Return to Training

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Overview

Return to pre-lockdown training without illness or injury

Before implementation a full understanding of the Swim England 'Returning to the Pool - Guidance for Clubs' is needed and the necessary recommended protocols are agreed with the pool operator and club members to ensure everyone's health, wellbeing and safety.

For the avoidance of doubt, Swim England's 'Returning to the Pool - Guidance for Clubs' and the updated versions available online need to be followed first should any information in this document not be compliant.

This summary document is taken from a three hour workshop that was delivered to a specific group of swimming coaches on the Swim England Swimming Connecting with Coaches Programme. To help our discipline coaches we have included specific information for Para-Swimming as an appendix at the end of this document. We will update this with Diving, Artistic Swimming and Water Polo in due course.

The document was developed by the Swim England Swimming Talent Sport Science and Sports Medicine Team with the assistance of some key partners. These included:

- Craig Robertson - Zonal Lead Sport Scientist
- Andrew Shepherd and Jasmine Campbell - Zonal Lead Sport Nutritionists
- Helen Davis and Hannah Stoyel - Zonal Lead Sport Psychologists
- Lisa Sharratt - Zonal Lead Physiotherapist
- Dan Waddingham - Zonal Lead Strength and Conditioning Coach

A special thank you must go to Clare Lobb (EIS / British Swimming Senior Physiologist) for her contribution and experience.

We appreciate the wide array of individual situations that will be occurring during this phase of returning to training, please use this document to help guide and inform key decisions that will need to be made over the coming weeks and months.

This section of the document is purely for those individuals who have not suffered any symptoms of the Coronavirus Disease 2019 (Covid-19). For those that have experienced symptoms, please see our "Advice for returning to exercise after illness with Covid-19" (**page 18**) and "Adapted guidelines for coaches on returning to training after mild Covid-19" (**page 20**) sections.

Coaching

Expectations

It is critical when returning to training that the coach explains any new expectations that they have. This will mean a clear understanding of how returning to swimming will be different, along with what is expected of the swimmers, parents and support staff. Awareness of Risk assessments and the new ‘Normal operating procedures’ is essential for a safe return to the pool for everyone.

Collaboration with Sport Science and Sport Medicine (SSSM) Staff

If possible, the coach should have a conversation with their support staff to ensure best practice is being delivered and that this is tailored as much as possible to the individual. All swimmers will have had experiences during the lockdown and may need an individual return to training plan. If the coach does not have a link to a sports science sports medicine practitioner, please contact us as we have a nationwide network that could provide support.

Reflection

What have we learnt from this period that will help us in the future?

The coach should have this discussion with their swimmers and support staff to enable everyone to learn from the positive and negative experiences that have happened during the lockdown.

Key questions could include:

- Have you found a different learning style that works for you?
- Is there a certain type of land training that suits a swimmer?
- What are their favourite recipes they have made during the lockdown?

Physiology

How to maintain immune function

Covid-19 has been shown to affect the upper respiratory tract (sinuses, nose and throat) and lower respiratory tract (windpipe and lungs). When relating this type of disease to exercise it is believed that there is a j-shaped curve correlating exercise volume and/or intensity and the risk to an Upper Respiratory Tract Infection (URTI). Evidence has suggested that carrying out moderate (60 – 65% of VO2max) regular exercise may be beneficial in diminishing the risk of URTI. After exhaustive/intense bouts of exercise (long durations at/or above competition pace), the immune system reflects physiological stress and immunodepression. This can last anywhere between three to 72 hours. This response is known as the “Open Window.”

Session planning and content

Swimming by its simplest physiological definition is comprised of cardiorespiratory, metabolic and technical adaptations. It has been universally accepted that some of these adaptations will decline during this lockdown period. Cross-training such as running, or cycling has been shown to mitigate some of the cardiorespiratory and metabolic declines. It has been suggested that even though different muscle groups and muscle patterns have been used, there should be large enough muscle involvement that central adaptations should only suffer on a minor level. This will be individual based upon the swimmer’s training programme and what/how much training they have been carrying out during the lockdown.

However, depending on the exercise modality, upper body adaptions such as muscle respiratory capacity, mitochondrial enzymes and glycogen levels will decrease.

It has been observed by British Swimming staff that those swimmers who have carried out swim-specific exercise (i.e. endless pool, tethered swimming or open water) have seen a return in their “feel for the water” quicker than those who have done no swim-specific training during lockdown.

Build phase

As previously stated, this will be an individual process and away from the logistical variations clubs will all experience in this phase, training will vary based upon, but not limited to:

- Coaches knowledge of their individual athlete’s responses to training.
- Athletes training history.
- Athletes lockdown training (Amount of activity / inactivity / specific / non-specific).
- Genetics.
- Motivation.
- Whether the swimmers have had Covid-19.
- Prior neurological ability or skill development.

Training load monitoring
Advice on Training Volume

As stated above if the training load (volume and/or intensity) is built up too quickly there are potentially detrimental effects on the immune system along with the increased risk of injury. Research has proposed a variety of methods to safely "Return to pre-lockdown training levels without injury or illness" (**page 3**).

A method specifically for training volume suggested that the optimal progression was a 20 – 25% increase per week. This should be carried out on a ratio of 1:1 for weeks out of the pool against weeks building. i.e. 12 Weeks out of the pool would equal to 12 weeks of building. However, a major flaw in this progressive volume method is the failure to take into account training intensity. An alternative method of training load monitoring is tracking the Acute: Chronic Workload Ratio.

