis (e):**
    - **Bacterial meningitis** (especially meningococcal meningitis) is usually a notifiable disease.
    - However, the urgency of reporting might vary. While meningococcal meningitis outbreaks require rapid public health response (contact tracing, prophylaxis), the general term "meningitis" also includes viral meningitis, which is often less severe and may have different reporting requirements (e.g., not always *immediate* by wire/telephone for every single case, though outbreaks would be).
- The "e?" suggests this is the most likely "EXCEPT" if the question refers to the most stringently and universally *immediately* reportable conditions. Some forms of meningitis are immediately reportable, but the broad term might make it the exception compared to the unequivocal urgency of reporting cholera, plague, polio, or yellow fever.

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BEFORE 017 - QUESTION 19:
The following procedure could be used in the first aid management in cases of snake bite except:
a- Removal of all constricting items (eg. Rings)
b- Lights immobilization of the injured part
c- Application of tight constricting band above the swelling
d- Making small parallel incision through the fang marks through the skin and drainage
f- Resting the victim and reduction his activity
Answer: d (and possibly c, depending on interpretation of "tight")

HIGH-YIELD CONTEXT (First Aid for Snakebites - General Principles, as practices can vary by region/snake type):

- **Recommended First Aid (Do's):**
    - **Keep the victim calm and still (f).** Restrict movement to slow venom spread.
    - **Immobilize the bitten limb (b)**, preferably at or below heart level. Pressure Immobilization Bandage (PIB) technique is recommended for elapid snakes (e.g., cobras, mambas, sea snakes, Australian venomous snakes) – involves applying a broad pressure bandage over the bite site and extending up the limb, then splinting.
    - **Remove constricting items (a)** like rings, watches, tight clothing from the bitten limb, as swelling is common.
    - Transport to a medical facility urgently for antivenom if indicated.
- **Harmful / Outdated / Not Recommended Practices (Don'ts):**
    - **Making incisions at the bite site (d).** This does not remove significant venom, increases tissue damage, and risks infection.
    - **Sucking out venom.** Ineffective and can introduce infection.
    - **Applying a tourniquet or very tight constricting band (c).** While PIB uses pressure, a *tight* arterial tourniquet can cut off blood flow and cause ischemic damage, and is generally NOT recommended. The wording "tight constricting band above the swelling" sounds more like an arterial tourniquet than a proper PIB. PIB is applied firmly but should not occlude arterial flow.
    - Applying ice or heat.
    - Giving alcohol or aspirin.
- Option (d) is definitively an outdated and harmful practice. Option (c) is also problematic if "tight" implies arterial occlusion. PIB is a specific technique, not just any tight band.

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018 EXAM

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QUESTION 1 (from new list, same as Q1 Page 2):
The ideal time period after ER presentation within which percutaneous coronary angioplasty (PCI) should be performed in a patient with STEMI is:
a. 15 minutes
b. 30 minutes
c. 60 minutes
d. 90 minutes
Answer: D

HIGH-YIELD CONTEXT:

- **Choice of Reperfusion Strategy (ACS Slide 62):**
  - "The ideal treatment for all STEMIs is acute PCI or in some cases emergency CABGs."
  - "**Primary PCI is preferred for reperfusion therapy in patients with STEMI if it can be performed within 90 minutes of first medical contact.**"
- **STEMI gold standard treatment (Test Bank Page 14, Q44):** "PCI within 90 minutes."

QUESTION 2 (from new list, same as BLS/ALS Q1 Page 14):
Change between rescuers should be :
a. Every two cycles
b. Every ten cycles
c. Every five cycles
d. Every three cycles
Answer: C

HIGH-YIELD CONTEXT:

- **Two-Rescuer BLS/CPR for Adults (BLS Slide 30, point 5):**
  - "Switch roles after every **five cycles** of compressions and breaths. One cycle consists of 30 compressions and two breaths."
  - This is approximately every 2 minutes, to prevent rescuer fatigue and maintain high-quality compressions.
-

QUESTION 3 (from new list, similar to BLS/ALS Q3 Page 15):
The chest compression to rescue breath ratio in a pediatric patient during CPR is: (2 rescuers)
a. 15:2
b. 15:3
c. 30:2
d. 30:3

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Answer: A (Note: The original OCR had B as the answer. 15:2 is the correct ratio for 2-rescuer pediatric CPR)

HIGH-YIELD CONTEXT:

- **Updates in the ratio of rescue breath in Pediatrics (BLS Slide 28):**
    - "The **15:2 ratio** of compressions to breaths that was presented in the 2015 guidelines only for use in **two-rescuer CPR for children and infants** is now the recommended assisted ventilation rate for all pediatric resuscitation scenarios..."
-
- **BLS for Children (1 to Puberty) - Two-Rescuer BLS (BLS Slide 33, point 5):**
    - "When the second rescuer returns, begin doing CPR by performing **15 compressions** by one rescuer and **two breaths** by the second rescuer."
- **AHA Guidelines (General Knowledge, consistent with 2020 updates mentioned in slides):** For two-rescuer CPR in children and infants, the ratio is 15 compressions to 2 breaths. For single-rescuer pediatric CPR, it is 30:2.

