PLANNING & STRUCTURING AN INDOOR CYCLING SESSION

INTRODUCTION
Generally a class will last between 45 to 60 minutes, with the first 5-7 minutes being a warm up and the last 5-7 minutes being a cool down. So the main component of the class will last approximately 30-50 minutes. During this time you will need to plan for a variety of profiles or a planned programme dependant of the established goals of the ride. The order of the music, tempo of the music and profile needs to be planned by the instructor before each class. Every class regardless to how long it takes should be broken down into warm up, main component and cool down. In this section, we will breakdown the structure of the class according to Kiddle (2004) and look at each component in more detail.

BREAK DOWN OF THE CLASS STRUCTURE (Kiddle, 2004)

WARM UP
There are two sections of the warm up: the cardiovascular warm up and the joint mobility warm up and they should be done in that order.

CARDIOVASCULAR WARM UP:
The main aim of this component is to warm up the body for 5-7 minutes using resistance and cadence to control the intensity. The warm up should be gradual and sufficient to increase muscle and core temperature without causing fatigue or reducing energy stores. It is a good sign if members of the group start to remove excess clothing during the warm up. The underlying objective of a warm up is to aid the participants in preparing to exercise and it may reduce the chances of joint and muscle injury. The warm-up usually starts gradually with little resistance, pedalling at a moderate speed. The purpose of this is to stretch the muscle-tendon unit and this allows for greater length and less tension when an external load is place on the unit (McArdle, Katch and Katch, 1996). During the warm up it is important that you as the instructor review safety procedures, postural alignment, hand positions and include a general statement that the workout is for each client and competition with another is not necessary.
You need to choose your music carefully to help you start at the correct cadence with low resistance on the flywheel. To begin the warm up keep the heart rate relatively low while you spin to warm up the legs you can then increase the intensity by increasing resistance or cadence.
JOINT MOBILITY WARM UP:

Included in the warm up is joint mobilisation. This should be done after the core temperature has been raised. The purpose of this component is to increase mobility and relaxation of the upper body. It requires basic movements of the arms and shoulders using safe ranges of movement at these joints. Examples of mobilisation techniques include:
- Rolling the shoulders
- Gently swinging the arms from side to side
- Swinging the arms back in a backstroke movement

**Warm up class profiles**

**Warm up - Flat road (4-5 minutes long)**

Include right/left leg drills (one minute each leg)

Have your participants spin the wheel with the energy from one leg (but keep both feet in the pedals) and tell them that their right leg is doing the work while their left leg is on vacation! Then they switch. Songs 90-100 rpms work best.

You could try to synchronise the indoor cycling class to the beat of the music. So if we are doing a song that has 80 rpms, choose a song with a beat to match. It is helpful in class because most people can relate to the beat.
THE EFFECT OF THE WARM UP

The warm-up allows time for the body to raise its core temperature without working too hard. The heart rate will gradually elevate, the warmed muscles will contract and relax more efficiently (Kiddle, 2004) and the mobility and range of motion around the joints will increase, while the connective tissue becomes more pliable. Warming up causes the blood temperature to increase as it passes through the working muscles, therefore the oxygen uptake by the muscles is higher and this makes oxygen more readily available to the working muscles (McArdle, Katch and Katch, 1996). This resultant increase in the volume of oxygen to the working muscles will enhance endurance and speed.

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5 ways warm up could improve performance and exercise capacity (McArdle, Katch and Katch, 1996)

As a result of an increase in blood flow and muscle and core temperature, improved performance and exercise capacity is possible due to following mechanisms:

- Increased speed of muscle action and relaxation
- Greater economy of movement
- Facilitated oxygen delivery by the muscles because haemoglobin releases oxygen more readily at higher temperature.
- Facilitated nerve transmission and muscle metabolism resulting from the direct effect temperature has on accelerating the rate of bodily processes; a specific warm-up may also facilitate the recruitment of motor units required for physical activity
- Increased blood flow through active tissues as the local vascular bed dilates with higher levels of metabolism and muscle temperature.
PRACTICAL ADVICE

- The warm up should be performed at 60-70% of Max Heart Rate and on the RPE scale around 4-5, for approximately 5-7 mins.
- The ride should focus on being smooth, with the first 4-5 minutes in the saddle with a light resistance and a comfortable cadence
- As an instructor it is important that you focus the class and get them to think positively.
- At the start of the class, discuss the profile and the class goals. Explain the structure of the class
- Late participants must either be discouraged from participating in the class or they must spend extra time warming up properly, before joining the class.
- During this time, check the setup of the class and if there are any new participants, then use this time to coach them through the main positions and exercise techniques.
- Make sure participants have tucked their shoe laces into their shoes and have a water bottle and towel with them
- Make participants aware that they are to go at their own intensity.

