Return to Rugby Postpartum Guidelines:

Community pathway

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1. Introduction

1.1 Background

Growing numbers of rugby players are returning to rugby following childbirth and these guidelines have therefore been created by the Postpartum Return to Rugby World Rugby Working Group to enable a safe and effective return to rugby for all players regardless of playing level and resources available. Pregnancy, childbirth and the postpartum period can lead to many physiological, psychological and social changes so it is vital that postpartum women are supported with adequate rehabilitation to prepare for the demands of rugby.

The Working Group identified two care pathways: **Elite and Community**.

Elite refers to players who have: 1) a medically supervised and multidisciplinary rehabilitation programme; 2) access to pelvic health services and 3) access to in person, supervised rehabilitation.

Community refers to players who will need to lead their own rehabilitation process due to a lack of access to supervised rehabilitation and pelvic health services.

1.2 Overview of community guidelines

The community guidelines are intended to be a comprehensive document for **players** to follow to guide their recovery. Whilst each player will have varying levels of support from coaches and medical teams, the guidelines and recommendations assume a **minimal** level of provision, with restricted resources and a lower weekly training volume compared to those in elite environments. They therefore empower the rugby player with a progressive approach to returning to rugby safely and recommends more conservative time frames than those presented in the elite pathway.

Detailed literature and rationale is provided in the Elite pathway, which you can access here. It is important to note that any pregnancy, including loss (stillbirth, miscarriage or abortion), will elicit physiological and psychological responses and therefore an individualised approach for all women is advised.

Specifically, the community guidelines aim to:

- Educate you on pelvic floor muscle training and pelvic floor dysfunction to minimise the risk of post-partum pelvic organ prolapse and urinary incontinence
- Guide you to return to rugby specific strength and conditioning
- Support you to an effective and safe return to play

The return to rugby postpartum guidelines are based on the return to sport postpartum framework. There are six phases in the rugby guidelines: 1) Recover; 2) Review; 3) Recondition; 4) Return to non-contact training; 5) Return to contact training and; 6) Return to play.

The six phases consist of specific focus areas including *Pelvic floor, Strengthening, Conditioning, Skills, Breast health, Mental health and Milestones*.

Exercise suggestions are provided within each stage to help guide you during your rehabilitation. Each stage has a summary table including milestones. These milestones are key markers that should be achieved before progressing to the next phase.

You are encouraged to familiarise yourself with the six phases of the pathway and use the key summary checklist (Appendix A) to ensure all targets are met before progressions are made. The key messages for the community pathway are summarised in table 1.

Table 1. Key take home messages for the Community return to rugby postpartum pathway

Key messages for the Community return to rugby postpartum pathway
1. Return to play progression should be individualised and goal orientated 2. Progression should be based on your symptoms, function and healing timescales 3. You should regularly 'self-screen' throughout each phase 4. You can regress through stages if new symptoms present. Such symptoms ideally require assessment from a healthcare professional and may limit progression 5. You should base feeling ready to return to play on your psychological and physical readiness

1.3 Applying the community pathway guidelines

Each player's return will vary and whilst timescales have been included within the guidelines, they are a minimum guide and progress should be player, symptom and function specific. The authors acknowledge that club and national governing body funding may not be available to seek additional services such as pelvic health physiotherapists, nutritional or psychological support and that many national health services will only be available to support symptomatic women. Therefore, the community pathway advocates a **symptom led** approach using a 'self-screen" for evaluation of your physical and psychological health (Table 2).

The absence of symptoms should not mean that phases are skipped or accelerated as they are based on physiological healing time frames as well as time to regain sufficient strength, conditioning, and skill levels for a safe and effective return. This will vary for every woman depending on pre delivery fitness, delivery mode and any complications. We recommend, all players begin their return to play at stage one, regardless of how many weeks post-delivery they are.

Table 2. The 'self-screen' of physical and psychological symptoms to slow down exercise progression and or regress exercise in any phase of return to rugby postpartum

Player self-screen suggestions
1. Ongoing (beyond 6 weeks postpartum) or onset of vaginal bleeding not related to menstrual cycle, during or after exercise 2. Signs and symptoms of pelvic floor dysfunction (see Table 3) 3. Musculoskeletal pain related to exercise 4. Caesarean section surgical site pain or symptoms 5. Not feeling ready to perform exercises

2. **Phase 1 (Recovery)**

Phase 1 is focused on your recovery from pregnancy and childbirth and requires sufficient rest, hydration and nutrition. It is an important time to screen for birth complications and begin self-led education on the pelvic floor muscles and rehabilitation process. Any ongoing pain should not be considered normal and should limit progression onto phase 2. You can complete small bouts of daily living activities as symptoms allow (e.g., walking) and begin gentle mobility, pelvic floor and abdominal exercises. Try to pay attention to using good strategies when carrying out repetitive activities of daily living in the early postpartum period such as lifting and holding the baby to support your healing abdominals and pelvic floor muscles.

You should continue to be under the care of your healthcare provider in the early weeks who should be contacted if complications become evident such as:

- Persisting vaginal bleeding
- Persisting urinary retention
- Signs of infections such as spiking a temperature, foul smelling discharge, painful or oozing wounds (perineal or Caesarean)
- Strong smelling and painful voiding
- Persisting and/or progressive abdominal pain and feeling systemically unwell

If these are experienced, it is important you get an assessment by a healthcare provider before further exercise resumes. Phase 1 is an important starting point for a 'self-screen' of physical and mental symptoms (Table 2). This should be continued throughout each phase of the return to play process.

The focus areas in Phase 1 differ to subsequent phases and include: *Pelvic floor, abdominal wall, birth considerations, breast health, mental health and nutrition.*

2.1 Pelvic floor

It is important to have a good understanding of the anatomy, function, and rehabilitation of the pelvic floor muscles as those with an enhanced awareness are 57% less likely to develop urinary incontinence (leaking). The pelvic floor refers to the group of muscles forming a layered sling of support at the base of the pelvis that serve to maintain continence, facilitate emptying of the bladder and bowel, support the pelvic organs, and enable sexual function.