Acute: Chronic Workload Ratio
Acute Workload

Acute Workload is classed as the workload that is typically performed in a week of training. All activities (Swim, Strength and Conditioning, Pilates, P.E. at school etc.) must be included to get an honest reflection of the swimmer's current fatigue status. A common method for working out workload is Session RPE. This is calculated by multiplying the session-rating of perceived exertion (one to 10) by session duration in minutes e.g. a sRPE of five when training for 90 minutes would be 450. If the train twice you would calculate this again and add them together for the daily workload. This would then be carried on through the week until you have the entire weekly training load.

Chronic Workload
The chronic workload is the average acute workload of the previous four weeks.

Acute: Chronic Workload Ratio
The Acute: Chronic Workload Ratio is calculated by dividing the acute workload by the chronic workload.

For example, if there was an average Chronic Workload of 1700 and this week's Acute Workload is 1900 then there is an Acute: Chronic Workload Ratio of 1.12 (1900 / 1700 = 1.12). The optimal workload and lowest injury risk are between 0.85 and 1.35. Above this, there is a high relative injury risk.

Further information at Science for Sport.

Transition

A potential solution to avoid further detraining when returning to the pool is to maintain the intensity (relative to lockdown intensity) during any strength and conditioning sessions. Then during the build phase of the swim training when the priority is to increase the 'feel for the water' and improve low-intensity conditioning, you can slowly reduce the strength and conditioning session back to normal levels as the pool volume/intensity increases.

Recovery

Another observation by the British Swimming staff was that the swimmer's sleep patterns were disrupted. This needs to be closely monitored as poor sleep quality and quantity can negatively affect the immune system.

Psychology

The following information is intended to cover potential psychological responses that may appear when returning to the pool after lockdown. This document highlights activities and resources to use when working and collaborating with swimmers.

“We all weathered the same storm, but in different boats”.

Emotional preparation

Be prepared for mixed emotional responses on return to swimming for swimmers and coaches.

It is important to recognise that mixed emotions may occur due to environmental changes from previous experiences. The likelihood is that the training environment will be very different, and both swimmers and coaches will experience different social experiences and connections as a result of social distancing measures.

Ensure swimmers are connected through good communication, checking in with them each session and ensuring swimmers opt-in for training to promote ownership. Try to have great active listening skills and our recommendation is to maintain social connections online because face to face contact may be different. Be clear and open about new protocols and why they are in place.

Look out for extremes of emotions such as anxiety, nervousness, feelings of being overwhelmed or stress or apathy towards Covid-19 rules. Recognise that swimmers may feel anxious, overwhelmed or nervous about returning to training for a variety of reasons and emotions may fluctuate and change rapidly. Provide signposting of where to get help if these emotions are apparent.

Logistically, when returning to training face masks may need to be worn during sessions. Talking through face masks limits non-verbal communication so prepare to adjust to this. Our recommendation is to discuss this with swimmers before returning to the pool and come up with ideas and methods to ensure these social connections are maintained.

Resources available:

1. **Processing the News.**
2. **Grounding to Stay in the Present.**
3. **What Is Self-Talk and How Can We Use It?**
4. **Applying Psychological Skills.**
5. **Breaking News – No Events in 2020.**
6. **Taking Ownership.**
7. Active Listening and Creative Questioning (Appendix – **page 22**).

Mental health

Mental health sits on a continuum and will vary on a daily basis and can manifest itself differently in everyone. Previous pandemics and quarantines have found a high prevalence of psychological distress and mental health effects can be far reaching and long term.

It is important to address mental health as a key psychological area in returning to swimming and recognise that swimmers may turn to coaches during this time as a familiar and trusting figure.

Look out for behaviour changes or extremes in behaviour. Body language can be a key indicator of poor mental health.

Our recommendation is to set aside time for increased communication, creative questioning and active listening skills for both swimmers and coaches. It will be important for coaches to ensure they have someone to 'offload to,' talk and share experiences with during this period. Connections could be maintained through social support groups organised by coaches and clubs.

There are many avenues to seek guidance and support. Use **NHS mental health resources** to help both coaches and swimmers.

Swim England Sport Psychologists have produced a range of available resources to help with any psychological issues that may arise:

- **Processing the News**
- **Grounding to Stay in the Present**
- **Focusing on Process Goals**
- **What Is Self-Talk and How Can We Use It?**
- **Applying Psychological Skills**
- **How to Prepare Yourself as a Person, an Athlete and a Performer**
- **Building Resilience (Highlight Reel)**
- **Breaking News – No Events in 2020**
- **Taking Ownership as an Athlete**

Readiness and motivation

Motivation runs on a continuum, and swimmers may find their motivation fluctuating on returning to the water. Some may be motivated more than ever, and some may be questioning if they want to keep swimming as a result of new, socially distanced training limitations.

We recommend that an increase in attention to motivation may be warranted at this time, as swimmers might feel unfit on their return in addition to a lack of upcoming competitions to provide outcome goals. Giving swimmers a sense of choice and ownership can increase

motivation, so our recommendation would be to promote this through a culture of tolerance and acceptance.

Look for extremes in motivation or fluctuations day by day and week by week. Look for a loss in purpose in being there and be ready to have conversations with swimmers to rediscover that purpose. **Promoting a growth mindset** along with praising their commitment to the sport are also recommendations. This commitment might not necessarily be physically training but take other forms, such as watching swim videos and doing race analysis or reading a swimmer's autobiography. One way to help increase motivation is goal setting.

