# Graduated Return to Play (GRTP) Protocol



This resource is for the

# **General Public**

involved in amateur rugby in Ireland.



- Concussion MUST be taken extremely seriously.
- Any player with a suspected concussion MUST be removed immediately from training/play and not return that day.
- They MUST complete the Graduated Return to Play Protocol.
- Concussion is treatable.





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# The aim of this protocol is to help return players safely and efficiently back to rugby after a concussion.

# What is Concussion?

Sports-related concussion is a **traumatic brain injury** that is caused by a direct blow to the head, neck or body resulting in an impulsive force being transmitted to the brain. Signs and symptoms may present immediately however, in some cases signs and symptoms may evolve over a number of minutes or hours, but may take up to 48 hours to present. Signs and symptoms commonly resolve within days but may be prolonged.

More information about the signs and symptoms of concussion, how to recognise and manage concussion can be found in the IRFU Guide to Concussion (click here).

Remember, **there is no HIA in the Domestic Game**, any player with the suspicion of a concussion should be immediately removed from play and may not return that day. Players will enter the Graduated Return to Play (GRTP) Protocol and progress through the six stages in a **MINIMUM of 21 days for adults and 23 days for players under 20 years of age**.

# The Recognise and Remove protocol helps prevent further injury, promotes recovery and returns players back to sport safely and efficiently.

- Ignoring the signs and symptoms of concussion may result in death, a more serious brain injury or a longer recovery
- Playing on after sustaining a concussion results in more severe symptoms in the early stages
- Playing on after sustaining a concussion, even just for five minutes, can delay full return to play by three days
- Playing on with signs or symptoms of a concussion means you are 9 times more likely to have a delayed recovery longer than 21 days



# **Recovery from Concussion**

Initial symptom severity (how bad symptoms are) and the number of symptoms are the biggest predictors of length of time for full recovery and return to play. The earlier a player is removed and the earlier they are assessed by a doctor or physiotherapist experienced in concussion, the better for a player's recovery. It is important that any player with a suspected concussion is immediately removed from play and appropriately assessed and managed.

# Playing on, even for five minutes, can delay full return to sport by three days.

In fact, young players who continue playing on with signs or symptoms of a concussion are nine times more likely to have a delayed recovery, longer than 21 days.

Some players will take longer than 4 weeks to recover fully and may benefit from an individualised treatment and rehabilitation plan from a healthcare professional experienced in concussion management.

- Normal recovery of symptoms in adults is 10 -14 days
- In children it may take up to 4 weeks
- Persisting symptoms (>4 weeks across all age groups) may be:
  - Pre-existing (e.g. players with migraine)
  - Concussion-related (i.e. a sign / symptom requiring specific medical input)
  - Both pre-existing and related to the current concussion



# **KEY UPDATES:**

- ▶ Early low intensity mental and physical activity treats symptoms
- ▶ **STRICT** absolute mental and physical rest in first 48 hours delays recoverv
- HIGH intensity vigorous activity can exacerbate symptoms and delay recovery



# **Acute Concussion Management**

# **General Recovery Best Practices**

Throughout the GRTP Protocol, there are a number of lifestyle factors that can positively influence recovery following a concussion. The following advice will aid a player's progression through the GRTP and full return to play. These practices are applicable throughout the GRTP Protocol.

# AT THE TIME OF INJURY

- Stop playing immediately after sustaining a concussion or suspected concussion

  Delayed removal can increase the time until symptom free and full return to sport.
- Early medical assessment / management
   Delayed access to appropriate healthcare professionals for management of symptoms can increase the time until symptom free and full return to sport.

# IN THE FIRST 48 HOURS POST INJURY

- Early light physical and cognitive activity treats concussion symptoms

  Avoid STRICT physical and cognitive rest in the first 24-48 hours as this delays recovery. Mild symptom exacerbation (in Stages 1-3) is allowed.
- Avoid high intensity / vigorous exercise in the first 24-48 hours
   Physical activity that more than mildly exacerbates symptoms should be avoided and can increase the time until symptom free and full return to sport.
- Reduce screen-time in the first 48 hours
   Screen-time (phones, laptops etc.) should be reduced in the first 48 hours, however there is little additional benefit of reducing screen-time beyond this.

# IMPORTANT GENERAL ACTIONS DURING THE GRTP

# Maintain regular sleeping pattern

Players should try to maintain a normal sleep pattern (i.e. going to bed and waking at usual hours). Sleep disturbance can impair recovery from concussion.