THE MAIN COMPONENT

The main component is where the real work begins. Like the warm up, the main component is split into 2 sections – the re-warm and the main set.

RE-WARM

The role of the re-warm is to elevate the heart rate progressively by using a series of short challenges to prepare the body for the main set. It is more intense than the warm up. According to Kiddle (2004) the best way of achieving this is by doing approx 5 minutes of short intervals by adding resistance and changing speed, taking RPE up to 7 or 7.5 (80-85% of Max HR) by the end. It is important that your music reflects the change from the warm up to the re-warm by making it distinctly more motivating.

MAIN SET

The main set is the longest component of the class and should be composed of a variety of challenges aimed at the goals and abilities of the class (e.g. improving aerobic endurance, muscular endurance etc). The music for this section should be motivational, and match the cadence you wish the class to work at. It has been shown that most fitness improvements are gained when time in the main set is increased progressively. So you can achieve this with more experienced classes by reducing the time spent in the warm up, re-warm and cool down by a couple of minutes and to increase the time in the main set. You can also extend the class time length to an hour for more advanced classes.

The intensity of the main set can be changed by manipulating the cadence and the resistance of the flywheel, but it must be remembered that the intensity level, must depend on the ability of the class and the training zone you wish to work in. The RPE scale can reach 9.5 on the protocol scale (Kiddle, 2004) or 90-95% of Max
HR. However according to Kiddle (2004) the most common and beneficial classes for the first 2-3 months will be spent in the zones 3 (70-80%Max HR) to the midpoint of zone 4 (80-90% Max HR) or anaerobic threshold. During the main set you will need periods of recovery by easing the resistance and/or slowing the legs. This will allow the heart rate to drop and to get rid of lactic acid build up.

**COOL DOWN**

After a tough class it is very important to allow for a gradual recovery. The aim of the cool down is to reduce the heart rate, but keep the core temperature relatively high. The cool down also facilitates blood flow through the vascular circuit during recovery to promote venous return by allowing the blood to return from the extremities back to the heart and brain. It also aids the removal of lactate from the blood and muscles, allowing for a quick recovery from oxygen debt (McArdle, Katch and Katch, 1996). To achieve this, it is important that you reduce the intensity by decreasing the cadence and resistance gradually as the group recovers. The music should also reflect this reduction, and promote relaxation and highlight the fact that the session is coming to an end. The structure of the cool down should follow a pattern more like a series of steps than a steep line. This will allow the heart rate and the leg speed to reduce at the same time, thus preventing blood pooling, which will occur if you stop too quickly.
**UPPER BODY STRETCHES**

**Posterior Deltoid (back shoulder) & Trapezius (upper back):**
Sit up-right on the bike, whilst pedalling slowly take your arms straight out in front of you and press hands together. Roll your shoulders slightly forward.

**Pectorals (chest) & Anterior Deltoid (front shoulder):**
For the deltoids - take your arms behind your body and clasp them. Push your hands away from your back.
For the chest: get into the above position, but bend your elbows and move them together, with hands placed on the lower back.

**Tricep (back of upper arm):**
Stretch one arm to the sky, and then bend the elbow. Gently rest the other hand onto the raised elbow.

**Sternocleidomastoid (neck):**
Take the head to one side and extend your arm down to feel the stretch across the neck. Roll or turn your head to the side and the turn or roll to the other.

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Once the heart rate has reduced and the leg speed is a very light pace, you can start stretching the upper body on the bike. It is important to point out to the participants that their leg speed must be slow and controlled. The upper body stretch routine should hold each stretch for 10-15 seconds or two breathes in and out.

The lower body stretches are then done off the bike and are extremely important as the muscles have worked concentrically on the bike, resulting in the muscles being shortened. Therefore the aim of the lower body stretch routine is to return the muscles to pre-exercise length and to increase flexibility on the muscles that are most likely to be inflexible due to cycling. The post-class stretch routine should cover all the major leg muscle groups, maintaining (10-15 seconds) or increasing flexibility (30 seconds).
## LOWER BODY STRETCHES

### Quadriceps & Rectus Femoris (front of thigh):
Stand by the bike to support yourself, bring your heel to your backside and hold. Keep the supporting leg slightly bent. To increase the stretch try bring the bent leg knee back in line with the hips.

### Gluteus Maximus:
Bend the supporting leg and place the opposite foot across the thigh. To increase the stretch push your buttocks backwards and allow your body to come forward.

### Gastrocnemius & Soleus:
Use the bike for support and push against it. Place one leg behind you, and press the heel of the back foot into the ground to feel a light stretch. To increase the stretch, let the hips come forward.

### Hamstrings (back of thigh):
Straighten your front leg and bend your back leg. Place hands on the quadriceps of the rear bent leg and move your hips backwards and bend forward from the hips maintaining a neutral spine.