Resources available:

- **Swim England Regional Coaching Conference – June 2020**.
- 5 R's (Appendix – **page 24**).
- Active listening and Creative Questioning (Appendix – **page 22**).
- "Listen to understand, not to respond" (Appendix – **page 22**).

Goal setting to promote resilience

The coach may find that some swimmers are lacking motivation after the lockdown period, and with no competitions this year may find it difficult to set a direction. This on-going challenging time provides us with opportunities to work on and increase our resilience and learn how we respond to difficult situations. One resource that can aid motivation and increase resilience is goal setting.

Goal setting can help swimmers take ownership of their return to swimming and is a tool to help maintain on-going motivation. It gives coaches and swimmers the opportunity to collaborate and manage expectations regarding returning to the pool.

Our recommendation is to look at what is known already about how the swimmers respond to adversity and ensure to discuss this, along with how both the coach and swimmer can reset future goals. These may be process and outcome SMART goals.

We would recommend reviewing these goals regularly, i.e. every one to two weeks.

However, look out for an over focus on outcome goals, unrealistic expectations or lack of alignment of expectations between the coach, swimmers and their parents.

Resources available:

1. What are SMART Goals? (Appendix – **page 26**).
2. What are Process goals and Outcome goals? (Appendix – **page 27** and **28**).
3. Process goal activity (Appendix – **page 29**).
4. Float your boat activity (Appendix – **page 30**).
5. Creating a timeline activity (Appendix – **page 31**).
6. 5 R's (Appendix – **page 22**).

Other considerations:

Coaches' ongoing self-care and mental and physical wellbeing.

- Logistics: Who do you *[the coach]* offload on? What do you have in place for ongoing support? What can you set up now that will support you for the future?

If coaches don't feel they have the logistical or emotional capacity to have increased communication about Covid-19 experiences and feelings around return to training, finding someone in the club who can offer that support is strongly recommended.

Body Image

- Do not comment (positively or negatively) on a swimmer's body shape or composition.

Strength and Conditioning

Transition period

The transition period of the return to training can be approached in a similar way to retraining an injured athlete, where there is a gradual transition from current training practices towards 'normal' training. As previously stated, it is advisable to maintain intensity via cross-training methods while the pool intensity and volume are initially low to reduce the possibility of detraining effects. There are several ways this can be achieved including, encouraging athletes to cycle to and from training to maintain aerobic capacity and incorporate high-intensity interval training throughout the week. Table 1 shows an example of how cross-training methods can be incorporated during the initial phases of return to training.

Table 1. Example training programme during the initial return to training phase.

	Mon.	Tues.	Weds	Thurs.	Fri.	Sat.	Sun.
Session 1	Ride to and from training (60 minutes)	Ride to and from training (60 minutes)	Aerobic Swim (45 minutes)	Off	Ride to and from training (60 minutes)	Ride to and from training (60 minutes)	Off
Session 2	Aerobic Swim (45 minutes)	Aerobic Swim (45 minutes)		Off	Aerobic Swim (45 minutes)	Aerobic Swim (45min)	Off
Session 3		Watt Bike: aerobic threshold	S&C	Rowing Ergometer: anaerobic threshold	S&C	Outdoor ride 2 hours+	Run 45 minutes
Session 4	S&C	Mobility / Yoga		Easy Swim (30 minutes)			

Programming

When planning for an athlete to return to training it is important to understand where the athlete is on their return, and what level of activity they have maintained during the detraining phase. When comparing training exposure during lockdown to 'normal' training metrics, what are the likely individual and collective gaps on initial return? Two major factors will affect an athlete's ability to return to pre-training levels. Both the length of detraining and the volume of training which had been maintained during the detraining period.

During the detraining period, it would be normal to see muscle strength reduction of up to 16.5% over 12 weeks. However, evidence suggests that if the athletes have continued with approximately 20% of their 'normal' training volume, this is sufficient to reduce strength losses by over half, compared to individuals who participated in no training. In terms of the retraining process, the literature shows muscle strength can be recovered to pre-training levels in half the time of the detraining process. During a 12-week detraining phase, 75% of losses can be recovered in the first four and can be back to detraining peaks by six weeks.

From the research, we can be confident to suggest that peak strength levels can be obtained within six to eight weeks of retraining if some form of training has been carried out during lockdown. During this initial phase of retraining, session by session progressions are recommended by increasing volume and intensity from 50% of the athlete's baseline. During

this initial phase, it will also be important to re-establish movement competency before adding any additional load. The technique must come first. It's also worth noting that it is advised that training programmes begin with minimal exercise variation as athletes may experience increased muscle soreness and require increased time for recovery.

Remember, there is nothing new in Strength and Conditioning and the goal of pre-season training remains as follows:

- Optimising movement competency.
- Increasing structural stability and mobility.
- Reducing injury risk.
- Preparing the athlete for higher training intensities.

Injury risk

Changes in training stimulus and load during the return to training period can significantly increase the risk of injury. It will be important to monitor any acute changes in training load and ensure a gradual increase in volume. It is important to remember that we need to monitor complete training load including cross-training activities and not just water work to ensure overuse does not occur. If a training stimulus is added in the form of swimming it is reasonable to reduce or remove another training stimulus.