# Maintain a healthy diet

Maintain your normal regular eating regime. A healthy diet should include foods rich in quality protein, complex carbohydrates, essential fats, fibre, fruit and vegetables, and can support cognitive function, help with recovery and sleep quality. Advice on nutrition for rugby players can be found on www.irishrugby.ie

## Remain socially interactive

Players should be encouraged to keep engaged with the squad, even rehabbing at team training times to help with mental health and well-being. Players should avoid any training activities where there is a risk of a head impact event, until medically assessed to do so by a healthcare professional at the appropriate time in the GRTP.

## Return to learn/work should be prioritised prior to full return to sport

Many athletes will have full return to learn/work by day 10 post injury. Players should not be fully returning to sport if they have not fully returned to school or work.



# What is the Graduated Return To Play (GRTP)?

Any player with a suspected or confirmed concussion must be immediately removed from play and cannot return to play the same day. Players will enter the GRTP process and will take a minimum of 21 days for adults and 23 days for U2Os to complete and cannot return to play until they have completed all the stages and achieved the competencies in each stage. These updated guidelines can be found on <a href="https://www.irishrugby.ie/concussion">www.irishrugby.ie/concussion</a>, including videos of exercises suitable for each stage of the protocol. The GRTP wallet card is a convenient resource to have to hand when completing the protocol. You can get the wallet card from your club or school or download it from the IRFU website.

# **GRTP BENEFITS:**

- ▶ Returns players to full rugby participation and performance efficiently and safely
- Forms part of the management guidelines for the treatment of concussion
- Low intensity exercise in first 48 hours promotes recovery
- Low intensity exercise in first 48 hours prevents persisting symptoms
- Detects any symptoms early to direct additional appropriate medical treatment
- Minimises risk of injury recurrence or subsequent injury

Previous GRTP Protocols focused only on a return to aerobic fitness, but rugby is a physical sport, and these updated guidelines now provide a stepwise approach in **six rugby-specific competencies** to return players to full strength, agility, balance, coordination and rugby performance, including tackle technique. The IRFU GRTP Protocol targets these areas to ensure players are appropriately challenged throughout the GRTP and ensure full recovery and return to sport.

# SIX RUGBY-SPECIFIC COMPETENCIES





Coaches and team medics should work together to help progress players through each of these key competencies. The rugby-specific and tackle competencies should be led by the coaching staff's expertise, but if any symptoms arise in these activities the team medics should be informed to help direct treatment. Achieving all the competencies will help optimise tackle technique, enhance performance and reduce the risk of future injuries and concussions.

Improving contact/tackle technique is important in minimising future concussions and other injuries

# CONCUSSION IN RUGBY:

- Concussion is the most common injury in the amateur and professional game
- > 70% of concussions occur in the tackle event
- The tackler is more at risk than the ball carrier
- Risk factors for head injuries include: tackle technique and tackle height

Most concussions occur in the tackle, with the tackler at a higher risk of injury. It is important to look at tackle technique as part of the GRTP Protocol. Full unrestricted contact training does not begin until Stage 5 of GRTP Protocol, but it important to appropriately prepare them for this stage using a stepwise approach to return to contact activities. The GRTP Protocol will progress players from noncontact activities to controlled contact activities before full contact training is allowed. Players should be brought through each step to appropriately prepare them for the demands of the game.

## **DEFINITIONS:**



**CONTROLLED CONTACT** is where training activities have no / minimal risk of head impact.

E.g.: controlled wrestling / grappling, tackle profiles against static resistance, light pad work

FULL CONTACT is where training activities have a risk of head impact / subsequent head injury.

E.g.: uncontrolled wrestling, training games (including touch rugby), dynamic pad work

# Players should not return to play until they:

Have returned to learn / work

**Are symptom-free** 

Have a healthcare professional assessment

Have completed the GRTP Protocol



# **Monitoring Signs and Symptoms**

Concussion signs and symptoms should be assessed, monitored, and managed throughout the GRTP. There are six main assessment areas that your team medic should monitor throughout the GRTP. If you do not have a team medic or regular access to a team medic, you should document the players symptom scores at rest (before activity) and after the activity introduced at training, and where possible, also include the type of symptoms they are complaining of. This information can help direct a player to the best treatment for that specific symptom.

