



Public Health Management of Acute Post-Streptococcal Glomerulonephritis Guideline

1. Guiding Principles

Acute post-streptococcal glomerulonephritis (APSGN) is an immune mediated condition, characterized by glomerular inflammation precipitating kidney dysfunction occurring 7-10 days following streptococcal pharyngitis or 2-4 weeks following streptococcal skin infection. While Group A Streptococcus (GAS) infection is the most common cause, Group C streptococci have also been associated with glomerulonephritis.

Children acutely ill with APSGN may develop hypertensive encephalopathy, cardiac failure, acute renal failure or sepsis. Outcomes may be worse in adults. There is increasing evidence that APSGN in early childhood leaves a legacy of compromised renal function which in turn increases the risk of chronic renal failure.

On occasion, outbreaks of APSGN occur in Aboriginal communities. These outbreaks are usually caused by specific nephritogenic strains of Group A streptococci, which can spread very quickly resulting in many cases of APSGN particularly among children. Outbreaks can be halted by timely treatment of those identified at risk (Johnston et al 1999). Penicillin is used to eradicate the carriage of group A Streptococcus (GAS) and may limit the spread of nephritogenic strains of streptococci and prevent recurrences (Becquet, 2010). Prevention of streptococcal infections remains the most important control strategy (Becquet, 2010).

APSGN is a marker of continuing public health risk for Aboriginal people. As estimated, 75% of APSGN is caused directly by environmental conditions (McMullen et al 2016). Partnership for effective public health action with Aboriginal communities and strengthening accountability of relevant services for essential infrastructure will play an important role in reducing APSGN rates.

In September 2017, APSGN was declared notifiable in Western Australia (WA). Guidelines were developed by the Kimberley Public Health Unit (KPHU) during the 2014 outbreak of APSGN in the Kimberley. They have been updated to produce contemporary public health guidance for management of APSGN across WACHS.

2. Definitions

Acute Post-Streptococcal Glomerulonephritis (APSGN)	APSGN is an immune mediated condition, characterised by glomerular inflammation precipitating kidney dysfunction occurring 7-10 days following streptococcal pharyngitis or 2-4 weeks following streptococcal skin infection. While Group A Streptococcus (GAS) infection is the most common cause, Group C streptococci have also been associated with glomerulonephritis.
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<p>Family, household and close contacts</p>	<p>Those staying in the house at any time in the two weeks preceding the onset of APSGN for a period longer than six (6) hours and where close contact with infected skin sores, bedding, fabrics, mattresses, towels or other fomites has occurred.</p>
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3. Guideline

3.1 Case definition Acute Post- Streptococcal Glomerulonephritis

Reporting

Both **confirmed cases** AND **probable cases** should be notified.

All suspected cases of APSGN including **possible cases** must be simultaneously notified to the regional Paediatric Team AND local Public Health Unit Disease Control Team.

Confirmed case

A confirmed case requires both **clinical evidence** AND **laboratory evidence**.

Probable case

A probable case requires **clinical evidence** only.

Possible case

A possible case requires **laboratory evidence** only.

Clinical evidence:

At least two of the following:

- Facial oedema and/or peripheral oedema
- Hypertension^A
- ≥ moderate haematuria on dipstick (≥2+ red blood cells)

Laboratory evidence:

1. Haematuria on microscopy (RBC >10/μl) (if microscopy is not available, **'moderate' haematuria on dipstick fulfils this criterion**)

AND

2. Evidence of recent streptococcal infection (positive Group A Streptococcal culture from skin or throat, or elevated ASO titre or Anti-DNase B)

AND

3. Reduced C3 complement level.

Notes:

1. Possible (subclinical) cases can be detected when screening contacts of a case of APSGN. Subclinical cases have only one clinical symptom. They do not have oedema or hypertension but, on laboratory investigation, are found to have haematuria, evidence of a streptococcal infection and a reduced C3. These cases should be reported to the Regional Paediatrician and the local Public Health Unit Disease Control Team.
2. If microscopy is not available, then moderate haematuria on dipstick fulfils this criterion.
3. If all other criteria have been fulfilled but the only evidence of recent streptococcal infection is isolation of Group C or Group G Streptococci from skin or throat, this could be considered a confirmed case after discussion between the local Population Health Unit Disease Control Team and the treating paediatrician.
4. All suspected cases of APSGN must be simultaneously notified to the regional Paediatric team AND local Population Health Unit Disease Control Team. Confirmed cases of APSGN are notifiable in Western Australia under the statutory requirements of the WA Public Health Act 2016. Any questions or concerns regarding diagnosis or immediate management of APSGN, contact the Regional Paediatrician. You must also notify the local Population Health Unit Disease Control Team.

A. Hypertension in children includes a systolic reading above the 95th percentile specific to the age and gender of the child ([Appendix 1](#)).

