

CASE EXAMPLE - "THE DIARY OF A LIMPING CYD"

Chapter 13

This case example is fictional. It does not represent a real person and does not claim to represent all of any service. It is, however, an example of how managing an injured athlete might incorporate the return-to-field-running program. It is written for the rehabilitation therapist, clinician or coach. It is intended to describe and inform how the return-to-field running program is prescribed to an injured athlete, from first consultation to return to sport. The athlete is fictional but the clinical evaluation process is common among my peers.

Week	Saturday	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday
1	Day zero	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
	Injury occurs	Acute self-management	Clinical assessment	Clinical review.	Clinical review	Review by correspondence	Clinical review
2	Day 7	Day 8	Day 9	Day 10	Day 11	Day 12	Day 13
	Team game day	Extended clinical review	Club training	Extra non-run day	Club training	Clinic review	Club training
3	Day 14	Day 15	Day 16	Day 17	Day 18	Day 19	Day 20
	Rest day	Begin phase 4b	Club training + clinical review by phone	Rest day	Club training	low intensity ESD non-run session	Club training
4	Day 21	Day 22	Day 23	Day 24	Day 25	Day 26	Day 27
	Clinical review	Club game day	Club recovery session	Rest day	Club training	Rest day	Club training - low intensity
5	Day 28						
	Club game day Return to play				Full team training		Continue team training

TWO DAYS POST INJURY (MONDAY)

Monday: Cyd (Cindy) is a 23 year playing state league soccer in the left back position. She injured her left medial gastrocnemius muscle in the 2nd half of a game on Saturday, two days ago. She was unable to continue after a sharp pain. She did notice tightness at the half time break but decided to stretch the calf, warm up again after the break and take the field. This is the first calf strain for her. Cyd has 5 weeks left of the regular season and is keen to regain her ability to play and contribute to the teams pending success - they sit 2nd on the table.

Cyd has been playing soccer since her mid-teens, and has been at State level for 3 seasons. She has some pre-season screening and testing information available:

Her pre-season Functional Movement Screen (FMS) testing revealed below competent trunk stability push up. She had at-or-above competent movement patterns in the other components of the FMS and was free of pain then. For a comprehensive review of the independent research around the FMS, you are encouraged to read “Functional Movement Screen in Referenced Journal Articles” (Barrow, K 2017).

Her pre-season Fundamental Capacity Screen (FCS)¹ testing revealed:

- Asymmetrical ankle mobility, limited on the left side

¹ <https://www.functionalmovement.com/system/fcs>

- Below minimum motor control on the left leg
- Below minimum motor control in both upper quarters
- Below minimum impact control and postural integrity under load.

Her pre-season run testing revealed:

- Maximum Aerobic Speed of 3.8m/s

Cyd manages to be in bed each evening by 10pm, sleeping by 10:30pm. She is completing university studies in business and is often completing studies before bed. She rises at 6am each day for pre-work study and/or training.

Cyd has no specific nutritional requirements but is occasionally intolerant of dairy.

While this is Cyd's first calf strain, she has had low back pain intermittently for parts of this season, particularly since a heavy tackle where she landed on her left pelvis. This injury resolved quickly initially, without consultation with myself or other clinicians, but the intermittent low back pain persists.

Cyd intermittently takes Ibuprofen for low back pain. She has not taken any since her injury occurred. She takes no other medications.

Cyd appeared anxious about her injury and impending inability to play.

I decided to do a respiratory screen since Cyd appeared to demonstrate apical breathing during her discussion about the injury. She had a Functional Residual Capacity Screen of 18 seconds (below the recommended minimum of 25 seconds) and Total Lung Capacity Screen of 65 seconds².

Local orthopaedic testing is done on this first consultation. Cyd has pain with stretch and contraction of her left calf. Her calf circumference measures are symmetrical. She has no ankle swelling. There is blue bruising tracking from the medial left calf distally. The medial left gastrocnemius is tender to palpation approximately 10 centimetres (cm) from the popliteal fossa.

