

ARF/RHD: Secondary prophylaxis....its the name of the game

Cathy Doidge – Nurse Management Coordinator: NT RHD Control Program

Melissa van Leeuwen – Data Analyst & Clinical Nurse Specialist: NT RHD Control Program



The information in this presentation is for educational purposes only.

Any identifiable information has been included with the permission of the individual/organisation.

Content must not be copied, modified, distributed or published in any format without express written permission from the manager of the NT RHD Control Program.

Acknowledgement of Country

We would like to acknowledge the Traditional Owners of the land that we meet on today, the Arrente people in Central Australia. We pay our respects to the Elders past, present and emerging.



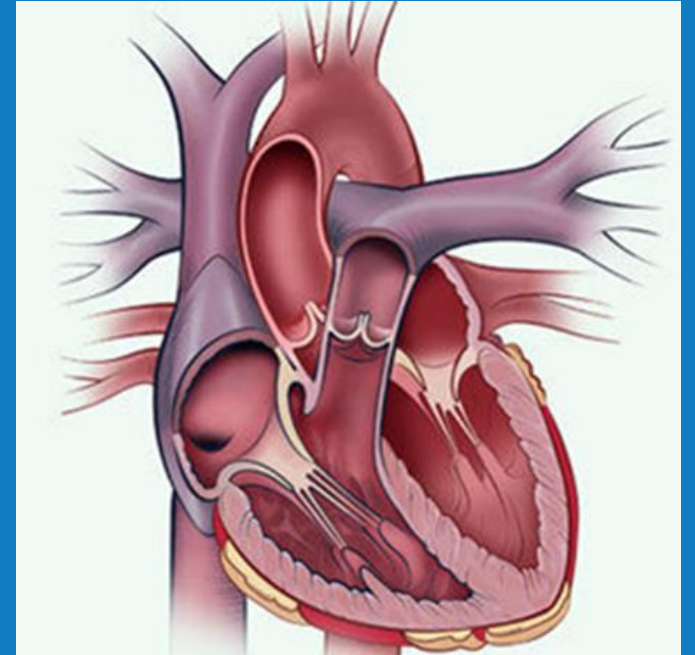
Session outline

1. What is Acute Rheumatic Fever and Rheumatic Heart Disease -A very brief overview
2. A look at the data – what is it telling us?
3. Secondary prophylaxis
 - Reasons for poor adherence to Bicillin injections
 - How can we improve uptake of Bicillin ?
4. Pain minimisation strategies

Take Heart Trailer



What is ARF and RHD? A brief overview



What is Acute Rheumatic Fever (ARF)?

- ARF is an autoimmune response to a Group A Streptococcus (GAS) infection, **not treated** with antibiotics.
- Causes an acute, generalised inflammatory response that can affect the heart, joints, brain and skin
- May cause permanent damage to the heart – known as Rheumatic Heart Disease

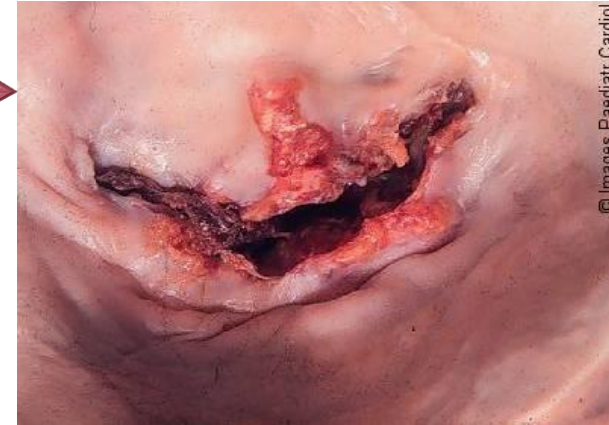


What is Rheumatic Heart Disease

Healthy Valves

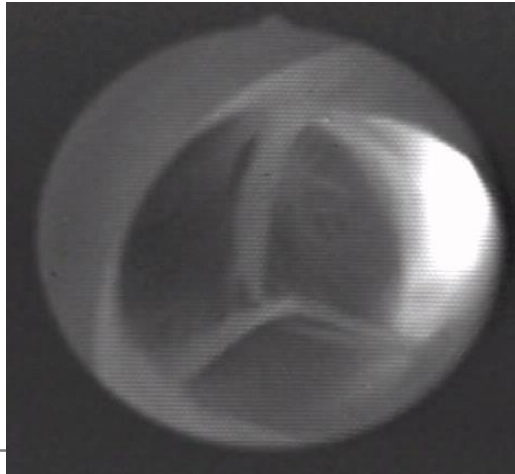


Rheumatic Valves



Mitral Valve

Damage to one or more of the heart valves due to a single or recurrent episodes of acute rheumatic fever

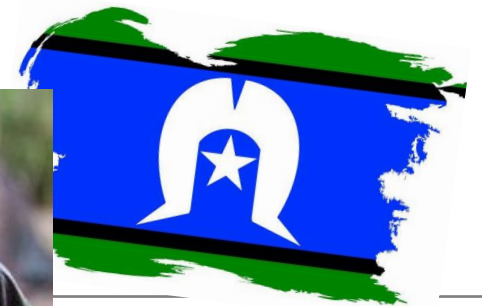


Aortic Valve

Who has the highest risk for ARF ?