Coaches will also need to be mindful of how long it will take to safely restore tissue capacity in the pool to carry out full training loads. The shoulder specifically will be a risk point due to the reduction of tissue load capacity during detraining. An option to support this would be to increase athletes work capacity around the shoulders pre return to the pool with the inclusion of shoulder capacity circuits and additional upper limb mobility. This can then be maintained during the return to training phase. More on this in the physiotherapy section. Please see this video for an example of a **shoulder capacity workout.**

Facility gym management

On returning to gym-based programmes it will be important to work with facility providers and follow government guidelines to safely carry out this form of training. It is recommended that the following guidelines are implemented during strength and conditioning sessions:

- Ensure cleaning of all equipment after each use.
- Have athletes bring their own equipment if possible and wash after use. Do not store at the venue.
- A one-way system is in place for entry and exit points.
- Exercise stations should be at least 2 metres apart.
- Maximum gym capacity limited to 3 m^2 per person and that one athlete per squat rack is best practice.

If online zoom Strength and Conditioning sessions continue, it is essential to still abide to the Swim England safe guarding protocols published during lockdown and housed on the Swim England website.

Nutrition

Dietary changes

It is essential that the athlete's fuel for the work required. An increased training load or training intensity needs to be accompanied by an increase in calorie intake. This should be done through either increasing total food intake or specifically carbohydrates. Increased intake needs to occur as soon as the exercise levels increase. Initially, swimmers may not be driven to increase fuel intake effectively for the workload increases due to a suppressed appetite or poor routines e.g. no school.

Ineffective fuelling will increase the risk of injury and illness. This will be exacerbated over longer periods of time and can lead to RED-s.

Swimmers may not have been eating larger volumes of food or snacking as regularly due to a decreased workload during the lockdown, they may need to increase their intake via fluid calories e.g. smoothies, fruit juice or milkshakes.

Additional information on RED-s.

Optimising immunity

As with a normal return to training after a break (e.g. after the summer break), swimmers will have an increased susceptibility to illness, in particular upper respiratory tract infections (URTI) which can limit training availability and opportunities for adaptations.

It's important to note that optimising immunity will not prevent the contraction of Covid-19.

The focus should be on a food first approach to these areas. The key areas of focus should be:

- Omega 3 – through consumption of oily fish (salmon, tuna, mackerel, trout, anchovies) or chia/flax seeds.
- Iron intake.
- Maintain hydration – using tools such as the "see your pee test" for swimmers' self-awareness from day to day.
- Adequate fibre intake from whole foods and grains.
- Vitamin D through foods and safe sun exposure.
- 7-10 fruits, vegetables and salad per day e.g. "Eat the rainbow"
- Probiotics from sources such as Yakut or fermented foods.

Body composition

You should expect there to be changes when swimmers return to the pool compared to when swimming training ended due to the lockdown, for example, their costume fit may be different. A suggestion could be to ask swimmers to check their kit before returning (e.g.

google, hats, costumes) so they aren't shocked by changes in their shape and have the opportunity to order new equipment if needed.

You should not react to changes positively (these may have come about due to unhealthy practises or be a sign of disordered eating/eating disorders) or negatively.

Watch for behaviour changes among your swimmers. Swimmers may have internal expectations of their own body shape/size/composition, encourage open communication between coaches/support staff/parents around these expectations to ensure they are aligned with when swimmers need to reach their peak e.g. British Swimming Championships 2021. You should aim for body composition maintenance rather than changes on return to training, as a reduction in calories to create body fat loss will lead to an increased illness and injury risk.

Incidence of disordered eating and eating disorders have been higher during this period of lockdown and social isolation. You and your support staff should familiarise yourself with the signs and symptoms of disordered eating/eating disorders. If you observe changes in behaviour among swimmers or you observe signs and symptoms seek additional support or guidance from appropriate personnel.

You should avoid weighing or taking body composition assessments upon returning to training. If swimmers choose to self-monitor, encourage viewing this data over longer average periods rather than acute data (e.g. 7 day average weight vs day to day changes). There needs to be open communication on expectations as discussed above.

Additional resources:

- **AIS Website**
- **BEAT Eating Disorders**
- **NHS resource on Eating Disorders**

Recovery process

Post-training recovery strategies will reduce the risk of illness and injury incidence and support the increases in workload and intensity of training, therefore resulting in improved adaptation to training.

Catering at training venues including café, vending machines and water fountains may not be available. Swimmers and staff should therefore bring their own food and drink.

Key strategies for recovery nutrition are:

- Refuel – consume carbohydrate to replenish the fuel used during training.
- Rehydration – replenish fluid lost during training.
- Repair – consume protein post-training to repair muscles.

Physiotherapy

Injury risks

A significant amount of training will still be occurring on land once training has resumed, so the injury risks associated with land training continue, but also the change in loading due to starting swimming will cause other issues.

Areas of a potential issue are as follows:

Knees
Knee issues from alignment such as the knees falling inwards cause significant stress on the inside of knees.

You need to be especially careful with Breaststroke kick movement patterns given that they haven't been practised for 10 weeks or more. The focus needs to be on glute strength before overloading the breaststroke kick. Neuromuscular patterning also needs to be retrained around the hips and knees to reduce the risk of injury.

Simple exercises that can be done during pre and post pool are:

- calf stretches
- clams
- glute Bridge
- banded squats.

Shoulders
British Swimming Staff have observed that tissue reloading is a potential issue, particularly in the muscles at the back of the shoulder (posterior shoulder muscle endurance) because there hasn't been the equivalent loading of these muscles with land-based training programmes compared to that experienced in pool training.

