National Wound and Infection Collaborative Group

A guideline for identification and management of fungal infections associated with incontinence associated dermatitis (IAD)

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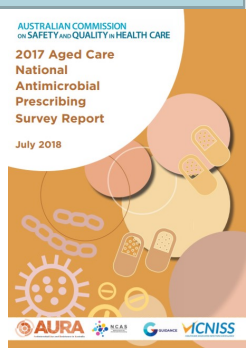


Aged Care National Antimicrobial Prescribing Survey

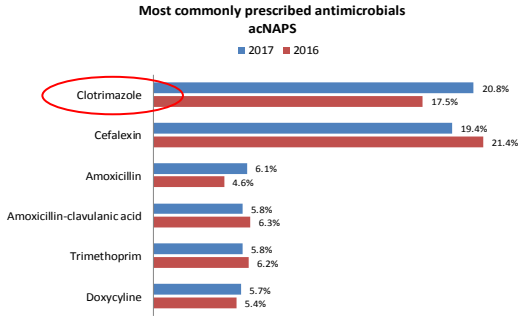
acNAPS is an annual survey that is undertaken on any single day between June and August each year. Participation in the survey assists aged care homes to identify improvements they can make to reduce harm to residents through promoting the appropriate use of antimicrobials, preventing infections, and helping reduce the emergence of antimicrobial resistance. In summary, acNAPS is a quality improvement survey that aims to reduce infections, improve the use of antimicrobials and thereby reduce the **SERIOUS threat of antimicrobial resistance**.

2017 acNAPS identified:

Wide spread use of topical antimicrobials (AM) - 33.1%

Most frequently prescribed AM - Clotrimazole (20.8%)

- **Frequently reported (unconfirmed) skin, soft tissue or mucosal infections**
- **Unnecessary prescribing of antifungals**
- **Incomplete courses of antifungals**
- **PRN orders of antifungals**
- **Adhoc application of antifungals**
- **Poor or no documentation regarding indication or skin inspections.**

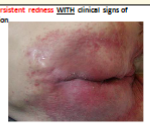
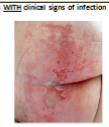


The Grampians Region Infection Control Group and Regional Wounds Victoria saw the potential to improve antimicrobial stewardship as well as outcomes for residents by collaborating on the development of an educational resource for clinicians. Experts in the fields of skin integrity, antimicrobial stewardship and infectious diseases were invited to develop a clinical guideline that details best management of IAD, with or without infection.

Incontinence Associated Dermatitis with Suspected Infection

Incorporating the Ghent Global IAD Categorisation Tool (GLOBIAD)[1]

Incontinence Associated Dermatitis (IAD) is the skin damage associated with exposure to urine or faeces.
RISK FACTORS INCLUDE ■ incontinence ■ use of occlusive containment products ■ compromised mobility ■ damaged skin integrity ■ diminished cognitive awareness ■ inability to perform personal hygiene ■ pain ■ raised body temperature ■ poor nutrition ■ medications (eg: immunosuppressants) ■ critical illness ■ poor hygiene ■ inappropriate application of barrier cream ■ comorbidities (eg: diabetes)