QUESTION 4 (from new list, same as Stroke Q6 Page 18):
Patient presented with left arm weakness, pronator drift, power of the lest side 2/5 intact sensation and speech, where is the lesion?
a. Right cerebellum
b. Right parietal lobe
c. Right frontal lobe
d. Left cerebellum
e. Left parietal lobe
Answer: C

HIGH-YIELD CONTEXT:

- **Motor Pathways and Frontal Lobe Function (Stroke Slide 21 - Brain diagram "Frontal Lobe"):**
    - The frontal lobe contains the primary motor cortex, which controls voluntary movement on the *contralateral* side of the body. "Motor control (premotor cortex)" is a listed function.
- **Localization:** Left arm weakness and pronator drift (power 2/5 is significant weakness) indicate a lesion affecting the motor pathways for the left arm. These pathways originate in the **right primary motor cortex**, located in the **right frontal lobe**. Intact sensation and speech help to further isolate the lesion to primarily motor areas.

QUESTION 5 (from new list, same as Q38 (second one) Page 13):
Patient became unresponsive his ECG is the following (V.Fib) what do you do next:
(Image from Q9 in new list can be assumed to be V.Fib for this question)

a. Cardioversion
b. Defibrillation
c. Amiodarone
d. Adenosine
e. B blocker
Answer: B

HIGH-YIELD CONTEXT:

- **Adult Cardiac Arrest Algorithm / Use of AED (BLS Slide 31 & 32):**
    - An unresponsive patient with Ventricular Fibrillation (V.Fib) is in cardiac arrest with a shockable rhythm.
    - The immediate priority is **Defibrillation**.
    - Cardioversion is synchronized and used for unstable tachycardias *with a pulse*. Defibrillation is unsynchronized.

QUESTION 6 (from new list, same as ECGS Q20 Page 9):
Best leads presenting the anterior heart:
a. I, aVL
b. V3-V4
c. V5-V6
d. V1-V2
Answer: B

HIGH-YIELD CONTEXT:

- **Leads and Culprit Artery (ACS Slide 48):**
    - The diagram clearly labels V3 and V4 as corresponding to the **Anterior** wall.
    - V1, V2: Septal
    - V5, V6, I, aVL: Lateral

- **Precordial Leads diagram (ACS Slide 47):** Shows the placement and general areas viewed by the precordial leads, supporting V3-V4 as anterior.

QUESTION 7 (from new list, same as ECGS Q22 Page 9):
An ECG was shown. Findings included ST elevation in leads II, III and aVF). The most likely location for the patient's MI is :
a. Anterolateral
b. Septal
c. Inferior
d. Posterior
Answer: C

HIGH-YIELD CONTEXT:

- **Leads and Culprit Artery (ACS Slide 48):**
    - The diagram explicitly shows that ST elevation in leads **II, III, and aVF** indicates an **Inferior** MI.
- **Limb Leads diagram (ACS Slide 47):** Leads II, III, and aVF are grouped as viewing the inferior surface of the heart.

QUESTION 8 (from new list, with provided ECG image):
Which artery is affected depending on the following ECG panel?

