

Training & Education Conference

– 1st December 2021



Player Welfare Initiatives

World Rugby Medical Unit



ORCHID STUDY

Community Rugby Safety.
Women & Men



GRTP REVIEW

Addition of independent review,
for early return and high-risk
players



NEUROFLEX STUDY

Virtual reality eye tracking test –
Super Rugby



EYEGUIDE STUDY

Smooth Pursuit Test – Pro-14



RESEARCH CALL

Call for commissioned research –
submissions under review



Kumanu Tāngata– the aftermatch project

Standardised approach to research
creates a large prospective
database.



BRAIN HEALTH CLINIC

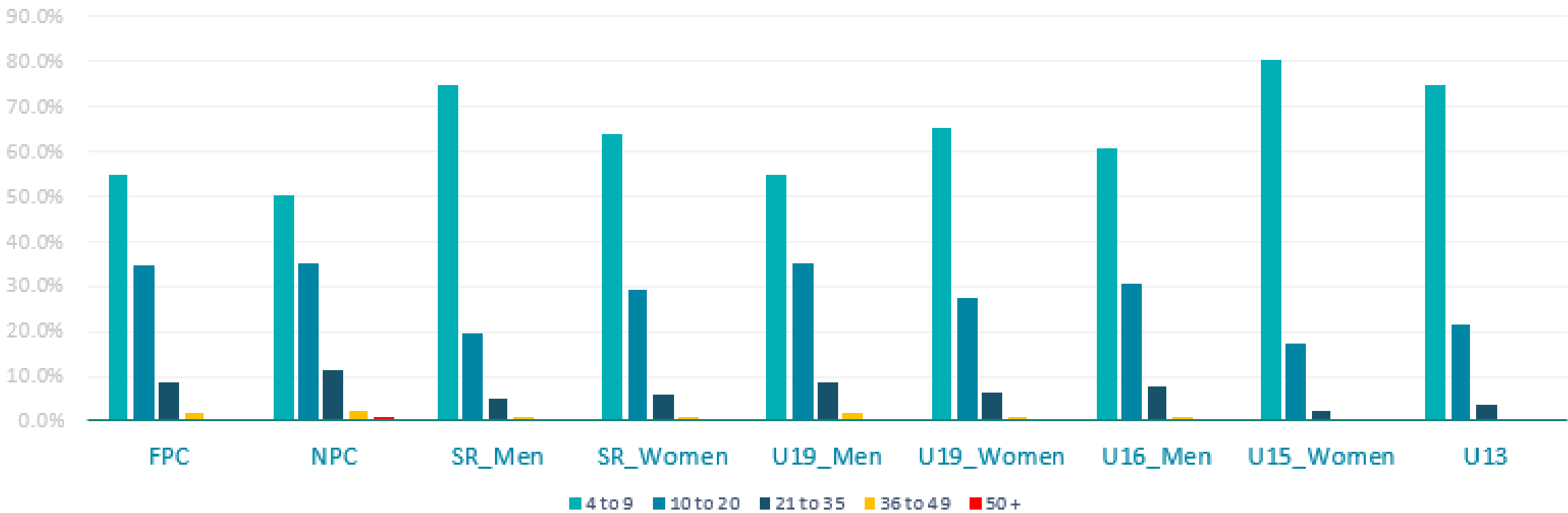
Retired players brain health
initiative- pilot clinic Murrayfield



Number of Impacts by Threshold Bands

TOTAL IMPACTS = 38,019 > 5g

Percentage of Impacts Within Threshold bands by Age



4 to 9 g

50 – 80% of total count
per age group.

10 to 20 g

17 – 35% of total count
per age group.

21 to 35 g

2 - 12% of total count
per age group.

36 to 49 g

0.2 – 3% of total count
per age group.

Over 50 g

0.1 – 0.7% of total
count per age group.