ARF is 100% PREVENTABLE

- Aboriginal and Torres Strait Islander peoples living in rural or remote settings
- Migrants from resource poor countries
- People with a previous history of ARF or RHD
- People with a family history of ARF
- **Children between the ages of 5 – 14** (about half of all diagnoses)





Why be concerned about
ARF and RHD?
What is the data telling us?

ARF/RHD patient statistics

Number of patients – 4273

Central Australia – 1354 (31%)

Top End – 2919 (69%)

(not counted in NT numbers)

SA: APY lands – 174

WA: Ngaanyatjarra lands - 42

Number of patients on secondary prophylaxis: 2419

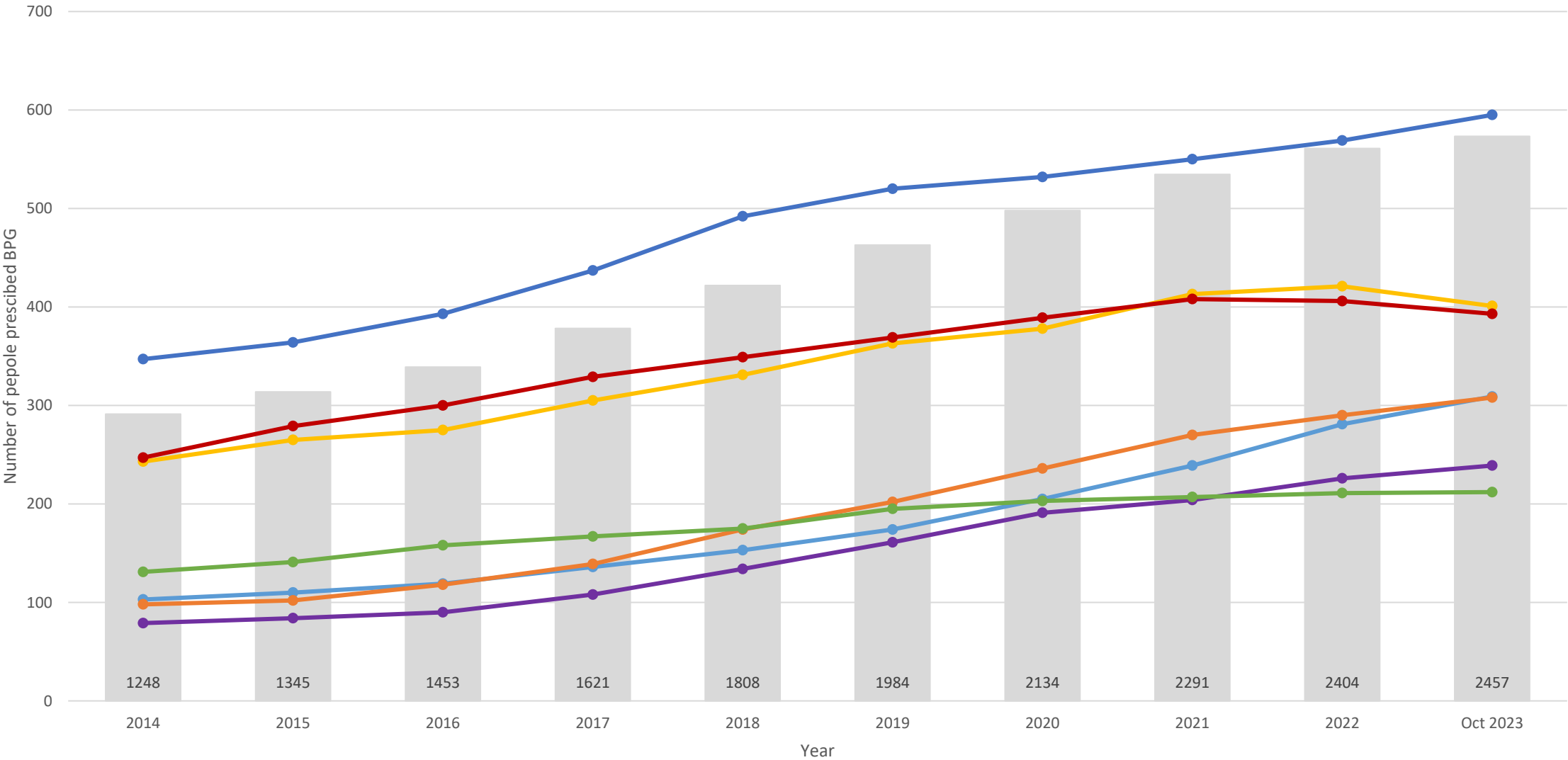
Central Australia – 860

Top End – 1559

Number of patients on oral prophylaxis:

