<table>
<tr><td> </td><td>ROCKINGHAM KWINANA DISTRICT HOSPITAL
Nurse Practitioner – Emergency Services
CLINICAL PRACTICE GUIDELINE
MINOR HEAD INJURY</td><td>No. 4</td></tr>
</table>

<table>
<tr><th colspan="2">Scope</th><th>Outcomes</th></tr>
<tr><td>Nurse Practitioner</td><td>Minor head injury
• LOC < 2 Minutes
• GCS 15</td><td>Identify patients suitable for NP CPG</td></tr>
<tr><td>Medical Practitioner +/- Nurse Practitioner</td><td>• Underlying medical pathology / complex patient
• Neurological deficit
• Multiple injuries
• Altered conscious state including effects of drugs/ alcohol
• History consistent with collapse/fitting
• GCS ≤14
• Clinical evidence of base of skull #
• Seizure (post injury or history of epilepsy)
• On anticoagulants:
– clopidogrel
– warfarin
• Bleeding diathesis eg. haemophilia, von Willebrands disease, severe liver disease
• Compensable status - MVIT/ WCA (all assessment and documentation must be completed by the attending medical officer)</td><td>Identify patients not suitable for NP CPG and redirect to usual ED care +/- NP in team.</td></tr>
<tr><th colspan="3">Assessment & intervention</th></tr>
<tr><td>History</td><td>• MIST: Mechanism; Injuries sustained; Signs – vitals; Treatment given / pre hospital management / time
• Amnesia – pre / post injury
• Vomiting
• Risk factors
• Allergies / Immunisation status
• Relevant past medical history / medication use
• Last food/fluids</td><td>Identify patients not suitable for NP CPG → exit CPG</td></tr>
<tr><td>Focused clinical assessment</td><td>• Loss or alteration in conscious state – duration
• Seizure activity– duration, description
• Condition since injury – nausea, vomiting, amnesic
• Pupil size, equality and reactivity and look for other focal signs
• Perform secondary survey including cervical spine for central bony tenderness
• Head, neck and scalp examination
• Ear / nose
• Document GCS [1]
• Cranial nerve assessment
• Ocular movements
• Motor function - Tone / power / plantar reflexes
• Gait / tandem gait
• Past-pointing
• Romberg's sign
• Canadian CT Head Rules [2, 3] – See Appendix
- D/W ED Consultant / SMO if criteria met
• Open wound see Open Wound CPG</td><td>Determine spread/ distribution of problem identify patients for alternative CPG or exit CPG

Abnormality / need for CT identified - refer to ED Consultant/ SMO.
→ exit CPG</td></tr>
<tr><td>Pain Assessment</td><td>• Pain scale</td><td>Determine need for and type of analgesia</td></tr>
</table>

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Analgesia / First Aid Management	• First Aid - Rest • Administration of analgesia (see medications)	Reduction / relief of pain. Minimise or prevention of complications
	Investigations	
Imaging	• No XR imaging routinely required in minor head injury. NOTE: If Canadian CT Head Rules identify need for CT refer to ED Consultant / SMO.	
Pathology	Not routinely required in minimal to minor head injury	
	Interpretation of Results and management Decisions	
Minor head injury [1]	• NP review with view to discharge into care of responsible adult. • Pt education /health promotion • Medication prescribed as per formulary • Follow up appointment with LMO • Appropriate wound dressing if required NOTE: • As well as above, all information is to be provided and explained to a responsible adult • All patients with reported LOC are to be offered 4/24 observation (since time of injury) and document.	Ensure patient is safe for discharge home, and the patient (and responsible adult) understands problem, treatment and follow up care.
Associated Care	• Consider ECG	
	Patient Education / Discharge Information (Verbal & Written)	
When to return instructions	Instructions to report immediately if the following problems [1] • Persistent vomiting (more than twice) • Drowsiness – unable to be woken up completely • Confusion, disorientation, slurred speech • Increased headache (not relieved by standard dose paracetamol) • Localised weakness, altered sensation or coordination • Blurred or changes in vision • Seizures • Neck stiffness	Ensure patient safe to be discharged home, and patient (and responsible adult) understand treatment, follow up and when to return for review.
Follow-up Appointments	• Verbal / written instructions from NP • ED written patient information o WADH Head Injury Advice Sheet for Adults / Children • Written instructions for LMO via Communik8	Provide patient with all relevant information / documentation to ensure ongoing care / management.