(Government of Western Australia, 2018)

3.2 Case management

- In patients presenting with oedema, haematuria and/or hypertension that is clinically compatible with a provisional diagnosis of APSGN, a clinician must inspect their skin for evidence of current or recent skin sores or scabies and recent GAS pharyngitis. Findings are to be recorded in the clinical notes.
- If skin sores are present in a patient with a provisional diagnosis of APSGN, swabs should be taken from two (2) different skin sores if present. If indicated on history, a throat swab should be taken. These swabs are taken to identify presence of GAS.
- Blood should be collected to measure ASOT, antiDNAase B titres, C3, C4, UEC.
- PathWest can perform a urine red cell count if specimens reach them within 24 hours of collection without the need for a preservative. Clearly indicate the provisional diagnosis of APSGN on your pathology ordering form. If the patient is more remote, perform a dipstick urinalysis. Do not send a urine specimen but note this in the handover information when the patient is transferred to hospital.
- All clinical cases of APSGN should be given IM benzathine penicillin regardless of whether skin sores/pharyngitis are present or not at the time of presentation ([Appendix 2](#) lists dosages and alternative regimes in the presence of penicillin allergy or documented LA bicillin refusal).

- Clinical management of all cases should be discussed with the regional paediatrician/on-call paediatrician as per WACHS regional arrangements. All clinical cases of APSGN should be hospitalised unless with the written confirmation of the regional paediatrician that admission is not necessary. This confirmation must be retained for audit purposes in the patient's electronic clinical record.
- Names of **family, household** and **close contacts** of the suspected case including adults and children who have been staying in the household **two (2) weeks prior to the onset of APSGN** should be collected **as soon as possible** ([Appendix 3](#)). This is essential to assist with prompt contact tracing and management if the case is confirmed.
- After discharge from hospital, all APSGN cases require medical review. The discharge summary from the hospital will convey this information. Upon return to primary health care, the patient should be seen twice weekly for BP measurement, weight, dipstick urinary monitoring and physical examination until paediatrician or senior doctor review at 6-8 weeks. This follow-up at 6-8 weeks post-discharge is essential. Primary Health staff should ensure that a urine specimen for microscopy (if the clinic is within 24 hours of laboratory processing or urinary dipstick if not) and serology for complement (C3 and C4) levels are collected so that results are available for the paediatrician / senior doctor review.
- As APSGN is notifiable in WA, clinicians must report all cases of APSGN to the Regional Public Health Unit using the [Department of Health infectious and related disease notification form - Rural](#) .
- As part of opportunistic health promotion, all clinicians should raise community awareness of scabies control and skin sores, promoting regular washing especially of children to reduce bacterial spread. Regional PHT can provide local and up-to-date community and patient resources.
- Clinicians should be additionally vigilant if there is a probable or suspected case of APSGN in the community they serve.
- Environmental health and health promotion teams should be recruited to strengthen community action in these circumstances.
- Environmental health referrals to the local environmental health service (where regionally available) should be made with the written permission of the child's family or guardian as part of routine APSGN case management.

3.3 Exposure investigation and contact management

The purpose of contact tracing is to:

- detect subclinical or undiagnosed cases of APSGN in household contacts
- treat symptomatic contacts
- prevent further GAS transmission
- provide all of family education on disease prevention, early detection and overall skin health and/or throat infections.

3.3.1 Single cases and contact identification/tracing/management

Single ('sporadic') cases should be admitted and treated clinically, including any infected skin sores.

Every single case (as per the case definition) of APSGN requires notification, contact identification and contact tracing of 'family, household and close contacts'.

Clinical assessment and treatment through primary health care of all family, household and close contacts of the index case must be completed within five (5) working days of confirmation of the index case.

If the time gap between notified APSGN cases and initiating screening contacts exceeds two weeks, there is no likely benefit to undertaking belated screening and treatment. Primary health care staff must check with regional PHT should this be the situation before terminating contact tracing.

Any child aged **12 months to 16 years** among '*family, household and close contacts*' are to be screened for APSGN using the following criteria:

1. skin to be examined for skin sores/scabies (if skin sores are present, swabs to be taken for sensitivity and culture)
2. blood pressure to be measured
3. urine to be tested with a dipstick for the presence of haematuria.

The WACHS Contact Identification, Tracing and Assessment for Cases of APSGN Form can be found as [Appendix 3](#).

The local general practitioner (GP) or WACHS District Medical Officer (DMO) is responsible for prescribing treatment for family, household and close contacts. In remote clinics, Remote Area Nurses (RANs) credentialed to dispense treatment for skin sores are also responsible. For those '*family, household and close contacts*' 12 months until 16 years and adults who have infected skin sores, LA Bicillin should be administered as per the dosages listed in [Appendix 2](#).

Contacts without signs or symptoms of active GAS infection are to receive education and advice only, with clear instructions to present for treatment promptly if skin sores or pharyngitis occurs.