A Selective Functional Movement Assessment (SFMA)³ was carried out, my preferred system for revealing the cause of pain, or contributors to injury. A summary of findings are as follows:

- Cyd has mobility restrictions in the mid-foot, subtalar joint and inter tarsal joints of each foot, more so on the left than right.
- She has restricted tibial internal rotation bilaterally (10 degrees, compared to normal minimum of 20 degrees).
- Her modified Thomas Test indicates a mobility restriction with lateral chain tissue extensibility dysfunction, bilaterally.
- She has an active straight leg raise of 60 degrees bilaterally, but with a stabilised core she can achieve 80 degrees bilaterally,

² https://www.functionalmovement.com/Store/148/screening_and_assessing_breathing_a_multidimensional_approach

³ <https://www.functionalmovement.com/system/sfma>

indicating a stability or motor control dysfunction of the core, affecting bilateral active hip flexion.

- The FABER test is positive for left hip or sacroiliac joint mobility dysfunction - local biomechanical testing indicated a limited left Ilium to anterior-to-posterior translation, compared to posterior-to-anterior, and to right sacroiliac joint.
- A prone lumbar extension test was positive for pain. Her L5 is also rotated in static posture to the right.
- She has bilateral thoracic extension and rotation mobility dysfunction and a lumbar spine flexion limitation.
- She has limited bilateral shoulder extension of 20 degrees (normal minimum is 50 degrees).
- She also has bilateral cervical rotation limitations of less than 80 degrees. The C4 vertebrae is limited in left side flexion and rotations and in static posture rests rotated to the right.

Cyd was diagnosed by clinical examination with a medium grade left medial gastrocnemius strain. The nearby gastrocnemius and soleus had active myofascial trigger points. The above-listed mobility dysfunctions and stability/motor control dysfunctions were listed as potential causes, contributing factors or complicating factors. Cyd also demonstrated possible dysfunctional breathing behaviour.

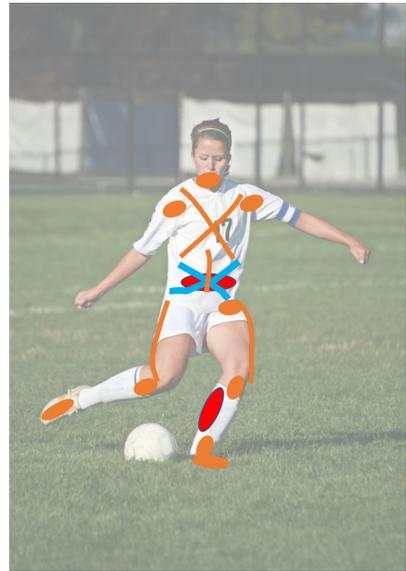
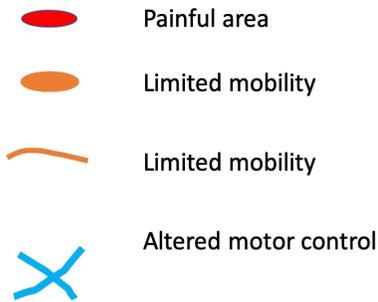


Figure 37: This case is not an isolated calf problem, it is a multiple-pattern person-problem noticed by the person as a calf pain.

Key messages:

- Cyd’s case is not an isolated calf problem - her case is a multiple-pattern person-problem noticed by her as a calf pain (figure 37).
- Rehabilitating the injured tissue does **not** guarantee that contributing factors, causative factors and complicating factors are addressed.
- Rehabilitating the person **does** guarantee that contributing factors, causative factors and complicating factors are addressed, in addition to the injured tissue being treated.

Key question to consider:

Q: “How do we approach rehabilitating the whole person with a short timeline?”

A plan was recommended for physical therapy to the left calf as well as contributing factors listed above - Cyd agreed and treatment commenced on the first consultation day which was day 3 post injury. She received appropriate manual therapy with muscle energy techniques to reset her L5 and C4 rotated segments, followed by motor control training to reset her fundamental breathing patterns, with a home exercise to continue the improvement demonstrated. She received dry needling therapy to the myofascial trigger points in her left calf, as well as mobilisation manual therapy techniques, with muscle energy techniques, to thoracic segments demonstrating limitations in movement. Post-treatment reassessment indicated a significant improvement in spine flexion mobility, thoracic extension and rotation mobility as well as bilateral shoulder extension mobility. Her prone lumbar extension test was not painful. Her left sacroiliac joint improved its “joint play” to anterior-to-posterior mobilisation. The left ankle and foot joint play improved. A calf compression garment was applied and Cyd went to a pool for controlled deep water walking to aid lymphatic drainage⁴.

