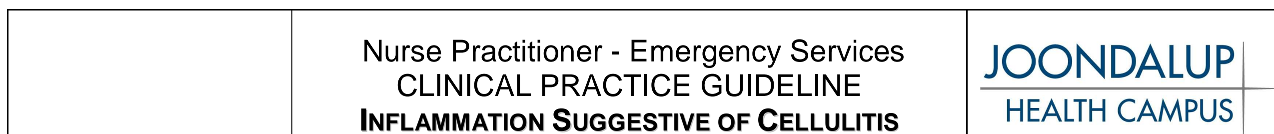


# Nurse Practitioner - Emergency Services
# CLINICAL PRACTICE GUIDELINE
## INFLAMMATION SUGGESTIVE OF CELLULITIS

| Scope | | Outcomes |
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| **Nurse Practitioner** | Isolated area of skin with erythema, swelling, pain or hardening and local warmth. | Identify patients suitable for NP (Emergency) CPG |
| **Medical Practitioner +/- Nurse Practitioner** | • Children < 10 years<br>• Underlying medical pathology / complex patient<br>• Immunocompromised/ hx of Neutropenia<br>• Neurovascular Compromise<br>• Multiple injuries<br>• Altered conscious state including effects of drugs/ ETOH<br>• History consistent with collapse<br>• Facial/ Peri-orbital or Orbital/ Fingers or Hand cellulitis | Identify patients not suitable for NP (Emergency) CPG and redirect to usual ED care +/- NP in team. |
| **Assessment & intervention** | | |
| **Primary Survey** | • Airway<br>• Breathing<br>• Circulation<br>• Disability<br>• Environment | Abnormal primary survey identified → exit CPG and refer to EP. |
| **History** | • If injury, mechanisms and time of injury sustained<br>• Any treatment pre hospital<br>• Duration of infection, preceding events, associated symptoms<br>• Risk factors<br>• Allergies / Immunisation status<br>• Relevant past medical history / medication use<br>• Social/occupational circumstances | Identify patients not suitable for NP (Emergency) CPG → exit CPG and refer to EP. |
| **Focused clinical assessment** | • Assess size and location of infection[1, 2]<br>• presence of open wound (blisters, bites, other lesions) or discharge<br>• joint involvement<br>• Assess lymph channels<br>• Assess for possible abscess | Determine spread/ distribution of problem. |
| **Neurovascular Assessment** | • colour<br>• warmth<br>• movement<br>• sensation<br>• capillary refill<br>• peripheral pulses | Identify patients not suitable for ED NP CPG → exit CPG |
| **Pain Assessment** | Pain scale | Determine need for and type of analgesia |
| **Analgesia / First Aid Management** | First Aid[1]<br>• Rest<br>• Immobilisation<br>• Elevation<br>• Clean with NaCl<br>• Dressing<br>Administration of analgesia (see medications) | Reduction / relief of pain. Minimise or prevention of complications |
| **Working diagnosis and Investigations** | | **Outcomes** |

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| **Imaging** | Imaging may not be required if[1]<br>• No history of injury<br>• No bony tenderness<br>Consider x-ray if foreign body or joint involvement or osteomyelitis is suspected<br><br>Consider ultrasound if[1]<br>• Possible foreign body insitu<br>• Subcutaneous collection | Detect foreign body or determine joint involvement |
| **Pathology** [3] | • Consider FBC ± U&E if systemic symptoms, prolonged inflammation despite medical intervention, or relevant co-morbidities.<br>• Blood Culture if Temp >38[5] or toxic clinical picture<br>• Swab MC&S if history of no improvement despite antibiotic therapy.<br>• Pre operative investigations may include FBP, U&E, Group and Hold and INR as discussed with admitting medical officer.<br>• Finger prick BSL to exclude Diabetes Mellitus | Detect underlying pathology.<br>Identify degree of systemic involvement |
| **Interpretation of results (diagnostic features) and management decisions** | | **Outcomes** |
| **Foreign body or underlying #** | NP (Emergency) review with referral to appropriate inpatient unit for assessment for admission.<br>• Management as per referred speciality<br>• Maintain patient fasted if applicable<br>• Medication prescribed as per formulary<br>• Patient education/health promotion | Patient referred to specialty unit for intervention |
| **Local reaction to insect bites and stings.**<br><br>Redness around bite/sting +/- ascending lymphangitis and absence of systemic symptoms ie. Fever, headache, vomiting, myalgia | NP (Emergency) review with view to discharge<br>• Elevate affected limb<br>• No need for antibiotics<br>• Review in 24 hours by GP<br>• Return if develop fever or vomiting<br>• Patient education/ health promotion | Ensure patient understands problem, treatment and follow up and is safe for discharge home. |
| **Mild / early** [1] **Localised infection**<br>- no systemic symptoms<br>- no extensive radiation of inflammation<br>- no induration | NP (Emergency) review with view to discharge<br>• Oral Antibiotic therapy prescribed as per formulary<br>• Analgesia – see formulary.<br>• Follow up appointment with GP for clinical reassessment 2 days<br>• Elevate and immobilise affected area [1, 2]<br>• Appropriate dressing<br>• Pt education /health promotion | Ensure patient understands problem, treatment and follow up and is safe for discharge home. |