# Players may report (symptoms) or you may notice (signs):

- 1. How they are feeling (symptoms): This can include dizziness, nausea, headaches etc. Ask the player to rate their symptoms from zero (no symptoms) to ten (severe symptoms) before activity and after.
- 2. Memory / decision-making problems (cognition): Players may have difficulty with certain activities as new challenges are added (i.e. running to coloured cones on coaches' cues or passing drills with decision-making). This should be assessed by a healthcare professional experienced in concussion.
- 3. Balance disturbances (vestibular): Players may have difficulty with certain activities (i.e. single leg stance, tackle profile position, hopping / jumping etc.) due to balance disturbances. This should be assessed by a healthcare professional experienced in concussion and / or vestibular issues.
- 4. Eye movement / tracking disturbances (ocular): Players may have difficulty with activities like tracking the ball due to ocular disturbances. This should be assessed by a healthcare professional experienced in concussion and / or ocular issues.
- **5. Physical and aerobic fitness (musculoskeletal):** Physical and aerobic activities are progressed throughout the GRTP. If players have difficulty with any of the activities, they may need to seek medical assessment and management (i.e. neck/spine).
- 6. Mood / personality (bio-social): Any changes to a player's normal personality, behaviour or mood should be assessed and monitored. In some cases they may need to be referred to a healthcare professional with experience in concussion and / or mental health.





# The below table is a simple tool for healthcare professionals, coaches or players to monitor their symptoms before and after activity.

During Stages 1–3 symptoms should be <7/10 on the scale at rest, prior to activity. During the activity, mild symptom exacerbation is allowed once it is less than a 2-point increase from the pre-activity rating and resolves within 60 minutes. If symptoms are exacerbated more than this, that activity should be stopped, and players should try again the following day. Other activities that did not provoke symptoms may be continued.

Players should be symptom free and medically cleared before progressing to Stage 4. During Stages 4–6 players should be symptom-free at rest and after activity. If any signs or symptoms develop during the activities in Stages 4–6, the player should stop and return to Stage 3 until symptom-free.

VAS	PRE-ACTIVITY (AT REST)	DURING/POST-ACTIVITY
1. (No Symptoms)		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10. (Severe symptoms, as bad as possible)		

In the majority of concussions, symptoms resolve in the first 24-48 hours and players progress through the GRTP protocol without issue. Normal concussion recovery can take up to one month and during the GRTP protocol, symptom provocation may occur and should be monitored. Symptoms may help direct targeted medical intervention at any stage throughout the protocol.



# **During Stages 1-3 of the GRTP**

# players can progress with activities once:

- Symptoms at rest are less than 7 out of a maximum of 10 (<7/10) on the symptom scale
- Only mild (if any) exacerbation of symptoms occurs (less that a 2 point increase from score at rest)
- Any symptom exacerbation resolves in less than 60 minutes (brief)

# PLAYERS MUST BE SYMPTOM FREE BEFORE MOVING TO STAGE 4 OF THE GRTP

# **During Stages 4–6 of the GRTP**

# players can progress with activities once:

- ▶ They have an assessment by a healthcare professional
- ▶ They are symptom-free
- Have returned to school / work





The latest IRFU GRTP Protocol is a proactive approach to safely and efficiently returning players to the game. To successfully complete the GRTP Protocol the player must progress through six stages, with each stage reflecting progressive challenges.

Stages 1–3 focus on physical activity as a treatment to aid concussion recovery. Stages 4–6 focus on more specific rugby demands to prepare players for full return to sport and enhance rugby performance.

Players should work with their coach / parent / teacher to ensure that they complete each stage appropriately and achieving all physical, rugby-specific and contact-specific competencies.

	Stage	Days		Stage Days		Activity
		Adult	U20			
tment	1 Symptom-limited Exercise	0-1		Daily activities that do not provoke symptoms Light aerobic linear activities		
Concussion Treatment	2 Aerobic Exercise	2-6	2-6	Progressively increase aerobic activity  Moderate aerobic & light resistance activities		
Concus	3 Rugby-specific Exercise	7-9	7-9	Speed & skill work without risk of head impact Progressively challenging aerobic & resistance activities		

# Player MUST be symptom-free and should have an assessment by a healthcare professional before entering Stage 4

oific cies	4 Non-contact Drills	10-13	10-15	Agility, decision making & complex skill work Progressively challenging rugby specific drills
Rugby-specific Competencies	5 Full-contact Practice	14	16	Full uncontrolled contact training Intense exercise & conditioning drills
R. O.	6 Return to Play	21	23	Full unrestricted match play Full return to pre-injury status

# REMEMBER:

- Early light mental and physical activities can help recovery
  - Avoid STRICT rest in the first 24-48 hours.
- Players can progress through Stages 1-3 as long as:
  - Symptoms at rest are less than a 7/10 on the symptom scale.
  - Symptoms are only mildly and briefly exacerbated by activity (less that 2-point on the symptom scale, for less than 60 minutes).
- Players can only progress through Stages 4-6 as long as:
  - They are symptom-free at rest and after activity.
  - They have an appropriate healthcare professional assessment prior to progressing on to Stage 4.