The pelvic floor experiences physical and physiological changes during all pregnancies and stretch following vaginal childbirths. This means that all postpartum women require reconditioning of their pelvic floor muscles. When the pelvic floor muscles are unable to carry out their role and tolerate the load applied to them, they can present with pelvic floor dysfunction symptoms (PFD) (Table 3).

Table 3. Signs and symptoms of pelvic floor dysfunction and symptoms to slow down exercise progression and or regress exercise in any phase of return to rugby postpartum

Signs and symptoms of pelvic floor dysfunction
Urinary or faecal incontinence
Urinary or faecal urgency
Pressure/bulge/dragging/heaviness in the vagina
Obstructive defecation
Pain with intercourse/use of tampons
Pelvic pain

2.1.1 Bladder and bowel

You should be conscious of your bladder and bowel hygiene strategies. For example, minimising constipation (which will add strain to the healing pelvic floor) by sufficient hydration and a balanced diet. Additionally, optimal bowel emptying strategies can also minimise the strain on the pelvic floor

such as feet being elevated on a stool. You should also pay attention to food and drink which may aggravate symptoms of PFD such as caffeine or carbonated drinks.

2.1.2 Pelvic floor muscle training

Pelvic floor muscle training (PFMT) is effective for reducing symptoms of urinary incontinence in female athletes, yet 1 in 4 females do not contract their pelvic floor muscles correctly. Therefore, you should devote conscious and focused time to PFMT (even in the absence of symptoms), especially as PFD is more prevalent in athletes playing high impact sports. Try to consider PFMT as part of your normal strength training programme. The pelvic floor muscles need conditioning like any other key muscle groups.

Targeted PFMT can begin as early as day 1 postpartum unless you have a catheter in-situ in which case you should wait until it is removed before beginning PFMT. It is important to understand that knowing *how* to activate and train your pelvic floor is not an easy task. Different cues will resonate with different individuals and may include:

- "Imagine stopping gas escaping"
- "Stopping the flow of urine mid-flow"
- "Closing a zipper from back passage to front passage"

Initial PFMT will involve a few gentle repetitions which you may find difficult to begin with and you may only be able to hold it for a few seconds. This is really common so do not worry and you may find it easier to begin in lying or seated positions or on a hard surface in sitting to get an additional sense of feedback.

Try the following:

- Two repetitions of rapid pelvic floor muscle contractions
- Three sets of 8 to 12 sustained close to maximum contractions repeated daily

Common signs and symptoms of a less effective contraction include:

- Tightening of the glutes and inner thighs
- Feeling a downward vaginal pressure
- Excessive bulging or tensing through the abdominals

If symptoms are not improving following 6 weeks of PFMT, you are encouraged to request a pelvic health physiotherapy referral through your healthcare provider for a supervised assessment.

2.2 Abdominal wall

During pregnancy, all the muscles of the anterior abdominal wall endure progressive and sustained stretch. In addition, all pregnant women will experience some degree of widening at the linea alba (a thin band of connective tissue that runs between the two sides of your rectus abdominis "six pack" muscles) by the last few weeks of pregnancy. For the majority of postpartum women, this widening naturally resolves by 8-12 weeks postpartum. However, in approximately one third of women, they experience excessive thinning and widening of the linea alba that does not naturally resolve and is referred to as diastasis rectus abdominis (DRA). DRA often presents with accompanying signs including a persisting pendular appearance in the abdominal wall and the presence of doming, bulging or sinking in at the midline during abdominal exertion.

Considering rugby places high demands on the abdominals, it is important that you are aware of DRA. Whilst the presence of DRA is unlikely to delay you returning to training, it has been shown to reduce quality of life in some women due to compromised physical health, poorer physical

perception; lower body image satisfaction; and higher degrees of abdominal pain that is frequently perceived as discomfort or bloating. Therefore, it is important to speak with your healthcare provider for a pelvic health physiotherapy referral if signs persist. Treatment includes a graded, individualised and progressive abdominal strengthening programme and should be commenced early in the pathway. Example exercises are detailed through the guidelines (e.g., Table 4).

2.3 Birth considerations

2.3.1 Caesarean section

Approximately 1 in 5 women deliver via abdominal caesarean section, although there is considerable variation in the prevalence of caesarean section worldwide and it can be influenced by many factors including health system policy and environment. Considering that caesarean section involves major abdominal wall surgery, the recovery phase is likely to last longer than uncomplicated vaginal delivery modes. Consideration of postpartum wound and tissue healing is needed in the first three phases (Recover; Review; Recondition). It is advised that you are cleared by your healthcare provider before you commence more vigorous exercise.

It is important to keep the wound dry and clean in the early stages without excessive loading and stretching of the abdominals (e.g., heavy lifting). Scar pain, both local and radiating, can occur post-caesarean and you can consider self-massage once sufficient healing has taken place, typically after 6 weeks.

2.3.2 Episiotomy and 1st and 2nd degree tears

An episiotomy is a surgical incision of the perineum and the posterior vaginal wall that is generally performed by a midwife or obstetrician and aims to lower the risk of significant perineal trauma during vaginal childbirth. Many women will experience minor perineal tearing during vaginal childbirth. This can range from small grazes or tears affecting the skin (1st degree) to tears affecting the muscle of the perineum and the skin (2nd degree). More significant tearing (3rd and 4th degree) will be discussed further below. Both episiotomies and 2nd degree tears will require suturing but are unlikely to cause long-term problems, although they can be very sore initially. You must pay early attention to keeping the wound clean and dry, with appropriate checks from your healthcare provider.