In addition to the weakness of the posterior shoulder muscles from reduced loading general sitting posture on computers/tablets/phones also causes the shoulder blade muscles at the back to become lengthened and weak whilst the pectoral muscles at the front are shortened and tight. If the shoulder blade tilts forward and down the movement at the ball and socket joint is affected and can cause impingement of the tendons of the rotator cuff or an imbalance of load.

Once back in the pool this can cause shoulder pain on both the pull and recovery phases of the stroke.

Simple exercises that can be done during pre and post pool are:

- sleeper stretch
- pecs stretches
- scapula setting / YTW
- external rotation with arm abducted to 90 degrees, using theraband.

Spine Problems
When performing the scapular setting exercises it is important to control movement in the spine and pelvis.

The shape of the spine is a long S shape. The abdominal muscles should be engaged by drawing the belly button in on the breath out. This should stabilise the spine but not fix and brace, restricting breathing. A shallow hollow should be maintained when performing any arm or leg movements on land or in the water. If the abdominals are unable to control the movement the hollow in the lower back will increase or flatten if bracing.

Exercises such as dead bugs and superman can start with one lever such as just arm or leg movement. Shortening a lever such as bending the knee also reduced the abdominal load until good control of the spinal position is achieved.

As well as controlling movement the spine should also allow movement. We know from observational screenings during lockdown that movements in the thoracic spine have become stiff. Taking the arms into a streamline position requires thoracic extension and good rotation is required for correct arm position in recovery and head position when breathing. If this is restricted the arm may be flatter, which also increases the risk of impingement of the shoulder tendons. The path of the pulling arm will also be affected.

Simple exercises that can be done during pre and post pool are:

- thread the needle
- arm openings
- superman
- dead bugs.

Self-checks

Using self-check exercises before each training session on land or in the water inform the swimmer of any physical problems that may increase the risk of injury. By then using the test movement as an exercise to mobilise that area they are physically preparing to train. Following the session, if these checks are performed again, any training effect on these areas can be addressed as part of the warm down routine, reducing the risk of tightness the next session.

Both the self-checks and the physical preparation for training may have to be performed at home. RMAP principles can be followed to structure a warm-up routine broken down to which location each component can be practised.

Please see the Swim England Swimming self-checks video.

Monitoring wellness

As stated in previous sections it is important to monitor how swimmers cope with increased training and being back in the water. This is key to prevent injury and illness.

Key things to monitor on return to training are:

- Pre and post pool guidelines included in your club risk assessment.

- Hydration.
- Morning resting heart rate.
- Sleep amount and quality as this will have a direct effect on the immune system.
- Temperature to highlight any Covid-19 illness.
- Soreness and how long it lasts to aid the progression of workloads and highlights areas for pre and post pool.
- Any signs or symptoms of illness.

Advice for returning to exercise after illness with Covid-19

This advice is for athletes who have had a mild form of Covid-19 not requiring hospital treatment. Please consult your medical practitioner about a return to exercise before you do so.

This guidance should be applied to both confirmed and suspected cases of COVID-19. Those who have had severe forms of the disease requiring hospital treatment should follow the advice of their medical practitioner at all stages of the return to exercise procedure.

How long should I remain off training?

Current evidence advises you to have complete rest for 10 days after the start of the symptoms and at least seven days after you have been symptom free. This may mean you have at least 17 days rest before any exercise can be considered. During this 17 day period, you must not do any exercise at all – complete rest is indicated.

Symptoms include a raised temperature, repeated cough, muscle aching and shortness of breath.

Once you have been symptom-free for seven days plus it is at least 10 days since the start of your symptoms you may return to light exercise. Before you do this please ensure the following:

- Your resting heart rate is normal and has been for at least 48 hours.
- You have no shortness of breath walking around the house.
- Take your temperature to make sure it is normal (around 36.9 degrees).

If you experience any of the following, you should not commence any exercises and should seek **urgent** medical advice:

- Chest pain.
- Severe shortness of breath after light exercise.
- Palpitations or irregular heartbeat.
- Severe muscle pains.

Returning to training

You will need to start with a low level of exercise and build up gradually. If you have any of the following symptoms during exercise you should seek medical advice and stop exercises

- Persistent cough.
- Shortness of breath on light exercise.
- Unusual fatigue.

If you experience any of the following stop exercising and seek medical advice **urgently**:

- Chest pain.
- Severe Shortness of breath.
- Palpitations or irregular heart rate.
- Severe muscle pains.

If in any doubt about your ability to return to exercise, please consult your GP or medical practitioner. The EIS has produced a **return to play document** for those with mild illness.

Adapted guidelines for coaches on returning to training after mild Covid-19

Example return to training protocol

Before returning to training you must get the all-clear from a medical practitioner and have had complete rest for 10 days after the start of the symptoms and at least seven days after you have been symptom-free.

The following is a guide for progressing training after having Covid-19 (adapted from the EIS) and is a guide for coaches as to how to monitor the intensity of training.

Progression criteria from stage to stage is as follows

- RPE within 1 – 2 levels of normal/expected level.
- Resting heart rate recovered by the next morning and appropriate energy levels reported.
- No symptoms (e.g. breathlessness, excessive fatigue).
- Stages 2 and 3 must have been repeated on **three consecutive days** without any issues before you progress to the next stage.

Stage 1 (minimum of one day, light activity)

- 15 min light intensity (RPE less than 12), e.g. walking, light jogging, stationary cycling, swimming or equivalent.
- No resistance training. Record breathlessness, overall fatigue, RPE and HR. Compare to pre-illness examples.

Has the progression criteria been achieved?