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| **Moderate to severe Localised infection, not responding to Abs, or systemically unwell.** | NP (Emergency) review with referral to EP. May consider Hospital in The Home, Observation Ward or inpatient admission.<br>• IV antibiotic therapy as per EP and disposition decision. Medication prescribed as per formulary<br>• Elevate and immobilise affected area [1, 2]<br>• Pt education /health promotion<br>• Appropriate dressing<br>• Referral to HITH if appropriate [4]<br>  ○ Patient is medically stable, has received at least one dose of all new intravenous medications in the hospital setting and can be safely monitored in their own home.<br>  ○ Discharge home with appropriate medications and other requirements for HITH treatment | Admission documentation completed or HITH liaison (during hours)<br><br>Ensure patient understands problem, treatment and follow up and is safe for discharge home. |
| **Associated Care** | • Consider IV fluids if patient fasting for surgical intervention<br>• Consider ECG /CXR for patients who require surgical intervention. | |
| **Acute Referral** | Referral to<br>• Interpreter<br>• Allied health | |
| | **Patient Discharge Education** | **Outcomes** |
| **When to return instructions** | • If becomes febrile and unwell<br>• If significant extension of cellulitis<br>• Adverse reaction/ intolerance to oral antibiotics | Patient understands treatment and follow up and is discharged safely. |
| **Follow-up Appointments** | • Verbal instructions from NP (Emergency)<br>• Written instructions for GP Review (if applicable) | |
| **Medication Instructions** | • Verbal/written instructions from NP (Emergency) | |
| **Letters** | • Letter for GP | |
| **Certificates** | • Absence from work certificates<br>• WC certificate | |
| | **Medication** | |
| All medication will be stored, labelled and dispensed in accordance with hospital policy and relevant legislation[5] | | |
| **Simple analgesia** [6]<br>**S2**<br>Mild pain | **Paracetamol 500mg**: 1 or 2 tablets 4-6/24, not to exceed 8 tablets in 24 hrs.<br>**Children:** 15 mg/kg 4 hourly up to 4 times a day. Not to exceed 4 doses in 24 hours<br><br>**Painstop Day:** 0.6 - 0.8 mls/kg [6] | Patients given analgesia appropriate to allergies, current medications and past medical history.<br><br>Analgesia requirements determined by ongoing |