All individuals identified with scabies should be treated with topical 5% permethrin as should their contacts. Consider Ivermectin if >15kg for heavy or recurrent infestations according to eTG recommendations and restrictions.

3.3.2 Referral of contacts

Any child contact that fulfils the clinical case definition i.e. TWO of the clinical signs (refer to [3.1](#)) should be discussed with the regional paediatrician immediately regarding any additional clinical information or tests to be performed locally and arrangements for paediatric assessment.

Any contact that has ONE of these three clinical signs is to be referred for medical assessment by the local medical officer.

Note that school contacts do not intrinsically meet the criteria for family, household and close contacts.

Although evidence is problematic, regional PHTs generally recommend that any contact must be identified, examined and treated within a two-week period from case notification.

Urine specimens for urine red cell count are only to be ordered for contacts if the urine will be received by PathWest within 24 hours of collection. No preservative is required in the specimen jar. If the specimen will take more than 24 hours to be transported to the laboratory, it is not to be ordered.

3.3.3 Cases occurring in Day Care Centres

Advice should be sought from Regional Public Health Physician/Consultant for the management of cases occurring in Day Care Centres. If a case of APSGN has occurred in a child attending day care, the parents/caregivers and day care staff should be informed that a case of APSGN has occurred in a child attending day care. Centre staff and parents/caregivers of children in that child's care group should be alerted to the signs of APSGN and provided information ([Appendix 6](#)) on skin sores and skin hygiene. It is not necessary to screen other children attending that day care. The regional PHT will advise if further action is required.

3.3.4 School and classroom contacts

If a case of APSGN has occurred in a child attending school, the parents/caregivers and school staff should be informed by either the School Health Nurse if available or regional PHT that a case of APSGN has occurred and be alerted to the signs of APSGN. Information ([Appendix 6](#)) on skin sores and skin hygiene will be distributed by regional PHT. It is not necessary to screen other children attending that school. Regional PHT will advise if further action is required.

3.3.5 Environmental health referrals

Environmental Health Teams (including Environmental Health Officers) operate across some WACHS regions with responsibilities including environmental health risk assessment and mitigation. Local Environmental Health Teams (where regionally available) should be approached by the local primary health care providers to negotiate referrals if this has not already occurred. Referral with the patient's, parent's or guardian's written consent will prompt contact by these Environmental Health Teams to work one on one with patients and householders to identify measures to control health risks within the immediate environment. The focus for the Environmental Health Team is always case specific, depending on referral details. It will usually include information and education on communicable disease prevention with a risk assessment of the house and living environment, and support to access repairs and maintenance when required. Access to timely repairs and maintenance should be monitored by the local Environmental Health Team.

Note: EHOs are authorised, or eligible to be authorised under the *Public Health Act* and have existing responsibilities for the investigation of notifiable communicable and zoonotic disease outbreaks, including environmental health risk assessment and mitigation.

3.4 Public Health Responses

There is no simple treatment for APSGN. The prevention of streptococcal infections remains the most important control strategy.

All public health responses are to be co-ordinated by the regional Public Health Physician/Consultant and/or regional Public Health Manager in the region. The regions PHT know the usual epidemiology of APSGN in the region and have agreed criteria for initiating a public health alert, declaring an outbreak and/or undertaking community-wide interventions as described below. The Regional Director, Area Director Population Health and Central Office should be notified of a Public health alert and heightened public health surveillance and prior to an outbreak being declared. The Communicable Disease Control should be included in these communications.

3.4.1 Public health alert and heightened public health surveillance

Whenever there are FOUR OR MORE APSGN cases - whether probable or confirmed – anywhere in the region within a 4 week period which are not epi-linked, the regional Director of Population Health (DPH) in consultation with the Public Health Physician/Consultant and Public Health Manager will issue a region-wide alert to all health care providers and communities to raise awareness for diagnosing and reporting cases.

The Public Health Physician/Consultant and/or Public Health Manager will continue to monitor for new notifications of APSGN, their epi-links, known mobility, place of residence and known seasonal variation. On the basis of this heightened epidemiological surveillance, an outbreak may be declared by the regional DPH, Regional Director or Area Director Population Health either for specific communities (e.g. a specific town or remote community), sub-regions of a region (e.g. East Kimberley or the Fitzroy Valley) or for the region as a whole (a Kimberley-wide APSGN outbreak).

Educational messages for communities will be coordinated by the Regional Public Health Team through relevant Environmental Health and Health Promotion teams where appropriate and available. Communications will aim to ensure clear understanding of the status of any observed change in the epidemiology of APSGN and the required public health response.

Upon declaring an APSGN outbreak in a specific location or regionally or seeking to respond to any other significant change in incidence rates, the regional DPH or delegated other, convenes an Outbreak Control Team (OCT) with membership as appropriate. All communications will be distributed through the APSGN Public Health Response Lead. Daily reporting to Regional Public Health Team of the status of contact tracing may be required.