2.3.3 3rd and 4th degree tears

Significant perineal trauma (3rd and 4th degree) is referred to as obstetric anal sphincter injury (OASI) and occurs in approximately 3 in every 100 women during vaginal childbirth. OASI refers to a tear in the perineum that extends into the anal sphincter complex. For some women, OASI can lead to long-lasting complications including difficulty controlling their bowels or holding in wind. OASI are always repaired by an Obstetrician in theatre and should involve postpartum follow-up with the obstetrics team. Players with more extensive tearing may require a prolonged Phase 1 (Recovery) and be under healthcare provider for a longer period of time. If you have experienced an OASI you should have clearance from your healthcare provider before commencing the pathway and returning to rugby.

2.3.4 Medical complications

Any identified medical complications during pregnancy, childbirth or postpartum should be monitored and managed accordingly with the appropriate medical professional. For example, if you were diagnosed with gestational diabetes or obstetric cholestasis you should be followed up by an appropriate medical professional (e.g. GP, Obstetrician) to ensure your symptoms resolve postpartum.

Table 4. Example exercises for Phase 1 (recovery) of return to rugby postpartum

Focus	Examples
Pelvic floor	PFMT in varied positions (e,g., lying, side lying, sitting, standing)
	Diaphragmatic breathing
Abdominal wall	Low load abdominal muscle contractions in varied positions. This could be challenged with arm movements, squeezing a ball between your knees or pulling a resistance band between your arms
Mobility	Pelvic tilts, knee rolling, thoracic mobility, pectoral stretches, hamstring/gluteal/quadriceps stretches

PFMT = pelvic floor muscle training.

2.4 Breast health

During pregnancy the breasts undergo a number of anatomical and physiological changes as they prepare for lactation. In the postpartum period, the breast considerations during return to rugby will differ for those who breastfeed and those who do not. In non-breastfeeding players, breast size will begin to reduce towards your pre-pregnancy state which may take 3-4 months. If you are breastfeeding, your breast size will undergo frequent fluctuations due to the production and removal of breast milk.

You should be supported in your ability and choice to breastfeed and ideally clubs should provide appropriate provision for women for as long as required, such as a room to breastfeed and/or express in as well as milk storage facilities. Nipple pain and injury due to breastfeeding are prevalent, but usually resolve within 7-10 days. Few treatments have been found to be effective, with no treatment or applying expressed milk being similar to or better than applying ointment.

2.5 Mental health

Mental health must be considered throughout the postpartum return to rugby period. Several postpartum related mental health disorders are prevalent such as postnatal depression, anxiety and stress. If you are concerned about any aspect of your mental health you are encouraged to seek support from appropriate health professionals and speak with peers, family and/or members of your team if you feel comfortable to do so.

You should also be aware of the profound effect that lack of sleep can have on mental health conditions. Therefore, good sleep hygiene habits are vital, such as minimising screen time and caffeine before bed, sleeping in a cool environment and trying to sleep when the baby does in the early phases.

2.6 Neurodivergent considerations

Changes to a player's routine (e.g., less exercise, unpredictability of day-to-day living) can be challenging for any player, but particularly for neurodivergent players. Additionally, sensory overload from birth can occur for certain neurodivergent conditions. For these reasons, mental health must be viewed with an understanding of a player's neurodivergent condition. Preparation is key, putting in place appropriate support during pregnancy is advised. For example, letting healthcare providers

know of a player's diagnosis and informing friends, and family what changes may be challenging. Neurodivergent resources can be found here and here.

2.7 Nutrition

Nutrition plays an essential role in postpartum recovery to optimise healing, support hypertrophic gains after the deconditioning period and ensuring energy demands can be met. Try to eat a balanced diet with nutrient dense foods, sufficient hydration and vitamin D. Breastfeeding players will require additional intake to avoid low energy availability which is discussed in Phase 2.

Table 5. Guidelines for Phase 1 (recovery) of return to rugby postpartum including pelvic floor, whole body strengthening, whole body conditioning, skills, breast health and milestones*

Phase 1: Recovery (0-3 weeks minimum)						
Pelvic floor	**Strengthening**	**Conditioning**	**Skills**	**Breast health**	**Mental health**	**Milestones**
Self-led player education on pelvic floor, bladder and bowel hygiene Daily PFMT Diaphragmatic breathing Ongoing communication with healthcare providers	Low load abdominal exercises Mobility exercises	Walking and re-exposure to normal functional tasks	Nil	Breastfeeding support if required from healthcare providers	Screening for postnatal depression Good sleep hygiene	No infection or complications from delivery limiting progression Psychological readiness to progress No reliance on pain medication

*neurodivergent considerations should be applied for neurodivergent players. PFMT = pelvic floor muscle training

3. Phase 2 (Review)

Phase 2 exposes you to a more familiar strength and conditioning programme. Ongoing 'self-screening' is vital and symptoms should not be ignored or deemed "normal". You should 'self-screen' for symptoms not only during exercise, but within the subsequent 24–48-hour period to ensure the appropriate level of exercise is being performed.

3.1 Pelvic floor

Phase 2 is an important time to continue PFMT to prepare the muscles to tolerate rugby demands. This includes coordination of exercises (a full contraction and relaxation) in varied positions (e.g., lying, sitting, standing), including rugby specific positions (e.g. scrum position). You may find focusing on pelvic floor muscle contractions during exhalation easier and completing rapid, strong, and purposeful contractions with symptomatic rugby tasks useful such as during a jump for example, to encourage automatic activity of the abdominal and pelvic floor muscles. This is known as the "knack technique" and has proven effective in athletic pelvic floor training regimes. Table 6 summarises these strategies.