### Hip flexors:
Go into the lunge position, take your back knee to the ground and push your hips forward. Make sure your front knee does not go over the toes.

There are many instructors who use the bike to stretch the lower body, but we follow the viewpoint of Kiddle (2004) and recommend not using the bike to stretch the lower body. By lifting your leg onto the bike you are increasing the chances of an accident and potential injury. You can stretch more effectively on the ground. The rule is to keep it simple. Another reason not to use the bike is one of maintenance. Kiddle (2004) explains that the bottom bracket has considerable amount of force placed on it during a hamstring stretch and can decrease the lifespan of the bottom bracket by half. There are plenty of safe creative exercises that you can do off the bike which more effectively use the load of the body for muscle flexibility maintenance and gains.
THINGS TO REMEMBER WHEN TEACHING YOUR FIRST INDOOR CYCLING CLASS

- Introduce yourself
- Ask names, goals and history of exercise
- Ensure bags are in changing rooms or safe distance from bikes
- Set up new members bikes
- Ensure everyone has towels and water
- Warm up
- Discuss with the class where they are with their training programmes (e.g. week 1, 2 or 3 etc)
- Explain the aim of the training programme
- Explain the purpose of the class
- Talk through the general structure of the class, so they can prepare what they are in for
- Do a cadence check
- Do a heart rate and resistance check
- Upper body mobility exercises
- Feedback on technique to the class
- Re-Warm
- Explain the aim of the re-warm
- Aim to elevate the heart rate to working levels
- Biomechanics technical points
- Make individuals aware of individual levels
- Use 2-5 short, progressive efforts
- Get feedback from the group on how they feel
- Feedback to the class

MAIN SET

- Explain the structure and aim of the main set
- Use fun, motivational and high energy music
- Incorporate mental training – visualisation, focusing on technique and getting the most out of the workout
- Create different profiles focusing on frequency, intensities and time, depending on the fitness element you want to train, and the aims of the session

RECOVERY

- Reduce the intensity and cadence
- Focus on slow breathing
- Stretch upper body on bike
- Stretch lower body off the bike
AFTER CLASS

- Gather feedback from group
- Answer questions from members
- Be the last to leave

TYPES OF RIDES
(Adapted from Kiddle, 2004)

There are a variety of positions you can use depending on the ability of the class, the fitness levels, the training zone you wish to work in, and the aims of the session.

For each technique there are symbols you can use to help plan your classes or profiles. The circle is a wheel. Inside the wheel is the type of terrain and technique. Put the wheels together to create a map. These maps then become part of the ‘ride profile’.

SEATED FLATS

Cadence guide = 80-120rpm (high cadence, low resistance)

This is the easiest and most basic of positions from which we can develop all other techniques. It is possible to extend the length of time that we train in this position to develop the mind/body strength as well as stamina and endurance. It can be the hardest technique in terms of intensity, duration and high cadence. By sitting in the saddle with a controlled resistance we can rotate the pedals quickly against resistance to develop speed. The cyclist’s term for this is ‘spinning’. It is in this position that we first learn to develop leg speed (cadence) and rhythm to the music during the class. You should choose music at the rhythm that suits the type of conditions you envisage on the road. Your feet should be in a neutral (horizontal) position. It can be used in the warm up, cool down, and recovery position. Weight is on the saddle and feet, with the hands resting lightly on the handlebars. The spine must be straight, shoulders relaxed and elbows bent towards the ground. All classes begin and end with several minutes in this position. Beginners and others are encouraged to return to this position if they “can’t keep up” with the class. There is no shame in riding a flat road.
**SEATED FLAT COACHING POINTS**

- Position your sit bones on the raised or rear part of the saddle.
- Position balls of feet over middle of pedal.
- Knees should be facing in the same line as the toes.
- Lengthen your spine.
- Your upper body position should bend at the hips and not rounded excessively in the upper or lower back.
- Sufficient resistance should be used to allow the body weight to be supported by the legs and prevent bouncing in the saddle.
- Get the legs to take the weight, this allows the upper body to relax. Arms soft, elbows in, straight wrists and loose grip on handlebars- normally narrow position, drop and relax the shoulders.
SEATED CLIMB (HILLS AND MOUNTAINS)

Cadence guidelines = 60-80 rpm
This position is probably the most powerful, physiologically challenging, and deeply rewarding position out of all the positions. Weight is on the saddle and feet, with the hands gripping the handlebars. A participant’s bottom should be a bit further back on the saddle in order to further activate the use of gluteus maximus and hamstring muscles. The spine must be kept very straight; pelvis rotated forward, elbows bent more deeply with forearms parallel to the earth. Lower abs are tucked in so as to push the butt down and back into the saddle. Arms, back, and shoulders are utilised to pull on the handlebars to assist the lower body in keeping the pedals constantly rotating in a smooth, regular cadence. Do not allow the legs to bog down and degenerate into a push-push style of “leg press” riding. Cadence is in time with the music, usually on the half count (about 60-80 rpm). If riders are getting out of saddle to apply body weight to the pedals during a long seated climb, then they are using too much resistance and probably have a rounded back, relaxed abs, and a bogged down cadence. They should be encouraged to stay with the seated position and keep their momentum up by using less resistance.