ASSESSMENT			MANAGEMENT	
CATEGORY	CRITICAL CRITERIA	ADDITIONAL CRITERIA	CORE MEASURES Use for all IAD categories	TARGETED MEASURES Use in addition to core measures
1A: Persistent redness WITHOUT clinical signs of infection 	• Persistent redness A variety of tones of redness may be present. In persons with darker skin tones, the skin may be paler or darker than normal, or purple in colour.	• Marked areas or discolouration from a previous (healed) skin defect • Shiny appearance of the skin • Macerated skin • Intact vesicles or bullae • Skin may feel tense or swollen at palpation • Burning, tingling, itching or pain	• Investigate for and manage the preventable causes of incontinence such as urinary tract infection, faecal impaction, excessive urine output, delirium etc.[2] • Screen for pressure injury risk and manage accordingly.[3] MONITOR, CLEANSE, PROTECT, RESTORE and MONITOR again.	1A: Persistent redness WITHOUT clinical signs of infection • Do NOT prescribe antimicrobial agents, including antifungal creams.
1B: Persistent redness WITH clinical signs of infection 	• Persistent redness: As above. • Signs of infection: such as - White scaling of the skin (suggesting a fungal infection) - Satellite pustule lesions (suggesting a Candida albicans fungal infection).	• Marked areas or discolouration from a previous (healed) skin defect • Shiny appearance of the skin • Macerated skin • Intact vesicles or bullae • Skin may feel tense or swollen at palpation • Burning, tingling, itching or pain	ALL persons who are incontinent require a skin management regime • Use soap-free pH adjusted cleansers, 'no-rinse' wipes or '3-in-1' wipes after each episode of incontinence. • Avoid rubbing - pat skin dry. • Apply a skin barrier product according to the manufacturer's instructions • Use barrier products that are transparent and easily removed to allow for skin inspection. • Avoid using powders • Use products that do not interfere with absorption or function of continence aids (for example petroleum containing products). • If skin is dry, apply a topical leave-on skin moisturiser to support restoration of the skin barrier function.[4] • Use continence aids that are well fitted, reduce humidity and have a superior wicking ability. • See medication therapy (page 2): Consider using topical steroids only to manage inflammation and pain.[4] • Inspect affected skin at least twice daily and document observations/ actions. • Consider referral to an employed Continence Advisor.	P1B: Persistent redness WITH clinical signs of infection • See medication therapy (page 2): -If suspected fungal infection, apply antifungal cream. -If suspected bacterial infection, administer antibiotics. • Apply barrier product after antifungal cream (see page 2). • Document the reason, name, dose, route of administration, (if topical, exact site of application), intended duration and review plan for each prescribed medication. • Refer to a Continence Advisor or Wound Specialist/Consultant (with dedicated hours for this role) if no improvement after 3-5 days.
2A: Skin loss WITHOUT clinical signs of infection 	• Skin loss May present as skin erosion (may result from damaged/eroded vesicles or bullae), denudation or excoriation. The skin damage pattern may be diffuse.	• Persistent redness. A variety of tones of redness may be present. In persons with darker skin tones, the skin may be paler or darker than normal, or purple in colour. • Marked areas or discolouration from a previous (healed) skin defect • Shiny appearance of the skin • Macerated skin • Intact vesicles or bullae • Skin may feel tense or swollen at palpation • Burning, tingling, itching or pain		2A: Skin loss WITHOUT clinical signs of infection • Do not prescribe antimicrobial agents, including antifungal creams.
2B: Skin loss WITH clinical signs of infection 	• Skin loss: As above • Signs of infection: such as - White scaling of the skin (suggesting a fungal infection) - Satellite pustule lesions (suggesting a Candida albicans fungal infection). - Slough (yellow/brown/greyish) visible in the wound bed - Green appearance within the wound bed, suggesting a Pseudomonas aeruginosa (bacterial) infection, - Excessive exudate levels, - Purulent exudate (pus), or - Shiny appearance of the wound bed.	• Persistent redness. A variety of tones of redness may be present. In persons with darker skin tones, the skin may be paler or darker than normal, or purple in colour. • Marked areas or discolouration from a previous (healed) skin defect • Shiny appearance of the skin • Macerated skin • Intact vesicles or bullae • Skin may feel tense or swollen at palpation • Burning, tingling, itching or pain		2B: Skin loss WITH clinical signs of infection • See medication therapy (page 2): -If suspected fungal infection, apply antifungal cream. -If suspected bacterial infection, administer antibiotics. • Apply barrier product after antifungal cream (see page 2). • Document the reason, name, dose, route of administration, (if topical, exact site of application), intended duration and review plan for the prescribed medication(s). • Take microbiology samples only for suspected bacterial infections. Clean first before swabbing at exudate site. • Refer to a Continence Advisor or Wound Specialist/Consultant (with dedicated hours for this role) if no improvement after 3-5 days.

Differential diagnosis

It is important to exclude pressure injuries, dermatologic conditions (e.g. psoriasis), other bacterial and viral (e.g. herpes zoster) infections

Targeted medication therapy[4,5,6]

To treat cutaneous (skin) candidiasis:

- Bifonazole 1% cream topically, once daily for 2 weeks, or
- Clotrimazole 1% cream topically, twice daily for 2 weeks, or
- Econazole 1% cream topically, twice daily for 2 weeks, or
- Miconazole 2% cream topically, twice daily for 2 weeks, or
- Nystatin 100 000 units/g cream topically, twice daily for 2 weeks.

- Although cream must be well applied (it should not be visible), avoid vigorous rubbing
- Do not discontinue cream application when fungal infection signs +/or symptoms resolve; continue to apply as prescribed.

Consider using topical steroid for short term management of severe inflammation (and pain):

- Hydrocortisone 1% cream topically, twice daily.

- If using a combined antifungal and steroid agent, when inflammation subsides continue treatment with antifungal agent alone.[3]
- Use the least potent topical corticosteroid product required to control the skin disorder for the shortest time possible.[4]

If the response to a topical antifungal drug is poor, or topical treatment is impractical, oral therapy is appropriate:

- Fluconazole 150 mg orally, as a single dose.

