chism
the children's hospital at Westmead
Institute of Sports Medicine

The Sydney children's Hospitals Network
care, advocacy, research, education

Concussion Action Plan (CAP) - extended

For patients with a complex concussion requiring specialist treatment

FAMILY NAME	**MRN**
GIVEN NAME	☐ **MALE** ☐ **FEMALE**
D.O.B. _____ / _____ / _____	**M.O.**
ADDRESS	
LOCATION/WARD	

Doctor to complete

Your child has a concussion. Their symptoms include:

Physical
- ☐ Headache
- ☐ Nausea
- ☐ Fatigue
- ☐ Vomiting
- ☐ Dizziness
- ☐ Sensitivity to light
- ☐ Sensitivity to noise
- ☐ Numbness/tingling
- ☐ Visual problems
- ☐ Balance problems

Cognitive (thinking)
- ☐ Feeling mentally foggy
- ☐ Problems concentrating
- ☐ Problems remembering
- ☐ Feeling slowed down

Emotional
- ☐ Irritability
- ☐ Sadness
- ☐ Feeling more emotional than usual
- ☐ Nervousness

Sleep
- ☐ Drowsiness
- ☐ Sleeping more than usual
- ☐ Sleeping less than usual
- ☐ Trouble falling asleep

Over the next few days, symptoms may worsen or other symptoms may appear. Watch out for HEAD BUMPS (symptoms listed below). If they occur, seek urgent medical attention.

- **H** Headache, seizure, unconscious.
- **E** Eye problems (blurred/double vision).
- **A** Abnormal behaviour change.
- **D** Dizziness, persistent vomiting.
- **B** Balance dysfunction with weakness or numbness in legs/arms.
- **U** Unsteady on feet, slurred speech.
- **M** Memory impaired, confused, disoriented.
- **P** Poor concentration, drowsy, sleepy.
- **S** Something's not right (concerned about child).

Doctor's name: _____ Signature: _____ Date: _____

Direct parents to follow the CAP, overleaf. The CAP, Symptoms Log Sheet and other tools to support a child with concussion are available for download at kidshealth.org.au/concussion

Activity Prescription Guidelines:

The following activity prescription has been developed to help your child manage their concussion safely and effectively. Exercise levels are derived from your child's performance during graded exercise testing and deviating from these guidelines may put your child at risk of prolonged recovery. It is advised that if you have any questions or concerns you should consult your doctor or exercise physiologist.

Key:

RPE = rating of perceived exertion, your child's subjective rating of how intense the exercise is out of 10.
HRt = heart rate threshold, the heart rate at which your child experiences overwhelming symptom exacerbation during exercise testing.

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For parents

Have your child complete the following zone and stepwise program. Aim to keep activity within the **rating of perceived exertion (RPE)** or heart rate guide (if your child has a heart rate monitoring device). Seek urgent medical attention if your child's symptoms worsen or if other symptoms appear (see the HEAD BUMPS symptoms list overleaf).

Red zone

REST PERIOD: Days 1 and 2 following injury: (Date started: _____)

Rest your child from any physical or cognitive activity.

Supportive care

- Encourage good sleep patterns. Rest your child with no TV, phone or disruptions.
- Provide regular meals and a minimum of 2L of water per day.
- Use over the counter headache medication as needed.
- Complete the Symptoms Log Sheet, monitoring your child's symptoms and signs. Continue using the sheet until your child reaches 14 days without symptoms.
- Encourage your child to have a positive mental attitude towards their recovery.

Activity Dose

RPE
0 - 1 /10
Nothing at all - very, very light

Heart rate
< 120 bpm

After 2 days of acute rest, you may move on to the next zone.
Use the Symptoms Log Sheet to record any symptoms that your child develops. If your child develops symptoms during an activity, stop the activity and let your child rest. When the symptoms are gone, have your child try the activity again.

Orange zone

RELATIVE REST PERIOD: Until cleared to return to light activity (Date started:_____)

Recommendations:

- Start low level physical and cognitive activity. Your child can now move around more freely.

Activities may include:

☐ less than 20 minutes daily walking ☐ balance exercises e.g. single leg stands and heel-toe walking ☐ cognitive tasks e.g. reading

Supportive care

- Try to reduce and/or stop headache medication once your child is more physically/mentally active.
- Should sleep pattern remain a problem, then further assessment and possible treatment with Melatonin may be considered. This will require medical supervision and is best discussed with your local GP.

