

	Nurse Practitioner – Emergency Services CLINICAL PRACTICE GUIDELINE <b>INJURY - FACE</b>	<b>JOONDALUP</b> HEALTH CAMPUS
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Scope		Outcomes
<b>Nurse Practitioner</b>	<ul style="list-style-type: none"> <li>Minor facial injuries that do not threaten the airway or risk life-threatening haemorrhage</li> </ul>	Identify patients suitable for NP (Emergency) CPG
<b>Medical Practitioner +/- Nurse Practitioner</b>	<ul style="list-style-type: none"> <li>Underlying medical pathology / complex patient</li> <li>Multiple injuries</li> <li>Altered conscious state including effects of drugs/ ETOH</li> <li>History consistent with collapse/fitting/ syncope</li> <li>GCS &lt;15</li> <li>Anticoagulant therapy</li> <li>Wound requiring specialist suture technique</li> <li>Haemorrhage uncontrolled</li> <li>Le Fort fractures due to potential for airway compromise</li> </ul>	Identify patients not suitable for NP (Emergency) CPG and redirect to usual ED care +/- NP (Emergency) in team.
Initial Assessment & Interventions		Outcomes
<b>Primary Survey</b>	<ul style="list-style-type: none"> <li>Airway</li> <li>Breathing</li> <li>Circulation</li> <li>Disability</li> <li>Environment</li> </ul>	Abnormal primary survey identified → exit CPG and refer to EP.
<b>History</b>	<ul style="list-style-type: none"> <li>Mechanisms of injuries sustained,</li> <li>Time of injury</li> <li>Treatment - given pre hospital</li> <li>Any LOC – duration</li> <li>Condition since injury – nausea, vomiting, amnesic</li> <li>Deformity</li> <li>Past medical history / medications</li> <li>Allergies / immunisations</li> <li>Last food / fluids</li> </ul>	Identify patients not suitable for NP (Emergency) CPG → exit CPG
<b>Focused clinical assessment</b>	<ul style="list-style-type: none"> <li>Haemodynamic observations</li> <li>GCS</li> <li><b>Cervical spine examination</b> – Canadian C-Spine Rules see Appendix</li> <li><b>Neurological examination</b> – include motor/sensory function of facial/ trigeminal nerve.</li> <li><b>Evaluation of all facial areas</b> by inspection, palpation and assessment of function - Loss of normal symmetry, changes in contour and localised areas of swelling, bony margin irregularities, abnormal motion or crepitus</li> <li><b>Examination of ears</b> to exclude haemotympanum or CSF otorrhoea.</li> <li><b>Examination of eyes</b> – enophthalmos or exophthalmus, globe injury, assess papillary responses, visual acuity, visual fields, extraocular movements checking for diplopia.</li> <li><b>Nasal examination</b> – septal deviation, haematoma, or CSF rhinorrhoea</li> <li><b>Oral examination</b> - loose, broken or missing teeth, malocclusion of dentition, soft tissue lacerations and contusions,</li> <li><b>Examination of mandible</b> – including temporomandibular joint in open and closed position, malocclusion, pain on biting tongue depressor, loss of bite strength, limitation of jaw movements</li> </ul>	Identify patients for alternative CPG or exit CPG with referral to EP or SMO.

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<b>Pain Assessment</b>	<ul style="list-style-type: none"> <li>• Pain scale</li> </ul>	Determine need for and type of analgesia
<b>Analgesia / First Aid Management</b>	<ul style="list-style-type: none"> <li>• First aid               <ul style="list-style-type: none"> <li>- rest</li> <li>- ice</li> </ul> </li> </ul> Administration of analgesia (see medications)	Reduction / relief of pain. Minimise or prevention of complications
	<b>Working Diagnosis and Investigations</b>	<b>Outcomes</b>
<b>Imaging</b>	Facial x-ray may be required. OPG and AP view necessary for suspected mandible fractures. CT may be required after consultation with EP	
<b>Pathology</b>	Not routinely indicated but consider Pre operative investigations may include FBP, U&E, Group and Hold and INR as discussed with admitting medical officer.	