Table 6. Example pelvic floor muscle progressions and contraction strategies

Progressive functional pelvic floor strategies
1. *Education and identification of the pelvic floor*: Begin focused PFMT
2. *Strength and endurance progressions:* Increased repetitions and length of contraction in standing. For example, 1-2 rapid maximum voluntary contractions and 8-12 maximum voluntary contractions aiming to progress holds to 10 seconds
3. *Functional progressions:* Contract the pelvic floor muscles during symptomatic tasks (note that this should not be something players have to think of in a game, it is a training exercise to feed forward pelvic floor muscle activity when needed)
4. *Exhaling on effort ("blow as you go")* may be a useful strategy to continue to encourage reflexive pelvic floor activity
5. Ongoing directed intervention by pelvic health physiotherapist
6. Revert through strategies above if new symptoms present

3.2 Strengthening

Strength training is an important aspect of your rehabilitation as you will have varying levels of muscle atrophy (wasting) depending on your pregnancy exercise levels. A progressive exposure to higher loads (weight) and speed of movement is advocated, commencing in less loaded positions initially such as lying and seated to support healing of the pelvic floor and abdominal wall (Table 7).

As healing progresses and symptoms allow, body weight exercises can be reintroduced in standing, with a focus on good form and endurance completing high repetitions. Double leg and body weight exercises are advised initially and will include graded exposure to more common lower body strength movements such as squats and Romanian dead lifts. This should be progressed to include single leg balance and strength training. These have been shown to be effective within lower limb injury prevention programmes such as World Rugby's Activate Programme. This programme demonstrates a graded progression of plyometrics and is a useful tool if you have minimal supervision.

It is important that all key muscle groups are included in the upper and lower limbs, alongside a progressive pelvic floor and abdominal loading programme. You are also encouraged to include neck and shoulder exercises as you will have been absent from contact events for an extended period.

Ongoing mobility exercises for the spine and all muscle groups are encouraged. Pain should not be considered a normal part of the postpartum rehabilitation process and should serve as an indication to modify the exercise and limit further progression of load and intensity. If this persists, assessment should be sought by a physiotherapist. As with any rehabilitation and strength programme rest days are important, even more so in the postpartum period. You should continue to self-screen with any change in exercise type before progressions are made.

3.3 Conditioning

Through this phase you can increase daily functional tasks, walking distance and intensity. As the phase progresses and comfort allows, you can begin non-impact conditioning progressions such as a static bike, seated ski erg, cross trainer, swimming (after 8 weeks). Duration and volume should increase slowly and before intensity, with rest days promoted between conditioning session in the early weeks.

3.4 Skills

You can begin short range static drills, such as passing starting in sitting and progressing to standing with increasing distance if symptoms are absent and you want to. Equally there is plenty of time to progress skills through the pathway and they will need to be started later in this phase if you have had a caesarean section.

3.5 Breast health

Ensuring correct bra fit is an important consideration as you begin exercising again, as a poor bra fit can result in greater breast motion, pain, discomfort, and friction. Your breast size may have changed and not returned to pre-pregnancy size. Additionally, depending on ability and choice to breastfeed, breast size may fluctuate during the postpartum period and stay increased up to 24 weeks postpartum. Checking bra fit is recommended as you progress your return to rugby, particularly when transitioning to high impact non-contact activities (see World Rugby's breast health resource). Such activities can expose players to considerable breast motion and cause breast pain, which may affect playing ability. Additionally, friction between breast tissue and a sports bra caused by breast motion can lead to injuries, which are more prevalent in females with larger breasts and in contact sports. Friction may also exacerbate breastfeeding related nipple injuries. Therefore, it is important to continue to monitor your soreness and ensure your breast support is relative to the exercise intensity.

Frictional injuries can be reduced by applying tape, ointment or anti-chafe cream to the skin. Additionally, such injuries can be reduced by wearing a: 1) correctly fitted sports bra that limits motion between the bra and skin; 2) sports bra made from soft, smooth and moisture-wicking material to keep the skin dry and; 3) sports bra with non-abrasive seams, hooks / fasteners / zippers.

Whilst there is no evidence regarding the effect of playing rugby on milk composition or lactation, it is advised that you breastfeed or express prior to undertaking exercise to avoid playing with engorged breasts.

3.6 Mental health

Phase 1 considerations should be applied in Phase 2. Additionally, access to a peer-group may enable you to share experiences with others who have returned postpartum or are going through their own return to rugby postpartum.

3.7 Neurodivergent considerations

As players grade back into physical exercise considerations must also be given to the cognitive load for neurodivergent players. Accommodating additional cognitive load required to plan and organise daily tasks for themselves and their baby, alongside social reintegration should be undertaken one-step at a time. Players and their support teams may wish to consider a 'buddy system', ensuring a player has someone who understands their neurodivergent needs and who will reach out to them when appropriate or exploring alternatives to face-to-face communication. Understanding what works best for a player is paramount.

3.8 Nutrition

As exercise demands increase in Phase 2, you should continue with a nutritionally dense diet that matches energy expenditure (e.g., calorie and energy intake is sufficient for the level of exercise you are completing). Many athletes have spoken about concerns around body image postpartum, and pressures for returning to pre-pregnancy athletic status. In some cases, such pressures may result in low energy availability, intentionally or unintentionally due to altered energy intake and or increased energy expenditure. The 2023 International Olympic Committee's (IOC) consensus statement identifies how 'problematic' low energy availability can have profound health and performance implications known as relative energy deficiency in sport (REDs). This is a syndrome of impaired physiological and or psychological functioning with potential detrimental outcomes. REDs can compromise bone health and increase the risk of stress fractures, which are reported in postpartum athletes. This may be further compounded by sudden increases in training intensity. Furthermore, REDs can increase the risk of pelvic floor dysfunction, fertility issues and impairments in performance.

The community pathway assumes that nutritional support is not available and therefore if you are concerned about symptoms you present with you are encouraged to speak to your healthcare provider.

Postpartum women who breastfeed may not always be meeting nutritional needs, which is important to ensure milk supply is maintained whilst progressing through the stages. Players are encouraged to stay well hydrated and have a healthy, balanced diet that considers the energy requirements needed to maintain breastfeeding and perform increasing levels (volume, frequency and intensity) of exercise.