3.5 Public health management of an APSGN outbreak

3.5.1 Detecting and outbreak

When the number of cases in a community in a given time period exceeds expectation and there is evidence of ongoing GAS transmission, an 'outbreak' may be declared by the regional Director of Population Health, Regional Director or Area Director Population Health in consultation with the Public Health Physician/Consultant and regional Public Health Manager. The circumstances that trigger a public health outbreak response and the extent of the response will be based on a risk assessment made by the Public Health Physician/Consultant, in consultation with Communicable Disease Control Directorate (CDCD) and others as appropriate, and depend on the number of cases, the epidemiological links between cases, the perceived risk of ongoing transmission (e.g. considering age, ethnicity, social and geographical factors) and logistic and other variables.

The Public Health Physician/Consultant and/or Public Health Manager will clearly advise whether an APSGN outbreak is confined to a town or remote community, whether it is sub-regional (e.g. West Kimberley, East Kimberley or Fitzroy Valley for example) or regional (entire region). In addition, the Public Health Physician / Consultant and/or Public Health Manager will also clearly specify to stakeholders and those contributing to the public health response the identity of specific neighbourhoods of a town or the specific remote community/communities at risk who require, as a result of the outbreak declaration, community-wide public health initiatives.

The Public Health Physician/Consultant and/or Public Health Manager will document the decision-making for outbreak declaration including the known patterns of APSGN in the implicated locations, the changes that were observed and other factors increasing or mitigating exposure to GAS.

Adequate capacity of the current public health workforce should be considered. If the outbreak needs exceed the available capacity of the existing public health workforce, a 'surge' in staff may be necessary. The WACHS [Public Health Workforce Surge Guideline](#) should be referred to when identifying 'surge' requirements.

3.5.2 Criteria for considering an outbreak

Two cases probable or confirmed, living in the same location and:

- onset within a week of each other
- the cases are not contacts of each other (see section 2 for definition of a 'contact')
- at least one of these cases must have documentation of a low C3 complement.

OR

One confirmed case and two probable cases living in the same location and:

- onset within 1 month of each other
- none are contacts of each other.

NOTE: Only the APSGN OCT through the regional DPH, Public Health Physician/Consultant and Public Health Manager is authorised to declare an outbreak and instigate community screening.

3.5.3 Rationale for evoking population-based community-wide screening

The purpose of population-based community-wide screening in an outbreak is to identify people with risk factors for APSGN and reduce the likelihood of transmission of GAS in a community at risk. A secondary aim is to identify people with unrecognised or probable APSGN.

A decision to invoke population-based screening is serious. This decision can only be made by the APSGN OCT in conjunction with the regional DPH, Public Health Physician/Consultant and Public Health Manager. Initiation of population-based screening that is without evidence of benefit and without the authority of the Regional PHT, risks further stigmatisation of Aboriginal communities and misunderstanding of effective public health interventions.

When a community has been identified by the APSGN OCT as eligible for 'population-based community screening', the public announcements to local providers, their line managers and employing organisations will be organised by the OCT in conjunction with local Primary Health Care. The OCT will assess need for and mobilise as required 'surge capacity' and available resources. The OCT will work closely with primary health care providers on the ground including private GPs, RFDS, ACCHOs and, where required, shires for environmental responses. The APSGN OCT will assist primary health care providers to engage community leaders to seek permission for 'population-based community screening'. [Appendix 6](#) provides information for school staff, parents, students and community members. A written consent from parents and carers is required to screen and treat children in communities if their legal guardian is not present at the time ([Appendix 7](#)).

If any screening of children in the community is to occur in schools as a specific setting, prior written consent from parents/carers must be obtained because these children will be examined without their parent present ([Appendix 8](#)).

3.6 Delivery of population-based community-wide screening

Population-based community screening for APSGN and its risk factors requires physical examination of all children in the designated community aged 12 months to 16 years inclusive, for oedema, skin sores and scabies.

Community screening does not require blood pressure measurement or urinalysis unless a child is found to have oedema. Specific protocols for those children found to have oedema, skin sores or scabies will be issued by the APSGN OCT to standardise pathology tests and treatments. In most instances, children requiring treatment for skin sores detected during school screening should be referred to their local health clinic. The PHC team including the GP or DMO responsible for prescribing treatment for those identified through community screening at this time will also be specified by regional PHT.

Population-based community screening requires systematic documentation ([Appendix 4](#)).

Community notices about community screening as well as additional resources for raising community awareness of APSGN will be issued through the APSGN OCT.

If the time gap between notified APSGN cases and initiating screening of community members or contacts exceeds two weeks, there is no likely benefit to the community and it should not be considered.