No – Complete rest 24 hours and then repeat Stage 1.

Yes – Move to stage 2.

Stage 2 (minimum of three days, moderate intensity)

- 30 – 45 min moderate intensity (RPE less than 14).
- Record breathlessness, overall fatigue, RPE and HR.
- Compare to pre-illness examples of similar sessions.

Has the progression criteria been achieved?

No – Complete rest for 24 hours and repeat stage 2.

Yes – If completed stage 2 for three consecutive days you may move to stage 3.

Stage 3 (minimum of three days, moderate intensity)

- Up to 60 minutes moderate intensity (RPE less than 16).
- Record breathlessness, overall fatigue, RPE and HR.
- Compare to pre-illness examples of similar sessions.

Has the progression criteria been achieved?

No – Complete rest for 24 hours and repeat stage 3.

Yes – If completed stage 3 for three consecutive days you may move to stage 4.

Stage 4 (gradual return to (adjusted) training)

- Consider how much training has (or has not) been completed over the last two to three weeks, and reduce the load accordingly, ensuring a gradual increase.
- If any symptoms return, all exercise must stop immediately, and they must be reviewed by a doctor.
- Do not progress to normal training if the athlete or their coach or other support are at all concerned.

Appendix

For para-athletes, all information within this document can be followed, with the additional information below.

Training load monitoring

Advice on training volume
As stated, if the training load (volume and/or intensity) is built up too quickly there are potentially detrimental effects on the immune system along with the increased risk of injury. Research has proposed a variety of methods to safely "Return to pre-lockdown training levels without injury or illness".

A method specifically for training volume suggested that the optimal progression was a 20 – 25% increase per week for most athletes. However, due to the heterogeneous population within Para-Swimming, coaches may initially be better to observe 10 – 25% increase, with 10 – 15% for those with a higher risk of load related injuries. As the athlete shows acceptable levels of adaptation and recovery, this percentage increase can increase towards 20-25% .* This should be carried out on a ratio of 1:1 for weeks out of the pool against weeks building. I.e.12 Weeks out of the pool would equal to 12 weeks of building.

*It is encouraged to use the data that surrounds each athlete both subjectively and objectively to guide reasoning behind progressing load.

Transition period

The transition period of the return to training can be approached in a similar way to retraining an injured athlete, where there is a gradual transition from current training practices towards 'normal' training. As previously stated, it is advisable to maintain intensity via cross-training methods while the pool intensity and volume are initially low to reduce the possibility of detraining effects. There are several ways this can be achieved including, encouraging athletes to cycling / rowing and other compound movements to maintain aerobic capacity and incorporate high-intensity interval training throughout the week. Table 1 shows an example of how cross-training methods can be incorporated during the initial phases of return to training.

Table 1. Example training programme during the initial return to training phase.

	Mon.	Tues.	Weds	Thurs.	Fri.	Sat.	Sun.
Session 1	Static cycling / rowing + pre / post pool before leaving and after return from training (60 minutes)	Static cycling / rowing + pre / post pool before leaving and after return from training (60 minutes)	Aerobic Swim (45 minutes)	Off	Static cycling / rowing + pre / post pool before leaving and after return from training (60 minutes)	Static cycling / rowing + pre / post pool before leaving and after return from training (60 minutes)	Off

Session 2	Aerobic Swim (45 minutes)	Aerobic Swim (45 minutes)		Off	Aerobic Swim (45 minutes)	Aerobic Swim (45 minutes)	Off
Session 3		Static Cycle / row aerobic threshold (RPE 12 - 13)	S&C	Static Cycle / row aerobic threshold (RPE 14 - 15)	S&C	Mobility / Yoga	Run or Manual Chair 45 minutes
Session 4	S&C	Mobility / Yoga		Easy Swim (30 minutes)			

Psychology Resources

Opening communication with the 5R's

Starting point to help develop plan based on sense of purpose

1. Reflect: Where am I at?
2. Revaluate: What can I do even better?
3. Review: What process goals will help me?
4. Revise: What does my new plan look like?
5. Record: Write them down.

Active listening and creative questioning

Listen to understand, not to respond

- What barriers may you face? What choices will you have to make to ensure these goals happen?
- Ask more than are you ok?

