

National and Regional Antibiotic Guidelines

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Standard Treatment Guidelines

- Delegation of most management to non-medical staff
- Availability of therapy for the whole population
- Early institution of appropriate therapy
- Implementation of a rational essential drugs policy
- Minimisation of inappropriate therapy
- Correct dosing

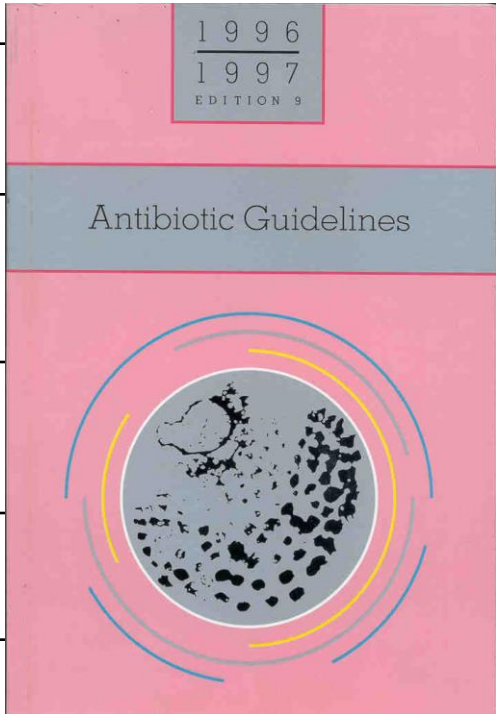
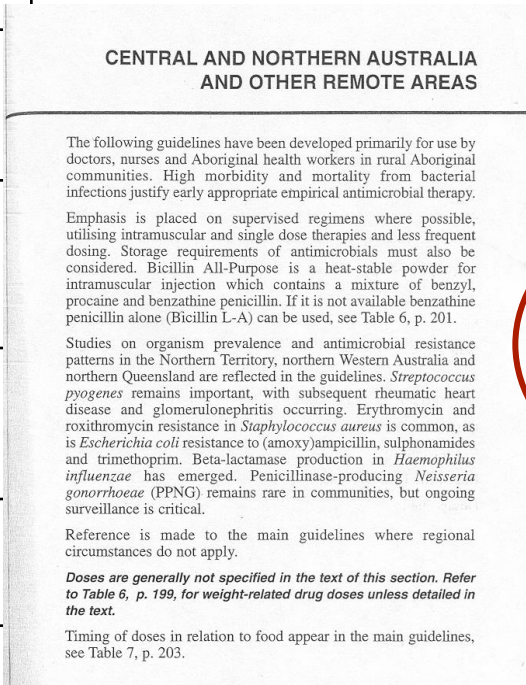