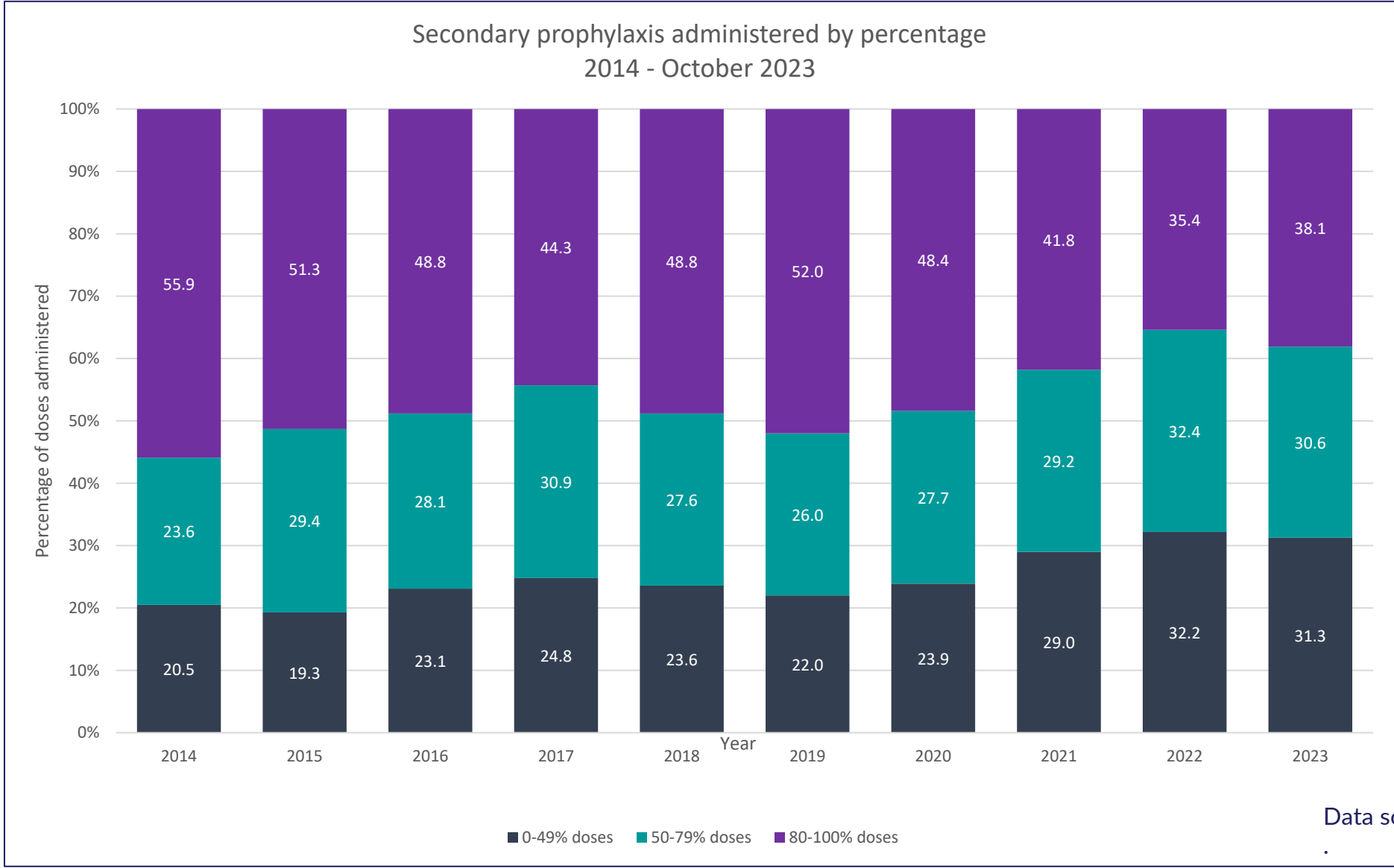
- Penicillin: 46
- Erythromycin: 13
- Other: 8

Number of people prescribed Benzathine Penicillin G (BPG) overall and by region -
2014 - October 2023