INDIVIDUALISE Return to Play USING ICC

- 40% of ICC referrals were solely for RTP within 10 days (single risk)
- 55% of ICC referrals included RTP within 10 days criteria (as a single and multiple risk)
- 45% of ICC referrals no 10-day link
- 11% of '10 day' ICC referrals (single and multiple) did not return to play within 10 days (Cross - 1% RTP)

RWC 2019

- Feedback (RWC) from users – 0 – 5 scale with 5 being excellent
 - Team Doctors – 4.65 / 5
 - Match Day Doctors – 4.5 / 5



Graduated Return to Play

Is the content and duration of the graduated return to play protocol after concussion demanding enough? A challenge for Berlin 2016

Simon Kemp,¹ Jon Patricios,^{2,3,4} Martin Raftery⁵

INTRODUCTION

Determining the appropriate starting point and duration of the return-to-play (RTP) process after injury is fundamental to clinical sports medicine. The most commonly cited RTP framework after concussion is outlined as part of all international concussion consensus statements. This framework is a key element of concussion management across all levels of sport and provides a 'cornerstone' of current education initiatives. In Rugby Union, RTP guidelines last underwent a major update by World Rugby, the International Federation, in 2011, and are consistent with international concussion consensus.

trend for concussed Australian rules footballers to have twice the rate of injuries of matched non-concussed players on RTP.⁴ These increased relative risks of subsequent injury are noteworthy, particularly when contextualised against the pre-concussion risk of injury in professional rugby and soccer (figure 1).

POSSIBLE MECHANISMS FOR THE INCREASED RISK OF MUSCULOSKELETAL INJURY AFTER CONCUSSION

The results from these studies raise a number of questions.

What is the underlying mechanism for

Finally, it may be that the length of RTP is too short. Typically, the time to RTP after concussion is shorter than for the majority of other injuries. The average time taken for professional rugby players to return after concussion in the Cross study³ is 11 days compared to an average of 21 days for musculoskeletal injury in the same cohort.⁵

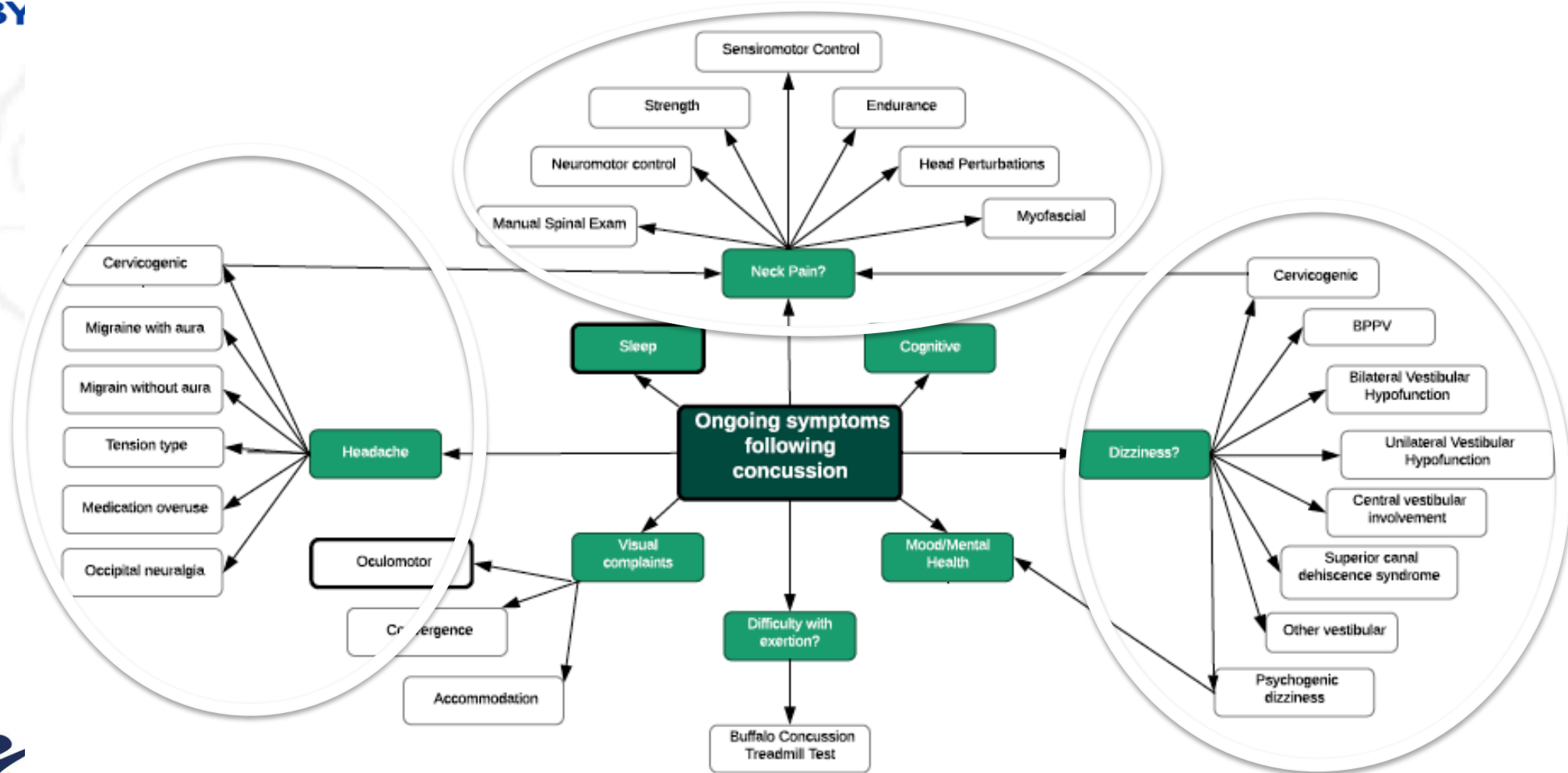
ARE THE CURRENT TOOLS USED TO ASSESS RECOVERY ADEQUATE?