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Medication Instructions	• Verbal / written instructions from NP • Written information as per Hospital Pharmacy on medications dispensed.	
Other Referrals	Consider referrals for specific patient problems as required: - Social Work - Physiotherapy - Drug and Alcohol Counsellor - Aboriginal Liaison Officer - ED Mental Health Liaison Nurse - Allied health - Interpreter - Discharge coordinator etc	
Certificates	• Absence from work certificates • Certificate of attendance	
Letters	• LMO letter via Communik8	
Medication		
All medication will be stored, labelled and dispensed in accordance with hospital policy and relevant legislation [4]		
Simple analgesia [5] **S2** **Mild**	On initial assessment of mild pain: ADULTS: **Paracetamol:** PO / PR: - 500 mg – 1 gram 4 - 6 hourly, not to exceed 4 grams in 24 hrs IV infusion: - 1 gram infused over 15 minutes. Not to exceed 4 doses in 24 hrs. Use for mild – mod pain or fever where PO/PR not tolerated, or patient fasting/ vomiting OR **Paracetamol** 500mg/**Codeine** 8mg per tablet **-** 1 or 2 tablets PO 4-6 hourly, not to exceed 8 tablets in 24 hrs CHILDREN: **Paracetamol:** PO / PR: **-** 15mg/kg PO 4 hourly up to 4 times /day. Not to exceed 4 doses in 24 hours IV infusion: - >6 months 15 mg/kg/dose infused over 15 minutes. Not to exceed 4 doses in 24 hrs. Use for mild – mod pain or fever where PO/PR not tolerated, or patient fasting/ vomiting. *Total daily maximum of paracetamol 90 mg/kg/24 hrs for the first 48 hours then 60 mg/kg/24 hrs. ***FAILURE TO CONTROL MILD AND/OR INITIAL ASSESSMENT OF MODERATE / SEVERE PAIN – Discuss further management with ED Consultant / SMO***	Patients given analgesia appropriate to allergies, current medications and past medical history Analgesia requirements determined by ongoing assessment of pain and adequate analgesia provided Excessive pain refer to ED Consultant / SMO

Clinical audit evaluation strategies		
Unexpected representation	Emergency Department attendance register and NP clinical log	
NP Clinical Practice	NP Clinical Practice / Medical Record Audit	

Key Terms

NP- Nurse Practitioner	**CPG**- Clinical Practice Guideline
SMO – Senior Medical Officer	**WC**- Work cover
PS- Pain Score	**MVIT**- Motor vehicle insurance trust
S1-S4- Schedule of the drug administration act	**WADH** – Western Australian Department of Health
LMO- Local Medical Officer	**GCS –** Glascow Coma Scale
OPA- Outpatients Appointment	# - Fracture
Commiunik8 – Electronic system for direct faxing of patient presentation information to LMO	**LOC** – Loss of Consciousness

References

1. Kennedy, M. and A. Annunziata, *Neurotrauma*, in *Textbook of Adult Emergency Medicine 2nd Edition.* 2004, Churchill Livingstone: Sydney. p. 47-51.
2. *Head Injury: Triage, assessment, investigation and early management of head injury in infants, children and adults.* [National Guidelines Clearinghouse] [cited 2006, Mar 13]; Available from: http://www.guidelines.gov.
3. Stiell, I., et al., *The Canadian CT Head Rule for patients with minor head injury.* The Lancet, 2001. **357**(9266): p. 1391- 1397.
4. Unknown, *Hospital Medication Storage and Administration Policy.*
5. eMIMS (April 2006). Accessed via Hospital Intranet
6. Shann, S (2005). Drug doses. Parkville: Royal Children's Hospital

Appendices

CANADIAN HEAD RULES [3]

CT Head Rule is only required for patients with minor head injuries with any one of the following:

High risk (for neurological intervention)

- GCS score < 15 at 2 hours after injury
- Suspected open or depressed skull fracture
- Any sign of basal skull fracture (haemotympanum, 'racoon' eyes, cerebrospinal fluid otorrhoea, Battle's sign)
- Vomiting > two episodes
- Age ≥ 65 years

Medium risk (for brain injury on CT)

- Amnesia before impact > 30 min
- Dangerous mechanism (Pedestrian struck by motor vehicle, occupant ejected from motor vehicle, fall from height > 1 metre or 5 stairs)