Specific Injuries		
<b>Soft tissue injuries</b>	<p>NP Review in view of discharge or referral to specialty</p> <ul style="list-style-type: none"> <li>• Consider if wound should be repaired in ED</li> <li>• Soft tissue injuries that usually require repair in theatre include;           <ul style="list-style-type: none"> <li>➤ ocular or significant eyelid injury,</li> <li>➤ parotid gland or duct injury,</li> <li>➤ facial nerve injury (<b>injuries to the cheek between the tragus of the ear and a line drawn vertically through the pupil may be associated with damage to facial nerve, paratid gland or duct.</b>)</li> <li>➤ nasolacrimal apparatus injury</li> <li>➤ lacerations with significant tissue loss or contamination</li> <li>➤ wounds requiring exact anatomical closure</li> </ul> </li> <li>• <b>Possible reasons for delay in closure:</b> presence of foreign bodies, severely contaminated wounds, underlying fracture. These wounds should be irrigated, haemostasis achieved and wound covered in normal saline soaked gauze.</li> <li>• <b>Consult with EP or SMO before suturing lacerations to lips involving vermilion border, perioral area, tongue and oral cavity, nose, ear, periorbital structures and eye brows.</b></li> <li>• <b>Paediatrics:</b> Consider need for sedation to achieve satisfactory wound closure. Refer to EP/SMO.</li> <li>• Thorough cleansing of wounds essential. Abrasions containing dirt or other foreign matter must be scrubbed to prevent traumatic tattooing of the dermis.</li> <li>• Consider need for tetanus prophylaxis</li> <li>• Consider need for antibiotics in grossly contaminated wounds and bites, wounds that extend into the oral cavity, nose and paranasal sinuses, wounds with exposed nasal or ear cartilage, crush wounds and wounds with considerable oedema. See Open Wounds/ and Bites and Stings CPG. Likely referral to Plastics.</li> </ul>	<p>Ensure patient understands problem, treatment, follow up and is safe for discharge home or referral to specialty unit</p> <p>Patient referred to Plastics Registrar and Transfer or Discharge arranged.</p>

<p><b>Mandible Fractures</b></p>	<p>NP review with view to refer to maxillofacial specialty</p> <ul style="list-style-type: none"> <li>• OPG and AP film required for suspected fracture mandible</li> <li>• Remember the ring bone rule</li> <li>• Assess integrity of dental arch</li> <li>• Refer suspected mandibular dislocations to EP</li> <li>• Consultation with maxillofacial specialty</li> <li>• A fracture line entering the root of a tooth is considered an open fracture. Consider antibiotics if open fracture. See formulary</li> <li>• Consider need for tetanus prophylaxis</li> <li>• Analgesia – see formulary</li> <li>• Health education /health promotion</li> </ul>	<p>Patient transferred to admitting hospital or discharged with follow up arrangements as discussed with maxillofacial specialty.</p>
<p><b>Zygomatic Arch or complex fractures</b> - may present with contour abnormalities, depression over the arch, point tenderness, flatness of lateral cheek area, inability to open mouth</p>	<p>NP review with view to refer to maxillofacial specialty</p> <ul style="list-style-type: none"> <li>• Eye examination</li> <li>• Assess for extraocular muscle entrapped in zygomaticomaxillary component of the fracture</li> <li>• Refer to maxillofacial specialty for management decisions</li> <li>• Analgesia – see formulary</li> <li>• Health education /health promotion</li> </ul>	<p>Patient transferred to admitting hospital or discharged with follow up arrangements as discussed with maxillofacial specialty.</p>
<p><b>Orbital fractures</b></p>	<p>NP review with view to refer to maxillofacial specialty</p> <ul style="list-style-type: none"> <li>• May occur as part of zygomaticomaxillary fracture</li> <li>• Assess for enophthalmos, a difference in papillary levels, diplopia, impairment of upward gaze, infraorbital hypo/hyper or paraesthesia.</li> <li>• Supraorbital rim fracture may be part of a frontal sinus fracture</li> <li>• Lateral orbit wall fracture may be associated with a fracture of zygoma</li> <li>• Medial orbital wall fracture may occur with a nasoethmoidal fracture.</li> <li>• Document integrity and function of eye.</li> <li>• Refer to maxillofacial specialty for management decisions</li> <li>• Analgesia – see formulary</li> <li>• Health education /health promotion</li> </ul>	<p>Patient transferred to admitting hospital or discharged with follow up arrangements as discussed with maxillofacial specialty.</p>