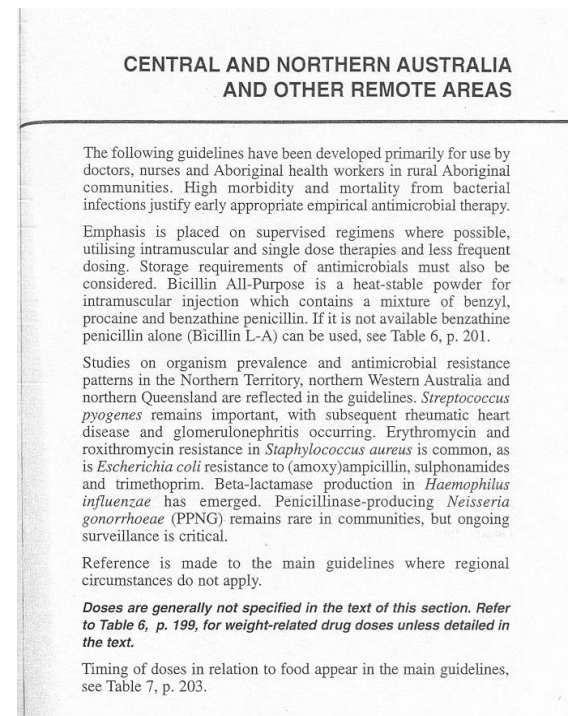
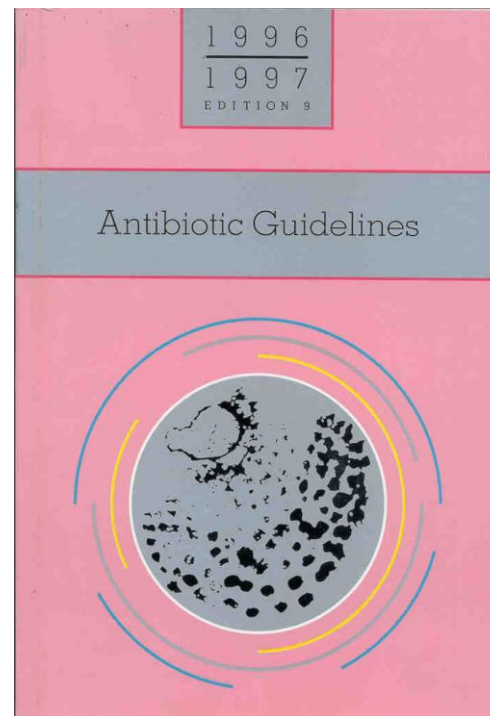
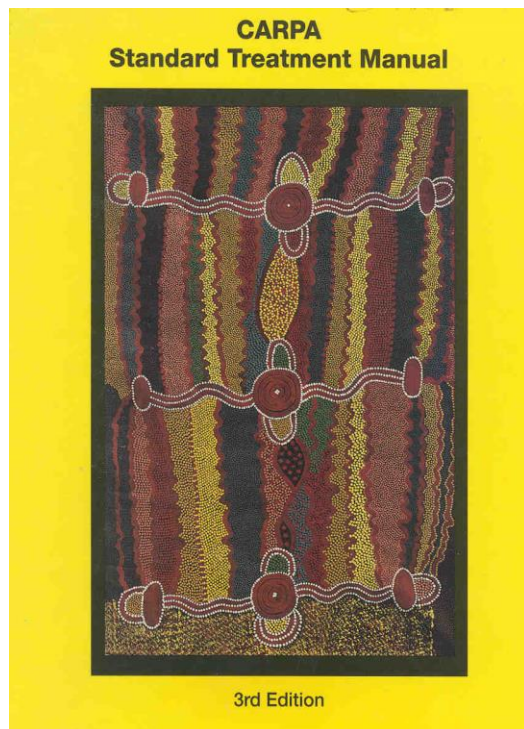
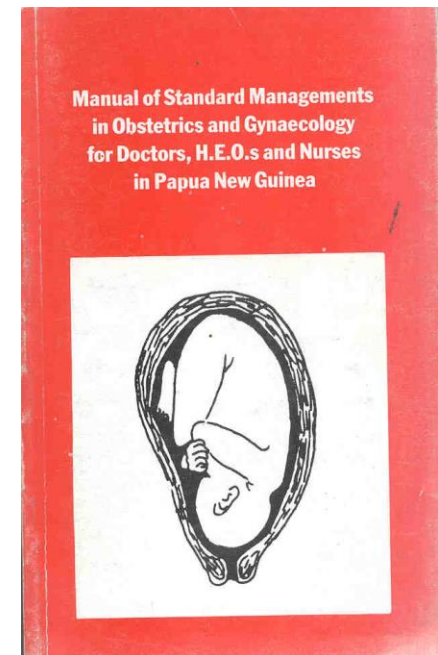
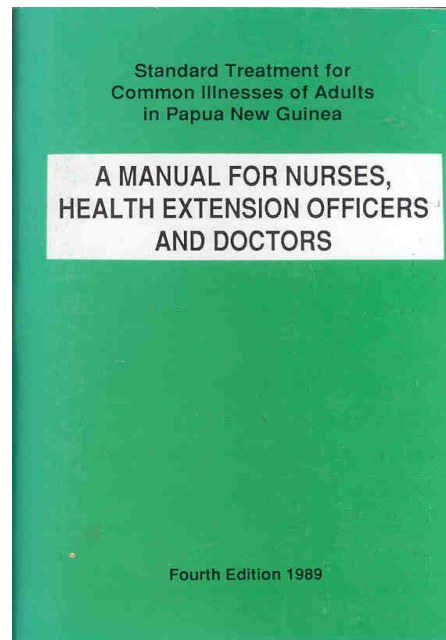
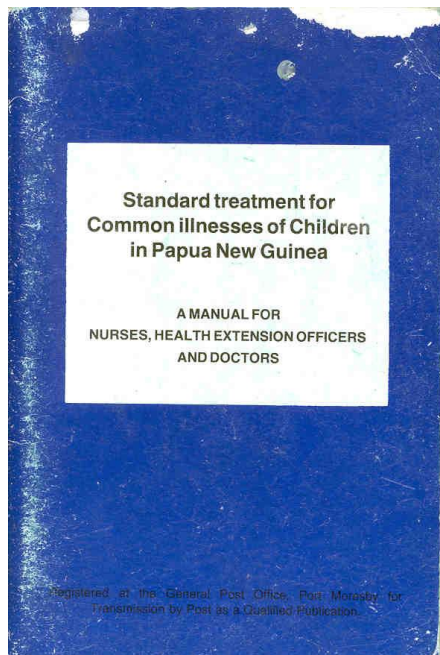
Standard Treatment Guidelines