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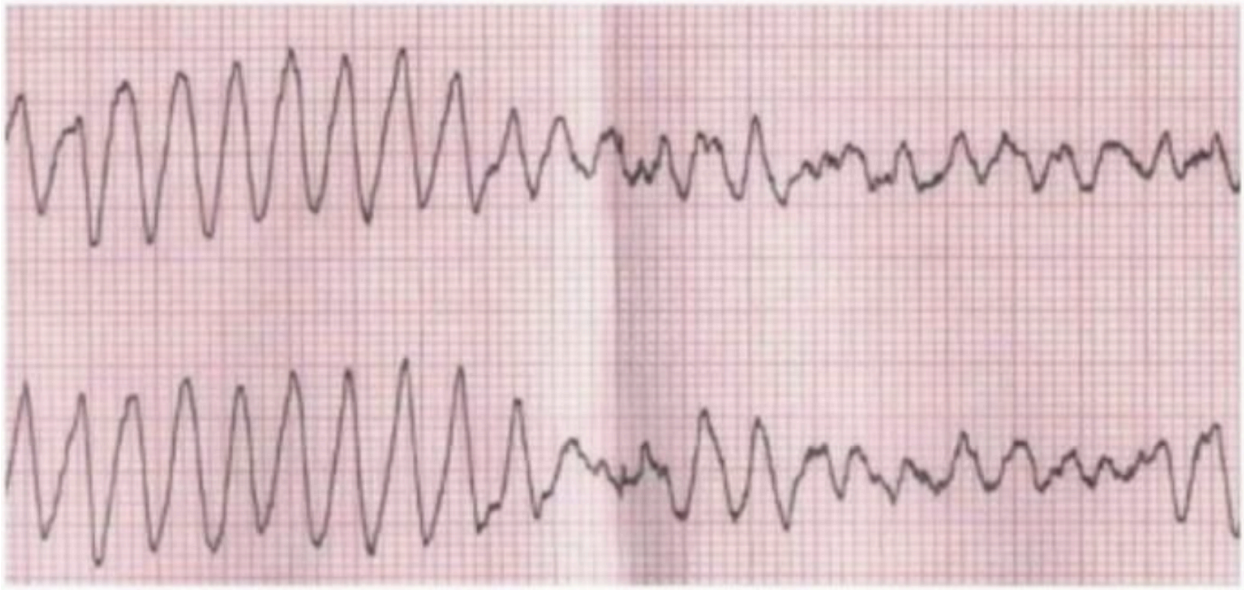
a. Left circumflex artery
b. Left marginal artery
c. Left main stem
d. Left anterior descending artery
e. Right coronary artery
Answer: D

HIGH-YIELD CONTEXT:

- **Leads and Culprit Artery (ACS Slide 48):**
    - **Anterior MI / Anteroseptal MI:** ST elevation in V1-V4 (septal V1-V2, anterior V3-V4).
    - The **Left Anterior Descending Artery (LAD)** is the culprit artery for anterior and anteroseptal MIs.
- **ECG Interpretation:** The provided ECG shows clear ST elevation in leads V1 through V4 (and possibly extending to V5), which localizes to the anteroseptal and anterior walls of the left ventricle. This pattern is characteristic of an occlusion of the **Left Anterior Descending (LAD) artery**. The reciprocal ST depression in inferior leads further supports an anterior STEMI.

QUESTION 9:
An ICU patient who became unresponsive, he was found to have no pulse & he's not breathing. An ECG was done & showed the following. What's the best next step for management?



a. Amiodarone
b. Cardioversion
c. Epinephrine
d. Defibrillation
e. Secure the patient's airways
Answer: D

HIGH-YIELD CONTEXT:

- **ECG Interpretation:** The ECG strip clearly shows **Ventricular Fibrillation (VF)**.
- **Adult Cardiac Arrest Algorithm / Use of AED (BLS Slide 31 & 32):**
    - Patient is unresponsive, no pulse, not breathing = Cardiac Arrest.
    - ECG shows VF, which is a **shockable rhythm**.
    - The immediate, life-saving intervention for VF is **Defibrillation**.
- **BLS for Adults - Defibrillate (BLS Slide 29):** "Attach the AED pads when available."
- **AED Steps (BLS Slide 32):** After turning on AED and applying pads, if "Shock" is advised, "Press and hold the 'shock' button until the AED delivers the shock."
- Amiodarone and Epinephrine are medications used in cardiac arrest, but defibrillation is the priority for VF. Cardioversion is for tachycardias *with a pulse*. Securing the airway is important but follows initial CPR and defibrillation for shockable rhythms.

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019 EXAM

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1. V tach unstable defibrillation
(Statement: Unstable Ventricular Tachycardia treatment is defibrillation.)

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Correction/Clarification: Unstable Ventricular Tachycardia (VT) with a pulse is treated with **synchronized cardioversion**, not defibrillation. Defibrillation is for pulseless VT or Ventricular Fibrillation.

HIGH-YIELD CONTEXT:

- **How to approach Tachy-arrhythmias (ACS Slide 42 - Adult tachycardia algorithm):**
    - If life-threatening features are present (patient is **UNSTABLE**) with a tachycardia:
        - **"Synchronised DC shock up to 3 attempts."**
    -
    - Ventricular Tachycardia (VT) is a wide complex tachycardia. If the patient is unstable due to VT (e.g., hypotension, shock, acute heart failure, ischemic chest pain, decreased LOC), immediate synchronized cardioversion is the treatment.