⁴ <https://physiotherapy.ca/lymphatic-drainage-sprained-ankle-water-pressure>

Key message:

- Performance is a behaviour we can change quickly

It was estimated, to her, that her muscle injury would return to approximately 90% strength by 2 to 4 weeks. The addressing of potential causes, contributing factors and complicating factors was seen as ensuring she moved well enough to be tolerant of the patterns in her progressive loading process.

The mainstays of the program would be:

- Protecting the injured area.
- Correcting the competency attributes.
- Maintaining the capacity attributes.

Key considerations for calf injuries:

A calf injury indicates a failure to tolerate the energy storage-and-return demands of running. This may be a failure of preparatory or reflex isometric contraction - synonymous with altered motor control with capacity. This may be due to any number of unknowable causes. The tightness Cyd experienced at half time is likely to be the onset of active myofascial trigger points may be due to local muscle fatigue. Local muscle fatigue is worth discussing further. It was introduced earlier when discussing that the more efficient someone becomes with use of FFA, the higher the intensity is required to shift towards use of glycogen, delaying exhaustion.

Frans Bosch, coach and professor of motor learning, has said that in distance running you don't run out of energy - your neuromuscular system is no longer capable of timing everything so that you can do things elastically (Bosch, Frans 2014). So, we are led to ask. "how can you make running in field sports, which include elements of long distance running, more economical?" The answer may be, according to Bosch, to make it more elastic. Let me explain why.

Jogging and running fast have different amounts of vertical displacement that we must overcome to continue running forwards. There is more vertical displacement with jogging than there is with running fast. The vertical forces we have to *produce* are 7 times those of horizontal, according to Bosch. Also according to Bosch, the vertical displacement that has been calculated for marathon running is about a kilometre. So to *produce* energy with each step is very costly, compared to using isometrically-supported elasticity stored in passive elastic tissues such as ligaments and tendons. It has been reported that 80% of the energy required to overcome the vertical displacement and repositioning of legs, in running, can come from coordinated reuse of energy stored in tendons and ligaments of the lower limb. The tensioning of tendons occurs with pre-foot-strike isometric contraction of lower limb muscles, and reflexive tensioning at foot strike.

So, we see that there is a very low energy cost of isometric force compared to producing force, which costs approximately 4-5 times as much as isometric force, according to Bosch. So, producing force is less efficient and may contribute to early onset fatigue, a contributor to myofascial trigger points and strain injury.

Let's look more closely at the distribution of energy storage and return in the lower limb (figure 38):

Body part	Energy return available	Subtotal
Feet ligaments and tendons	17%	17%
Achilles Tendon	35%	52%

Figure 38: Energy returned to the lower limb during running from feet ligaments and tendons and the Achilles tendon.

- 17% of elastic return can come from the foot if you're able to co-ordinate everything right, that is, to store energy in the tendons and ligaments and recoil it (McNeill Alexander, R. 1987);
- 35% can come from the achilles tendon (McNeill Alexander, R. 1987).

That means approximately half of the energy required to overcome vertical displacement in running can come from the storage of energy and reutilisation of energy in the muscles and tendons of the lower leg, if you can coordinate it. This energy return is a combination of passive elastic spring tensioning of foot ligaments and reflex motor control within continuous patterns from subconscious central pattern generators. The reflexive tensioning of muscles attached to tendons in foot strike relies, to some extent, on mechanoreceptors in ligaments, capsule, tendons, muscles and skin. Any mobility restrictions can impair the detection of

movement by mechanoreceptors and impair reflexive feedback. Even though most of running is continuous patterning that relies less on feedback and more on central pattern generation feedforward, the requirement for adequate mobility to get joints and tissues into position to develop isometric pre-tension is so important for running economy. A failure of calf muscle motor control with capacity may be related to energy system deficiencies or failure of energy-storage-and-return in other parts of the lower limb, putting extra load onto the calf.