3.7 Public health response post-outbreak and follow-up

Aboriginal communities that were involved in the APSGN outbreak should be informed of its resolution, as should regional stakeholders involved in the response including but not limited to:

- Regional Aboriginal Health Planning Forum
- AMS or AHS Lead Clinicians Group
- Regional Public Health Leadership and Management Team
- WACHS Regional Executive.

The Public Health Physician/Consultant should conduct an outbreak debrief meeting normally within six weeks under the auspices of the APSGN OCT to gather 'lessons learned' from the epidemiology and public health management of the outbreak. Any Aboriginal person involved in public health response planning should be invited to attend. The resulting outbreak write-up to be prepared by the Public Health Physician/Consultant provides an impetus to further scrutinise the causes, progress, responses and impact of public health action in a systematic way. Aboriginal staff, whether leading or participating in the outbreak response will be lead or co-authors of the outbreak report. External peer review of this outbreak write-up is encouraged. Environmental and economic determinants at the time of the outbreak should also be documented in this outbreak write-up. Production of reports and journal publications using this information to build a better evidence base will be encouraged by regional PHT leadership. Community permission must be provided before any reports are submitted for publication.

Although recognising the need for greater understanding of GAS transmission and its impact on APSGN within an affected community, research planning and conduct should never impede the public health response to an increase or declared APSGN outbreak in the region. If research is planned, it should be clearly distinguished from public health action. Ethics committee approvals must be obtained for research. In addition, explicit requests must be made to communities and their approval sought and gained through agreed governance mechanisms for any additional research objectives.

3.7.1 Returning to surveillance and primordial prevention activities

Ongoing surveillance should resume.

This guidance should also be reviewed in the aftermath of any APSGN outbreak. Decision rules contained in this guidance for declaring an APSGN outbreak are to be reviewed annually by Regional Public Health Units.

Regional Public Health Managers, PHC Line Managers and Clinical Leaders must ensure staff (especially new or locum staff) know about APSGN and its diagnosis, causes and consequences.

Standard non-outbreak public health actions to control GAS will resume after deployment of staff to manage APSGN outbreak response. Any increase in APSGN or declaration of an APSGN outbreak should be regarded as a trigger to revise previous plans to address primordial factors such as environmental conditions, poverty and political reconciliation.

At the conclusion of any APSGN outbreak and declaration of 'stand-down' by the APSGN OCT, it is also recommended that the designated APSGN Public Health Response Lead convene a high-level meeting chaired by the Regional DPH to review public health and health promotion programs to reduce environmental risks that increase the likelihood of GAS transmission underway before the APSGN outbreak. This high-level meeting must discuss the need to re-design or revise these programs prior to their resumption after the outbreak. This transition back to non-outbreak public health and primary health care programs should be explicit, documented and communicated to all stakeholders. If any programs such as 'Healthy Skin Program' or 'sore throat' clinics were in place pre-outbreak, their quality and impact must be reviewed. APSGN is a preventable cause of morbidity and mortality among Indigenous people and effective primary health care that encompasses community development and primordial prevention in its scope is essential for its prevention and control.

4. Roles and Responsibilities

Area Director Population Health

The Area Director Population Health is responsible for:

- liaising and communicating with WACHS Central Office Executive and Communicable Disease Control Directorate as appropriate.

Regional Director Population Health

The Regional DPH is responsible for:

- ensuring strategies are in place to enable appropriate local and regional response should an APSGN outbreak occur
- issuing a region-wide alert to all health care providers and communities, in consultation with Public Health Physician/Consultant and Public Health Manager, to raise awareness for diagnosing and reporting APSGN cases, in line with this guideline
- declaring an APSGN outbreak through consultation with regional Public Health Physician, Public Health Manager and Communicable Disease Control Directorate according to this guideline
- convening an Outbreak Control Team (OCT) upon declaration of APSGN outbreak
- leading or delegating to the Public Health Manager and/or Public Health Physician/consultant the overall regional response to the APSGN outbreak within the region according to this guideline
- liaising and communicating with respective WACHS Regional Director and other regional executive staff
- determining the need to STAND-DOWN APGSN activities in consultation with Public Health Physician/Consultant and Public Health Manager and OCT.

Public Health Physician/Consultant

The regional Public Health Physician/Consultant is responsible for:

- working with regional DPH and Public Health Manager to determine the need for region-wide APSGN alert and/or outbreak response
- monitoring new notifications of APSGN, their epidemiology links, known mobility, place of residence and known seasonal variation, once a region wide-alert has been issued for APSGN
- being the designated APSGN Public Health Response lead as part of the Outbreak Control Team (OCT) if APSGN outbreak is declared
- if delegated by the regional DPH, leading the regional response to the APSGN outbreak once declared in line with this guideline
- leading the outbreak debrief meeting following STAND-DOWN of APSGN activities
- writing up the initial report on the APSGN outbreak and the public health response.