<b>Nasal Fractures</b>	NP review with view to discharge and referral to ENT Specialty <ul style="list-style-type: none"> <li>• Check for haemostasis of epistaxis and get assistance from EP if simple first aid measures unsuccessful.</li> <li>• Palpate nasal structures to elicit any crepitus, indentation or irregularity of nasal bone.</li> <li>• X-rays usually unnecessary</li> <li>• Assess patency of both nares.</li> <li>• Check for CSF rhinorrhoea – refer to EP</li> <li>• Examine septum for septal haematomas –( refer to EP), mucosal lacerations or septal deformity</li> <li>• Referral to ENT speciality with in 3 – 5 days.</li> <li>• Health education /health promotion</li> <li>• Ongoing analgesia</li> </ul>	Discharged with Referral letter for ENT speciality and details for follow up arranged.
<b>Suspected nasal #</b>	<ul style="list-style-type: none"> <li>• Examination as above.</li> <li>• GP review on Day 3 for clinical reassessment and referral to ENT if necessary</li> </ul>	
<b>Associated Care</b>	<ul style="list-style-type: none"> <li>• Consider ECG for patients &gt; 65 yrs who require surgical intervention</li> <li>• Consider IV fluids for patients who require fasting for surgical intervention</li> </ul>	
<b>Acute Referral</b>	<ul style="list-style-type: none"> <li>• Referral to;             <ul style="list-style-type: none"> <li>+/- interpreter</li> <li>+/- Allied health etc.</li> </ul> </li> </ul>	
<b>Patient Discharge Education</b>		<b>Outcomes</b>
<b>When to return</b>	<ul style="list-style-type: none"> <li>• Verbal instructions from NP (Emergency)</li> <li>• ED written patient information</li> </ul>	Ensure patient understands problem, treatment, follow up and is safe for discharge home
<b>Follow-up Appointments</b>	<ul style="list-style-type: none"> <li>• As arranged by specialty</li> </ul>	
<b>Medication Education</b>	<ul style="list-style-type: none"> <li>• Verbal instructions from NP (Emergency)</li> <li>• Contact ED Pharmacist to provide medication education for patient when available.</li> </ul>	
<b>Wound care</b>	<ul style="list-style-type: none"> <li>• Verbal instruction from NP (Emergency)</li> <li>• ED written patient information</li> </ul>	
<b>Certificates</b>	<ul style="list-style-type: none"> <li>• Absence from work certificates</li> <li>• WC certificate</li> </ul>	
<b>Medication</b>		<b>Outcomes</b>
All medication will be stored, labelled and dispensed in accordance with hospital policy and relevant legislation <sup>(6)</sup>		
<b>Simple analgesia<sup>(6)</sup> S2, S4</b>	<p><b>Paracetamol 500mg:</b> 1 or 2 tablets 4-6/24, not to exceed 8 tablets in 24 hrs.</p> <p><b>Children:</b> 15 mg/kg 4 hourly up to 4 times a day. Not to exceed 4 doses in 24 hours</p> <p><b>Painstop Day:</b> 0.6 mls/kg (over 1 yr old) Not to exceed 4 doses in 24 hours</p>	Patients given analgesia appropriate to allergies, current medications and past medical history Analgesia requirements determined by ongoing assessment of pain and adequate analgesia Provided