# **GRTP Stages**

# STAGE 1

# **Symptom Limited Activity**

Stage 1 begins once a player has been removed from the field of play and appropriately assessed and managed in the acute stage. This stage includes advice regarding general recovery best practice and reducing physical and mental activity, including screen-time, for the first 24-48 hours. Light physical activity, such as walking, helps recovery when started within the first 48 hours following a concussion. STRICT absolute physical and mental rest (i.e. cocooning) in the first 24-48 hours should be avoided as this can delay recovery. However HIGH vigorous intensity physical and mental activity should also be avoided as this can delay recovery.

It is recommended that Stage 1 should take 24-48 hours in both adults and U20s..

# STAGE 2-3

# Aerobic Exercise / Rugby Specific Exercise

In Stage 2 aerobic exercise and light resistance work can be safely progressed based on symptom monitoring and any serial assessments. Players without access to exercise testing can progress activity depending on symptom exacerbation. Players should start at 55% of their age-appropriate maximum heart rate (220-age) for 15–20 minutes and progress systematically. Any symptom provocation should be mild, and symptoms should be monitored throughout. Evidence shows that early aerobic exercise, within the first two weeks of injury, reduces the risk of persisting post-concussion symptoms.

It is recommended that Stage 2 should take 4–5 days in both adults and U20s.. It is recommended that Stage 3 should take 2–3 days in both adults and U20s..



Players must be symptom-free and should have an assessment by a healthcare professional before moving to stage 4 of the GRTP.

# STAGE 4-6

# Non-contact Training / Full Contact Training / Return to Play STAGE 4

Players should be symptom-free at rest and after activity before entering Stage 4. Players should have an appropriate healthcare professional assessment prior to this stage to ensure they are ready to return to activities that are more complex and challenging. Controlled contact activities, where there is no risk of head impacts, can be included here. Controlled contact activities may include controlled wrestling / grappling, light pad work and tackle preparation.

It is recommended that Stage 4 should take 3-4 days for adults, and 5-6 days for U20s

### STAGE 5

This stage returns the player to full contact training, which includes activities that may put the player at risk of a head impact (i.e. contact / tackles, collisions and falls). Full strength training activities should be included during this stage. Return to full contact activities can include uncontrolled wrestling, training games (including touch rugby) and dynamic pad work.

It is recommended that Stage 5 should take 7 days in both adults and U20s..



Full Return to match play takes a minimum of 21 days for adults and 23 days for U20s.



	Stage	Time Adult	eline U20	Aerobic Fitness	Resistance	Balance	Agility	Rugby Contact Skills	Performance Skills	Systems Challenged
Stages 1–3: Concussion Treatment	Symptom- limited Exercise	O-1 day	O-1 day	Light aerobic linear exercise: E.G. 5-15 min on stationary bike <50% HRmax	Isometric exercise: E.G. Static neck strengthening	Static/stable exercise:  E.G. Double leg balance with small base of support or tandem stance with eyes open or closed	Mobility and movement exercise:  E.G. Static stretching with head in stable position			Cardiovascular Musculoskeletal Balance/Vestibular
	2 Aerobic Exercise	2-6 days	2-6 days	Light to moderate aerobic exercise: E.G. 20-30 min jogging <70% HRmax	Bodyweight exercise: E.G. Bodyweight squats, hip hinges	Static/unstable exercise: E.G. Single leg balance with eyes open or closed	Single direction movement exercise: E.G. Forwards or backwards jogging	RECONNECT PHASE:  E.G. Static tackle profile with resistance, change of profile angles		Cardiovascular Musculoskeletal Balance/Vestibular
	Rugby- specific Exercise	7-9 days	7-9 days	Moderate exercise: E.G. 30-40min running 70-80% HRmax	Light resistance exercise: E.G. Gym work at 60-70% of normal load	Dynamic/stable exercise: E.G. Double leg jumps, single leg hops, arabesque	Multi-direction movement exercise: E.G. Change of direction, T-test, side-stepping	MOVEMENT PHASE: E.G. Tackle profile at speed, varied approach & entry angles	Simple position- specific skills: E.G. Lineout throwing, passing drills, kicking	Musculoskeletal Balance/Vestibular Visual/Ocular