SEATED CLIMB COACHING POINTS

- Coaching points should be similar to seated flat
- Focus must be put on relaxing the upper body
- Experienced cyclist can adjust their position to slide the backside towards the back of the saddle.

The tempo of the music should slow down according to the class requirements; get the class to adjust their resistance and cadence according to the music.

STANDING FLAT

Cadence guidelines = 60-100 rpm for beginners and 110+ for advanced cyclists
This is one of the most misunderstood positions in indoor cycling. However, riding with awareness and intensity in the standing tall position provides a rich front-of-the-leg complement to climbing out of the saddle with its back-of-the-leg focus. Another benefit of the standing flat is that it can assist in building strength, skill, coordination, and agility to outdoor, bipedal activities such as running, hiking, skating and skiing. Finally, done with fast leg speed and a super upright and balanced posture, standing flats provide one of the most profound and physiologically and energetically rewarding experiences in indoor cycling. The correct technique is to have weight entirely on the feet, with the body lifted off the saddle,
and hands in position one or two and used only for balance and safety. It is important for the instructor to get
the group to ride as tall as possible, really straightening the spine, tucking in the pelvis and abs, and loading
all weight onto the quads. Ride most of the time with the upper body relaxed and moving slightly in tandem
with the lower body, while occasionally isolating the upper body and riding with the focus and movement
exclusively in the lower body for an intense challenge. Cadence is usually tied into the beat of the music:
riding on the beat, half count, double time, etc., allowing cadences such as about 70, 140, and others. Remember: no weight on the hands, no leaning forward, and no tension in the upper body. It is important that
there is enough resistance on the flywheel for control whilst standing and you keep the pedal stroke
maintaining a smooth circle. The upper body should be relaxed with the head and the back in a neutral
position. The arms keep their slight bend, with elbows in. It must be remembered that the body weight should
be all on the legs and your hands should only be assisting you to maintain balance. The shoulders will move
gently from side to side as you transfer the weight through the pedals. For advanced and more challenging
technique limit your head and shoulder movement, while focusing on keeping the legs from completely
straightening and hips still. The legs should be flowing in an oval movement.

**STANDING FLAT COACHING POINTS**

- Ensure your clients have sufficient resistance before attempting to stand up – a good gauge is if it is
  proving challenging to pedal whilst sitting in the saddle.
- Rise out of the saddle in one smooth movement
- Your bottom should be just touching the tip of the saddle
- The hips should be over the centre of the bike
- The upper body should be relaxed
- The grip should be loose
- Ensure the body weight is transferred through the pedals, with little weight on the hands

**STANDING CLIMB**

Cadence guidelines = 60-80 rpm

The standing climb means that the road has got steeper; therefore the resistance should reflect this. The resistance should be high enough to slow the cadence to your specified rpm. It is vital that the music is
Motivational, with a strong beat to encourage everyone in the class to challenge themselves and get into a climbing rhythm. In the standing climb, the bottom should stay in line with the saddle; the grip should be in the
standing position. Your body should cross the centre line with the rhythm of the music beat and the body transfers its weight through pedals. The arms can be used to pull against the bars and power you up the mountain when it gets tough. If a rider comes out of this position while climbing and switches to a
standing tall position, this is probably because that rider has developed a sore back from riding with a rounded back and relaxed abs. Instruct them on proper technique and posture and they will find comfort and power in this forward flexed position.
STANDING CLIMB COACHING POINTS

- Ensure the participants have sufficient resistance before attempting to stand up - a good gauge is if it is proving difficult to pedal whilst sitting in the saddle.
- Rise out of the saddle in one smooth movement
- The bottom should just be touching the tip of the saddle
- The hips should be over the centre of the bike
- The upper body should be relaxed
- The grip should be loose
- Transfer body weight through the pedals
- The hands should be placed in wide position at the ends of the bars
- Relax your upper body
- Pull lightly against the bars

IMPORTANT NOTE:

Emphasis should be placed on the correct amount of resistance; the participants will then find it easier to pedal out of the saddle than in, if the right amount is used. If the participants are finding it difficult and they are struggling to stay up or leaning forward and supporting their weight on their arms, it could mean they do not have enough resistance on the flywheel.
JUMPS/COMBINATIONS