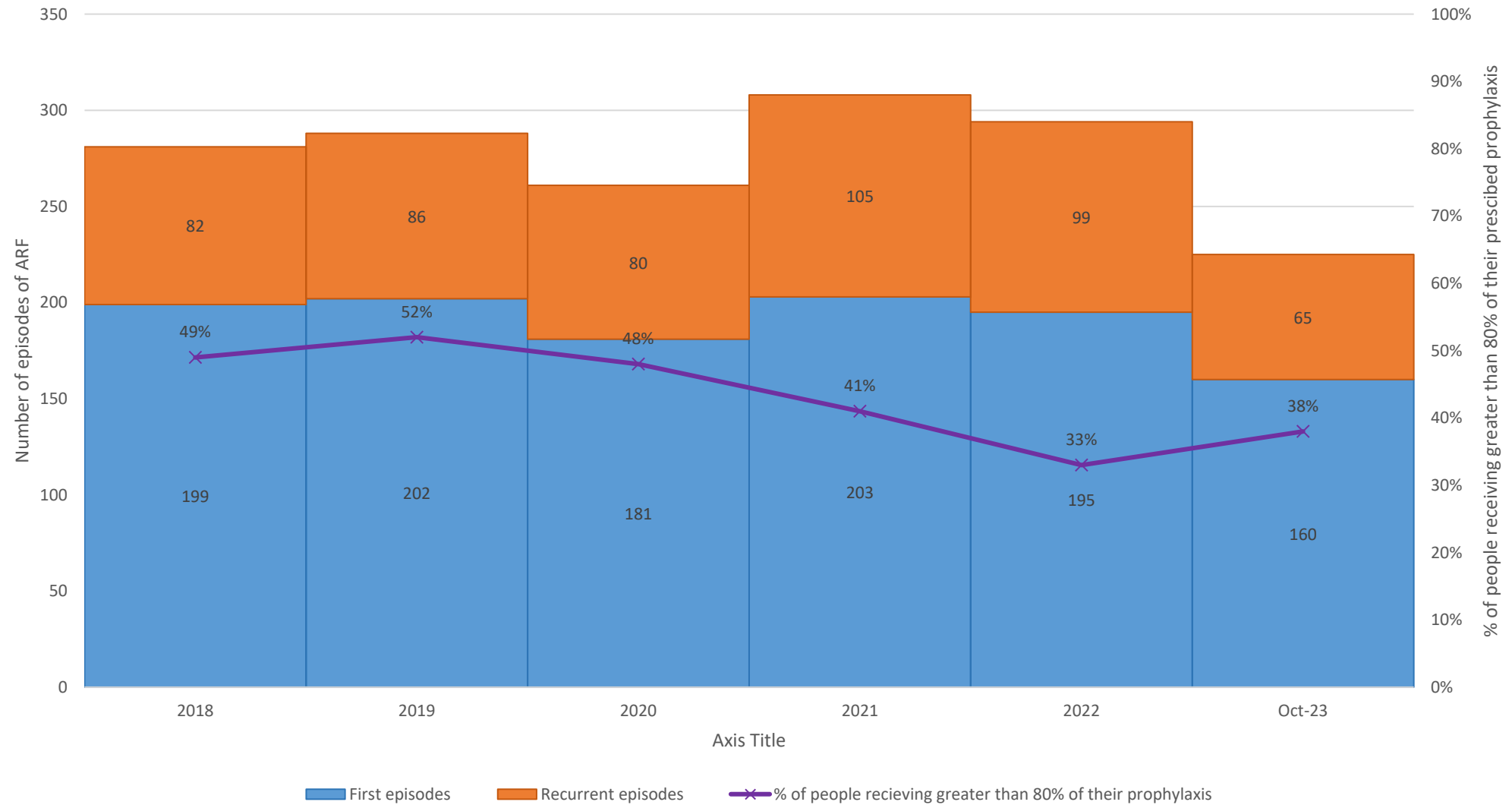


NT wide Alice Springs Rural Alice Springs Urban Barkly Big Rivers Darwin Rural Darwin Urban East Arnhem





ARF first and recurrent episodes - 2008 to October 2023
with the percentage of people receiving greater than 80% of prescribed prophylaxis