The above explanation gives some background to why the mobility limitations and asymmetries, and motor control problems, form part of the information we must account for when rehabilitating the person with a running-related injury. The alternative is to retrain a local part - the calf muscle - and not attend to the below-competent contributors or complicators of why the calf suffered a fatigue-related strain.

It is worth reiterating that the addressing of potential causes, contributing factors and complicating factors was seen as ensuring she moved well enough to be tolerant of the patterns in her progressive loading process.

THREE DAYS POST INJURY (TUESDAY)

- Cyd's FRC is now 35 seconds.
- Cyd is not limping today but she is sore from dry needling to the soleus and gastrocnemius on day 2.

- Treatment continued to address mobility and motor control limitations as per her initial evaluation results.
- Cyd is not yet tolerant of the weight bearing dorsiflexion position of the trunk stability push-up and motor control screens so I can not yet repeat pre-season testing of her deficits.
- Cyd began phase 1 lateral drills, at walking pace. Movement preparation consisted of mobility reinforcing exercises as well as motor control drills to address dysfunctions revealed in her evaluation.
- She then went to the pool for deep water running on a low to medium intensity ESD session (figure 39).

Aerobic glycolytic bias, supported by aerobic FFA-O						
	15 seconds moderate intensity continuous task		15 seconds moderate intensity continuous task		15 seconds moderate intensity continuous task	
	15 seconds rest		15 seconds rest		15 seconds rest	
Movement preparation	6 reps	Continuous exercise rated as very light to light	6 reps	Continuous exercise rated as very light to light	6 reps	Recovery
	Main body of work					
Up to 20 minutes	3 minutes	3 minutes	3 minutes	3 minutes	3 minutes	5 minutes
	Repeat 2-3 times					

Figure 39: Cyd’s low to medium intensity ESD session for shallow or deep water running.

FOUR DAYS POST INJURY (WEDNESDAY)

- Cyd has mild residual soreness, to touch, from dry needle therapy, and over the bruise, which is now yellow.
- She has no pain walking.
- She had no adverse effect of phase 1 lateral movement drills.
- Cyd demonstrated 34 degrees closed kinetic chain ankle dorsiflexion on the left, and right, with shoes off. Her open chain ankle dorsiflexion was 14 degrees on the left and 16 on the right (minimum normal is 20 degrees).
- Cyd had the ability, without pain, to get into the Trunk Stability Push Up testing position and scored 1. She had no pain on lumbar clearing test.
- Cyd demonstrated above minimum lower quarter motor control test as per the FCS.
- Cyd entered phase 2 return-to-run program at her club training venue with appropriate corrective exercises as per her movement evaluation.
- She did stationary soccer skills and finished with a low intensity ESD session on the stationary bike (figure 40).

Aerobic FFA-O bias, supported by aerobic glycolytic system	
	Continuous exercise at a rating of very light to somewhat heavy
Rehab exercises	Main body of training
Up to 20 minutes	30-60 minutes

Figure 40: Cyd's low intensity ESD session on the stationary bike.

FIVE DAYS POST INJURY (THURSDAY)

- Cyd completed 6 laps of the phase 2 return-to-run program on the previous day and has had no adverse effect. She had no pain during the session. Lateral drills were at low skipping speed.
- Cyd has had no relapses of her low back pain.
- Her FRC remains above minimum levels.
- Cyd corresponded the above details away from clinic.
- Today is a non-run day.
- Cyd did a medium to high intensity ESD session (figure 41), with 90-second intervals, 2 sets.

Anerobic (fast) glycolytic bias, supported by aerobic (slow) glycolytic system		
	90 seconds at <i>heavy</i>	
	90 seconds at <i>very light</i> RPE	
	2 to 4 reps	Rest
Movement preparation	Main body of work	
Up to 20 minutes	6 to 12 minutes	3 minutes
	2 to 3 sets	

Figure 41: Cyd's medium to high intensity non-run day ESD session.

SIX DAYS POST INJURY (FRIDAY)

- It is a run day and a low intensity club training is scheduled.
- Cyd will do a repeat of phase 2, stationary skills at club training, and a high intensity non-run ESD session (figure 42).
- Prior to training, she attended for a review of outcome measures and treatment as appropriate. There were no regressions and she remains pain-free.