In outdoor cycling, riders lift out of the saddle for brief periods of time when negotiating steep hairpin turns on alpine roads or to accelerate up to a faster speed. By using gravity and body weight, more pressure can be applied to the pedals in order to provide a burst of speed under constant tension or in order to keep up constant speed when tension increases. This is called jumping or Combinations (flat or hills). In indoor cycling we do the similar movements repeatedly, for shorter durations of time, perhaps for two, four, eight, or sixteen beats of the music. The purpose is an intensified cardiovascular challenge mixed with a unique kinaesthetic and physiologic demand. The many benefits include increasing coordination, explosive strength, and postural awareness. Hands stay in second position and the upper body remains relaxed as the body weight is lifted up from the saddle into a standing tall position, then returned to the saddle. Weight is entirely on the feet when standing, then primarily relocated to the saddle while in the seated phase of the movement. Do not just bounce up and down and do not do the movement so quickly that proper technique and posture are impaired. Hands remain lightly on the handlebars for balance and safety, but the handlebars are not pulled against during the movement. Remember: only perfect practice makes perfect. You can use visualisation and specific challenges like the finish of a race or jumping away from a pack. The jumps can vary at different intervals – set the class goals depending on individual levels. It is vital to teach correct form with fluid continuous movement of the legs while lifting them both in and out of the saddle. As the class becomes more experienced, you can set challenges by coming out of the saddle with a burst of power and increasing the pedal speed – not unlike breaking away in a race.

Combination/ jumps are an ideal way to break up sets or raise the heart rate to the correct zone. For more advanced cyclists who can do this easily, it is ideal to mobilise and relax them if used in between main sets.

Jumps/Combinations for advanced riders

Jump attack: this movement is ideal for high intensity intervals and should be done to high energy music. From the standing Climb position, or seated climb position for more intensity, come forward slightly and accelerate for a short period of time and then pull back to the standing climb or seated position. This movement must be done with medium to high resistance.

Jump Attack Coaching Points

- Hands at the end of the handle bars
- Hips come slightly forward
- Relaxed grip
- Stand tall and head in neutral position
- Elbows tucked in
- Ensure you reinforce the coaching points for pedalling technique and efficiency
SEATED SPRINTS

Accelerating the pedals is a challenging addition to many of the core movements in indoor cycling. Cardiovascular fortitude, anaerobic threshold, and explosive strength are all furthered during short duration acceleration. Care must be taken to keep the upper body, especially the neck and shoulders, relaxed whilst accelerating. As always, the spine must remain flat and the lower abs must be held snugly to push the butt into the saddle and keep the pedalling form smooth and free from bounciness. All accelerations and decelerations must be smooth and fluid, not jerky and abrupt, in order not to have a negative or deleterious effect on the connective tissues around the knees and ankles. Smooth, circular pedalling, with the knees kept straight in line with the toes, is crucial.

Control at all times is absolutely paramount; as are quick reflexes should anything go wrong with the bike. This is an advanced move for seasoned riders. Do not allow new riders to participate in this movement; instead they can push the same speed with more resistance. Most importantly to remember, NO accelerating with no resistance; without resistance, riders can lose control of the flywheel, which can be an incredibly dangerous circumstance.

STANDING SPRINTS

This advanced move can be performed while standing tall or while climbing out of the saddle. Use the same form and posture as in those movements, but with extra attention being paid to safety and control. This is normally performed in synch with the beat and tempo of the music, for eight, sixteen, or thirty-two counts, for example. With the hands in third position, resistance must remain constant and heavy; this is accelerating on a mountain and it must be done with no weight on the hands. With the hands in second position while standing tall, resistance must be at least moderate and the weight must stay entirely on the pedals. There is no leaning on the handlebars or otherwise allowing the weight to fall forward. Never remove all of the resistance while accelerating. Remember: there is no coasting on these bikes, so riders must only accelerate to the degree that they can stay in control.

PACE CHANGE – WALKING, JOG, RUN AND SPRINT

These four pace changes can be used in indoor cycling, and any of them can be incorporated into the different roads we ride. Each one has a different interpretation of road riding depending on where we are on our journey. Great care must be taken when changing pace; it is imperative that technique and form are not neglected in order to do so. For example, you would not attempt pace change if you are a beginner as they are still learning the techniques and need to ride at their own rhythm. Although the slow walk pace may be used to learn the basics of technique. Pace change challenges are far more relevant to intermediate or advanced studio cyclists.