Secondary prophylaxis



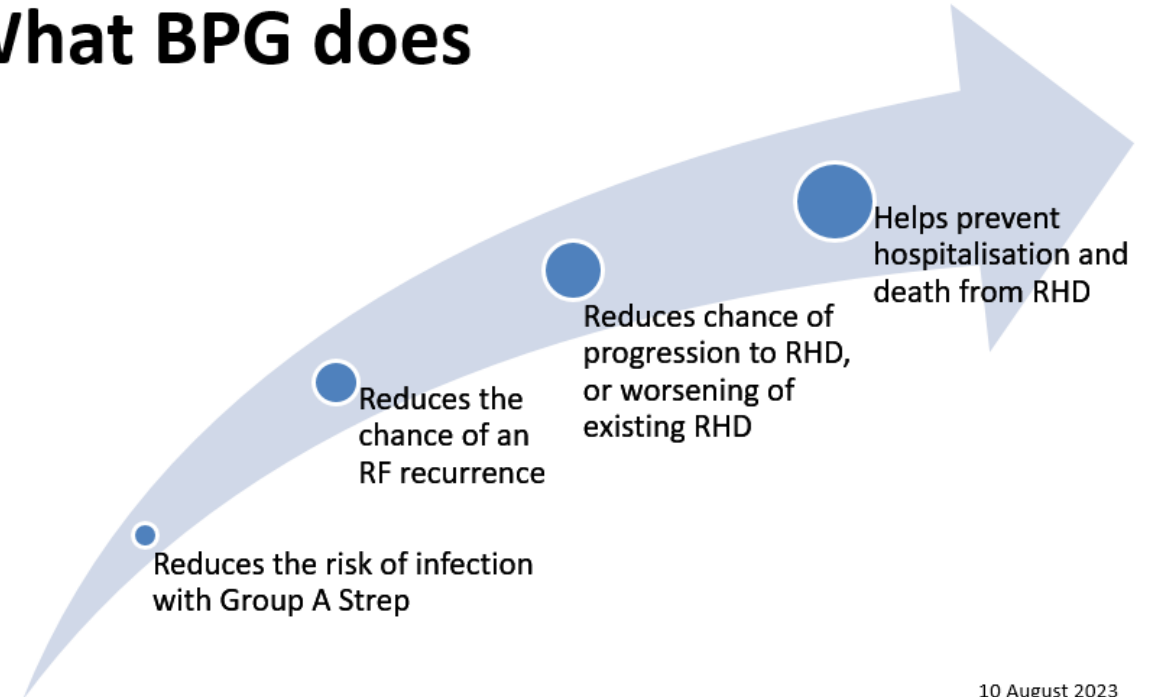
Secondary prevention

Secondary prophylaxis is regular, consistent antibiotic therapy : IM injection of long acting penicillin (Benzathine Benzylpenicillin G)

Required every 21-28 days, often for many years



What BPG does



10 August 2023

!

Source: rhdaustralia.org.au

Barriers to Secondary Prophylaxis


Main themes

- Patient recall systems
- Age and family support
- Service delivery location
- Patient- clinician relationship
- Education
- Injection Pain

Research

Secondary Prophylaxis Among First Nations People With Acute Rheumatic Fever in Australia: An Integrative Review

Kerissa Govender, RN, BN, BA, Grad Dip CEPIA, MA¹,
and Amanda Müller, BA (Hons), PhD, MA, Grad Cert¹ 

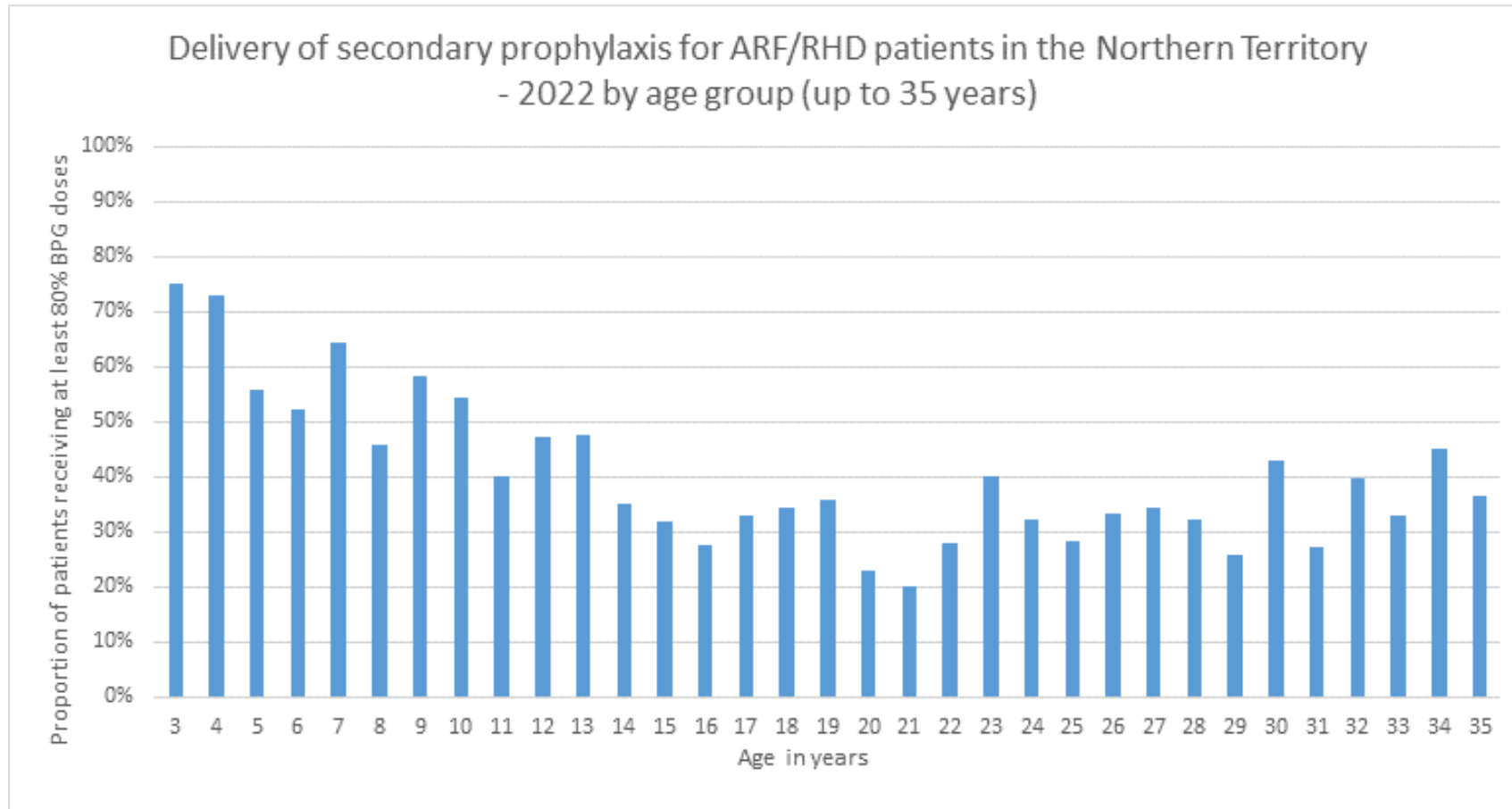
Journal of Transcultural Nursing
1-10
© The Author(s) 2023