Smart goals

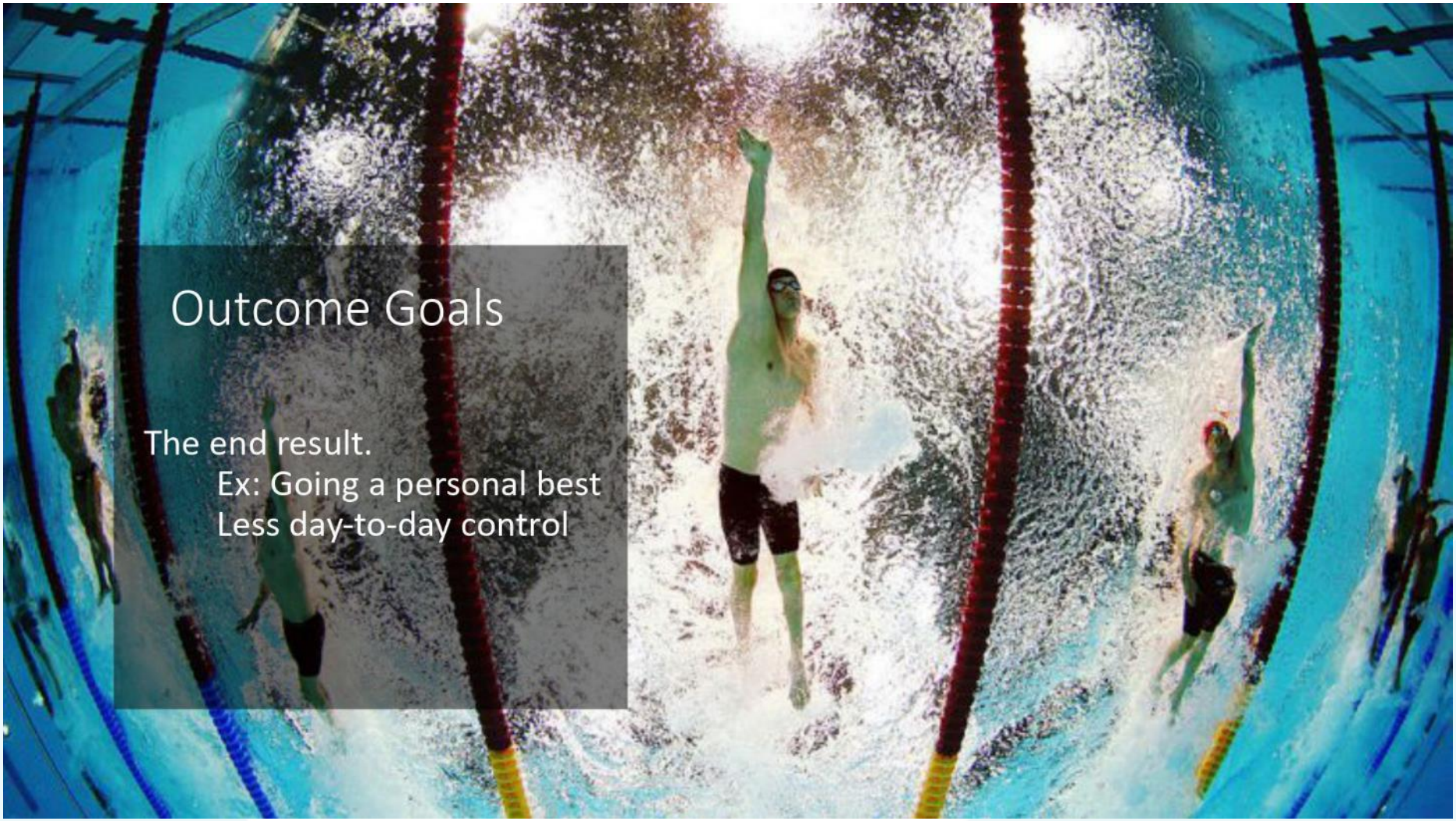
I want to go a personal best by one second in the 100 metre breaststroke.

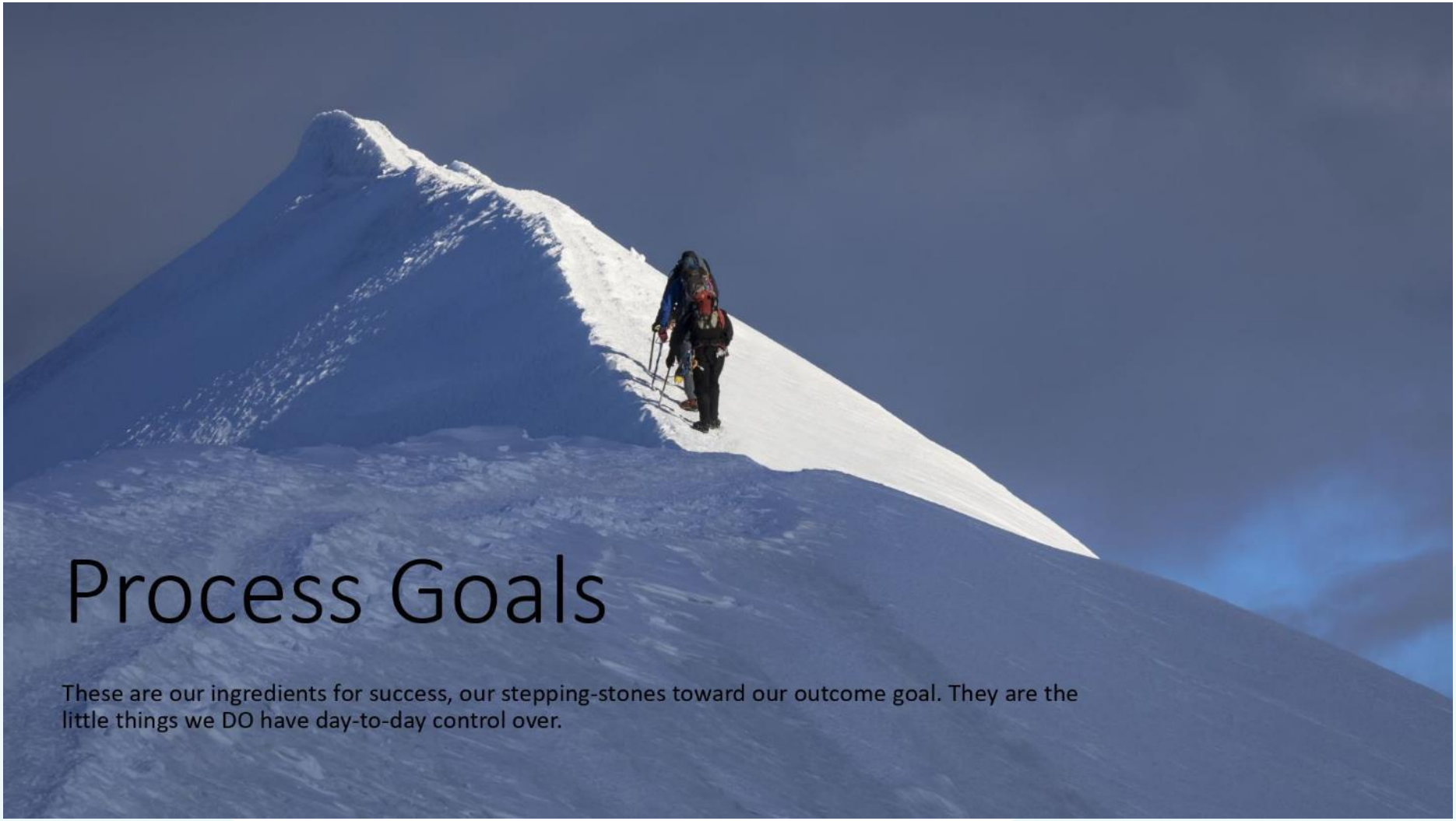
How will you know when you achieve this goal?

