

The MEDAL FACTORY

Having conquered the world at Rio 2016, the British Cycling track squad is already preparing for Tokyo 2020. *Cyclist* goes behind the scenes at the Manchester Velodrome to meet the riders and staff who make up the most successful team in British sport

Words **MARK BAILEY** Photography **ALEX WRIGHT**

When Britain's world-beating track cyclists reflect on Rio 2016 it is those euphoric celebratory laps and teary-eyed medal ceremonies that light up their memories. But it is here, inside the empty cauldron of the Manchester velodrome – the headquarters of the British Cycling track squad – that the foundations for those moments of glory were laid.

When *Cyclist* arrives at the velodrome on a foggy spring morning, the sprint squad are already hard at work, to a soundtrack of rumbling pineboards and encouraging cries of 'hup!' from the coaches. Callum Skinner, the Olympic team sprint champion, is grimacing through a series of leg-shredding standing starts. Katy Marchant, bronze medallist in the women's sprint, is chatting with physios about a knee injury. The young sprint trio of Ryan Owens, 21, Joe Truman, 20, and Jack Carlin, 19, are recovering in the track centre, their chests heaving through sweat-drenched jerseys. In this winning environment, past and future champions train side by side.

'I had three weeks off after Rio, then started planning what happens next,' says Jan van Eijden, the German former track cyclist who oversees the sprint programme. 'We're thinking about Tokyo but also the next World Championships [in Hong Kong in April]. When we were in Rio, Kevin Stewart, the Olympic Development Programme and Academy coach, was here preparing the three young guys who were so successful at the Euros and World Cups. Someone is always thinking about the next step.'

This relentlessly progressive attitude is shared by the riders. 'It's been tough getting back into training but the only thing I think about is the



British Cycling's track squad work through their training programme: every morning they're on the bikes, before gym work and performance analysis in the afternoons



feeling when I crossed the line and won the medal,' says Marchant, 24. 'You want nothing more than to feel that again. Some days I could happily lie in bed because my legs and arms are hurting, but the team helps us through that. There's great morale in the track centre. Me and Becky [James, silver medallist in the keirin and sprint in Rio] had a really great relationship before the Olympics. Things were highly competitive between us but we pulled each other along.'

Ryan Owens is another young rider helping to maintain the winning momentum. His ambition is to become an Olympic champion like Sir Chris Hoy, and he already has the colossal thighs and polite manners of his idol. 'Obviously I think of Tokyo but I'd love to ride at the Worlds. The first race I watched here was in 2008 when Hoy won the sprint. I remember the buzz and I thought, "I want to ride in that one day." I'd love to be a world champion but one step at a time. I just want to get my head down and see what position I'm in when selection comes round.'

Van Eijden believes experienced riders gain as much from training with young riders such as Owens as the prodigies do from rubbing



'It's been tough getting back into training but the only thing I think about is the feeling when I won the medal'



JAN VAN EIJDEN, SPRINT COACH

'We've introduced a Readiness Index. One part is looking at what it takes to win, so predicting the time needed to win the team sprint in Tokyo. On any training day we focus on the standing start, acceleration, then speed – off the top at high cadence for different lengths. The last one is about holding speed for longer than a lap. The margins of success get smaller each year and you can't reinvent the bike so now we really focus on making the athletes better, rather than the bikes and the details.'



RUTH ANDERSON, LEAD PSYCHOLOGIST

'My role is to equip athletes with the psychological skills to thrive under the pressure of a high-performance environment. Those skills include the ability to manage their thoughts, to regulate emotion – particularly performance anxiety – and to develop self-belief in their capacity to achieve. But we also look at focus, resilience and even sleep. I work on identifying what happens to them under pressure.'



MARK INGHAM, TECHNICAL COORDINATOR

'I started as a race mechanic with British Cycling back in 1993. They said they couldn't pay me but I'd travel the world. I said, "Why not?". I was looking after Mark Cavendish as a junior. My role now is technical coordinator so I oversee all the mechanics, deciding which races they go to, and seeing to all athletes' requests for servicing. Very few athletes have mechanical knowledge. I've had calls from Bradley Wiggins because I only live two miles from him, saying, "Mark, sorry, I've messed this up, can you have a look at it?"'





shoulders with medal-winners. 'The hunger comes from the squad itself. When you have young guys doing well - Jack did 17.3s in the 250m time-trial a few times, which for the time of year is up there with the top guys - the experienced riders have to be going well too. And riders have new challenges too. Take Phil Hindes [double team sprint champion], who wants to become an individual sprinter.'