# Player MUST be symptom-free and should have an assessment by a healthcare professional before entering Stage 4

ance	4 Non-contact Drills	10-13 days	10-15 days	Intense exercise: E.G. Interval training 90% HRmax, acceleration & deceleration drills	Moderate resistance training: E.G. Gym work at 70-80%% of normal load	Dynamic/unstable exercise: E.G. Hopping drills, ladder drills, bear crawls	Complex movement exercise: E.G. T-test to coloured or numbered cones, down ups, cariocas	CHALLENGE PHASE: E.G. Tackle profile at speed, open chain decision-making & entries	Dynamic position- specific skills: E.G. Passing drills, partner pummel & mat wrestling	Balance/Vestibular Visual/Ocular Cognition
Stages 4–6: Rugby Performance	5 Full-contact Practice	14 days	16 days	Intense exercise & conditioning: E.G. Full training session	Dynamic/complex exercise: E.G. Gym work up to pre-injury strength & power loads	Dynamic/complex exercise: E.G. Plank press- up wrestling, mat wrestling	Dynamic/complex positions-specific: E.G. Down-ups, sprint drills with varying starting positions	PERFORMANCE PHASE:  E.G. Linear approach to entry Vs tackle shield, angled approach to entry Vs tackle shield	Dynamic/complex skills: E.G. Full contact training session, ball fend, back-to-back wrestling	Cognition  Decision-making
St	6 Return to Play	21 days	23 days	Full aerobic fitness	Full strength & power	Full balance ability & control	Full co-ordination &decision-making	FULL TACKLE PERFORMANCE COMPETENCE: E.G. Tackle at speed with intent & confidence	Full performance competence	Psychological (fear avoidance, confidence)

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# When to Seek Medical Advice

If a player cannot achieve all the competencies outlined in the GRTP or return to their pre-injury levels of play, they may need to seek medical input. It is important that this is identified by the coaches and / or team medics, so they can work together to understand why the player is not progressing. Medical input may be required and if players are presenting with prolonged symptoms that are not resolving they should seek medical advice. The majority of players will be symptom-free within the first 48 hours, however normal concussion recovery may take up to one month.

# Consider seeking medical advice in the following situations:

- If you are on medications such as pain killers, anti-depressants and / or sleeping medication.
  - Medications may mask the symptoms of the concussion.
  - Medical advice around through the GRTP protocol may be needed.
- If you have 2 or more concussions in a 12-month period.
  - See a medical specialist with experience of managing sports-related concussion.
- If you have symptoms beyond Day 10-14 of the GRTP Protocol.
  - See a medical specialist with experience of managing sports-related concussion.
- If you have symptoms continuing to occur with a specific activity within the GRTP Protocol.
  - See a medical specialist with experience of managing sports-related concussion.
- If you are failing to improve or progress through the GRTP as expected.
  - See a medical specialist with experience of managing sports-related concussion.

To help guide players in choosing the appropriate healthcare professional, the table below indicates which symptoms are associated with specific domains that may be the main driver behind the concussion. If players have a multitude of symptoms or are unsure of where to seek advice, they should attend a concussion specialist, e.g., the UPMC Concussion Network in Ireland.

Main symptom/presentation	Referral to
Dizziness / Headache	Vestibular rehabilitation physiotherapist
Neck pain / Headache	Musculoskeletal physiotherapist
Symptoms >1month	Concussion specialist e.g. UPMC Concussion Network
>1 concussion in 3 months	Concussion specialist e.g. UPMC Concussion Network
>2 concussions in a 12 month period	Concussion specialist e.g. UPMC Concussion Network
>5 concussions in career	Concussion specialist e.g. UPMC Concussion Network
Significant loss of consciousness at time of injury	Concussion specialist e.g. UPMC Concussion Network
Significant / multiple symptoms at rest (>7/10)	Concussion specialist e.g. UPMC Concussion Network



# **Returning to School**

Returning to learn or work must be prioritised before returning to play. Schools may have a concussion policy which should offer appropriate academic accommodations and support students, so it is important to advise the school about the concussion incident.

