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Antibiotic prophylaxis cards for bacterial endocarditis

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Abstract

Infective endocarditis is a largely preventable cause of morbidity and mortality in individuals with congenital heart disease. Patient and physician awareness is crucial, and in this regard, antibiotic prophylaxis cards are very helpful. I present an antibiotic prophylaxis card which is based on recent recommendations by the American Heart Association. This card is currently in use in Malta for both paediatric and adult patients.

MeSH: Heart defects, congenital Bacteremia, Endocarditis, bacterial, Antibiotic prophylaxis/standards

Bacteraemia may occur spontaneously, or may be associated with a focal infection or with surgical/dental procedures. Blood-borne bacteria may lodge on abnormal heart valves or near structural defects or on normal endocardium causing endocarditis. Although relatively uncommon, endocarditis is associated with substantial morbidity and mortality despite improvements in antimicrobial therapy and enhanced ability for early diagnosis. Hence, primary prevention of endocarditis is extremely important. The following is the new Maltese antibiotic prophylaxis card (created by the author) which is based on the latest recommendations by the American Heart Association.[1,2] These recommendations reflect analyses of the literature regarding procedure-related endocarditis, and are an update of those drawn up in 1990,[3] incorporating new data which has become available since that time.

The card is meant to be folded in two. The column of the left is the front of the card, while the column on the right is the back. The scope of the card is not only to alert physicians and paramedics to the potential for bacterial endocarditis in the individual patient, but also serves as an *aide memoire* for recommended regimens and drug dosages. The two columns below *summarise* the indications and contraindications for antibiotic prophylaxis.

The table underneath the two columns below is printed on the inside of the card, and details the actual regimens.
This card has been reproduced here in order to help professionals design their own cards, or may be used 'as is' provided that permission is first obtained from the author. The card is physically reproduced as two images. Each image may be download by right-clicking with the mouse on the appropriate image, and choosing the 'save as' option from the short-cut menu.

Figure 1 Front of card

Antibiotic Prophylaxis Card

Surname			
Name			
Address			
Diagnosis			
DOB		ID	

This patient is under the care of:

Antibiotic prophylaxis is indicated in:

- Congenital heart disease except (see back)
- Acquired valvar dysfunction
- Hypertrophic cardiomyopathy
- Mitral valve prolapse with valvar regurgitation and/or thickened leaflet

High-risk patients:

- Previous bacterial endocarditis
- Prosthetic cardiac valves, including bioprosthetic and homograft valves
- Cyanotic congenital heart disease inc. TGA, Fallot and conditions repaired using systemic-pulmonary shunts or conduits

Summarised from recommendations by the American Heart Association
Circulation 1997;96:358-366
JAMA 1997;277:1794-1801

Patients who normally require antibiotic prophylaxis do not need prophylaxis when undergoing the following procedures:

RT	Endotracheal intubation Flexible bronchoscopy ± biopsy[1] Tympanostomy tube insertion
GIT	Transesophageal echocardiography[1] Endoscopy ± gastrointestinal biopsy Oesophageal stricture dilatation[1] Biliary tract surgery/procedure involving intestinal mucosa[1]
GUS	Vaginal hysterectomy[1] Vaginal delivery[1] Caesarean section Circumcision
In non-infected tissue	Urethral catheterization Uterine dilatation and curettage Therapeutic abortion Sterilization procedures Insertion/removal of IUCD
Other	Cardiac catheterization, inc. angioplasty Incision/biopsy of scrubbed skin Implanted cardiac pacemakers, defibrillators, and coronary stents

[1]Prophylaxis is optional for *high-risk patients* (see front)

There is no need for antibiotic prophylaxis in:

- Isolated secundum atrial septal defect
- Surgically repaired atrial septal defect, ventricular septal defect and patent ductus arteriosus with no residual defects and 6 months after intervention
- Previous coronary artery bypass graft surgery
- Mitral valve prolapse with no valvar regurgitation
- Physiologic, functional or innocent heart murmurs
- Previous Kawasaki disease/ rheumatic fever with no valvar dysfunction
- Cardiac pacemakers (intravascular and epicardial) and implanted defibrillators

VG-1003

Figure 2 Interior of card

Regimens for antibiotic prophylaxis

Dental, oral, respiratory tract, and oesophageal procedures		
Amoxycillin	PO	
Amoxycillin/Ampicillin	IM/IV	if unable to take PO
Macrolide	PO	if allergic to penecillins
Non-oesophageal gastrointestinal procedures and genitourinary procedures		
Ampicillin/amoxycillin	IV	
Vancomycin	IV	if allergic to penecillins
High-risk patients (see above)		
Ampicillin/amoxycillin + Gentamicin	IV	repeat penecillin 6 hours later at ½ standard dose
Vancomycin + Gentamicin	IV	if allergic to penecillins
Intervention on infected non-oral soft tissues or bone/joint infections		
Flucloxacillin/1st generation cephalosporin	PO	
Clindamycin	PO	if allergic to penecillins
Vancomycin	IV	if unable to take PO or known/suspected MRSA
Routes and administration		
	PO	1 hour before procedure
	IM/IV	complete within ½hour of starting procedure, including Vancomycin infusion
Doses		
Ampicillin/Amoxycillin	PO/IM/IV	50 mg/kg/dose up to 2000 mg
Macrolide: Clindamycin/Erythromycin	PO	20 mg/kg/dose up to 600 mg
Gentamicin	IM/IV	1.5 mg/kg/dose up to 120 mg
Cephalexin/Cefadroxil/other 1st generation	PO	50 mg/kg/dose up to 2000 mg
Flucloxacillin	PO	50 mg/kg/dose up to 2000 mg
Vancomycin	IV	20 mg/kg/dose up to 1000 mg IVI over 1-2 hours

- If on penecillins already, wait until 14 days after finishing penecillins or use clindamycin instead.
- IM route contraindicated in patients on heparin or warfarin. IV or PO regimens should be used whenever possible.
- If procedure involves infected tissue, additional antibiotics doses may be necessary for treatment of infection.

References

1. Dajani AS, Taubert KA, Wilson W, Bolger AF, Bayer A, Ferrieri P, Gewitz MH, Shulman ST. Prevention of Bacterial Endocarditis. JAMA. 1997;277:1794–1801.[PubMed: 9178793]

2. Dajani AS, Taubert KA, Wilson W, Bolger AF, Bayer A, Ferrieri P, Gewitz MH, Shulman ST. Prevention of Bacterial Endocarditis. Circulation. 1997;96:358–366.[PubMed: 9236458]

3. Dajani AS, Bisno AL, Chung KJ, Durack DT, Freed M, Gerber MA, Karchmer AW, Millard HD, Rahimtoola S, Shulman ST, et al. Prevention of bacterial endocarditis. JAMA. 1990;264:2919–2922.[PubMed: 2146414]

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