**Pace 1** - this is known as the walking pace (60+ rpm). Walking pace is coached by pedalling below the beat of the music. It can be used during different parts of the class such as warm up or recovery, stretching for upper body, or during a distinctive part after adding resistance. It could be useful for class members who are learning new techniques.
**Pace 2** – known as jogging pace (80-120+ rpm). Jogging pace is coached by pedalling with the beat of the music. It can be used at all stages of the class and the intensity is determined by the type of challenges and how much resistance is added. Jogging is the most common pace during classes and generally the group will be in their aerobic zone.

**Pace 3** – this is known as the run. Running is coached by pedalling above the beat of the music. It is used during a more difficult challenge with resistance or even going downhill with less resistance. The techniques must not be forsaken for more speed – you must use sufficient resistance to stay in control.

**Pace 4** – known as ‘sprinting’. This is a very advanced technique and should only be introduced when the group has been cycling for approximately a period of 6 weeks. Sprinting can be performed both in and out of the saddle, and it is up to you as the instructor to be able to assess when a class is ready to start sprinting. The music must be upbeat with a fast-moving rhythm. You should increase the pace whilst developing at an individual level, staying in control. If you have someone in your class that will be sprinting for the first time, make sure they reassess where the brake is in case of an emergency. You may also want to check to see if the toe straps are tight. Sprinting in the saddle requires a relaxed upper body with no tension. There is usually a challenging resistance and it is only done for a period or interval of no more than 15 seconds. The resistance should be sufficient to make it very tough to pedal faster than 110 rpm. When sprinting out of the saddle, a new degree of rhythm, power focus and balance will be achieved. It is vital that you instruct the class to relax the hips, neck and shoulders. Standing sprints require an incline with a good resistance.
EXAMPLES OF INDOOR CYCLING DRILLS

Adapted from "Cycle Reebok-The New Revolution" developed by Jeffrey Scott and Leigh Crews.

TEMPO RIDING: Higher cadence, but not a sprint - some resistance.
FREEZE: in standing climb keep the hips still just above the saddle – some resistance.
RESISTANCE RIDING: Lower cadence, heavier resistance.
SPEED PLAY/SPIN-UP: Speedometer, constant resistance but increase leg speed - can do pyramid or ladder.
REPEATS: Repeat an activity more than once.
ACCELERATIONS: Constant leg speed but increase resistance over time.
SURGE: Surge of energy/speed, then return to previous cadence. It's not a sprint, repeat.
STANDING SURGE TO SUMMIT: End a climb with an explosion of speed out of the saddle.
EXPLOSION: Out of the saddle, then explode for about 10 seconds, decrease resistance, sit and recover. For advanced participants only.
SPRINTS: Light resistance - going as fast as you can with control.
SINGLE LEG TRAINING: One leg pedals at a time - excellent for balancing left and right sides and forcing hamstrings to engage. Inactive foot stays in clip, just tell participants to pretend that the leg has gone dead.
AGGRESSIVE CLimb: Consistent cadence with increasing resistance, eventually come out of the saddle and cadence will slow down.
PASSING DRILL: A seated surge - high-end aerobic zone, then "pass" and return to initial cadence. More advanced riders get less recovery. Repeat.
BREAKAWAY: Breakaway from the pack - a one-time/non-repeated event e.g., "for the next 30 seconds breakaway from the pack".
OUT OF THE GATE: In the saddle explosion, light resistance, repeated activity.
LADDER: Increase, then stop changing and hold or recover.
PYRAMID: Increase, reach the top, then come back down to start.
TIME TRIAL: An all-out effort at lighter resistance "get from point A to point B as quickly as possible".
CONTRAINDICATED MOVEMENTS IN INDOOR CYCLING

It is important to realise that there are unsafe movements that must be avoided. This is not a complete list of contradicted movements, but a couple of the main movements to avoid:

- Using any kind of weighted equipment whilst on the bike. Weight training is most effectively accomplished when your body and its core muscles are stabilised. Lifting weights while on a bike is ineffective and unsafe.
- Riding with no hands. Doing this whilst standing or jumping is dangerous because you could seriously injure yourself if one of your feet slipped out of the pedal and you fell off or on the bike.
- Riding with pointed toes. This can cause inflammation of the Tibial Tuberosity, an overuse injury that stresses the knee, ankle and supportive structures. It can also cause numbness in the feet.
- Riding with no resistance - is a waste of valuable workout time and at high RPM increases the risk of injury, and feet coming out of the pedals.
- Pedalling Backward - this movement unscrews the pedals from the crank arms.
- Adjusting a rider’s resistance during class. You should ride at your own pace and level. As an instructor, there is no way of knowing how much resistance a participant can tolerate.
- Hand Position 3 whilst seated. This position takes the rider out of the ideal biomechanical riding position and causes increased flexion of the hips and spine, which may lead to back pain. Unless you have unusually long arms, this position will most often cause you to “lock out” your elbows or use an abnormal reach.