In light of this increased risk of injury following RTP, are the recommended assessment tools in the SCAT3 and the common computerised neurocognitive testing systems sufficiently sensitive and repeatable to detect subtle symptom, balance and cognitive deficits?

- Currently, assessments of recovery during the GRTP performed on an athlete at rest may not be valid predictors of in-game injury risk, and the benefit of postexertional testing has been demonstrated.⁶
- Neuromuscular control deficits have been observed experimentally, under dual-task conditions, for example,

Areas of consideration

Schneider et al, 2019



Schneider et al 2020

Neuroflex – saccade analytics

- Virtual Reality Occulomotor testing
 - Smooth pursuit (head fixed & free)
 - Saccades, Antisaccades
 - Active Visual VOR (vert & horiz)
 - Nystagmus (optokinetic & spont)
- Validity, re-test reliability
- Effect of exercise
- Baseline testing
- HIA1, HIA2, HIA3 - GRTP



EyeGuide Focus

- 10-second, figure of 8, smooth pursuit test.
- Portable, simple, cost-effective
- Validity, re-test reliability
- Effect of exercise
- Trial in URC 2021-2022
- Baseline testing
- 85 elite games, 16 teams
- Crit1, HIA1, HIA2 – Orthopaedic control



Player Welfare Initiatives

World Rugby Medical Unit



ORCHID STUDY

Community Rugby Safety:
Women & Men



GRTP REVIEW

Addition of independent review,
for early return and high-risk
players



NEUROFLEX STUDY

Virtual reality eye tracking test –
Super Rugby



EYEGUIDE STUDY

Smooth Pursuit Test – Pro-14



RESEARCH CALL

Call for commissioned research –
submissions under review



Kumanu Tāngata– the aftermatch project

Standardised approach to research
creates a large prospective
database.