The table below has been taken from the  $6^{th}$  International Consensus Conference on Concussion in Sport, Amsterdam 2022 and provides a structure to help students return to learn following a concussion. This can be used as a guideline, in conjunction with the school's guidelines to ensure a safe and efficient full return to school activities.

Stage	Activity	Goal
Daily activities that do not result in more than a mild exacerbation of symptoms	Typical activities during the day (e.g., reading) while minimising screen time. Start with 5–15 min at a time and increase gradually	Gradual return to typical activities
2. School activities	Homework, reading, or other cognitive activities outside of the classroom	Increase tolerance to cognitive work
3. Return-to-school part-time	Gradual introduction of schoolwork. May need to start with a partial school day or with greater access to rest breaks during the day	Increase academic activities
4. Return-to-school full-time	Gradually progress school activities until a full day can be tolerated without more than mild* symptom exacerbation.	Return to full academic activities and catch up on missed work

In the first 24-48 hours, early light physical and mental activity can treat concussion symptoms and help recovery. STRICT absolute rest (cocooning) should be avoided as this can delay recovery. However, it is advised that player reduce screen-time (i.e. phones, laptops etc.) in the first 48 hours but there is little additional benefit of reducing screen-time beyond this.

Players can begin to gradually progress and increase their mental and physical load, provided their symptoms at rest are <7/10, and are only mildly exacerbated (less than a 2-point increase on a 10-point scale and resolves within 60 minutes).

# AEROBIC / RESISTANCE / BALANCE / AGILITY (1/2)

ENGAGE, the IRFU Readiness and Robustness programme, has many examples of aerobic, resistance, balance and agility exercises that can be incorporated in the GRTP Concussion Protocol. Videos of all the exercises shown in the figures below can be found on the IRFU website here.



# What is ENGAGE?

ENGAGE is an integrated and structured player readiness and robustness programme aimed at enhancing rugby performance and enjoyment.

### There are three main phases to ENGAGE:

Readiness: Gets players ready for training or match activity.

Robustness: Helps create longterm strength and endurance.

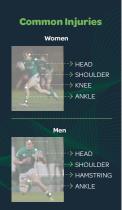
3 Performance: Primers to get players performance ready for rugby-specific activities.

### Why do we need this?

The Irish Rugby Injury Surveillance (IRIS) Project annual reports (www.irishrugby.ie/playingthe-game/medical/research/) highlighted areas that are frequently injured in rugby.

ENGAGE aims to help reduce the risk of these injuries and ensure players are ready for the demands of training and match-play.







# **Readiness:**

(3-5 minutes)



To take muscles and joints through range of movement.

landing mechanics.

### DIRECTIONS:

15m each movement.



1: JOGGING Cue: Relaxed pace to start, can build to increase speed





dynamic squad preparation



To get warm.

To work on running and



cross right foot behind. Repeat on opposite side



### 2: BACKPEDALLING Cue: Relaxed pace, jog backwards.



# 3 & 4: A-SKIPS

Cue: Skip forward lifting lead leg up and swinging opposite arm. Repeat bringing lead heel up and in to opposite knee (A-Skips heels in).



### 5 & 6: HIP CIRCLES Forward / backwards

Cue: Step forward, lifting lead leg to waist height then out to side opening up the hip joint. Repeat with backward hip circles.



7: HIGH KNEES Cue: Jog forward lifting your knees to waist height.



8: HEEL FLICKS Cue: Jog forward flicking buttocks with heels.



### 9 & 10: CARIOCA (right and left) Cue: Start side-on cross right foot in front of left. Step out on left & then

forward. At halfway switch legs.



### 11: ARABESQUE

Cue: Stand on one leg, drive opposite heel back leaning trunk forward. Return to start position step backwards to repeat on opposite leg.



### 12: LEG SWINGS

Cue: Step forward swinging lead leg up above waist height keeping knee straight.



### 13 & 14: CRAWLS

Cue: On all fours, crawl forward taking small steps. At halfway turn 90\* and crawl sideways to the end. Repeat with backwards crawls



### 15: DOUBLE LEG JUMPS Cue: Keep feet together and jump forward landing softly.



## 16: SINGLE LEG HOPS Cue: Stand on one foot and hop



2: PARTNER NECK HOLDS

Sets: 1

Reps: 3 reps each movement

(flexion, extension, left and right side flexion).