Public Health Manager

The regional Public Health Manager is responsible for:

- ensuring relevant staff (especially new or locum staff) know about APSGN and its diagnosis, causes and consequences
- working with regional DPH and the Public Health Physician/Consultant to determine the need for region-wide APSGN alert and/or outbreak response
- assisting the regional Public Health Physician/Consultant in monitoring new notifications of APSGN, their epidemiology links, known mobility, place of residence and known seasonal variation, once a region wide-alert has been issued for APSGN
- assisting the regional Public Health Physician/Consultant in responding to the APSGN outbreak if declared
- coordinating business continuity during the surge response
- assisting the Public Health Physician/Consultant with the outbreak debrief meeting following STAND-DOWN of APSGN activities.

Public and Primary Health staff

Public and primary health staff are responsible for:

- participation in any orientation and training required in relation to APSGN management.
- assisting with public health management of APSGN, as delegated by Public Health Manager and/or Public Health Physician/Consultant in line with this guideline
- the collection and entering of relevant data into WANNID in a timely manner.
- participating in outbreak debrief meeting following STAND-DOWN of APSGN activities
- cultural competence.

Regional Paediatric Team

- In the absence of a designated Regional Paediatric Team initial treatment should be provided by local generalist doctors and patients to be referred to Perth Children's Hospital or a private Paediatrician

5. Compliance

Failure to comply with this policy document may constitute a breach of the WA Health Code of Conduct (Code). The Code is part of the [Employment Policy Framework](#) issued pursuant to section 26 of the [Health Services Act 2016](#) (HSA) and is binding on all WACHS staff which for this purpose includes trainees, students, volunteers, researchers, contractors for service (including all visiting health professionals and agency staff) and persons delivering training or education within WACHS. WACHS staff are reminded that compliance with all policies is mandatory.

6. Records Management

All records both clinical and non-clinical are to be stored in the approved Electronic Documents and Records Management System and in line with the following policies: [Records Management Policy](#)
[Health Record Management Policy](#)

7. Evaluation

The WACHS Population Health Leadership Team will undertake a review of guideline every 3 years or sooner if required.

Whenever this guideline is enacted, the relevant region is to undertake an evaluation of the overall response to the outbreak.

8. Standards

[National Safety and Quality Health Care Standards](#) – Standard 1 Clinical Governance
[EQulPNational Standards](#) - 11. Service Delivery, 13. Workforce Planning and Management

9. Legislation

[Health Services Act 2016](#)
[Public Health Act 2016](#)

10. References

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11. Related Policy Documents

WACHS [Emergency \(Disaster\) Management Arrangements Policy \(2017\)](#)

WACHS [Public Health Workforce Surge Guideline](#)

12. Related WA Health System Policies

[Infectious Disease Emergency Management Plan, WA Health System \(2017\)](#)

13. Policy Frameworks

[Public Health Policy Framework](#)

[Clinical Services Planning and Programs Policy Framework](#)

[Clinical Governance, Safety and Quality Policy Framework](#)

14. Appendices

Appendix 1: [Measuring Blood Pressure in Children](#)

Appendix 2: [Recommended doses of IM benzathine penicillin for use in cases and contacts of APSGN](#)

Appendix 3: [Contact Identification, Tracing and Assessment for Cases of APSGN](#)

Appendix 4: [APSGN Community Screening Form \(All Children aged 12 months to 16 years\)](#)

Appendix 5: [Community Screening Summary Report](#)

Appendix 6: [Skin Sores, Sore throats and Kidney Disease](#)

Appendix 7: [Kidney Disease Community Screening Consent Form](#)

Appendix 8: [Kidney Disease and Skin Sores - School Screening and Consent Form](#)

Appendix 9: [Letter to Parents/Guardians - Skin Health Checks](#)

Appendix 10: [Letter to Parents/Guardians - Post Skin Health Checks](#)

**This document can be made available in alternative formats
on request for a person with a disability**

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Appendix 1: Measuring Blood Pressure in Children

95th Centile for Systolic Blood Pressure by Age*		
Age (years)	Boys	Girls
1	103	104
2	106	105
3	109	107
4	111	108
5	112	110
6	114	111
7	115	113
8	116	115
9	118	117
10	119	119
11	121	121
12	123	123
13	126	124
14	128	126
15	131	127
16	134	128
17	136	129

* Data from Fourth Task Force for Blood Pressure Control in Children.
 Data for children on 50th centile for height.
 Full data including adjustments for height at
http://www.nhlbi.nih.gov/files/docs/resources/heart/hbp_ped.pdf

Appendix 2: Recommended Doses of IM Benzathine Penicillin for use in cases and contacts of APSGN

Weight	Dose of benzathine benzylpenicillin tetrahydrate 1,200,000units / 2.3ml	Dose as benzathine benzylpenicillin 900mg/2.3 ml	Volume
3kg to <6kg	225mg (300,000 units)	254mg	0.6 ml
6 to <10kg	337.5mg (450,000 units)	381mg	0.9 ml
10 to <15kg	450mg (600,000 units)	517mg	1.2 ml
15 to <20Kg	675mg (900,000 units)	762mg	1.7 ml
20 kg or more	900mg (1,200,000 units)	1016.6mg	2.3 ml

NB. Use a concentration of 442mg/mL (equivalent to 391.3mg/ml of benzathine benzylpenicillin) when measuring part doses.