Anaerobic fast glycolytic (lactic) and anerobic alactic system bias, supported by the aerobic systems		
	15 seconds at <i>heavy</i> to very heavy	
	15 seconds at <i>very light</i> RPE	
	10 to 12 reps	Rest
Movement preparation	Main body of work	
Up to 20 minutes	5 to 6 minutes	3 minutes
	1 to 2 sets	

Figure 42: Cyd's high intensity ESD training session

SEVEN DAYS POST INJURY (SATURDAY)

- Cyd has a non-training day.
- She attends her teams league match, determined to contribute where she can and use the absence of playing to recharge enthusiasm for the process.
- Cyd is encouraged that we haven't missed anything and she is on track. A review of her progress in outcome measures gives her some objective confirmation of this encouragement.

*There's always a way to rise, my friend,
Always a way to advance.
Yet the road that leads to Mount Success does not
pass by the way of chance,
but goes through stations of work and strive, through
the valley of Persevere.
And the one that succeeds while others fail must be
willing to pay most dear.
For there's always a way to fall my friend,
Always a way to slide,
And the ones you find at the foot of the hill,
All sought for an easy ride.
So on and up though the road be tough and the
storms come thick and fast.
There is room at the top for the one who tries,
And victory comes at last.*

*Alexander Lewis, Manhood-making: Studies in the
Elemental Principles of Success*

EIGHT DAYS POST INJURY (SUNDAY)

- Cyd has no pain, symmetrical ankle mobility, improved joint play in feet, knees, hips, lumbar spine, thoracic segments.
- She has normal shoulder extension movement, normal FABER testing, normal modified Thomas Test.
- She has a normal active plantar flexion in weight-bearing.

- Coming off an injury, a full Lower Quarter Y-Balance Test (LQYBT) (Plisky, P. J.; Rauh, M. J.; Kaminski, T. W.; Underwood, F. B. 2006, Herrington, L.; Hatcher, J.; Hatcher, A.; McNicholas, M. 2009, Plisky, P. J.; Gorman, P. P.; Butler, R. J.; Kiesel, K. B.; Underwood, F. B.; Elkins, B. 2009, Filipa, A.; Byrnes, R.; Paterno, M. V.; Myer, G. D.; Hewett, T. E. 2010, Gribble, P. A.; Hertel, J.; Plisky, P. 2012, Westrick, R. B.; Miller, J. M.; Carow, S. D.; Gerber, J. P. 2012, Butler, R. J.; Lehr, M. E.; Fink, M. L.; Kiesel, K. B.; Plisky, P. J. 2013, Shaffer, S. W.; Teyhen, D. S.; Lorensen, C. L.; Warren, R. L.; Koreerat, C. M.; Straseske, C. A.; Childs, J. D. 2013, Steffen, K.; Emery, C. A.; Romiti, M.; Kang, J.; Bizzini, M.; Dvorak, J.; Finch, C. F.; Meeuwisse, W. H. 2013, de Noronha, M.; Franca, L. C.; Hauptenthal, A.; Nunes, G. S. 2013, Smith, C. A.; Chimera, N. J.; Warren, M. 2015) is performed and Cyd demonstrates symmetry and above peer reach distances in all three directions while her composite score is above body-relative cut points.
- Her Trunk Stability Push Up test remains a score of 1 but her incline push up training has improved even in the last few days so that can perform competent pushups with her hands in a lower starting position than a few days ago.
- It is decided to test Cyd's postural integrity under load as part of the FCS battery. She meets minimum carry distance and time which she did not achieve in pre-season.
- Explosive control and impact control testing is not carried out since her running training thus far has been low impact.
- A decision is made to move to phase 3.