Table 7. Example exercises for Phase 2 (review) of return to rugby postpartum

Focus	Exercise examples
Pelvic floor	1-2 rapid maximum voluntary contractions 8-12 maximum voluntary contractions aiming to hold for 10 seconds each. Repeat 2-3 times per day
Abdominals	*Early phase* Quadruped (add arm/leg lifts, supermans) Lying on your back: arm lifts, single leg lifts, knee/arm dropouts, band pulls, ball squeezes Deadbug exercises starting with one foot down, Standing: band pulls, arm raises, *Mid to late phase* Quadruped*;* crouched exercises, supermans Deadbug progressions- add weight- progress to tabletop positions Curl up tasks Kneeling side plank Standing: pallof, progressive cross body exercises (light band/weight)
Strength	*Early phase* Lower body: Bridge, step ups, heel raises, side lying gluteal/adductor exercises, leg press/extensions, resisted hip flexions, gymball curls Upper body: Seated or lying upper body work (to include push and pull) and rotator cuff exercises, incline press ups Neck: lying on your back neck drills: deep neck flexor with isometric flexion, extension, lateral flexion and rotation *Mid to late phase* Lower body: Squat, lunges, Romanian dead lifts, split squats, standing adductor/hip flexor/gluteal exercises. Single leg calf and proprioceptive exercises. Upper body: Standing exercises to include push, pull and rotator cuff. Neck: Resisted banded drills and therapist led perturbations in all positions
Conditioning	Progressive walking Non-impact options (Bike, cross trainer, swimming, ski ergometer)

Table 8. Guidelines for Phase 2 (review) of return to rugby postpartum including pelvic floor, muscle strengthening, cardiovascular conditioning, skills, breast health and milestones*

Phase 2: Review (3-8 weeks minimum)						
Pelvic floor	**Strengthening**	**Conditioning**	**Skills**	**Breast Health**	**Mental health**	**Milestones**
Daily PFMT Request women's health review if PFD symptoms present	Progressive upper body, lower body, neck and abdominal loading Endurance focus Progress to more dynamic positions with light weight through the phase	Progressive walking distance and intensity Non-impact conditioning	Video analysis work Seated or static standing passing skills Short range kicking drills Walking passing drills towards end of phase	Monitor breast pain, frictional injuries and sports bra fit Breastfeeding support if required from healthcare providers	Screening for postnatal depression Access to a peer support group	No complications from delivery limiting progression No symptoms of PFD Actively engaging in PFMT No reliance on pain medication Psychological readiness to progress

*neurodivergent considerations should be applied for neurodivergent players. PFMT = pelvic floor muscle training. PFD = pelvic floor dysfunction.

4. **Phase 3 (Recondition)**

Phase 3 prepares and facilitates players to return to impact and running, as well as more loaded traditional rugby strength and power development exercises (Tables 9 and 10). It also encourages more position specific considerations and reintroduction of low-level skills in preparation for non-contact training in Phase 4.

Load management (duration, frequency and intensity of exercise) is crucial in this postpartum stage. It is important to consider personal "life loads", alongside the exercise progressions which may include mental health, sleep quality and quantity, breastfeeding, social support and childcare. Such life loads may impact on exercise intensity, duration and frequency given the effects that reduced sleep can have on injury risk, performance, and strength gains. We therefore recommend using World Rugby's load management resources to support your return to rugby from Phase 3 onwards.

4.1 Pelvic floor

PFMT should continue, and exercise should be focused on training in functional positions (e.g., standing, forward lean, scrum positions). If you are symptom free, this can be reduced from a daily effort to one to two times per week. Submaximal endurance repetitions can be incorporated. You should be able to complete a 60 seconds submaximal 30-50% contraction.

Symptoms of PFD may first present during Phase 3 as volume increases and you begin to increase exposure to impact. If you do leak urine, you should avoid frequent pre-exercise bladder emptying and or limiting fluid intake as management tools as this can develop into other bladder related problems. Whilst you may be able to continue to train alongside your pelvic floor rehabilitation for symptoms, you should continue to advocate for a pelvic health or gynaecological assessment if symptoms continue.

4.2 Strengthening

Towards the end of this phase you can return to high-speed running so you require adequate muscle strength in all muscle groups, including hamstring conditioning. As you increase weight to strength-based exercises, repetitions will likely be reduced. Power-based exercises should be introduced alongside your progressive abdominal strengthening exercises.

Objective testing can help you make informed decisions about your readiness to return to rugby. The community pathway assumes minimal resources for testing however there are some tests which require minimal equipment. For example, endurance testing for single leg calf raises, squats and leg bridges. You should be able to perform between 20 and 30 repetitions, as a minimum, on each leg. Gym-based markers such as one and three repetition maximum lifts could also be considered and it is recommended that you achieve 90% of your previous strength markers (if available) prior to integrating into non-contact training. Position specific exercises should also be integrated into this phase to prepare for training (Table 9).

4.3 Conditioning

It is important that your body is prepared for running with sufficient muscular strength and graded exposure to impact without pelvic floor symptoms or pain. You can begin with slow plyometrics such as box jumps before progressing to faster and more continuous plyometrics like skipping and then hopping/pogos once you feel confident (see Table 11 for exercise examples).

On average, postpartum women return to running at 12 weeks, depending on symptom presentation. Before doing level running, you could perform incline running uphill or water-based running for a more gradual exposure to impact forces. If symptom free, you should progress running volume and

intensity through gradual increases in distance covered and speed. It is recommended that only one variable, volume or intensity, be increased at a time and running should initially be performed on non-consecutive days to minimise the risk of soft tissue injury and allow monitoring of symptom responses.

You can then move on to rugby-specific running demands including high-speed running, deceleration, acceleration and change of direction. Towards the end of this phase you should be able to perform multi-directional tasks at speed and without symptoms (Table 9).