<b>NSAIDS <sup>[6]</sup></b> <b>S4</b> <b>Moderate</b>	<b>ADD to paracetamol if still in pain</b> <b>Naproxen: Adults;</b> 500 mg initially then 250 mg 6 – 8 hourly to maximum 1250 mg in 24 hours (with food)  OR  Instead of Paracetamol, <b>Panadeine Forte:</b> 1 -2 tablets 4–6/24, not to exceed 8 tablets in 24 hrs.  <b>Children;</b> <b>Ibuprofen:</b> 10 mg/kg 3-4 times daily (over 3 months)  <b>If NSAIDS contraindicated,</b> <b>Adults and Children &gt; 12 years</b> <b>Contraindicated in epilepsy, SSRI use</b> <b>Caution in the Elderly – Maximum 300 mg daily</b>  <b>Tramadol Oral:</b> 50-100mg QID, maximum 400mg over 24 hours OR <b>Tramadol Intravenous:</b> 50-100mg QID, maximum 600mg over 24 hours	Patients with excessive pain or pain unrelieved by analgesia need review by EP
<b>Narcotic Analgesia <sup>[6]</sup></b> <b>S8</b> <b>Severe</b>	<b>ADD to paracetamol + NSAID if still in pain</b>  Currently NPs require Medical Prescription for Schedule 8 medication  <b>Oxycodone: Adults only;</b> Oral: 5mg every 4 hours OR <b>Morphine</b> <b>Adults;</b> Intramuscular/intravenous: 2.5mg then incremental doses to a maximum total dose of 10mg (given over period of 30 minutes) <b>Children;</b> IM – 0.1 - 0.2 mg/kg IV: 0.05 mg/kg/dose given in titrated doses as guided by EP.  <b><i>IF PAIN NOT CONTROLLED WITH ALL 3 AGENTS, REFER TO ED CONSULTANT</i></b>	
<b>Anti-emetic <sup>[6]</sup> PRN</b> <b>S4 Adults only</b> (Contraindicated in Parkinson's Disease)	<b>Metoclopramide hydrochloride:</b> Oral/IM/IV:10mg 8/24 Max 30 mg in 24 hours <b>Prochlorperazine:</b> Oral 5-10mg 8-12/24, po if acute IM deep 12.5 mg 8/24 <b>Children:</b> Discuss anti-emetic choice with EP	

**INJURY - FACE**

<p><b>Antibiotics</b> <sup>[2]</sup></p>	<p><b>Low Risk:</b> Not routinely used for clean wounds not involving tendons or joints that can be adequately debrided and irrigated and are seen within 8 hours</p> <p><b>High Risk:</b> Dirty wounds, wounds with delayed presentation (<math>\geq 8</math> hours), puncture wounds unable to be debrided adequately.</p> <p><b>Amoxicillin+clavulanate:</b> 875+125mg (child: 22.5 + 3.2 mg/kg up to 875 + 125 mg ) orally 12hourly for 5 days And <b>Procaine Penicillin 1.5g (child: 50 mg/kg up to 1.5 g) I.M.</b> if commencement delayed</p> <p><b>If infection evident</b> <b>Metronidazole:</b> 400mg (child: 10 mg/kg up to 600 mg/ 24 hours. Complex see full PI.) orally, 12 hourly 5-10days. PLUS <b>Cefotaxime:</b> 1g (child: 25 mg/kg up to 1 g) IV, 8 hourly 5-10 days Or <b>Ceftriaxone:</b> 1g (child: 25 mg/kg up to 1 g) IV, daily 5-10 days</p> <p><b>For patients with penicillin hypersensitivity</b> <b>Metronidazole:</b> 400mg (child: 10 mg/kg up to 600 mg/ 24 hours with food. Complex – see full PI) orally, 12 hourly 5-10 days PLUS <b>Doxycycline:</b> 200mg (child: &gt; 8 years: 5 mg/kg up to 200 mg) orally, for the first dose, then 100 mg (child: &gt; 8 years: 2.5 mg/kg up to 100 mg) orally, daily 5-10 days with food OR <b>Trimethprim+sulfamethoxazole:</b> 160+800mg (child: 4 + 20 mg/kg up to 160 + 800 mg) orally, 12 hourly. 5-10days</p>	
<p><b>Vaccine S4</b></p>	<p><b>Tetanus Immunoglobulin</b> intramuscular Injection <b>Absorbed diphtheria and tetanus toxoids (ADT) 0.5ml</b> intramuscular Injection or <b>Tetanus Toxoid:</b> 0.5ml IM injection</p> <p><i>Refer to Australian Immunisation Handbook 8<sup>th</sup> Edition - section on Immunisation for tetanus prone wounds - for dosage regimen (dependent upon previous immunisation status and type of exposure) online @ <a href="http://www1.health.gov.au/immhandbook/">http://www1.health.gov.au/immhandbook/</a></i></p>	
<p><b>Local Anaesthetics S4</b></p>	<p><b>Lignocaine 1%:</b> Local infiltration <b>Max</b> 3mg/kg <b>Lignocaine with adrenaline</b> 1:200,000 <b>ALA</b> see PMH guidelines via JEDO on Emergency Department desktop</p>	
<p><b>Intravenous fluids</b></p>	<p><b>Adults: 0.9% Sodium Chloride Intravenous fluid:</b> 5-10ml flush of Intravenous cannula 6/24 or Infusion at 2 - 12hrly titrated to patient's requirements. May need to monitor U&amp;E's</p> <p><b>Children:</b> Discuss with EP</p>	