Hold: 3 seconds

3: SINGLE ARM ROWS

Sets: 1

Reps: 6-8 both arms

Progression: 10-12 reps

1

4: SINGLE LEG COUNTER

MOVEMENT JUMP

Sets: 1

Reps: 4 per leg

Progression: 6 reps

# **Robustness**

muscle activation (5-8 minutes) **(** 



and joints for activity.

To develop movement control and joint stability.

To increase strength and endurance





### 1: NORDIC HAMSTRING CURL Sets: 1

Reps: 6-8 Progression: 10-12 reps







If you wish to progress or change un phase 2 try these exercises instead.











### 2: ISOMETRIC NECK HOLDS (self resist)

Sets: 1 Reps: 3 reps each movement Hold: 3 seconds





3: PUSH UP Sets: 1 Reps: 6-8 Progression: 10-12 reps



Appendix 2







# AEROBIC / RESISTANCE / BALANCE / AGILITY (1/2)

ENGAGE, the IRFU Readiness and Robustness programme, has many examples of aerobic, resistance, balance and agility exercises that can be incorporated in the GRTP Concussion Protocol. Videos of all the exercises shown in the figures below can be found on the IRFU website here.

# Appendix 2



### Phase 3 **Performance**

**Primers** (2-3 minutes)



To make sure players are performance ready.

To focus players on the specific demands of the training session.

To focus on key areas of the game, including; contact, sprinting and acceleration.

### Phase 3 **Contact Primers**

Select 2 of the following prior to contact work.



### 1: PARTNER PUMMEL TO LIFT

Cue: Face partner leading with same foot and shoulder. Punch arms through and hold the grip

Change the angle of attack and try break partner's grip.



### 2: PARTNER BALL FEND

Cue: Ball carrier changes angle of attack to fend off tackler. Reps: 3-4 | Timing: 20 secs



### 3: PUSH-UP PLANK WRESTLING

Cue: In plank position, using either hand attempt to grab hand/arm of partner to make them lose halance

Reps: 3-4

Timing: 20 secs



4: BACK TO BACK

WRESTLING

Cue: Sitting back to back with legs

out straight. On go, turn around

into high kneeling and begin

grappling to win the contact.

Reps: 3-4

Timing: 20 secs



Reps: 3-4 | Timing: 20 secs



### 5: MAT WRESTLING

Cue: Player one is lying on stomach with arms stretched out. Player two tries to keep player one on ground, while they try to get to their feet Reps: 3-4

Timing: 20 secs



# **Speed / Acceleration Primers** Select 2 drills

1x acceleration drill

**Acceleration** 



### 1: 1/2 KNEELING LATERAL ACCELERATION

Cue: 1/2 kneeling facing side-on to finish line. Inside knee is down. Lean forward and push through outside leg. turn and accelerate to finish line

Reps: 1 per lead foot (2 total)



# 2: STAGGERED 2-POINT STANCE

Cue: In staggered stance facing finish line. Lean forward and push through front leg accelerating to finish line.

Reps: 1 per lead foot (2 total)



### 3: BACK-LYING

Cue: Lie on your back, head towards the finish line. Roll to right into a push-up position, push up and accelerate to the finish line Reps: 1 per side (2 total)



Phase 3

### 1: 1/2 KNEELING LINEAR ACCELERATION

Cue: Facing finish line, left knee down and left arm up. Lean forward and push through right leg. Sprint to finish line.

Reps: 1 per lead foot (2 total)



### 2: PRESS-UP **POSITION**

Cue: In plank position. Strike ground through right foot and sprint to finish line.

Reps: 1 per lead foot (2 total)



### 3: BACKWARDS TALL **KNEELING**

Cue: In high kneeling, facing away from finish line Bringkneeun and strike ground to turn and face finish line. Sprint to the line.

Reps: 1 per lead foot (2 total)





### Focusing on position-specific drills again later on during the training session can give you the opportunity to check that players have actively engaged the muscles and joints specific for the

next tasks.

# PRIMERS FOR BACKS

High speed running Acceleration / deceleration Kicking

### **Example Preparation:** P1: High knees and heel flicks

Carioca drills Leg swings P2: Nordic hamstring curls

Single leg countermovement jump Hopping drills P3: Sprinting / acceleration primers

### Tasks: Scrummaging

Lineouts Mauls

PRIMERS FOR FORWARDS

### Example Preparation:

P1: Forward/backward hip circles Crawls Double / single leg hops P2: Good Morning Neck holds

> Single arm rows P3: Contact primers

(P1) = (Phase 1) etc.