---

2. Flail chest 100% O2
(Statement: Treatment for flail chest includes 100% O2.)

HIGH-YIELD CONTEXT:

- **Breathing and Ventilation (ATLS Primary Survey Principle):**
    - "Every injured patient should receive supplemental oxygen." (ATLS Slide 6)
    - Flail chest significantly impairs ventilation and oxygenation due to paradoxical chest wall movement and often associated pulmonary contusion.
-
- **Management of Flail Chest (General ATLS Principles, though not a specific slide shown):**
    - The primary goals are to ensure adequate oxygenation and ventilation, and provide pain relief.
    - **High-flow oxygen (often 100% via non-rebreather mask)** is essential to treat or prevent hypoxia.
    - Analgesia is critical to improve respiratory effort.
    - Assisted ventilation (e.g., CPAP, BiPAP, or intubation and mechanical ventilation) may be required if respiratory failure develops.

---

3. FAST for hemoperitoneum
(Statement: FAST exam is used to detect hemoperitoneum.)

HIGH-YIELD CONTEXT:

- **Circulation with Hemorrhage Control - Adjuncts (ATLS General Principles):**

- The FAST (Focused Assessment with Sonography for Trauma) exam is a rapid bedside ultrasound examination used as an adjunct to the primary survey in trauma patients.
- One of its primary purposes is to detect **free fluid (which in trauma is presumed to be blood)** in the peritoneal cavity (hemoperitoneum), pericardial sac (hemopericardium), and pleural spaces (hemothorax).
- "The source of bleeding is usually identified by physical examination, chest or pelvic x-ray, **focused assessment with sonography for trauma (FAST)**..." (ATLS Slide 7, under identifying sources of internal hemorrhage).

---

4. Door to balloon optimal time? 90 mins
(Statement: Optimal door-to-balloon time is 90 minutes.)

HIGH-YIELD CONTEXT:

- **Choice of Reperfusion Strategy (ACS Slide 62):**
  - "Primary PCI is preferred for reperfusion therapy in patients with STEMI if it can be performed **within 90 minutes of first medical contact**."
-
- **STEMI gold standard treatment (Test Bank Page 14, Q44):** "PCI within 90 minutes."
- "Door-to-balloon" time refers to the time from patient arrival at the hospital (door) to the inflation of the angioplasty balloon in the culprit coronary artery during PCI. The 90-minute target is a key quality metric for STEMI care in PCI-capable hospitals.

---

5. ECG mobitz 2
(Statement: Refers to an ECG showing Mobitz Type II AV block.)

HIGH-YIELD CONTEXT:

- Refer to AV block definitions under ECGS Question 11 on Page 7 and ECGS Q12 on Page 8.
- **Second Degree AV Block, Mobitz Type II:**
  - Intermittent non-conducted P waves (dropped QRS).
  - The PR interval of conducted beats is constant.
  - Often associated with a wider QRS.
  - Indicates a block below the AV node.
  - Carries a risk of progression to complete heart block.

---

6. v3 v4 anterior
(Statement: Leads V3 and V4 represent the anterior wall of the heart.)

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HIGH-YIELD CONTEXT:

- **Leads and Culprit Artery (ACS Slide 48):**
    - The diagram clearly shows leads V3 and V4 overlying the **Anterior** wall of the left ventricle.
- **Precordial Leads (ACS Slide 47):** This diagram also supports V3-V4 as viewing the anterior region.

---

7. I avL v5 v6 lateral MI
(Statement: Leads I, aVL, V5, V6 indicate a lateral MI.)

HIGH-YIELD CONTEXT:

- **Leads and Culprit Artery (ACS Slide 48):**
    - The diagram shows leads I, aVL, V5, and V6 grouped as representing the **Lateral** wall.
- **Limb Leads & Precordial Leads (ACS Slide 47):**
    - I and aVL are high lateral leads.
    - V5 and V6 are low lateral / apical leads.
    - Changes in this combination indicate a lateral myocardial infarction.

---

8. ECG with II III avF ST elevation - inferior MI
(Statement: ST elevation in leads II, III, aVF indicates an inferior MI.)

HIGH-YIELD CONTEXT:

- **Leads and Culprit Artery (ACS Slide 48):**
    - The diagram explicitly shows that ST elevation in leads **II, III, and aVF** indicates an **Inferior** MI.
- **Limb Leads diagram (ACS Slide 47):** Leads II, III, and aVF view the inferior surface of the heart.

---

9. ECG showing mobitz 2, management? Transcutaneous pacing
(Statement: Management for (symptomatic) Mobitz II AV block includes transcutaneous pacing.)

HIGH-YIELD CONTEXT:

- **Adult Bradycardia Algorithm (ACS Slide 43):**
    - Mobitz II AV block is listed as a "Risk of asystole?" factor.