IF YOU WOULDN'T DO IT ON THE ROAD, THEN IT PROBABLY DOESN'T EXIST IN THE SPINNING PROGRAMME.
EXAMPLES OF RIDES
BEGINNER CLASS

This class is designed for beginners. As an Instructor you should remember that complete beginners will spend a large percentage of their class in the base zone (50-70%MHR), this will allow them to make improvements in the cardiovascular and respiratory systems. It is important to teach to the ability of the class and remember it takes about 2-3 classes for beginners to actually get used to the bikes and the different positions. To incorporate progression in your class you must change intensity and duration over weeks and months. These people are on a journey and will follow you as the instructor because they like to think you are looking after them. If you do they will come back again and again.

MAIN POINTS TO COVER IN THE CLASS:

- Safety
- Set up
- Warm up
- Introduction to hand positions
- Introduction to basic techniques (flats, hills, seated and standing climbs)
- Remind participants to train at their own level
- Encourage them to challenge themselves
- Be positive – give clear, concise and audible instructions
- Lead and motivate, don’t be scared to try new moves but remember, simplicity is best
- Challenge with the music and light visualisation
- Cool down and stretch off the bike
- Clean the bikes down
- Beginners should do 2-3 classes per week
- Learn names of your participants
- Give clear and easy to understand coaching points and avoid jargon
- Introduce them to the RPE scale as it is easy to use, don’t introduce heart rates until they are intermediate
<table>
<thead>
<tr>
<th>BEFORE THE CLASS</th>
<th>ELEMENTS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety</td>
<td>Check the area for bags, power cables</td>
<td></td>
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<tr>
<td>Bike set up</td>
<td>Ensure towels and water are accessible</td>
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<td></td>
<td>Use the quick bike set up to be taught from your bike</td>
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<td></td>
<td>Give visuals and verbal demos for obvious bike set up problems</td>
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<td>Get class to interact during bike set up.</td>
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</tr>
</tbody>
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<table>
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<tr>
<th>WARM UP</th>
<th>ELEMENTS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>RPE 3-5</td>
<td>Music Rhythm</td>
<td>Participants should be relaxed and comfortable and look for bike set up problems</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Play first track to highlight warm up.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Start pedalling on a flat road 80-120 rpm. Riders choose leg speeds at their own rhythm</td>
</tr>
<tr>
<td></td>
<td>Hand positions</td>
<td>Explain hand positions on the bike and their uses</td>
</tr>
<tr>
<td></td>
<td>Start visualisations</td>
<td>Ask the group to close their eyes if they want to, imagine a place that is familiar to them in a nice environment using positive suggestions with a goal at the end (80-120rpm)</td>
</tr>
<tr>
<td></td>
<td>Basic sitting</td>
<td>Sit towards the back of the saddle, lengthen spine, relax elbows and shoulders, have head in a neutral position, knees over toes and a loose grip on handlebars.</td>
</tr>
<tr>
<td></td>
<td>Basic standing</td>
<td>Resistance to be added gradually and chosen by them.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hands in position: narrow or wide</td>
</tr>
<tr>
<td></td>
<td>Mobilisation</td>
<td>Group to be adding sufficient resistance that it’s hard to pedal sitting down, hand in position 3 – standing climb, with one smooth movement standing out of saddle, hips over middle of bike, saddle tapping bottom, loosen grip, transfer weight through pedals, nose crossing centre line. 60-80rpm.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Should only be taught when the group is ready. Emphasise that more rather than less resistance makes it easier to stand. This is only a short taster for the class to teach technique, and also a good way of generating heat in the body for the warm up although not designed to raise the heart rate too much.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Upper body movement exercises. Not stretching.</td>
</tr>
</tbody>
</table>
## A CLASS STRUCTURE SHEET FOR BEGINNER

<table>
<thead>
<tr>
<th>MAIN COMPONENTS</th>
<th>ELEMENTS</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other challenges</td>
<td>easy flats or steady hills</td>
<td>Designed to elevate heart rate gradually by adding resistance and prepare the body for the following challenges.</td>
</tr>
</tbody>
</table>

| RE - WARM | Pedalling techniques | Explained- to enhance muscle balance, pedalling efficiency and injury prevention. Coached by breaking down terms “push forward and down, pull back and up” using relative terms. |

| MAIN RPE 7-8 | Flats and hills (seated and standing) | This main part is designed to suit the ability of the groups and is high energy, fun and motivating. Pedalling speed not suggested to enable beginner groups to ride at the own pace. Challenges to include seated and standing climbs and downhill’s, aiming to keep effort level at a peak. For downhill’s ensure group bend from hips, change hand position to narrow or wide and go as low as they feel comfortable with reduced resistance, watch for excess speed – maximum 110-120rpm. Use RPE scale to gauge intensities. Observation for techniques and how group are coping is essential. Music to change once again to highlight different part of class and challenges. |

| RECOVERY RPE 7-3 | Upper body stretch on the bike | After the main set music changes to highlight recovery; upper body stretches done on the bike to include: biceps, triceps, upper back, chest and neck |

| | Lower body stretch (off the bike) | Lower body stretches done off the bike to include: Hip flexors, gluteus maximus, hamstring, quadriceps, soleus and gastrocnemius |

| | Clean bikes | Issue class participants with spray and blue roll to wipe down own equipment- ensure handlebars, seat & upper frame are wiped clean of sweat |
INTERMEDIATE CLASSES