Antibiotic Guidelines

Delay emergence of antimicrobial resistance

Year	PNG	NT	TG: Abiotic
1966	MO's Pocket Book	Diarrhoea "slide-rule"	
1974	1 st Ed Paediatric STM		
1977	1 st Ed Adult STM		
1978			1 st Ed
1980s		ARI & Syphilis Protocols	
1992		1 st Ed CARPA STM	7 th Ed Remote Section
1998			10 th Ed Remote Mainstreamed
2003		4 th Ed CARPA	12 th Ed
2009/10		5 th Ed CARPA	14 th Ed

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Clinical Protocols / Guidelines

The Kimberley Protocols were developed from a desire to standardise the screening for and management of health conditions more prevalent in the Kimberley and recognising that the management of these conditions differs from standard management due to the extreme remoteness of the area. Their purpose is to enable care to be initiated by a range of health care professionals working within their own scope of practice when direct access to

Minimalist Antibiotics in Alice in the early 1990s

Penicillin

Gentamicin

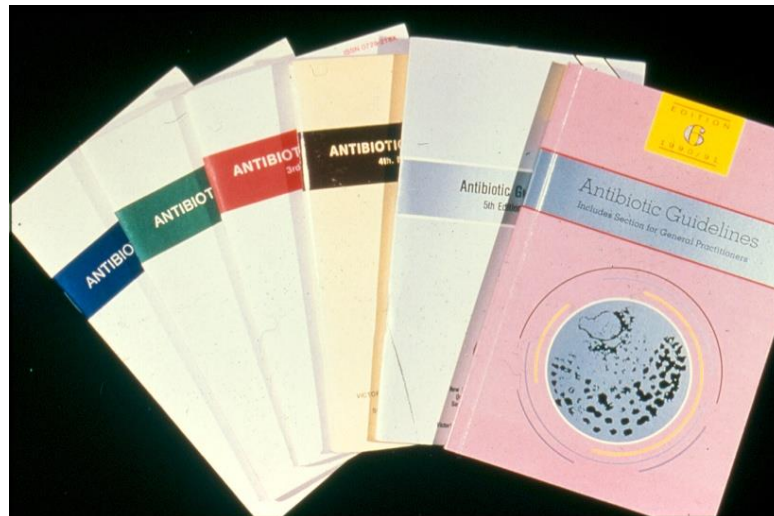
Chloramphenicol

Metronidazole



Therapeutic Guidelines: Antibiotic

- **1st Edition 1978**
 - 31 Pages and 31 Antimicrobial agents
- **11th Edition 2000**
 - 318 Pages and 100 Antimicrobial agents
- **15th Edition 2014**
 - 677 Pages and ?? Antimicrobial agents