To treat mild cellulitis or erysipelas:

- DV Flucloxacillin 500 mg orally 6 hourly for 5 to 10 days.

If *S.pyogenes* is isolated from cultures, or suspected based on clinical presentation or local epidemiology use

- Phenoxymethylpenicillin 500mg orally 6 hourly for 5 to 10 days, or
- Procaine penicillin 1.5g IM daily for at least 3 days.

Using skin barrier products and topical medication concurrently

No empirical evidence is available to guide the concurrent use of skin barrier products and topical medications for persons with IAD. It is possible that the use of ointment or cream based medications may affect the skin barrier function and the efficacy of the topical medication may be adversely affected by the skin barrier product.

Use clinical judgement to assess individual circumstances when considering use of these products alone or concurrently. Anecdotal and expert opinion suggests that topical medication should be applied immediately following incontinence cleansing and waiting 30 minutes before applying the barrier product to allow for absorption of the medication. Ongoing clinical assessment must evaluate the response to treatment. Referral to a continence advisor or wound consultant is recommended if inflammation therapy in barrier presence and topical medication is considered.

Glossary

Bulla	Circumscribed/defined lesion > 1 cm in diameter that contains liquid (clear, serous or haemorrhagic) - a large blister
Candidiasis	Infection caused by the yeast Candida (can cause vaginal yeast infections, diaper rash, intertrigo (skin rashes that occur in moist, warm folds of skin), and thrush (white patches inside the mouth and throat).
Denudation	Loss of epidermis caused by exposure to urine, faeces, body fluids, wound exudate or friction.
Erosion	Loss of either a portion of or the entire epidermis.
Excoriation	A loss of the epidermis and a portion of the dermis due to scratching or an exogenous injury.
Maceration	An appearance of surface softening due to constant wetting – frequently white.
Papule	An elevated, solid, palpable lesion that is ≤ 1 cm in diameter.
Pustule	A circumscribed lesion that contains pus.
Scale	A visible accumulation of keratin, forming a flat plate or flake.
Swelling	Enlargement due to accumulation of oedema or fluid, including blood.
Vesicle	Circumscribed/defined lesion ≤ 1 cm in diameter that contains liquid (clear, serous or haemorrhagic) - a small blister.

For further information or to provide feedback:

- Regional Wounds Victoria: Website: http://infectioncontrol.grampianshealth.org.au/index.php/health-resources/regional-wounds-victoria
- VICNISS Coordinating Centre: Website: https://www.vicniss.org.au/ Phone: 8342 9333

References

1. Beeckman D, Van den Bussche K, Alves P, *et al*. Towards an international language for incontinence-associated dermatitis (IAD): design and evaluation of psychometric properties of the Ghent Global IAD Categorization Tool (GLOBIAD) in 30 countries. Br J Dermatol. 2018;178:1331-1340
2. Beeckman D, Van Damme N, Schoonhoven L, *et al*. Interventions for preventing and treating incontinence-associated dermatitis in adults (Review). Cochrane Database of Systematic Reviews 2016 Issue 11. Art. No.: CD011627.
3. National Pressure Ulcer Advisory Panel (NPUAP), European Pressure Ulcer Advisory Panel (EPUAP) and Pan Pacific Pressure Injury Alliance (PPPIA). Prevention and Treatment of Pressure Ulcers: Clinical Practice Guideline 2014.
4. Dermatology Expert Groups. Therapeutic guidelines: Dermatology Version 4 2014 Therapeutic Guidelines Ltd: Melbourne.
5. Australian Medicines Handbook. 2018 Australian Medicines Handbook Pty Ltd: Adelaide.
6. AMH Aged Care Companion. 2018 Australian Medicines Handbook Pty Ltd: Adelaide.

Version 1 To be revised September 2019

Pilot and evaluation of IAD guideline (to be piloted in two aged care homes in Barwon Health)

- **To assess whether for incontinent residents the dissemination of the IAD clinical guideline impacts on their:**
  - ⇒ **Documentation of skin inspections**
  - ⇒ **Medication therapy (antimicrobials and steroids)**
- **To enable key stakeholders to provide feedback regarding the dissemination and implementation of the IAD guideline.**

Post pilot, the guideline will be refined as necessary and rolled out across the State. It is expected that this guideline will be a prompt for the nurse to assess and manage skin integrity associated with incontinence. It will also enhance communication with GPs to improve AMS in aged care.