You should target being able to perform your pre-pregnancy rugby running demands before return to match play. An average elite female rugby union match player would cover between 5000 m and 6000 m so is a rough guide if you do not have any previous data. You may start at 1000 m broken into shorter runs, with walking recovery before incrementally increasing speed and distance with decreasing recovery times. Other tests such as the bronco may be useful markers for you to assess your fitness level.

Whilst running-related pain is common postpartum, pain should serve as a guide to reduce running volume or intensity and to seek further support if there is no improvement. It is not uncommon for shoe size to increase post pregnancy and therefore you are advised to check your boot size for comfort once running commences to minimise the risk of foot

pain and friction injuries.

4.4 Skills

Skills can be undertaken with progressive movement (e.g., from static, to walking, to jogging) and non-contact position-specific skills (Table 9) can be incorporated into your rehabilitation program in preparation for Phase 4.

4.5 Breast health

Phase 2 considerations should be applied in Phase 3. You should continue to check your bra fit where possible (including support level) each time you select your bra for training.

4.6 Mental health

Phase 2 considerations should be applied in Phase 3. As you begin to gradually progress the volume and intensity of exercise, your psychological readiness to return to exercise should be considered. The pathway assumes a lack of sport psychology support and therefore it is likely you will predominantly determine your readiness to return to training. We encourage asking yourself the following:

- Do you feel insecure about returning to rugby?
- Do you think you will be able to present the same rugby performance that you had before your pregnancy?
- Do you trust your body postpartum?
- Do you feel ready to return to rugby?
- Do you believe your abilities in rugby will be compromised by recovering from your pregnancy?
- Do you feel pressure to return to rugby?
- Are you afraid to perform some movements with your body?
- Do I feel psychologically prepared to return to rugby? (*neurodivergent consideration*)
- Is my nervous system in the right place to return to rugby? (*neurodivergent consideration*)

Answers should then be discussed with coaches, other staff and/or peers if available to determine if you feel ready to return to team-based activities.

4.7 Nutrition

With increasing exercise demands, it is vital that athletes continue to pay attention to sufficient energy intake and hydration to avoid problematic low energy availability.

Table 9. Example exercise based on rugby position and its associated demands

Position	Demands	Exercises
Hookers	Line out throwing requiring thoracic mobility, overhead strength and stability	Progressive throwing distance (begin short range) Shoulder press Medicine ball throws
Front row	Scrummaging	Neck strengthening Horizontal shoulder abduction/adduction exercises Progressive scrum exposure: scrum machine, 1v1, 3v3, 5v5, 8v8
Forwards	Increased short range collisions Line out lifting (shoulder mobility and strength) Line out jumping (shoulder mobility, abdominal strength, landing competencies)	Progressive contact intensity (e.g., 25-50-75-100%) Band/weighted bag lifts Progressive drop jumps including unstable surfaces Anti extension core drills
Backs	Higher running volume and tackling in open play	Progressive speed of footwork and agility drills Progressive contact exposure (e.g., walking, planned drills to reactive skills)
Kickers	Box, goal, field kicks requiring sufficient hip mobility, stance leg stability, hip strength, hamstring length and strength	Banded adduction Copenhagens Resisted hip flexor exercises with varying speeds Hip/hamstring mobility drills

Table 10. Guidelines for Phase 3 (recondition) of return to rugby postpartum including pelvic floor, whole body strengthening, whole body conditioning, skills, breast health and milestones*

Phase 3 (Recondition): Plyometrics & running (8-14 weeks)						
Pelvic floor	**Strengthening**	**Conditioning**	**Skills**	**Breast health**	**Mental health**	**Milestones**
Standing PFMT 1 – 2 times per week (Table 11) Request women's health referral if PFD symptoms present	Add weight to exercises in all planes Position specific exercises	Continue non-impact conditioning Progressive plyometrics Running progressions: • Incline/anti-gravity/stairs • Straight line • Increased speed • Change of direction, acceleration, and deceleration drills	Skills can be progressed from static- walking-jogging Begin position specific non-contact skills	Monitor breast pain, frictional injuries and sports bra fit Breastfeeding support if required from healthcare providers	Screening for postnatal depression Access to a peer support group	Pain free during running Strength markers within 90% (if available) No symptoms of PFD Lower limb muscle endurance between 20 and 30 repetitions Psychological readiness to return to rugby

*neurodivergent considerations should be applied for neurodivergent players. PFMT = pelvic floor muscle training. PFD = pelvic floor dysfunction.

Table 11. Example exercises for Phase 3 (recondition) of return to rugby postpartum

Focus	Exercises
Pelvic floor	Standing: 8-12 reps of 10 seconds maximal voluntary contractions 60 seconds submaximal 30-50% contraction Repeated 1-2 times a week
Abdominals	Progress from kneeling to full plank variations including mountain climbers and jackknives Weight progressions to exercises eg curl up tasks, dead bugs, pallof, wood chops, trunk twists, medball slams
Strength	Lower body: Add progressive weight and speed to exercises. Exercises promoting triple extension including single leg strengthening and balance. Power based exercises such as cleans, trap bar jumps, prowler push Upper body: Add progressive weight and speed to exercises. Power based exercises such as explosive bench, medball throws, landmine throws, press ups Neck: Resisted banded/weighted drills in functional positions
Conditioning	*Early phase plyometrics:* Box jumps "on" Squat to heel raise (increase 'bounce') Lunge to lock out Horizontal plyometrics: incline jumping jacks Consider water based/band assisted plyometrics *Late phase plyometrics* Broad jumps Increasing height box jumps to include jumps "off" Single leg hops including multidirectional work *Running preparation* Consider water, antigravity and stair runs initially Running drills such as A, B skips, lock out drills. *Running progressions* Graded increase in running volume on non-consecutive days initially

5. **Phases 4 and 5 (Return to training)**

Phases 4 and 5 facilitate a return to team-based rugby integration progressing from non-contact rugby (Phase 4; Table 14) to contact rugby (Phase 5; Table 15).