The quantity of benzathine benzylpenicillin is based on 1,200 units/mg potency. A 2.3 mL pre-filled glass syringe of LA Bicillin, containing 1,200,000 units as 1016.6mg benzathine benzylpenicillin tetrahydrate is equivalent to 900mg benzathine benzylpenicillin

IMI: Over 12 months ventro gluteal under 12 months vastis Lateralis

Those who refuse intramuscular penicillin or who are allergic to penicillin should instead receive oral Co-trimoxazole either as:

twice daily for 3 days

or

daily for 5 days

Adherence to the full course of oral treatment is imperative.

Weight (kg)	Co-trimoxazole (trimethoprim + sulfamethoxazole) 200mg/40mg per 5ml
Child (up to 40kg)	4+20mg/kg/dose, twice daily for three days ; OR 8+40mg/kg/dose daily for five days*
Adult	160+800mg twice daily for five days
<i>* Consider once daily dosing if expected to improve adherence.</i>	

Appendix 3: Contact Identification, Tracing and Assessment for Cases of APSGN

(Family, household and close contacts who have stayed in the household in the two weeks preceding the onset of APSGN)
 Give LA Bicillin to all contacts aged 12 months to 16 years, give LA Bicillin to adults 17 years and over who have skin sores.

INDEX CASE NAME	DATE OF BIRTH
COMMUNITY	

Name	DOB	Education Consent	Scabies	Skin Sores	Oedema	Urine	BP	LAB	Lyclear	Swab	Referral	Other
		Y/N	Y/N	Y/N	Y/N			Y/N	Y/N	Y/N		
		Y/N	Y/N	Y/N	Y/N			Y/N	Y/N	Y/N		
		Y/N	Y/N	Y/N	Y/N			Y/N	Y/N	Y/N		
		Y/N	Y/N	Y/N	Y/N			Y/N	Y/N	Y/N		
		Y/N	Y/N	Y/N	Y/N			Y/N	Y/N	Y/N		
		Y/N	Y/N	Y/N	Y/N			Y/N	Y/N	Y/N		
		Y/N	Y/N	Y/N	Y/N			Y/N	Y/N	Y/N		
		Y/N	Y/N	Y/N	Y/N			Y/N	Y/N	Y/N		
		Y/N	Y/N	Y/N	Y/N			Y/N	Y/N	Y/N		
		Y/N	Y/N	Y/N	Y/N			Y/N	Y/N	Y/N		

Appendix 5:

Community Screening Summary Report

Date: _____

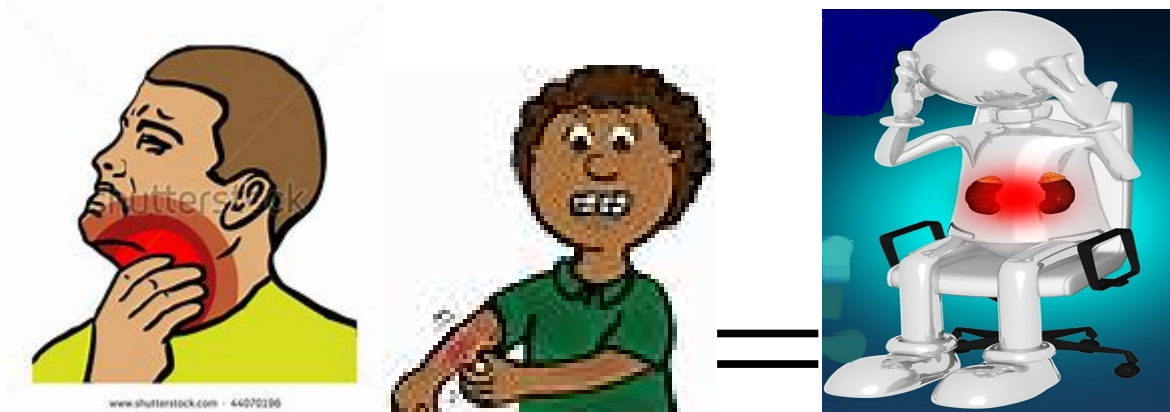
Please return this report with screening forms to:

Community	
Screening Coordinator	
No. of children screened	
Total number of children aged 12 months to 17 years living in the community	
No. of children with skin sores	
No. of children with scabies	
No. of children with oedema	
No. children referred to DMO	
No. probable cases APSGN	
No. confirmed cases of APSGN	



Skin Sores, Sore throats and Kidney Disease

A member of your school community has recently been diagnosed with Acute Post Streptococcal Glomerulonephritis (gloe-mer-u-low-nuh-FRY-tis) or APSGN. Other people at school may also be affected.