Article reuse guidelines:
sagepub.com/journals-permissions
DOI: 10.1177/10436596231191248
journals.sagepub.com/home/tcn

 Sage

Aboriginal children and penicillin injections for rheumatic fever: how much of a problem is injection pain?

Alice G. Mitchell,¹ Suzanne Belton,¹ Vanessa Johnston,¹ Clancy Read,² Clair Scrine,² Anna P. Ralph^{1,3}

Young people and secondary prophylaxis



Data source: NT RHD Register

Improving delivery of BPG

SUPPORT CATEGORY	EXAMPLES OF STRATEGIES
Health centre-related approaches	<ul style="list-style-type: none"> Health services prioritise secondary prophylaxis delivery and are skilled in its delivery Health services provide culturally safe care Pro-active, register-based recall systems are used to ensure patients are recalled for their next dose and given adequate notice Outreach (home-based / school-based) injection delivery is provided when feasible
Community-level approaches	<ul style="list-style-type: none"> Community awareness-raising events are supported Peer support groups are developed (e.g. Champions4Change)
Patient-level approaches	<ul style="list-style-type: none"> Self-management support with family and community engagement is provided ARF and RHD educational materials are suitable for the target audience e.g. in the patient's local language; provided in audio or video format BPG dose reminder systems are used, such as: <ul style="list-style-type: none"> Smartphone application Electronic or paper calendar Phase of moon strategy (e.g. remember needle is due on full moon or new moon) Incentives are considered
Condition and therapy-specific approaches	<ul style="list-style-type: none"> Validated methods such as 'transition care' are used to support chronic care management from childhood through to adolescence and adulthood Non-pharmacological techniques are employed to improve the experience of BPG injection Pharmacological techniques are used when needed, and in addition to non-pharmacological approaches