'We have timing loops underneath the track and each bike has its own timing chip so we can track speed, cadence, power and timing splits'

Body and mind

British Cycling recently underwent an independent investigation into alleged sexism and bullying and admitted in a statement that it has 'chosen to embrace the recommendations and findings', but while the controversy continues, the riders and staff here are focused only on the hunt for medals. Riders are supported by a network of nutritionists, physios, mechanics, psychologists, performance analysts and strength coaches.

'Within a four-year Olympic cycle athletes will have about 8,000 meals so they have to establish good habits,' says nutritionist Lauren Delany, who's started posting healthy recipes for pork and pea orzotto and protein panna cotta on Instagram to grab her hungry athletes' attention. 'For most meal plates, we work on a simple rule of thirds. A third of the plate will be fuelling foods like carbohydrates, a third will be colourful vegetables, and a third will be protein-based recovery foods.'

As the sprint squad is in a strength-building phase, where gym progress is prioritised over track speed, they are ravenous. 'For breakfast they might have an omelette with smoked salmon and loads of veg. We might throw in a smoothie so they get a lot of milk and oats and fruit. And there always has to be good quality coffee - they will kill me if I don't say that!'

While there are no medals to be won today, lead psychologist Ruth Anderson, pinched in 2015 from the Australian Institute of Sport, likes riders to hone their mental strategies in training.



Coaches take a hands-on approach to refining the riders' technique - and despite the recent scandals around British Cycling the bond between the athletes and their mentors is strong



MARTIN EVANS, HEAD OF STRENGTH AND CONDITIONING

'I work closely with the coaches to make sure the athletes' strength training fits in with what's needed on the bike. I underpin their track training by making changes to their neuromuscular system - essentially how their brain interacts with their body, for example telling it to create more force or to do that more quickly. Everyone in that room is an individual so we try to create an environment in which everyone can get the most out of their time.'



LAUREN DELANY, PERFORMANCE NUTRITIONIST

'My role is to help athletes unleash the power of food. There will always be top-ups, like a protein shake after training, but we aim for a food-first approach. Our focus is on three areas: to get the most out of their training; to reduce their risk of illness and injury, and to be well fuelled and recovered at competitions. The sprinters typically eat five to six meals a day to fuel their muscles. Some can't cook at all when they arrive and some could go on MasterChef.'



PHIL BURT, HEAD PHYSIO

'I started here in 2006 when there wasn't a single Sir in the building. I look after the riders' health and also do special projects, such as the skinsuits for Rio. How do we remove back pain? How can we make the riders more flexible? Before Rio, Ed Clancy had 1.5cm of his L5-S1 disc popping out and we had to drive him here in a minibus every day because he couldn't sit properly. He had surgery in November 2015 and won gold in August 2016. It was a real journey and we're very proud of that work.'



Jack Carlin is performing single-leg presses, his face purple from the effort. He's pushing 270kg per leg



At the age of just 19, Jack Carlin is one of British Cycling's big hopes for the future



Joe Truman is one of the youngsters whose hard work is keeping the old guard on their toes

performing single-leg presses, his face purple from the effort. He's pushing 270kg per leg. 'About 80% of maximal cycling power comes from the hips and knees so they're a big focus,' says strength coach Martin Evans. The order of the athletes' training schedule is carefully planned. 'There's some evidence that a higher body temperature in the afternoon leads to increased force and power output. In a strength phase, we do the gym at the best time and manipulate track training accordingly. But in a phase when the bike performance is the focus - like nearer the Worlds - the track takes priority.' Owens is balancing himself on two dip bars while kicking his legs out in front - a complex routine worthy of a gymnast. 'We like sprinters to do exercises where there's a strong link between the hands, elbows and trunk working together,' says Evans. 'They don't necessarily need more upper-body muscle but they do need a strong chain to transfer force on the bike.'