- Cyd completes 2 sets of 4 reps of 150m runs, as per the phase 3 return-to-run program, with 30 seconds walk recovery in between each repetition and 2 minutes rest after each 4 repetitions. Her run times through the 150m are 45 seconds, or thereabouts. It is decided she will do another set of 4 repetitions and she is able to maintain her speed. There is no post-run tightness. A post-training lower-quarter motor control screen is conducted and Cyd reaches beyond minimum levels, with symmetry. Also post training, Cyd asks if she can do extra training. She is prescribed a low intensity ESD session of 30 minutes duration. Nine days post injury (Monday)
- Today is Monday. Cyd is due to attend club training.
- She has done her run training on the Sunday, so participates in walking and skipping movement preparation drills with her team, stationary skills, then does a non-run-day ESD session of medium intensity, performing more repetitions per set than the previous time she did this session (figure 43). She feels fit and healthy and completes 3 rounds.
- Within Cyd's specific injury rehabilitation, she performs some of the following exercises, many of which are to be found in EXOS Performance Mentorships or the online EXOS Performance Specialist Certification⁵ :
 - Static Wall holds
 - Wall marching

⁵ <https://www.teamexos.com/exos-performance-specialist-certification-2/>

Aerobic (fast) glycolytic bias, supported by aerobic (slow) glycolytic system						
	15 seconds moderate intensity continuous task		15 seconds moderate intensity continuous task		15 seconds moderate intensity continuous task	
	15 seconds rest		15 seconds rest		15 seconds rest	
Movement preparation	10 reps	Continuous exercise rated as very light to light	10 reps	Continuous exercise rated as very light to light	10 reps	Recovery
	Main body of work					
Up to 20 minutes	5 minutes	1 minute	5 minutes	1 minute	5 minutes	5 minutes
	Repeat 2-3 times					

Figure 43: Cyd's medium intensity non-run-day ESD session for 10 reps per set.

- Wall Load and Lift - linear and crossover
- Sled-harness or partner-resisted marching and skipping drills
- A-marches, A-skips
- These exercises are chosen for the patterning benefits, trunk-stabilised benefits and progressive loading benefits.

TEN DAYS POST INJURY (TUESDAY)

Today is a non-club day and Cyd is due to run. She asks whether she can do an extra non-run-day ESD session today and move her run day to the next day so she can do it at club training. It is important that she is seen by the coach and team to be running. This is a positive step in her being involved in her training and it is agreed.

- Cyd does a 60-minute low-intensity ESD session, alternating between treadmill walking with a weighted vest and a circuit of exercises in the gym of her choosing that she is familiar with, including cycling and rowing.
- Cyd finishes with a 20 minute breathing session in supine to reset her breathing pattern.

ELEVEN DAYS POST INJURY (WEDNESDAY)

Three days prior, Cyd ran her 150m repetitions in 45 second, at 3m/s. Her MAS from pre-season was 3.8m/s. Critical speed is approximately 85% of MAS, so Cyd's critical speed is approximately 3.2m/s. Her phase 3 run, therefore, was done near critical speed, without setback or deterioration in speed. It is decided that Cyd will progress to phase 4 at club training.

- Cyd does phase 4a and manages to get through three quarters of the interval runs before admitting she could not hold the middle zone speeds in the 3rd set, slowing to be outside the 7.5 seconds limit.

40m-20m-40m x 6 (30/3) → 4 to 4.5 seconds for the
middle 20m zone

40m-30m-30m x 6 (30/3) → 5.25 to 5.75 seconds for
the middle 30m zone

30m-40m-30m x 6 (30/3) → 6.5 to 7.5 seconds for the
middle 40m zone

- She does not complete the final 6 intervals but completes the figure 8, S-runs and box run without a problem.
- Cyd joins in some small-zone heading and passing skills

TWELVE DAYS POST INJURY (THURSDAY)

- Cyd attends clinic.
- She maintains her ankle dorsiflexion symmetry, motor control competency. She is free of low back pain and has competent thoracic extension and rotation. Her neck has better movement but still is below normal rotation and flexion movement. Cyd has lost some hip extension and external rotation mobility and she has lost some mid-foot and subtler joint play. Cyd admits she has had a busy night of study for an assignment that is due.
- Cyd mentions that a friend told her she should be doing calf raises (or heel-raises) as part of her rehab so she asks for advice on this. I explain that her strength at 1 BW is assured, since she can do one single heel-raise. Her strength endurance, as measured by repeated heel-raises, is still at 1 BW, compared to the requirement to tolerate higher than 3 BW in running for many more contacts than she is likely to do in a set of repeated heel-raises. I assure her that she has more than enough strength

endurance and power for running given what she has already done. To ease her concerns, I ask her to do a single set, per leg, of heel raises. She performs 30 each leg before she starts to feel the lactic-acid-type fatigue. I stop her at 30. She is satisfied that she is on-track without calf-raises.