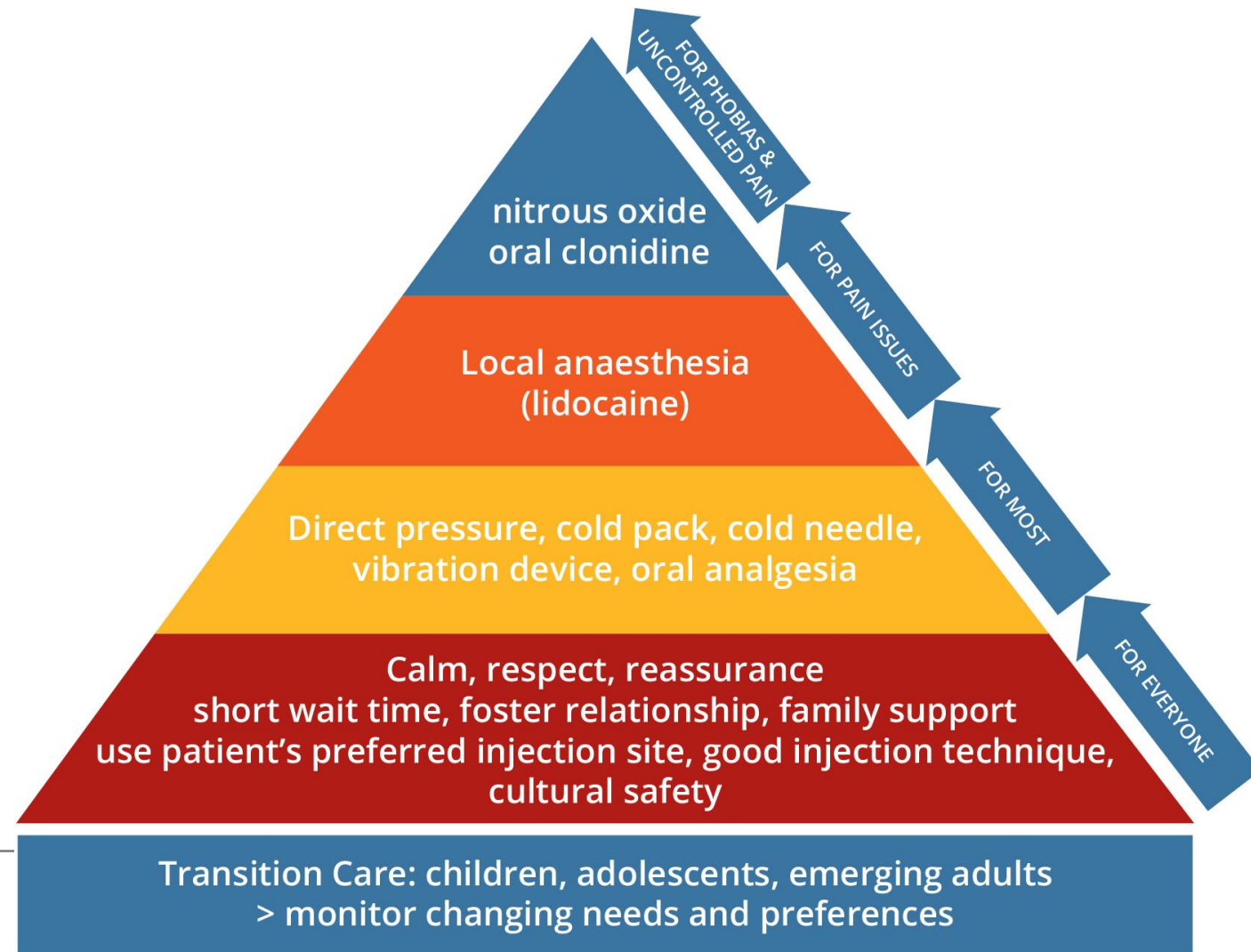
Source: rhdaustralia.org.au
2020 Australian guideline for prevention, diagnosis & management of ARF & RHD (3rd Ed.) Table 10.5

Pain minimisation strategies

Pain minimisation strategies

Patients of all ages should have control over how and where they receive their injection, to enhance their sense of control and wellbeing.

Injectons should be delivered by culturally competent health staff in a culturally safe environment, with the aim of making each injection procedure as positive for the patient and family as possible.



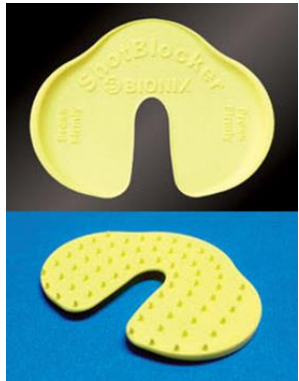
Pain minimisation

The Effect on Pain of Buzzy® and ShotBlocker® during the Administration of Intramuscular Injections to Children: A Randomized Controlled Trial

Sivri Bilgen, Birsen¹ • Balci, Serap²

¹Department of Pediatric Nursing, School of Health Services-Nursing, Mevlana University, Retired, Konya

²Department of Pediatric Nursing, Florence Nightingale Nursing Faculty, Istanbul University-Cerrahpaşa, Istanbul, Turkey



ELSEVIER

Virtual Reality for Pediatric Needle Procedural Pain: Two Randomized Clinical Trials

The Journal of Pediatrics

Volume 209, June 2019, Pages 160-167.e4



Pain minimisation – BPG with lignocaine

A strategy to deliver lignocaine with BPG is to transfer the contents of the pre-filled BPG syringe to a new syringe, draw lignocaine into the new syringe tip, then administer using the new syringe so that the lignocaine is injected first.

Source: 2020 ARF/ RHD Guidelines & CARPA 8th Ed. Pg. 346

Equipment

- Pre-filled BPG syringe
- 3 mL syringe
- 2 drawing-up needles
- 21 g needle


Preparation

1. Attach a drawing-up needle to a 3 mL syringe.
2. Draw the required contents of BPG from the pre-filled syringe into the 3mL syringe (2.3 mL for 1,200,000-unit dose and 1.17 mL for 600,000-unit dose).
3. Using a new needle, draw up 0.5 mL of 1% lidocaine **or** 0.25 mL of 2% lidocaine into the tip of the 3mL syringe.
4. Avoid mixing to keep the lidocaine in the tip of the syringe.
5. Push plunger up carefully to remove any air in the syringe.
6. Remove the drawing-up needle.
7. Attach IM needle (e.g. 21 gauge) to the syringe to administer injection.




Aim : To improve Bicillin uptake by

- Giving people choices
- Promoting a conversation about pain minimisation choices – patient centred care




Who : Designed for any age – very suitable for young people

Today is injection day
I AM THE BOSS OF MY BODY! 