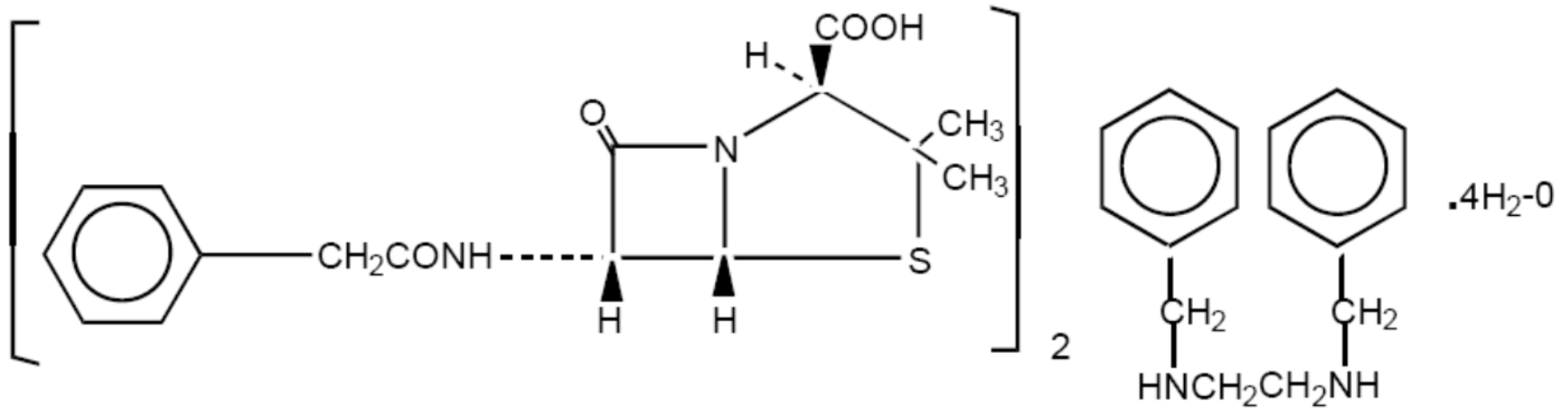


Supervised Therapy

- Single dose IM benzathine penicillin for throat/skin
- 4-weekly IM benzathine penicillin for ARF prophylaxis
- DOTS for TB
 - ✓ 95% completion of 6 months Tx in NT
- Daily IM procaine penicillin for pneumonia
- Single dose nitrofurantoin for cystitis
- Topical scabies therapy
- STI protocols
 - ZAP pack: azithro/amoxy/probenecid syndromic Tx
 - IM benzathine penicillin for syphilis
- IM iron for anaemia



Benzathine Penicillin G (BPG)



- ❑ Composed of two molecules of benzyl penicillin attached to a compound called benzathine which allows it to be released slowly from the muscle
- ❑ Allows low concentrations for 2-4 weeks



BPG – history

- ❑ BPG was developed by J. Lester Szabo in 1951, and the first BPG patent appears to have been granted in the United States of America in 1953
- ❑ The original clinical application was for the syphilitic infections, which it is still used for today
- ❑ A patent was granted for a stabilised powdered formulation in 1967



BPG – history prior to 1995

- ❑ The availability of an appropriate formulation of BPG in Australia has been a challenge with multiple manufactures and shortages



- 4 mL Bicillin LA with large 18 gauge “horse” needle
- Cillicaine 1.5g syringe
- Bicillin AP - powder



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MUCH CONFUSION!
About dosing



BPG – history 1995 to 2006

- ❑ After much lobbying a 900mg formulation of Bicillin became available in 1995



- Administered via Tubex device
- Major stock outs in 2001 and 2004
- Withdrawn from Australia in July 2006



BPG – history 2006 to 2008

- ❑ Therapeutic Goods Administration (TGA) provided S19A approval for the use of “Pan Benzathine Penicillin”
- ❑ Powdered product with large volume
 - ❑ 4.6mL vs 2mL
 - ❑ Issues with clogging of needles (40%)
 - ❑ Use of lignocaine as diluent to reduce pain
 - ❑ Less viscous
 - ❑ Not cold