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| **NSAIDS** [6]<br>**S4**<br>Moderate | **ADD to paracetamol if still in pain**<br>**Naproxen** 500 mg initially then 250 mg 6 – 8 hourly<br><br>OR<br><br>Instead of Paracetamol, **Panadeine Forte:** 1 -2 tablets 4–6/24, not to exceed 8 tablets in 24 hrs.<br><br>**Children;**<br>**Ibuprofen:** 10 mg/kg 3-4 times daily<br><br>**If NSAIDS contraindicated,**<br>**Tramadol**<br>**Adults and Children > 12 years**<br>**Contraindicated in epilepsy, SSRI use**<br>**Caution in the Elderly – Maximum 300 mg daily**<br>Oral: 50-100mg QID, maximum 400mg over 24 hours<br>OR<br>Intravenous: 50-100mg QID, maximum 600mg over 24 hours | assessment of pain and adequate analgesia Provided.<br><br>Patients with excessive pain or pain unrelieved by analgesia need review by EP |
| **Narcotic Analgesia** [6]<br>**S8**<br>Severe<br>Reassess | **ADD to paracetamol + NSAID if still in pain**<br><br>Currently NPs require Medical Prescription for Schedule 8 medication<br><br>**Oxycodone: Adults only;** Oral: 5mg every 4 hours<br>OR<br>**Morphine**<br>**Adults;** Intramuscular/intravenous: 2.5mg then incremental doses to a maximum total dose of 10mg (given over period of 30 minutes)<br>**Children;** IM **–** 0.2 mg/kg IV: 0.1- 0.2 mg/kg/dose given in titrated doses:<br>**IF PAIN NOT CONTROLLED WITH ALL 3 AGENTS, REFER TO ED CONSULTANT** | |
| **Antiemetics** [6]<br>**PRN S4** | **Metaclopramide hydrochloride:** Oral/IM/IV:10-20mg 8/24<br>**Prochlorperazine:** Oral 5-10mg 8-12/24, initial 10mg po if acute IM deep 12.5 mg 8/24.<br>Not in children | |
| **IV Fluids**<br>**S4** | **0.9% Sodium Chloride Intravenous fluid:** 5-10ml flush of Intravenous cannulae 6/24 or Infusion at 8-12hrly titrated to patients requirements. For children discuss with EP | |

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| **Antibiotics[7]**<br><br>**NB: Human or Animal bites – require different Antibiotics.** | Refer to Bites and Stings CPG<br><br>**Mild / Early cellulitis**<br><br>**Di/Flucloxacillin:** 500mg ( child: 12.5 mg/kg up to 500mg) orally, 6/24 for 7 - 10 days.<br><br>Penicillin hypersensitivity:<br>**Cephalexin:** 500 mg (child: 12.5 mg/kg up to 500 mg) orally, 6/24 for 7 - 10 days<br><br>Immediate penicillin hypersensitivity:<br>**Clindamycin:** 450 mg ( child: 10 mg/kg up to 450 mg) orally, 8/24 for 7 – 10 days<br><br>**Severe Infection**<br><br>**Di/Flucloxacillin:** 2 gm (child: 50 mg/kg up to 2 gm) IV, 6/24<br>Penicillin hypersensitivity:<br>**Cephalothin:** 2 gm (child: 50 mg/kg up to 2 gm) IV, 6/24<br>Or<br>**Cephazolin:** 2 gm (child: 50 mg/kg up to 2 gm) IV, BD.<br><br>Immediate penicillin hypersensitivity:<br>**Clindamycin:** 450 mg (child: 10 mg/kg up to 450 mg) IV, 8/24<br><br>When IV home based therapy, use<br>**Cephazolin:** 2 gm IV, BD.<br>Children not usually referred to home based service.<br><br>**Water Related Infections**<br>Rx of most of these infections is difficult. Advise should be sought from a clinical microbiologist or an infections diseases physician.<br><br>May require, after discussion with above;<br>**Ciprofloxacin:** 200 **-** 400mg (child: 10 mg/kg up to 400 mg) IV, 12 hourly ( Caution in renal failure)<br>**OR**<br>**Ciprofloxacin** 500 – 750 mg (child: 10 mg/kg up to 500 mg) orally, 12 hourly. (Caution in renal failure)<br><br>**Doxycycline:** 200 mg (child > 8 yrs: 5 mg/kg up to 200 mg) orally for First dose followed by Doxycycline 100 mg (child> 8 yrs: 2.5 mg/kg up to 100 mg) orally, 12 hourly. | |
| **Clinical audit evaluation strategies** | | |
| Unexpected representation | Emergency Department attendance register and ED NP clinical log | |

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| Key to terms | Appendices |
|---|---|
| **CPG**- Clinical Practice Guideline<br>**DVA**- Department of Veteran Affairs<br>**EP**- Emergency Physician<br>**HITH** – Hospital in the Home<br>**PS**- Pain Score<br>**S1-S4**- Schedule of the drug administration act<br>**LMO**- Local Medical Officer<br>**MVIT –** Motor Vehicle Insurance Trust<br>**NP (Emergency)**- Nurse Practitioner – Emergency Services<br>**OP**- Outpatients<br>**WC**- Work cover | Pain scale |
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