### Resources

To see the entire **ENGAGE** programme, including video content, educational resources and coaching courses please go to:

irishrugby.ie



Coaches can complete the **ENGAGE** education course on GAINLINE to receive an active coaching badge.





This competency should be guided by the coaching staff's expertise; however healthcare professionals should understand these demands to appropriately prepare players for return to play. Videos of these exercises can be found on www.irishrugby.ie

# **Stage 1: RECONNECT**

This step of the rugby contact competency can begin in Stage 2 of the GRTP. In this step there is increasing levels of challenge for the player and therefore, players should begin by slowly assuming the tackle profile position and monitoring for any changes in symptoms, before adding static resistance or changing the body angle into the profile. It is recommended that players spend approximately 4-5 days in this stage.

# **Medical Competencies**

- ▶ Hip hinge to 90°
- Balance
- Brace under isometric tension
- Limited change of direction

# **Return to Baseline**

- Player reconnects the brain and body
  - » Familiar physical positions
  - » Fluid and slow movements
  - » Challenge accuracy and balance

# **Rugby Competencies**

- Static Tackle Profile Balancing point and isometric hold
- Partner assisted static resistance
- Change of angle tackle profile

# **DRILL OPTIONS**



# Cues

- ▶ Short Stance
- High Hips
- Advance your chest forward
- Strong head position and eyes up





CHANGE OF ANGLE INTO PROFILE



### Cues

- ▶ Chest moves first
- Short Step into Profile position
- ▶ Back leg aligned to Tackle Line

# **Stage 2: MOVEMENT**

Stage 1: RECONNECT (Cont'd.)

Players can progress to this step in Stage 3 of the GRTP. Players should progress through the challenges in this stage in a stepwise manner. It is recommended that players spend approximately 3 days in this stage.

# **Medical Competencies**

- Intentional change of body height
- Isometric and dynamic efforts
- Linear and Lateral movement
- Change of direction

# **Drilling**

- Rugby specific movement, intro speed
  - » Dropping into profile position
  - » Approach footwork
  - » Tracking and visualisation

# **Rugby Competencies**

- Tackle Profile at increasing speed
- ▶ Ability to 'Fire' the legs
- Controlled and accurate footwork
- Varied approach and entry angles

# **DRILL OPTIONS**



FALL DROP (CONTROL)



# Cues

- Stand tall
- Let gravity take your chest forward
- Short step and 'Catch' with control





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**SNAP DROP** (SPEED WITH INTENT)



## Cues

- Slight hip flexion
- Accelerate the chest downwards
- Hold the 'Catch'



# **RESISTED HOLD TO FIRE**



- Short Stance
- High Hips
- Front leg loaded
- Strong head position and eyes up



LINEAR **APPROACH FOOTWORK** 



# Snap Drop

Paddle footwork

Accel phase

# Cues

- 'Zip up' the chest / Tall chest
- Accel into quick footwork
- Speed to Drop



# **ANGLED ENTRY** +3STEPENTRY

For the 3 Step Entry ensure:

- ▶ sharp change of direction
- back foot is close to target with penultimate step



# Cues

- 'Zip up' the chest / Tall chest
- Accel into quick footwork
- Accurate footwork on the Drop - ensure the back foot is on the target line



# **Medical Competencies**

- Cognitive
- High level vestibular and ocular
- Movement
- ▶ Bracing/wrestle

# **Experience Failure**

 Physical accuracy and Introduce decisionmaking (DM)

**Stage 3: CHALLENGE** 

- » Begin working "through" contact
- » Higher intensity in approach work
- » DM and visualisation pressure

# **Rugby Competencies**

- Tackle profile at speed
- Brace in contact and leg drive
- Open chain decisions and entries
- Accurate footwork and tracking

# **DRILL OPTIONS**

- 1 SNAP DROP
- 2 RESISTED HOLD TO FIRE
- 3 GRIP AND LEG DRIVE (Bite and Fight)
- 4 LINEAR APPROACH

- 5 ANGLED ENTRIES
- 6 MIRRORING
- **TRACKING**

MIRRORING/ 'NO MANS LAND'



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### Cues

- Square and tall profile
- Slight hip flexion to promote the chest
- Sharp short steps under your hips
- Mirror opponent and control the centre
- Reset profile quickly on each rep
- 'Zip up' chest plus feet slightly behind

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