



## The role of the physiotherapist in the triage and management of concussion

| DAY 1   |   |  |
|---|---|--|
|   | Dusty   | Bronagh  |
| <b>Day 1 AM 1.5 hours</b><br>8.30am – 10.00am                         | <p align="center"><b>Shared Session –<br/>Introduction to concussion</b></p> <ul style="list-style-type: none"> <li>• Diagnosis and Pathophysiology of Concussion</li> <li>• Screening tools</li> <li>• Role of pre-existing conditions</li> <li>• Vision</li> <li>• students</li> <li>• older adults</li> <li>• gender differences</li> <li>• role of oculomotor and vestibular systems</li> <li>• cervical Spine</li> </ul> |  |
| <b>BREAK 15 minutes</b>   |   |  |
| <b>Day 1 AM 2 hours</b><br>10.15am – 11.15am<br><br>11.15am - 12.15pm | Subjective Assessment<br>Group A 1 hour<br><br>Subjective Assessment<br>Group B 1 hour  | Subjective Assessment<br>Group B 1 hour<br><br>Subjective Assessment<br>Group A 1 hour |
| <b>LUNCH 45 minutes</b>   |   |  |
| <b>Day 1 PM 45 minutes</b><br>1.00pm – 1.45pm                         | <p align="center"><b>Shared session</b></p> <ul style="list-style-type: none"> <li>• Effects of concussion on the cervical spine, brain and its systems</li> <li>• Symptom clusters Issues with the oculomotor and vestibular systems following concussion</li> </ul>   |  |
| <b>Day 1 PM 1 hour</b><br>1.45pm – 2.45pm                             | Objective Assessment<br>Group A   | Objective Assessment<br>Group B  |
| <b>BREAK 15 Minutes</b>   |   |  |
| <b>Day 1 PM 1 hour</b><br>3.00pm – 4.00pm                             | Objective Assessment<br>Group B   | Objective Assessment<br>Group A  |
| <b>Day 1 PM 30 minutes</b><br><br>Finish 4.30                         | <p align="center"><b>Shared Session</b><br/>Questions and Answers<br/>Case studies</p>  |  |

| <b>DAY 2</b>   |  |  |
|--|--|--|
| <b>Day 2 AM 1.5 hours<br/>8.30am – 10.00am</b>                                       | Objective Assessment /<br>Treatment<br>Group A   | Objective Assessment /<br>Treatment<br>Group B |
| <b>BREAK</b>   |  |  |
| <b>Day 2 AM 1.5 hours<br/>10.15am - 11.45am</b>                                      | Objective Assessment /<br>Treatment<br>Group B   | Objective Assessment /<br>Treatment<br>Group A |
| <b>Day 2 AM<br/>11.45am -12.15pm</b>   | <b>Shared Session 30 minutes</b> <ul style="list-style-type: none"> <li>Prioritising treatment</li> <li>Setting the challenge<br/>Return to work/study/sport</li> <li>Persistent Symptoms</li> </ul> |  |
| <b>LUNCH 45 minutes</b>  |  |  |
| <b>Day 2 PM 30 minutes<br/>1.00pm – 1.30pm</b>                                       | <b>Shared Session Continued</b><br>30 minutes  |  |
| <b>Day 2 PM 1 hour<br/>1.30pm – 2.30pm</b>   | Treatment Group A  | Treatment Group B                              |
| <b>2.30pm- 2.45pm</b>  | <b>Break</b>   |  |
| <b>Day 2 PM 1 hour<br/>3.00pm – 4.00pm</b>   | Treatment Group B  | Treatment Group A                              |
| <b>Shared Session 45 minutes</b><br><b>Patient Management</b><br><b>Case studies</b> |  |  |

### **Format.**

The group will be divided into two smaller groups. The small groups will interchange as shown above.

### **Shared Session Content**

**Shared session – lecture-style with power point**

#### **Introduction**

- Pathophysiology
- Role of oculomotor and vestibular systems
- Effects of Concussion on the Brain
- Symptom clusters
- Role of pre-existing conditions
- Students - older adults - gender

## **Cervical Spine & Physiological testing.**

1. A global patient assessment.
2. Pathology .... What we know now
3. Subjective assessment
4. Functional and range of motion tests
5. Torsion test - check new paper.
6. Flexion / rotation test
7. Palpation: c-spine and CT region including anterior palpation
8. Neural Tension tests
9. Joint Position Error Test
10. Functional testing
11. Aerobic Testing

## **Neurosensory examination.**

1. General observation – what to be aware of
2. Subjective assessment –
  - Self report; questionnaires; signs and symptoms;
  - Changes to sleep routine
  - Previous history: concussions; trauma
  - Pre-existing conditions: migraine; glasses; neurodiverse
3. Oculomotor assessment – why it is important; order of assessment; cranial nerves; central signs; startle response; signs of distress
4. Reading check for dysautonomia and symptom report
5. BPPV assessment
6. Vestibular assessment
7. Balance and sensory integration assessment
8. Dual task assessment through higher balance tests
9. Do not be afraid to stop the assessment due to cognitive or neurosensory decline/symptoms

## **Cervical Spine #2**

1. Moving from the objective assessment
2. Manual therapy for the cervical spine: technique / dosage
3. Exercises: isometrics / Neck Flexors / active motion
4. Progression of treatment.

## **Neurosensory Rehabilitation**

1. Making sense of the assessment
2. How to choose your starting point – what is the priority
3. If something is not a problem, don't limit it (rest versus activity, reading/screens)
4. Education; reassurance; handouts
5. Dysautonomia management – Sympathetic drive issues; light/noise sensitivity; ambient vision dysfunction; delayed autonomic response; calming strategies
6. Fatigue and sleep dysfunction
7. BPPV – treat immediately before you address anything else
8. Oculomotor rehab – there an order to your rehab – convergence/accommodation; saccades; tracking – paper then screen-based; visual discrimination; visual memory.

9. Vestibular rehab – central and sensory integration issue rather than a peripheral issue – VOR; removal of visual cues; independent eye and head movement; independent head and body movement. Depth perception
10. How to progress the rehab challenge
  - Age groups
  - Gender
  - Migraine
  - Dysautonomia
  - Taking perimenopause and menopause into consideration
11. How to reset the rehab if you get lost
12. Inclusion of everyday movements, tasks, skills

### Other Joint Sessions

- Discharge planning
- Case studies – over the teaching sessions we will discuss a variety of cases that Bronagh and I have managed. This will allow you to exam how the management evolves from the assessment. Throughout the weekend we will be discussing the patients we treat daily. .
- Prioritising treatment – this section is on clinical reasoning and allowing the clinician to choose the appropriate treatment.
- Return to work/study/sport – the current literature on return to activity is discussed.
- Persistent Symptoms – how do we manage long-term symptoms of concussion. What is the impact?
- Chronic Traumatic Encephalitis - what is the current thinking
- **Q and A – ask what you want. *This is your course.***