QUESTION 7 Antiobiotic prophylaxis

Prior to which of the following procedures is antibiotic prophylaxis most appropriate?
A. Colonoscopy with polypectomy.
B. Colonoscopy in a patient with a knee prosthesis.
C. Percutaneous endoscopic gastrostomy placement.
D. Endoscopic retrograde cholangiopancreatography (ERCP).
E. Band ligation of oesophageal varices.

1st instinct is to pick B. That's not the answer.

Principles of Antibiotic prophylaxis

1) Significant risk of infection?
   - eg. Colonic resion
   - post operative infection even if uncommon would have severe consequence (eg. Iprosthetic implant)
2) Adequate concentration of antimicrobial at time of contamination
   - vanc need 1-2 hr pre procedure
   - IM Ab given at time of premedication for surgery
   - Rectal metronidazole – 2-4 hrs pre
   - Oral tinidazole 6-12 hrs pre
3) Single dose is sufficient but if procedure not completed within 3 hrs of initiating prophylaxis, a 2nd dose should be given
4) Site of surgery
   - Most contaminating organisms are aerobic Gram –ve (E.coli, Klebsiella) +/- anerobic Gram –ve organism (Bacteroides)

Upper GI procedures

There is no evidence to suggest that patients undergoing routine upper or lower gastrointestinal endoscopy require antibiotic prophylaxis. However, if patients undergoing procedures that have a higher incidence of bacteriaemia (eg. Those involving biliary tract, sclerotherapy, oesophageal dilatation or ERCP) may benefit, although this is UNPROVEN.

Metronidazole + Cephazolin 1g OR gent 2mg/kg at time of induction

Gastrostomy tube insertion

There is EVIDENCE that Ab prophylaxis reduces the risk of infectious complications. Cephazolin or gent. Vancomycin if allergic to beta lactams or colonised with MRSA

Prosthetic joint infections (NO EVIDENCE)

Preoperative antimicrobial prophylaxis is standard for all patients undergoing joint replacement

Dental procedures:
1. Not advised for antibiotic prophylaxis for pt with prosthetic joints to undergo routine dental procedures such as cleaning, scaling of teeth or filling of dental cavity
2. Ab prophylaxis can be “considered in selected prosthetic joint pts who may be at increased risk for bacteremia in association with dental procedure (evidence is limited).
   - high risk procedures: extractions, periodontal procedures, dental implants, root canals
   - increased risk are pts with RA, SLE, immunosuppressive drugs or radiation, diabetes, HIV, malignancy or those within 2 yrs of joint replacement surgery

Urologic procedures (American Urological association + American Academy of Orthopedics)
- Most pts do not need Ab prophylaxis

Antibiotic therapeutic guidelines
Prophylaxis can be considered in some pts especially if immunosuppressed or undergoing a high risk procedure eg, lithotripsy or surgery involving bowel segments

**Endocarditis prophylaxis**

Risk stratification for Endocarditis prophylaxis (ACCEPTED BUT UNPROVEN)

Little or no cost benefit in treating patient with low risk abnormalities having procedures with low incidence of bacteraemia

1) Patient characteristics
   - High, low and intermediate risk cardiac lesion

2) Specific procedures

Cardiac conditions that have a risk for infective endocarditis

<table>
<thead>
<tr>
<th>High risk</th>
<th>Medium - risk</th>
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<tbody>
<tr>
<td>prosthetic heart valve</td>
<td>Acquired valvular dysfunction eg Rh heart disease in non-indigenous pts</td>
</tr>
<tr>
<td>Complex cyanotic Congenital heart disease</td>
<td>Congenital cardiac malformations other than those defined as high or low risk</td>
</tr>
<tr>
<td>Pulmonary shunts/ conduits</td>
<td>Hypertrophic cardiomyopathy</td>
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<tr>
<td>Previous infective endocarditis</td>
<td>Significant valvular/haemodynamic dysfunction associated with septal defects</td>
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<tr>
<td>mitral valve prolapse with clinically significant regurgitation</td>
<td></td>
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<tr>
<td>Acquired valvular dysfunction eg Rh heart disease in indigenous pts</td>
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</tbody>
</table>

Need for antibiotic prophylaxis for patients with a cardiac condition undergoing a dental or other procedures

<table>
<thead>
<tr>
<th>Cardiac condition</th>
<th>Procedure</th>
<th>Medium risk</th>
<th>Low risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>High risk</td>
<td>Yes</td>
<td>Probable</td>
<td>NO</td>
</tr>
<tr>
<td>Medium risk</td>
<td>Probable</td>
<td>Possible</td>
<td>NO</td>
</tr>
<tr>
<td>Low risk</td>
<td>NO</td>
<td>NO</td>
<td>NO</td>
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</tbody>
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**Answer:**

Most appropriate meaning the only one with evidence would be C.