- If a patient with Mobitz II AV block has evidence of life-threatening signs (symptomatic bradycardia, e.g., shock, syncope, heart failure, ischemia):
  - Atropine may be tried but is often ineffective for infranodal blocks like Mobitz II.
  - **Interim measures include Transcutaneous Pacing (TCP).**
  - Drug infusions (adrenaline, isoprenaline) can also be used.
  - The definitive treatment is usually a permanent pacemaker. TCP serves as a bridge.

---

10. Rate of compression in peds (1 rescuer)? 30:2 Not 15:2
(Statement: Compression-to-ventilation ratio for single-rescuer pediatric CPR is 30:2.)

HIGH-YIELD CONTEXT:

- **Updates in the ratio of rescue breath in Pediatrics (BLS Slide 28 - refers to 2015 guidelines initially, but context implies 2020 alignment for answers):**
  - "The 2015 guidelines recommended traditional CPR cycles of **30 chest compressions to two rescue breaths for one-rescuer CPR in all age groups**..."
- **AHA Guidelines (2020, which the BLS slides aim to reflect):**
  - **Single rescuer (adult, child, infant): 30 compressions to 2 breaths.**
  - Two or more rescuers (child, infant): 15 compressions to 2 breaths.
- Therefore, for 1 rescuer performing CPR on a pediatric patient, the ratio is 30:2.

---

11. Unstable v fib, we did defibrillation, after that he developed 3rd degree heart block, what to do? Transcutaneous pacing
(Statement: After defibrillating VF, if 3rd-degree heart block develops and is causing instability, use transcutaneous pacing.)

HIGH-YIELD CONTEXT:

- This is a repeat/combination of concepts from ECGS Q25 (Page 10) and ECGS Q43 (Page 14).
  1. Patient was in VF (cardiac arrest, "unstable v fib" implies pulseless), defibrillation was appropriate.
  2. Post-defibrillation, ROSC (Return of Spontaneous Circulation) occurred, but the rhythm is now 3rd-degree AV block.
  3. If this 3rd-degree AV block is causing instability (e.g., severe hypotension, poor perfusion, unresponsive again), then it's a symptomatic bradycardia.
  4. **Adult Bradycardia Algorithm (ACS Slide 43):**
     - For symptomatic bradycardia (especially high-degree blocks like 3rd degree):

- Atropine.
- If atropine is ineffective or not appropriate, **Transcutaneous Pacing (TCP)** is indicated.

---

12. ECG showing A. Fib
(Statement: Refers to an ECG showing Atrial Fibrillation.)

HIGH-YIELD CONTEXT:

- Refer to ECGS Question 10 on Page 7 for characteristics of Atrial Fibrillation.
- **Key features:** Irregularly irregular ventricular rhythm, absent P waves (replaced by fibrillatory 'f' waves), usually narrow QRS complexes.
- (ACS Slide 12 and 35 also show example ECGs with LBBB + Afib)

---

13. best treatment for symptomatic bradycardia - atropine
(Statement: Atropine is the best (first-line drug) treatment for symptomatic bradycardia.)

HIGH-YIELD CONTEXT:

- **Adult Bradycardia Algorithm (ACS Slide 43):**
  - If a patient has bradycardia with evidence of life-threatening signs (symptomatic):
    - **"Atropine 500 mcg IV"** is the first pharmacological intervention listed.
  - It can be repeated up to a maximum of 3 mg.

---

14. best treatment to survive cardiac arrest - defibrillation
(Statement: Defibrillation is the best treatment to survive cardiac arrest, specifically for shockable rhythms.)

HIGH-YIELD CONTEXT:

- **Adult Cardiac Arrest / BLS (BLS Slides, Chain of Survival):**
  - For cardiac arrest caused by **shockable rhythms (Ventricular Fibrillation or pulseless Ventricular Tachycardia)**, early and effective **Defibrillation** is the single most important determinant of survival.
  - It is a critical link in the Chain of Survival. High-quality CPR is also vital to maintain perfusion until defibrillation can occur and after shocks.

---

15. In an unresponsive patient, you should check the carotid pule for no more than __ seconds : 10 seconds

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(Statement: Carotid pulse check in an unresponsive patient should be no more than 10 seconds.)

HIGH-YIELD CONTEXT:

- **One-Rescuer BLS/CPR for Adults - CPR STEPS (BLS Slide 29, point 1):**
    - "Check for the carotid pulse on the side of the neck... feel for **no more than 10 seconds**. If you are not sure you feel a pulse, begin CPR..."
- This is a standard BLS guideline to minimize delays in starting chest compressions.