BPG – history 2008 to present

- ❑ Bicillin LA returned to Australian market in 2008
- ❑ Pre-filled syringe with 21 gauge needle
- ❑ Only available as a 900mg product
- ❑ No markings for dosing in children
- ❑ Needs refrigeration





BPG – history 2008 to present

- ❑ Stock shortages continue; December 2012 to January 2013 and February to May 2014
- ❑ No ability to deliver smaller doses accurately without decanting from original syringe
- ❑ No data on mixing formulation with lignocaine
 - ❑ The addition of 0.5–1 mL of 1% lignocaine is used with powdered products but is not recommended with preloaded syringes currently available in Australia

Azithromycin

- Early 1990's marketed in Australia in adults for respiratory and skin infections
- Not initially marketed for chlamydia
- Initially no pediatric formulation
- But MAGICAL for
 - Chlamydial urethritis
 - Trachoma
 - Donovanosis

Azithromycin

- 1994 – STI protocols in WA, NT – genital chlamydia
- 1995 - First use for trachoma in Australia – NT
 - capsule contents mixed with Xanthan gum
 - NT granted TGA SAS Category A approval for importation of pediatric suspension – trachoma deemed “life-endangering”
- 1996/7 – 9th Edition Antibiotic Guidelines indications
 - genital chlamydia STIs
 - trachoma
 - donovanosis

Azithromycin

- Emergence of resistance with antibiotic selection pressure
 - not in chlamydia, but concern in skin & throat bacteria
 - *S. aureus*, *S. pyogenes* and *S. pneumoniae*

long tissue half life – low levels > 1 week – make azithromycin theoretically more likely to select resistance than other macrolides

- macrolide resistance emerged in WA in 1970's, common in Europe, Japan (> 50% in *S. pyogenes* in Japan, 1970's)

The role of gentamicin (in the NT)

- Ceftriaxone plus single dose gentamicin prior to evacuation of septic patient to RDH/ASH
- Ceftriaxone plus single dose gentamicin for adults with risk factors and moderate/severe community-acquired pneumonia
- Ampicillin plus 1-2 doses gentamicin for pyelonephritis

Papua New Guinea: our forgotten friends & colleagues?

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NEWS

Mutant TB spreads to Torres Strait



The body of a PNG national who died of TB in Australia is repatriated across the border last Thursday, 20 October, from Saibai. Photo: STEFAN ARMBRUSTER, SBS.

home & health

www.pgnews.com.pg

Gout medicine may halve heart attack risk

Research from the University of Oxford suggests that people with gout who take medication to lower their uric acid levels may also reduce their risk of heart disease. The study, published in the journal *Annals of the Rheumatic Diseases*, found that people who took uric acid-lowering drugs had a 50% lower risk of heart disease compared to those who did not. The researchers say that the findings could help doctors decide whether to prescribe these drugs to people with gout who are also at risk of heart disease.

PNG looks to ban TB spread

The PNG government has announced plans to ban the sale of second-hand clothing and shoes, which it says could help to reduce the spread of tuberculosis (TB). The move comes as the country battles a rising number of TB cases, particularly in the capital, Port Moresby. Health officials say that second-hand items are often a source of infection, and the ban is part of a broader strategy to control the disease. The ban will apply to all items sold in public markets and on the streets. Officials say they hope the measure will encourage people to buy new, clean clothing and shoes, reducing the risk of TB transmission.



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Papua New Guinea: our forgotten friends & colleagues?

- What was the commonest antibiotic used on the adult medical wards at Port Moresby General Hospital in 2013?



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Steven Yennie, M Med Thesis 2013

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- Mortality in patients admitted to the adult wards at PMGH was:
4% in 1964, 10% in 1989 and 7% in 1997.

What was mortality in 2013 and what are the commonest causes?

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What was mortality in 2013 and what are the commonest causes?

- **32% of adult patients have died**
 - **TB 25% of deaths and HIV/AIDS 24%**

Vincent Pyakalyia, M Med Thesis 2013