Brain Tumours

Triad	Other S&S
Headache	Nausea
Vomiting	Worse first thing in the morning
Convulsions	Valsalva movements make it worse
	new onset/change in HA
	Seizures
	Confusion
	Dysphagia
	Motor Weakness
	Personality Changes
	Memory Loss

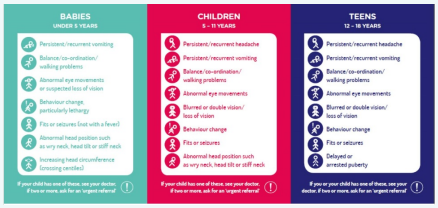
Triad in children

Dizziness

Headache

Vomiting

HEADSMART



Temporal Arteritis

S&S

Persistant unilateral throbbing over temporal region + scalp tenderness

Associated with PMR - look for bilateral inflammatory signs over shoulder/hip area

>50y

Severe burning - worse in morning & constant

Malaise, vague aches, pains, weight loss

ESR/CRP elevated

Mangement

Urgent referral (same day) to GP - risk of blindness

Mild Traumatic Brain Injury

Common in teens and young adults

Athletes more at risk - football, boxing, hockey, soccer, MMA, military personnel, victims of domestic abuse, motor accidents

Concussion

- One type of brain injury

- Subconcussive injury = traumatic impact to the head that does not result in immediate clinical symptoms

- Simple concussion = progressively resolves after 7-10 days without complications

- Complex concussion = persistent symptoms and Hx of loss of consciousness >1 minute, recurrence/exacerbation on exertion, prolonged impairment of cognitive function, seizure

Mechanical insult - complex cascade of biochemical dysfunction - mitrochondrial dysfunction - disrupts brain's neuronal homeostasis

Presentation

- Headache

- Confusion, light-headedness/dizziness, visual disturbances, tinnitus, lethargy, insomnia, photophobia, irritability, mood changes, cognitive difficulties

- Impaired memory & leaning, reduced planning, inability to switch mental tasks, attention deficits, slower information processing, slowed reaction times

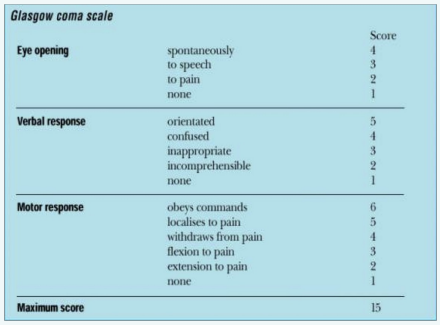
- Symptoms worse with physical exertion/stress

On field assessment of injured athlete = ruling out emergent situations
Palpation of head, neck, face , nose and TMJ for f#/injuries
Move fingers and toes - upper and lower sensation, strength and function

Red flags

- GCS <15
- Deteriorating mental status
- Potential spinal injury
- Progressive neurological signs/symptoms
- Persistent vomiting
- Suspected skull f#
- Seizures
- Coagulopathy
- Prior neurosurgery
- Multiple injuries

Glasgow Coma Scale (GCS)



Glasgow coma scale

		Score
Eye opening	spontaneously	4
	to speech	3
	to pain	2
	none	1
Verbal response	orientated	5
	confused	4
	inappropriate	3
	incomprehensible	2
	none	1
Motor response	obeys commands	6
	localises to pain	5
	withdraws from pain	4
	flexion to pain	3
	extension to pain	2
	none	1
Maximum score		15

- 15 point scale

Questions (Maddocks)

What ground/field/rink are we playing at?

What team are we playing today

What half/quarter/period is it?

How far into the game is it?

Which side scored last?

What team did we play last game?

Did we win last game?

- Sideline for evaluation if suspected concussion (motor, sensory, reflex tests, CN evaluation, coordination and balance assessment)
- Difficulty with these questions = out and not allowed to play
- SCAT3
- Ask about concussion S&S

What to do next

Once concussed patient is out of the game, an attendant should stay with them for 24 hours post concussion

Attendant should observe patient every 4 hours

Should be alert for: worsening ha, irritability, persistent nausea/vomiting, difficulting speaking, swallowing, tinnitus, SOB, light headiness, numbness, confusion, memory loss, clear CSF discharge from nose/ears, unequal pupils, fever, visual disturbances, seizures, LOC, easily aroused

Drink only clear fluids for 8-12 hours

No alcohol

Diet should begin light and progress to normal over 24 hours

Sedatives, sleeping pills, aspirin and ibuprofen should be avoided

Avoid physical and mental activity for first 24 hours - school, work, texting, video games, driving, operation of dangerous tools or heavy equipment

Should sleep with head elevated for 24 hours

Follow up assessment - did you hit your head? Lose conciousness? experience amnesia, loss of memory, disorientation/confusion? Dizziness or unsteadiness? Memory problems/forgetfulness? Concentration/attention problems?

Imaging

May be used to rule out Cx injury

Canadian CT head rule - witnessed loss of conciousness,amnesia/-disorietnation

MRI for: GCS <15 at 2 hours post injury
>2 episodes of vomiting
>65 or older
Suspected skull f# (haemotympanum, raccoon eyes, CSF otorrh-oea/rhinorrhoea, battles sign (bruising over mastoid)
Pre injury amnesia >30 mins
Dangerous mechanism of injury - struck by motor vehicle, MVA ejection, fall from >3 feet

Management

- Recovery period = 100 days

- Some patients have post concussion syndrome within 1-2 weeks up to 3 months

- Delayed recovery factors = >4 symptoms
HA >60 hours
Pre-injury HA
Self reported fatigue/foginess
prior mTBI
Hx of PTSD, ADHD, learning disability
advancing age
no and proximity of concussions
Duration of concussion (>10 days)
prolonged loss of consciousness (>1 minute)
amnesia
convulsions
co-morbidities
Medication

- Allowed to play when:
Complete clearing of symptoms at rest - no pain meds
No symptoms after provocative testing - cycling, running, cardio exercises
Full return of cognitive ability, memory and concentration

- Can do light aerobic activity after symptoms resolve if it does not excaberate symptoms then progressive more demanding activity should be considered (70%)

- Multiple concussed patients increased risk of Alzheimers, ALS , Suicide, Parkinsons and Dementia

- Assess Paraspinals - suboccipitals

- Patients who worsen/do not show improvement after 3-5 days should be referred to a specialist

- EPA/DHA/Magnesium

Thunderclap HA

S&S	Causes	Management
Sudden, abrupt Headache - Reaches peak @ 1 hour	SAH	REFER IMMEDIATELY TO HOSPITAL
"Worse Headache of their life"	Intracranial haematoma	DON'T LET THEM DRIVE
"Feels as though they are being hit on the back of the head"	Cerebral venous sinus thrombosis	
Very Different type of Headache	Cervical Artery dissection	

Thunderclap HA (cont)

Ischaemic Stroke

Meningitis

S&S

Severe Headache

Neck Stiffness

High Fever

Altered Mental State

Photo/Phonophobia

Management

Refer immediately to hospital - dial 999

CRP, FBC, blood cultures, lx puncture

Serious Signs of HA in Children

Present in the morning

Wakes Child at night

No PMHx

No Family Hx

Associated Poor health

Associated Neuro symptoms

Presents unilaterally