Activity Dose

RPE
2 - 4 /10
Very light - light-moderate

Heart rate
120 - 140 bpm

See your GP to check that your child may progress to the next zone. Your child must be symptom tolerant before moving on to Step 1.
Use the Symptoms Log Sheet to record any symptoms that your child develops. If your child develops symptoms during an activity, stop the activity and let your child rest. When the symptoms are gone, have your child try the activity again.

Yellow zone

GRADED RETURN TO ACTIVITY (Date started:_____)

Step 1 – Light cognitive and physical activity

- Progress toward 30 minutes of cognitive exertion.
- Your child can perform 20 minutes of aerobic activity at 80% of their **heart rate threshold (HRt)**, increasing by 10% each week.

Progress to the next step if your child is symptom free for 24 hours.

Step 2 – Moderate cognitive and physical activity

- Part time school with accommodations (rest breaks, minimal homework, no exams) until able to handle 60 minutes or more of cognitive exertion.
- Specific skills and moderate aerobic activity for 20-30 minutes.

Progress to the next step if your child is symptom free for 24 hours.

Step 3 – Extended activity

- Progress towards full time school with minimal accommodations.
- More intense aerobic and skill-based activity on a more regular basis.

Progress to the next step if your child is symptom free for 24 hours.

Activity Dose

RPE
5 - 7 /10
Moderate - hard

HRt:_____
Heart rate
80% HRt
+10% each week

Use the Symptoms Log Sheet to record any symptoms that your child develops. If your child develops symptoms during an activity, stop the activity and let your child rest. When the symptoms are gone, have your child try the activity again.

Green zone

RETURNING TO PRE-INJURY ACTIVITY (Date started: _____)

Once your child has been cleared to commence a return to activity protocol, they are ready to progress as follows:

Step 4 – Pre-injury activity (without contact)

- Full time school with minimal accommodations progressing when able to handle all classroom activities.
- Attend sport practice, however with no contact or collision activities.

Step 5 – Reconditioning (without contact)

- Full school.
- Progressively return to non-contact sports over the next few weeks (e.g. 10 minutes → half game→ full game).
- Prepare for return to play with extra aerobic and (if relevant) resistance training. Your child must have 14 days symptom free before returning to contact sport.

Your child must be symptom free for 14 days before moving on to Step 6. If clearance is needed for your child's school or sporting club, see your GP to obtain the sign off below.

Doctor's name: _____ Signature: _____ Date: _____

Step 6 – Full activity (with contact)

- Once your child has been symptom free for 14 days, return to all activities without restriction, including contact and collision sports.

Activity Dose

RPE
8 - 10 /10
Very hard - maximal

HRt:_____
Heart rate
80 - 100% HRt

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Symptoms Log Sheet

Use the checklist below to keep track of your child's signs and symptoms. Take this log sheet with you to your appointments.

Physical	**Day 1**	**Day 2**	**Day 3**	**Day 4**	**Day 5**	**Day 6**	**Day 7**	**Day 8**	**Day 9**	**Day 10**
Headache/s	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Nausea	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Vomiting	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Feeling tired	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Dizziness or balance problems	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Vision problems	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Bothered by light or noise	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Tingling feeling or numbness	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Thinking or remembering										
Difficulty thinking clearly	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Problems concentrating	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Problems remembering	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Feeling slowed down	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Feeling hazy, foggy or groggy	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Social or emotional										
Irritability	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Nervousness	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Sadness	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Feeling more emotional than usual	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Sleep										
Drowsiness	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Sleeping more than usual	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Sleeping less than usual	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Trouble falling asleep	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Signs observed by parent										
Dazed or confused	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Slower to answer or react	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Difficulty remembering	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Personality changes	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Sleep problems	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

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Symptoms Log Sheet

Use the checklist below to keep track of your child's signs and symptoms. Take this log sheet with you to your appointments.

Physical	**Day 11**	**Day 12**	**Day 13**	**Day 14**	**Day 15**	**Day 16**	**Day 17**	**Day 18**	**Day 19**	**Day 20**
Headache/s	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Nausea	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Vomiting	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Feeling tired	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Dizziness or balance problems	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Vision problems	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Bothered by light or noise	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Tingling feeling or numbness	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Thinking or remembering										
Difficulty thinking clearly	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Problems concentrating	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Problems remembering	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Feeling slowed down	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Feeling hazy, foggy or groggy	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Social or emotional										
Irritability	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Nervousness	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Sadness	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Feeling more emotional than usual	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Sleep										
Drowsiness	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Sleeping more than usual	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Sleeping less than usual	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Trouble falling asleep	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Signs observed by parent										
Dazed or confused	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Slower to answer or react	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Difficulty remembering	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Personality changes	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
Sleep problems	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

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