5.1 Non-contact rugby

In terms of *pelvic floor,* you should continue with PFMT if you have symptoms.

Progressive weight can be added to *strengthening* exercises. It is vital to continue with all strength exercises including neck and shoulder strengthening in preparation for contact events.

In terms of *conditioning*, progressive involvement with the team and training volume is promoted as you feel confident to and have achieved consistent running volume. Large changes in training load (volume or intensity) should be avoided due to the potential increase in injury risk.

You must feel physically and psychologically ready to progress to *contact-training* before contact drills are initiated. We recommend following World Rugby's 'Tackle Ready' and 'Contacts Confident' (Table 11 and 12). Progression through these programmes should be supervised by coaching staff where possible. Example progressions include static tackle positions before adding planned and unplanned movement, small-sided contact drills and then live play in phase 5. Additionally, you can undertake position-specific contact skills such as scrum progressions.

In terms of *breast health,* Phase 2 considerations should be applied in Phase 4. Additionally, your sports bra fit and support may also need to be reassessed to ensure it is sufficient for the exercise intensity being undertaken.

In terms of *mental health*, Phase 2 considerations should be applied in Phase 4. You can continue to assess your psychological readiness to return to rugby using the questions suggested in Phase 3.

In terms of *neurodivergent considerations*, Phase 2 considerations should be applied in Phase 4. You can continue to assess your psychological readiness to return to rugby using the questions suggested in Phase 3.

In terms of *nutrition*, training load will continue to increase through this phase so you should remember the significance of matching energy intake to energy expenditure, even more so if you are breastfeeding to avoid REDs.

Menstruation does not always return immediately following childbirth for the majority of women, particularly those who continue to breastfeed or if you are using contraception. You should therefore pay attention to other symptoms that may indicate inadequate fueling or overtraining such as excessive fatigue and injuries. If your periods have returned, menstrual symptoms and cycle length may be different to pre-pregnancy so we recommend menstrual cycle tracking in all postpartum players (see World Rugby's menstrual cycle resource).

5.2 Contact rugby

Phase 5 sees you return to full contact training, once you and coaches (if available) feel you are competent to do so.

In terms of pelvic floor, you should continue to self-screen for any symptoms as you increase the level of contact you are exposed to and continue with PFMT or seek a referral if symptoms persist.
In terms of *strengthening and conditioning*, you should continue with your weekly individual strengthening regimes that address your upper and lower limbs, abdominals and neck. Strength is

viewed as a modifiable risk factor for several injuries and neck strength may be particularly important for reducing the risk of concussion.

In terms of *skills*, it is imperative that you have completed a sufficient volume of contact exposure prior to return to play, and that you feel both psychologically ready and technically competent to minimise the risk of injury. Depending on your playing level and how often you are exposed to contact, this phase will take varying amounts of time to ensure you are prepared for contact events. We recommend continuing to follow World Rugby's 'Tackle Ready' programme (Table 12).

In terms of *breast health,* Phase 2 considerations should be applied in Phase 5. In addition, the potential for breast contact-related injuries warrants attention as nearly 70% of female rugby players have experienced contact-related breast injuries. Players with larger breasts and those who continue to breastfeed should consider their sports bra and the level of support they provide as there are currently no World Rugby approved breast protection pieces of equipment.

If you are breastfeeding and sustain a contact injury that results in tender and swollen breasts then breastfeeding *may* be advised to cease to limit the pooling of milk within the breast. In such circumstances guidance should be accessed from appropriate medical and lactation specialists for the appropriate management.

In terms of *mental health*, Phase 2 considerations should be applied in Phase 5.

In terms of *neurodivergent considerations*, Phase 2 considerations should be applied in Phase 5.

In terms of *nutrition*, Phase 4 considerations should be applied in Phase 5.

Table 12. Guidelines for Phase 4 (return to non-contact training) of return to rugby postpartum including pelvic floor, strengthening, conditioning, skills, breast health and milestones*

Phase 4 (Return to training): Non-contact training (14 weeks minimum)						
Pelvic floor	**Strengthening**	**Conditioning**	**Skills**	**Breast health**	**Mental health**	**Milestones**
Standing PFMT 1-2 times per week Request women's health referral if PFD symptoms present	Continue to add weight to exercises Individualised exercise prescription as assessments identifies	Non-contact training (Progressive volume)	Progressive tackle, contact and position specific skills	Monitor breast pain, frictional injuries and sports bra fit	Screening for postnatal depression Access to a peer support group	Player physical and psychological readiness to progress Strength and endurance markers, within 90% of baseline Symptom free

*neurodivergent considerations should be applied for neurodivergent players. PFMT = pelvic floor muscle training. PFD = pelvic floor dysfunction.

Table 13. Guidelines for Phase 5 (return to contact training) of return to rugby postpartum including pelvic floor, strengthening, conditioning, skills, breast health and milestones*

Phase 5 (Return to training): Contact training (16 weeks minimum)						
Pelvic floor	**Strengthening**	**Conditioning**	**Skills**	**Breast health**	**Mental health**	**Milestones**
Request women's health referral if PFD symptoms present	Full team programme Individualised exercise prescription as assessments identifies	Full team training	Individual player needs	Monitor breast pain, frictional injuries, contact injuries and sports bra fit Breast protective equipment discussions Breastfeeding and potential injury risks discussions	Screening for postnatal depression Access to a peer support group Return to play support	Player physical and psychological readiness to progress All strength within 90%+ of baseline Symptom free Coach approved tackle competencies

*neurodivergent considerations should be applied for neurodivergent players. PFD = pelvic floor dysfunction.

6. **Phase 6 (Return to play)**

Once you have successfully progressed through Phases 1 to 5, you are able to return to match play (Phase 6; Table 14). A graded increase in minutes played is advocated to allow confidence and skill level to develop (e.g., you may play 20 – 40 minutes for the first few matches). However, the postpartum period does not end you have returned to play, with some defining postpartum as up to two years following childbirth. Therefore, we recommend that you continue to review and monitor PFD symptoms, as well as musculoskeletal pain and mental health for ideally two years, but at least the first year postpartum.