APSGN is a kidney disease that can develop after certain skin and throat infections. You cannot give APSGN to other people. However, the bacteria that cause the skin infections and sore throats can be passed from person to person. APSGN is most common in children, but adults are more likely to have long-term health problems if they get it.

What parents/carers should do:

Get all skin sores treated quickly; keep skin clean by washing with soap and water every day. Cover all skin sores with a clean dressing.

Go to the clinic or hospital straight away, if your child has:

- dark, coke coloured urine
- puffy eyes, a swollen face or swollen feet
- headache
- fever
- tummy pain or swelling

Please read the attached fact sheet for more information on Acute Post- Streptococcal Glomerulonephritis (APSGN) or contact your school health nurse or Regional Public Health Unit:



Kidney Disease Community Screening Consent Form

A number of people in our community are sick with a kidney disease called Acute Post-Streptococcal Glomerulonephritis (APSGN). This disease develops after certain skin and throat infections. The bacteria that cause these skin and throat infections can be passed on to other people. Because of this it is important that health care staff check all at risk children aged 12 months to 16 years for skin sores, scabies and signs of APSGN. APSGN in the Kimberley is most common in school aged children.

The health staff will be visiting homes to look at the skin of all children checking for skin sores and/or scabies.

If any skin sores are present the recommended treatment is an injection of penicillin.

If scabies are present a cream will need to be applied all over the body of the child and also everyone who lives with the child.

Please complete the section below if you give consent for your child to be screened and treated. You can also bring your children to the clinic for a healthy skin check.

I parent / carer
mobile number..... House number or address

.....
give consent for the following children:

Names of children in your care:

Child's Name	Age or Date of Birth	Allergies

Do any of the children listed have any allergies? YES / NO

What are they?
.....

Signed: Date:



Kidney Disease and Skin Sores School Screening and Consent Form

A number of people in our community are sick with a kidney disease called Acute Post-Streptococcal Glomerulonephritis (APSGN). This disease develops after certain skin and throat infections. The bacteria that cause these skin and throat infections can be passed on to other people. Because of this it is important that health care staff check all at risk children aged 12 months to 16 years for skin sores, scabies and signs of APSGN. APSGN in the Kimberley is most common in school aged children.

The health staff will be looking at the skin of all children and checking for skin sores and/or scabies.

If any skin sores are present the recommended treatment is an injection of penicillin.

If scabies are present a cream will need to be applied all over the body of the child and also everyone who lives with the child.

Please circle the YES/NO answers below if you give consent for your child to be screened and treated.

I parent / carer

mobile number..... House number or address

.....
give consent for the following children:

Names of children in your care:

Name	Class

To be screened for skin sores/scabies and APSGN Yes / No

To be given a penicillin injection if they have skin sores Yes / No

To be treated with cream for scabies Yes / No

I wish to be present if my child needs treatment Yes / No

Do any of the children listed have any allergies? YES / NO

What are they?
.....

Signed: Date:



Date:

Dear Parents and Carers,

Some members of your community have recently been diagnosed with Acute Post Streptococcal Glomerulonephritis (commonly referred to as APSGN).

APSGN is a kidney disease that can develop after certain skin and throat infections. You cannot give APSGN to other people. However, the bacteria that cause the skin infections and sore throats can be passed from person to person by close contact and through sharing towels and bedding.

Because APSGN is most common in children a team of health workers from Kimberley Population Health Disease Control,Community Health andAboriginal Health Service (AHS) will be visiting your school to complete Skin Health Checks.

Who will we be checking?

Aboriginal children under the age of 17.

What will we be looking for?

Skin sores Scabies Head Lice

Where will we be checking?

Head Stomach Back Feet Legs

No treatment will be completed without further consent from you.

If your child has anything of concern we will send a letter home requesting that you attend the:

.....Aboriginal Health Service (AHS)
orCommunity Health
or theHospital for treatment.

If you would like further information please contact:

..... Community Health on

If you do not wish to have your child screened please notify your school.



Date:

Dear Parent/Carer,

Child's name:

Skin Health Checks were completed today at your child's school.

We identified the following concerns that require treatment:

Skin Sores

Scabies

Head Lice

Puffy Face

There is currently an illness in the community that is making some children very sick.

This illness is closely linked to skin sores.

To help protect your child and other children in the community please take them to:

.....Aboriginal Health Service (AHS)

orCommunity Health

or theHospital

for treatment as soon as possible.

To discuss this further please call:

.....