<b>References</b>
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<b>Author &amp; Endorsement</b>
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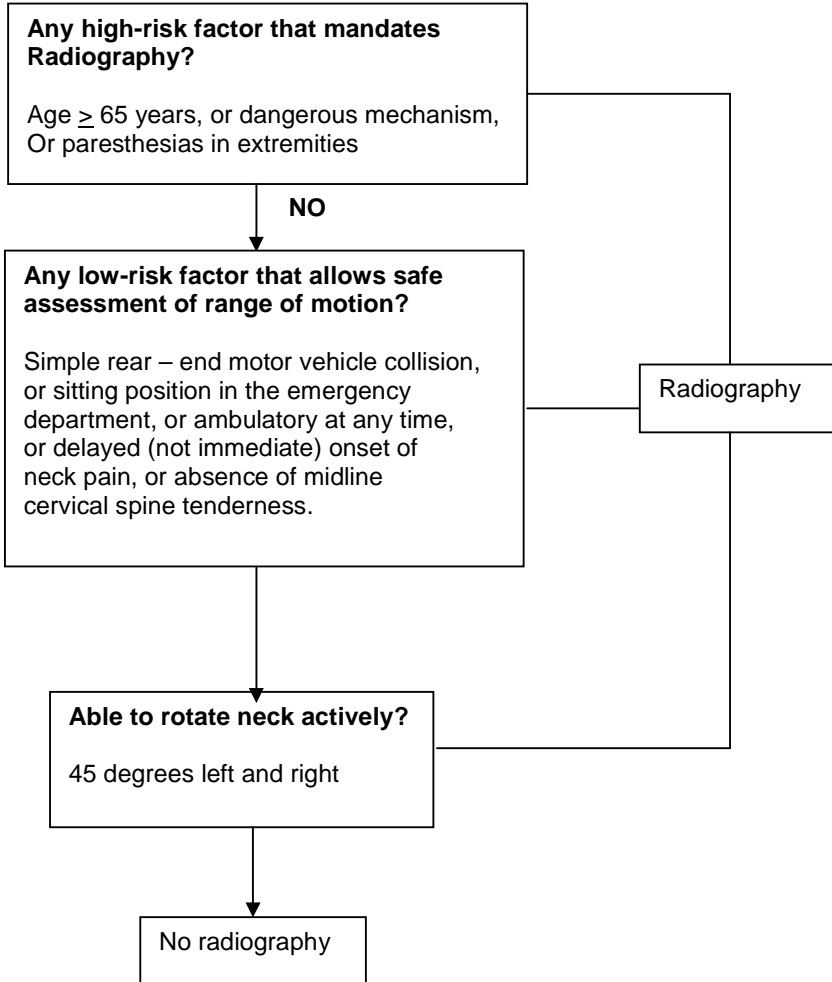
<b>Key to terms</b>
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**CPG**- Clinical Practice Guideline  
**DVA**- Department of Veteran Affairs  
**EP**- Emergency Physician  
**PS**- Pain Score  
**S1-S4**- Schedule of the drug administration act  
**GP** – General Practitioner  
**MVIT** – Motor Vehicle Insurance Trust  
**NP (Emergency)**- Nurse Practitioner – Emergency Services  
**OP**- Outpatients  
**WC**- **Workers Compensation**

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### Canadian C – Spine Rule



**NOTE:** For patients with trauma who are alert (as indicated by a GCS score of 15) and in stable condition and in who cervical spine injury is a concern, the determination of risk factors guides the use of cervical spine radiography.

**A dangerous mechanism** is considered to be  
a fall from an elevation of  $\geq 3$  feet or 5 stairs;  
an axial load to the head (e.g., diving);  
a motor vehicle collision at high speed ( $>100$  km per hour) or with rollover or ejection;  
a collision involving a motorised recreational vehicle;  
a bicycle collision.  
A simple rear-end motor vehicle collision excludes being pushed into oncoming traffic,  
being hit by a bus or a large truck,  
a rollover,  
and being hit by a high speed vehicle.