WHO IS GIVING ME MY INJECTION?

Man  ☐ Woman  ☐ I don't mind  ☐ The person I usually see is: _____




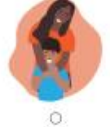



WHERE I AM HAVING THE INJECTION?








Upper buttock  ☐ Hip  ☐ Thigh  ☐

I LIKE - before the injection





Numbing cream or spray  ☐ Tell me when you are going to start  ☐ Don't tell me when you are going to start  ☐ Pain Medicine  ☐ Numbing medication in my injection  ☐ Warm up needle  ☐

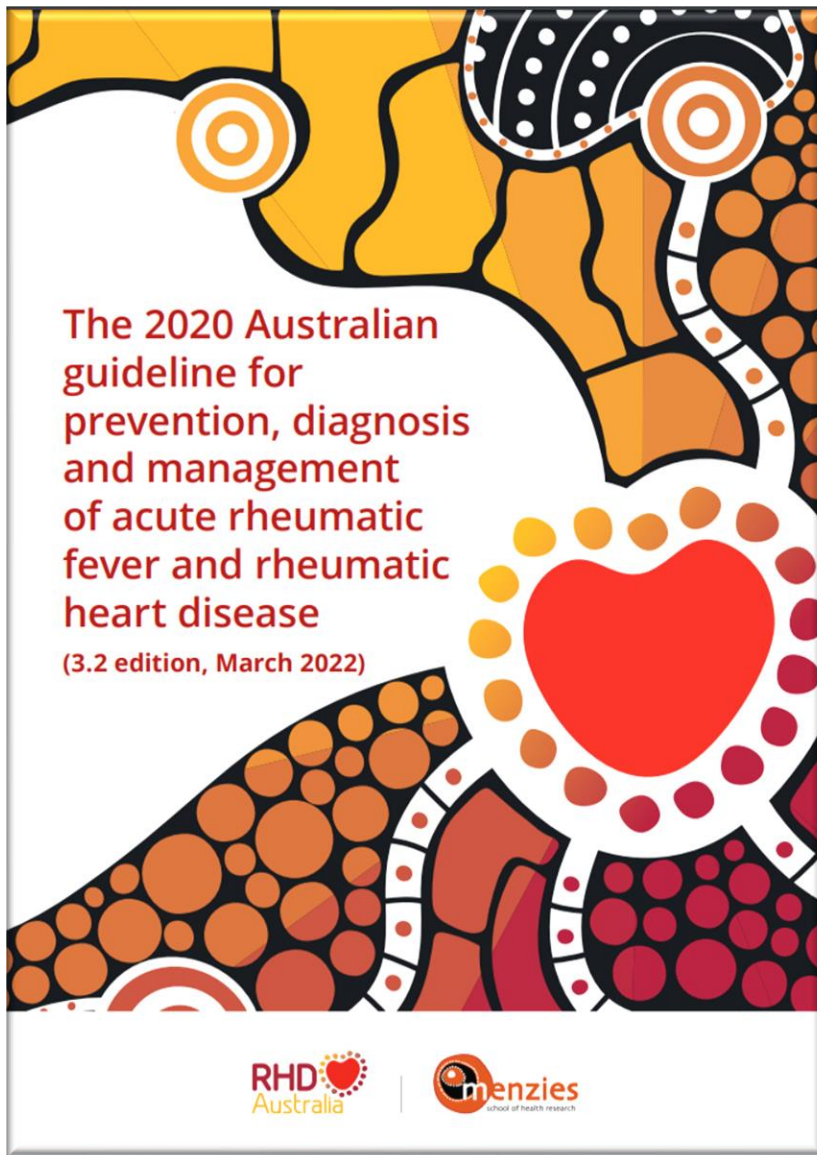
I LIKE - during the injection

Bubbles  ☐ Reading  ☐ Videos/music  ☐ Holding hands/cuddles  ☐ Buzzy bee  ☐ Give FAST  ☐ Give SLOW  ☐

Quiet - please don't talk with me  ☐ Talk with me  ☐ Ask me questions  ☐ Relaxation/ distraction  ☐ Cold pack  ☐ Heat pack  ☐ Shot blocker  ☐

I LIKE - after the injection

Cold pack  ☐ Heat pack  ☐ Pain medication  ☐ Cuddles  ☐



The 2020 Australian
guideline for
prevention, diagnosis
and management
of acute rheumatic
fever and rheumatic
heart disease
(3.2 edition, March 2022)



Diagnostic calculator &
Guidelines App

Any Questions?

CONTACT DETAILS

Central Australia

Melissa van Leeuwen – DA / CNS

Gabrielle Nihill - CNS

Phone: 89516903

RHDAliceSprings.THS@nt.gov.au

Top End

Cathy Doidge – Program Manager

Desley Williams – CNS

Elizabeth Delaney – CNS

Phone: 89228454

RHDDarwin.THS@nt.gov.au