Working closely with the gym team is head physio Phil Burt, a British Cycling stalwart since 2006. 'A big focus now is injury-prevention,' he says. 'The main issue is days lost. You lose 15% of the squad to injury and 25% to illness at some point. During that time, everyone else in the world is getting better. So we do regular injury audits and monitor riders using apps. They each have daily warm-ups and if they can't achieve the right range of movement, they don't lift.'

Burt has drawn praise from Laura Kenny for his saddle sore project, which resulted in female riders using downward-tilting saddles and adapted skinsuits. 'We used pressure mapping'



Ryan Owens helped GB win the team sprint at the 2016 U23 European Championships, along with Truman and Carlin, and in January he beat Truman to the British Individual Sprint title



LEWIS MARSDEN, PERFORMANCE ANALYST

'My role is giving feedback to coaches and athletes, whether that's simple video feedback or more sophisticated number-based analysis. We monitor the key variables on the track in training. The track also has built-in cameras synced with the timing chips so we get instant snapshots. At competitions we film from the stands and send footage to a laptop so the riders and coaches can watch it immediately. We do opposition analysis too. We have a video library of opponents, and look at whether a sprinter should lead out or go from behind.'



KATY MARCHANT, RIO 2016 SPRINT BRONZE MEDALLIST

'To come away from Rio with a bronze medal was something I never expected. Afterwards I spent three to four weeks having a bit of downtime. Then I spent eight weeks in Japan at keirin school. A break helps you prepare for the highs and lows of the next four years. We tend to have a track session from 9am-12pm, then gym from 3pm before some soft-tissue massage and appointments with staff. We appreciate what the staff do here. Everything we do is a team effort.'



RYAN OWENS, PODIUM PROGRAMME SPRINTER

'I thought in my first year on the Academy I'd be fighting to stay on the programme but within six months there were good signs and I ended up being reserve for Rio, which was an incredible experience. I was on the Academy Programme and then the Podium Programme so I got to see the full path very quickly. Callum, Jason and Phil have got nine gold medals between them so it's been great to shadow them.'

Pro racing ● GB track squad

▷ that found you're dealing with forces nine times higher in the banking. It's like riding into a wall. When you look at how much of the saddle you use it's really just a tiny red dot on the saddle. And if you're lower down you end up sitting on different bits of the chamois so the protection needed to be further forward. When Laura says this project changed her life that is immensely powerful for women's cycling.'

Gadgets and gossip

Laura Kenny is here, chatting to technical coordinator Mark Ingham in the nearby bike store, a haven where riders talk about everything from football matches to relationship dilemmas.

'A number of the mechanics here were invited to Laura and Jason's wedding, and that says a lot,' says Ingham. 'We're here to support them with the best equipment but we don't judge their results so we can have good banter. They all come here.' He chuckles. 'Sometimes you want to move them on because you're here to work.'

The informal role of staff is often as important as their technical work. 'I spend more time here than I do with my boyfriend so we need to be able to have a normal chat,' says Marchant. 'When you feel like you're buried in a hole you can go and chew the ears off the physios and mechanics.'

The mechanics are busy tweaking the bikes. 'Some riders you can put on a bike and they just ride it, like Jason Kenny,' says Ingham. 'We put him on a brand new frame the night before he rode to Olympic gold in the London 2012 team sprint, and he didn't even know. Whereas Laura notices everything, down to the millimetre of her saddle height.'

Ingham is part of the mysterious 'Secret Squirrel Club', which works on technical

Joe Truman gets down to business. There's plenty of banter in the British Cycling gym – until the hard work begins



Ryan Owens doing the gymnastic work that helps strengthen the links in the body's muscular chain

'A number of the mechanics here were invited to Laura and Jason's wedding, and that says a lot'

innovations. 'We're working on a new bike for Tokyo but it's very secretive,' he smiles. 'For the World Championships we'll actually mothball the Olympic bikes. We'll also have SRMs on the bikes for power reading. Other nations use their best kit, go really light, and take off all the gadgets, but we just want the data at this stage. The innovations will be saved for Tokyo.'

The World Championships represent an opportunity to gauge riders' progress but for Van Eijden the focus remains on Tokyo 2020. 'We have two years of experimenting and two years of refining but you always go to the Worlds to do your best. There is no guarantee of success here but as a rider you should feel in good hands and know that you can achieve anything you want.' 🍷
Mark Bailey is a freelance writer whose support team comprises the man who fixes his laptop