- I intend to test Cyd in the FCS today, but given her near all out heel-raise effort, I mobilise her hip, feet and cervical mobility restrictions.
- Cyd demonstrates above cut-point explosive control in the FCS, as well as symmetry in single leg explosive control. Her impact control is deficient and this is bilateral. Her movement preparation is adjusted to include exercises to improve this.
- Cyd does a medium intensity ESD session of deep-water running.

THIRTEEN DAYS POST INJURY (FRIDAY)

- Cyd's team has a low intensity training session. She attends to continue her return-to-run program, completing all 24 repetitions of intervals, maintaining speed through the middle zones.
- Cyd completes the additional figure 8-run and does some ball-work in a small-square with 2 other players.

FOURTEEN DAYS POST INJURY (SATURDAY)

- Cyd's team plays tomorrow (Sunday) so she has Saturday as a rest day.

FIFTEEN DAYS POST INJURY (SUNDAY)

- Cyd does phase 4b prior to training and, to her surprise and delight, is able to complete all 24 intervals in faster times than she did two days prior. She is running late for the game and leaves the additional drills for another session.

SIXTEEN DAYS POST INJURY (MONDAY)

- Cyd checks in by phone and feels a little tight all over but is not suffering anything that stands out.
- The team attends for a pool-session and I recommend Cyd joins in with them, without restriction.

SEVENTEEN DAYS POST INJURY (TUESDAY)

- Since Cyd is in phase 4b, with a 2-day non-run period in between runs, and her next day is a club training day, Cyd has a rest day today. She feels good and does not request any treatment. She even advises that she has been taking more regular study breaks to do neck and hip mobility and motor control drills. The foot mobility drills are making her feel great, in her own words.

EIGHTEEN DAYS POST INJURY (WEDNESDAY)

- Cyd attends training and with my approval, moves straight to phase 5. The coach, unbeknown to Cyd, has the rest of the squad join in with her movement preparation for 20 minutes before splitting them off to do their specific training.
- Cyd completes phase 5 without a problem. She rings me after training and asks about the next step. I advise her that she has two options:
 1. to repeat phase 5 as a confidence booster or
 2. to progress to phase 6 which is a return to club training.
- Cyd has missed 19 days of training so according to the criteria for being available for match selection, she needs to do 3 days of full club training before she is available for match selection. The club has a Sunday game this week, then a Saturday game the following week. If she joins in club training on Friday and Wednesday next week, this will constitute two full effort training sessions. The Monday and Friday session in the following week will be recovery and light skills at low intensity. We decide that Cyd can resume team training on Friday (21 days post-injury), train individually on game day (23 days post-injury), and re-join all team sessions next to be available for match selection the following Saturday.

NINETEEN DAYS POST INJURY (THURSDAY)

- Cyd has a low-intensity ESD day and goes for an hour brisk walk.

TWENTY DAYS POST INJURY (FRIDAY)

- Cyd trains with the team at full speed and, delightfully so, completes all training without concern.

TWENTY ONE DAYS POST INJURY (SATURDAY)

- Cyd attends the clinic for a full review. Her SFMA is pain-free. Her FMS still shows a Trunk Stability Push Up score of 1 but her elevated pushup position is lower than it was a week ago. Her motor control screen, upper and lower quarter, are both above minimum levels.

TWENTY TWO DAYS POST INJURY (SUNDAY)

- Cyd does a game day individual session, repeating phase 5, without a problem.

TWENTY THREE DAYS POST INJURY (MONDAY)

- Cyd joins in the recovery session with the team.

TWENTY FIVE DAYS POST INJURY (WEDNESDAY)

- Cyd joins in full training with the team, without a problem.

TWENTY SEVEN DAYS POST INJURY (FRIDAY)

- Cyd joins in the low intensity training with the team. She is told after training that she is chosen for the match and will play the final 20 minutes of the match at left back.

TWENTY EIGHT DAYS POST INJURY (SATURDAY)

- Cyd returns to play just after 4 weeks post injury. She plays the final 20 minutes and has no recurrence of her injury. She is available for the final game and finals series.

Bibliography

All citations are in the book.