Additionally you should continue to assess your psychological readiness to return to rugby and where possible, involve all key members of the team in your decision, such as coaches and medical personnel (if available).

6.1 Pelvic floor

If PFD symptoms present or persist you are encouraged to seek support and an onward referral to a pelvic health specialist. Whilst being symptom free is promoted, we acknowledge that there may be scenarios where some symptoms are continuing to be managed and deemed safe to play.

6.2 Strengthening

You may perform your team's normal weights programme, in addition to any individualised training needs that you have highlighted throughout the pathway.

6.3 Conditioning

You may perform your team's normal conditioning programme.

6.4 Skills

It is recommended that you complete a **minimum** of four full weeks of unrestricted training with your team prior to playing a match. The longer time presented in the community compared to elite pathway is due to the likelihood that you will be exposed to fewer training hours perweek than those on the elite pathway. Normal training should include exposure to full contact and high-intensity non-contact activities.

6.5 Breast health

Phase 5 considerations should be applied in Phase 6. A sports bra fit and support should be reassessed if breastfeeding ceases.

6.6 Mental health

Phase 2 considerations should be applied in Phase 6. Whilst you may progress through the phases from a physiological perspective, your psychological readiness to return to play is paramount. Many women report the challenge with the transition to new mother-athlete identities, which can be difficult to navigate and take some time. Therefore, you should not return until you feel you are both physically and psychologically ready to do so.

6.7 Neurodivergent considerations

Phase 2 considerations should be applied in Phase 6.

6.8 Nutrition

You should continue to ensure an adequate energy intake to minimise the risk of REDs and ensure optimal health and injury prevention. You will most likely have returned to your pre-pregnancy diet and should ensure that any additional supplementations are in accordance with anti-doping policies.

7. **Summary**

A six-phased evidence-informed, return to rugby postpartum community guideline has been presented. The progressions and examples provided are not meant to be prescriptive but provide you with an adaptable template to support your rugby return, placing you and your child at its centre.

Table 14. Guidelines for Phase 6 (return to play) of return to rugby postpartum including pelvic floor, strengthening, conditioning, skills, breast health and milestones

Phase 6: Return to play (20 weeks minimum)						
Pelvic floor	**Strengthening**	**Conditioning**	**Skills**	**Breast health**	**Mental health**	**Milestones**
Request women's health referral if PFD symptoms present	Normal weights programme	Normal conditioning programme	Four weeks full contact training prior to returning to play	Monitor breast pain, frictional injuries, contact injuries and sports bra fit Re-assess sports bra fit once breastfeeding ceases	Screening for postnatal depression Access to a peer support group	Multi-disciplinary team deem player has both skill and conditioning ability to return to play safely All baseline data at 90-100% Baseline assessments for concussion and any other health problems should be re-tested Symptom free Player reported physical and psychological readiness to return to play

*neurodivergent considerations should be applied for neurodivergent players

8. **Appendices**

Appendix A:

8.1 Checklist for postpartum return to rugby

Phase 1 key summary criteria	**Completed**
1. Completing recovery strategies to promote healing (e.g., nutrition, relative rest, sleep, bladder and bowel strategies)	☐
2. Pelvic floor muscle training has commenced daily	☐
3. Communicated any postpartum physical or mental concerns with your healthcare provider	☐
4. No infection or complications from delivery limiting progression to Phase 2 are present	☐
5. No reliance on pain medication	☐
Phase 2 key summary criteria	**Completed**
6. Pelvic floor muscle training continues daily	☐
7. Pelvic health physiotherapy referral requested if pelvic floor dysfunction symptoms present	☐
8. Strength training has begun for all muscle groups, focusing on endurance and form before increased load	☐
9. Non-impact conditioning has commenced as comfort and symptoms allow	☐
10. Passing drills have commenced at your discretion	☐
11. Sports bra fitting is considered	☐
12. No symptoms of pelvic floor dysfunction	☐
Phase 3 key summary criteria	**Completed**
13. Pelvic floor muscle training continued, but reduced to 1-2 times per week in asymptomatic players	☐
14. Strength training has integrated higher loads (weight) and position specific exercises	☐
15. Progressive plyometrics and running has commenced in asymptomatic players (running should be pain free)	☐

16. Position specific non-contact skill progressions have been introduced	☐
17. No symptoms of pelvic floor dysfunction during strength progressions, plyometrics or running	☐
18. Lower limb strength within 90% of baseline data prior to engaging in non-contact training and endurance between 20-30 repetitions	☐
19. 90% of previous speed, endurance and or training volume achieved prior to engaging in non-contact training	☐
20. Psychological and physical readiness to begin non-contact training	☐
Phase 4 key summary criteria	**Completed**
21. Non-contact training with a graded increase in volume and intensity. Position specific skills continue to be addressed	☐
22. Tackle progressions have begun using World Rugby's 'Tackle ready' and 'Contact confident' programmes	☐
23. Sports bra fit reassessed (if available)	☐
24. Psychological and physical readiness to begin full contact training	☐
Phase 5 key summary criteria	**Completed**
25. Objective testing completed for all major muscle groups, strength 90%+ of baseline data (if available)	☐
26. Proficient tackle technique demonstrated including under fatigue	☐
27. For breastfeeding players: Breastfeeding and injury risks, and breast protective options considered	☐
28. No symptoms of pelvic floor dysfunction during non-contact and contact activities	☐
Phase 6 key summary criteria	**Completed**
29. Player has completed a minimum of 4 weeks full contact training prior to returning to play	☐
30. Coaches and performance teams deem player competent to return to play (if available)	☐
31. Baseline assessments for concussion and any other health problems have been re-tested (if appropriate)	☐
32. Psychological and physical readiness to return to match play	☐