BRAIN HEALTH CLINIC

Retired players brain health
initiative- pilot clinic Murrayfield

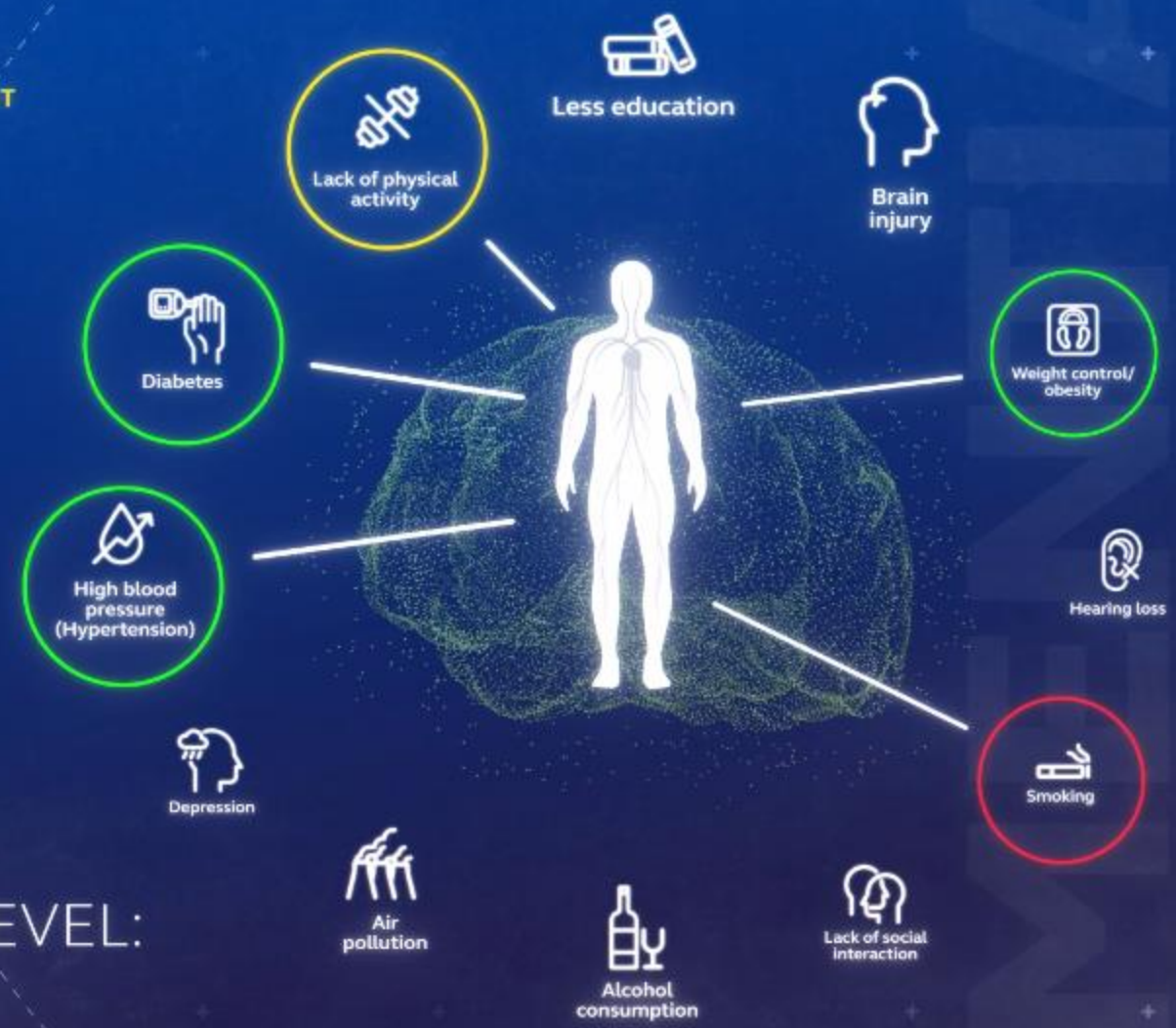




SENE NAOUPU
Ireland and International Rugby Players

RED = HIGH RISK AREA
YELLOW = RISK AREA FOR IMPROVEMENT
GREEN = RISK AREA MANAGED

INDIVIDUAL
RISK PROFILE:
HEART HEALTH
DEMENTIA RISK LEVEL:



In progress

- RWC 2021 –
 - instrumented mouthguards
 - salivary mRNA
- Graduated Return to Play review and study
- HIA platform review and overhaul
- Review of 'Mindset' mental health module
- Review of specific injury prevention modules for women
- Concussion app overhaul



WORLD
RUGBY