These classes are designed for participants who have been training for a couple of weeks. We will introduce basic mind/body principles and encourage them to use the heart rate monitor. As an instructor you will be talking less as the group understands the basic techniques and are becoming more focused. Emphasis should be placed on senses and visualisation of the road. The main set should include low and high end endurance, hills and combination/jumps.

<table>
<thead>
<tr>
<th>A CLASS STRUCTURE SHEET FOR INTERMEDIATE</th>
<th>ELEMENTS</th>
<th>NOTES</th>
</tr>
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<tbody>
<tr>
<td>BEFORE THE CLASS</td>
<td>Safety</td>
<td>As with beginner class, check the area for bags, power cables</td>
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<td>Bike set up</td>
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<td>Get class to interact during bike set up.</td>
</tr>
<tr>
<td>WARM UP 5-10MINS RPE 4-5</td>
<td>Music Rhythm</td>
<td>As with beginner class, play first track to highlight warm up. Participants should be relaxed and comfortable and look for bike set up problems</td>
</tr>
<tr>
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<td>Hand positions</td>
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<td>Start visualisations</td>
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</tr>
<tr>
<td></td>
<td>Basic sitting</td>
<td>Sit towards the back of the saddle, lengthen spine, relax elbows and shoulders, have head in a neutral position, knees in line with toes and adopt a loose grip on handlebars.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Resistance to be added gradually and chosen by participants. Hands in position: narrow or wide</td>
</tr>
<tr>
<td></td>
<td>Mobilisation</td>
<td>Upper body movements exercises, not stretching</td>
</tr>
<tr>
<td>MAIN COMPONENTS</td>
<td>Basic standing or other simple challenges</td>
<td>Add intensity and frequency of spikes to 75/80% MHR depending on level of fitness in class. Add sufficient resistance so that it is hard to pedal sitting down. Do standing climbs</td>
</tr>
<tr>
<td>-----------------</td>
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<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>RE – WARM – 5MINS 6-7</td>
<td>Pedalling techniques</td>
<td>Vary emphasis of pedal action biomechanics. Designed to elevate heart rate gradually by adding resistance and prepare the body for following challenges in the main component. Include seated and standing climbs</td>
</tr>
<tr>
<td>MAIN – 20-25MINS RPE 7-8</td>
<td>Pace change/ cadence count</td>
<td>Walk below the beat; jog to the beat; run above the beat</td>
</tr>
<tr>
<td></td>
<td>Other challenges (you decide what you would like to incorporate in this section)</td>
<td>Challenges to include seated and standing climbs and downhill’s, aiming to keep effort level at a peak. For downhill’s ensure group bend from hips, change hand position to narrow or wide and go as low as they feel comfortable with reduced resistance, watch for excess speed – maximum 110-120 rpm. Include intervals and sprints</td>
</tr>
<tr>
<td></td>
<td>Introduce heart rate monitoring</td>
<td>Using RPE scale and heart rate monitors to gauge intensities. Observe technique and how group are coping is essential. Music to change once again to highlight different part of class and challenges.</td>
</tr>
<tr>
<td></td>
<td>Low end endurance- introduce to combination/jumps (in and out of the saddle)</td>
<td>Combination/jumping rhythm 4, 8 or 16 beat, in one smooth movement, hands in wide position, relax upper body, use the legs to support the body, don’t lock the legs, keep neutral bend at the hips</td>
</tr>
<tr>
<td></td>
<td>Flat road 80-120 rpm 65-75%</td>
<td>Incorporated to allow some recovery between hard bursts.</td>
</tr>
</tbody>
</table>
**Discovery Learning**

| RECOVERY-10MINS | Upper body stretch on the bike | After the main set music changes to highlight recovery; upper body stretches done on the bike include; biceps, triceps, upper back, chest and neck |
| RPE 7-4 | Lower body stretch (off the bike) | Lower body stretches done off the bike, to include; hip flexors, gluteus maximus, hamstring, quadriceps, soleus and gastrocnemius |
| | Clean bikes | Issue class participants with spray and blue roll to wipe down own equipment- ensure handlebars, seat & upper frame are wiped clean of sweat |

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