Take into account what is reasonable, but also your goal should excite you!

Relates to your training and is personal to you.

I want to get a qualifying time by end of March.


Outcome Goals
The end result.
Ex: Going a personal best
Less day-to-day control


Process Goals
These are our ingredients for success, our stepping-stones toward our outcome goal. They are the little things we DO have day-to-day control over.

Process goal activity: links to excellence

Something tangible to see effort and improvement.

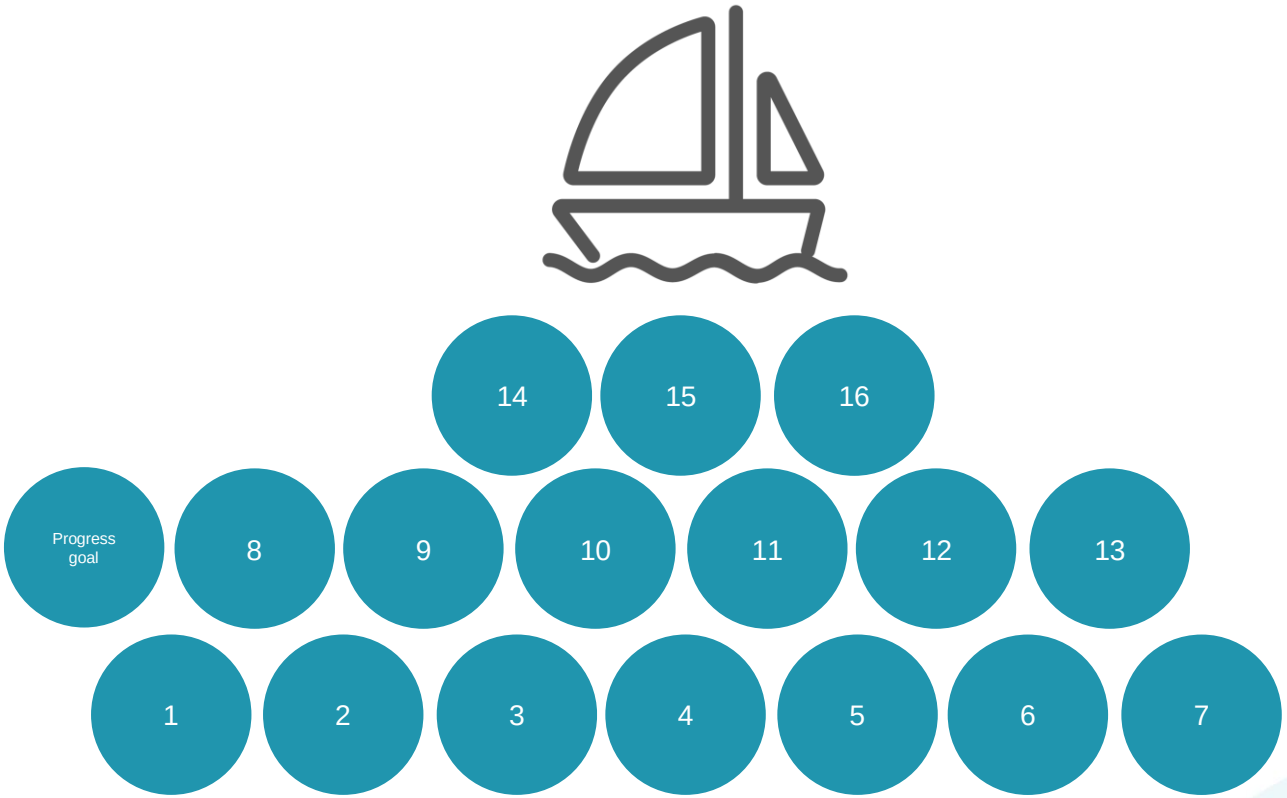
What can be done to improve each day in lockdown?

What can be done to improve with minimal pool time?

Examples:

- Dolphin kicks in warmup.
- 10 minute of shoulder mobility.
- Watched a sport psych video.
- Attended all zoom sessions in a week.

Float the boat



List all possible process goals that go into an outcome goal (the boat).

Progressing process goals: creating a timeline

- When will you start on each process goal?
- How will you progress each one?
    - Ex: If want to improve dolphin kicks off the wall, what will you do today about it?
    - How will you progress this task to keep challenging you?