Should we all be on TRT by now?

From politicians and actors to neuroscientists, it seems everyone's talking about testosterone replacement therapy. But is TRT a wonder-drug for mood and muscle – or the elite's dirty little secret?

Words by Sam Rider

For a surreal spell the summer before last, a 69-year-old Robert Francis Kennedy Jr had the world gawking at his rock-hard abs.

Stripped to the waist, clips went viral of RFK Jr hammering out press-ups and bench pressing to failure. 'Make muscles great again,' wrote one commentator. Soon it emerged the independent candidate – and now a controversial pick as health secretary in Donald Trump's administration – was taking TRT.

So, too, it turns out, is an ever increasing roll call of Hollywood A-listers and fitness influencers. First, there was podcast host and UFC commentator Joe Rogan disclosing that he'd been using the hormone replacement since he turned 40. Then came Andrew Huberman, shooting up in the name of research for a book on hormone optimisation. And, last year, jacked *Reacher* actor Alan Ritchson explained to *Men's Health* that his doctor had recommended TRT to mitigate a shoulder injury and unforgiving work schedule.

Not all of these celebs are talking about treating medically suboptimal levels – they're talking about maximising their potential and staving off old age, rejecting the notion that our T-levels should decline in the first place.

The mainstream hype around TRT might be new, but androgen therapy isn't. Its origin can be traced back to the 1930s, when a Dutch research group led by Karoly David and Ernst Laqueur isolated testosterone from bull testes in Amsterdam. Soon after, an injectable form of chemically synthesised testosterone was being used to treat male hypogonadism, a condition in which the body doesn't produce enough of this androgenic hormone.

Notable symptoms of this condition include fatigue, sexual dysfunction, depressed mood, brain fog and hot flashes. Untreated, patients can develop anaemia, osteoporosis, muscle wasting and an increased cardiovascular risk.

Once the fitness industry learned of testosterone's potent perks for might and muscle, it quickly became the drug de rigueur among bodybuilders worldwide – something Arnold Schwarzenegger has since admitted.

At this point, it's worth noting that TRT is legal in the UK with a prescription from a qualified doctor, but it is illegal to buy or sell without one. And while the aim of anabolic steroids is to rapidly increase your body's T-levels, TRT seeks to regain hormonal homeostasis.

It's long been understood that testosterone declines naturally with age – at around 1% per year starting between the ages of 30 and 40 – but concerns that T-levels are plummeting society-wide has led to a sudden surge in demand. According to NHS data, TRT prescriptions rose sharply by 22% in 2023 and have stayed elevated ever since.

Dr Robert Stevens, founder of The Men's Health Clinic, which specialises in TRT, says scaremongering by social media influencers is partly to blame. 'You'll hear a lot of guff on the internet about how the 1960s man had testosterone levels in the 50s,' he tells *MH* – today's optimal levels for men range between 10 and 30 nanomoles per litre (nmol/L).

'That's just absurd,' Dr Stevens continues. 'Total testosterone and free testosterone levels of a healthy man haven't changed.' What has is the lower limits of reference ranges set out by national health bodies, such as the NHS.

'As a result, we're now basing "normal" on a sick population.' We're sicker, he says, 'due to stress, bad sleep, poor diet, an unhealthy mindset, chemicals leaching into our waterways, an obesity epidemic… there are a million reasons'.

A blanket range that doesn't differentiate for age brackets is another problem, meaning what's optimal for a post-pubescent adolescent is considered the same as for a post-retirement pensioner. 'Now, in order to qualify for TRT on the NHS, your levels have to be incredibly low,' says Dr Stevens.

Supply and demand

While septuagenarian RFK Jr might be using T as part of his anti-ageing regimen, 57-year-old Rogan to boost energy and Huberman, 49, out of pure curiosity, a growing number of fitness influencers in their twenties and thirties are opening up about their reliance on TRT to address long-standing health concerns.

At the start of the year, personal trainer turned fitness influencer James Smith posted his own 'TRT coming out video' on Facebook, revealing his calculated free testosterone levels ('active' testosterone in the bloodstream that's not attached to proteins, which renders it 'inactive') of 340.1 pmol/L or 0.3401 nmol/L.

'Yeah it was pretty low. I'm 35, I blasted steroids when I was younger and I'm chronically in a state of overtraining. I have a young child and I'm always kind of stressed,' Smith tells his 1.1m followers in the video. 'I had two choices: meditate, work less, train less. Or take testosterone. It was a bit of a no-brainer.'

He now has TRT administered via a doctor's prescription and has his blood work monitored every month. 'I'm a little bit stronger, but nothing amazing,' he says, adding that his cholesterol and cardiovascular risk has improved.

'But above all, my mood is phenomenally better. I wake up in the morning ready to go at life. And probably the best thing for me wasn't any compositional changes. It was the fact I got my libido back. It's made my life better. I think it will make other people's lives better. I'm on TRT. I'm going bald. But I was going bald beforehand.'

£13.5m

The NHS spent over £13.5m on testosterone in 2024

Fitness entrepreneur, author and father-of-two Ben Coomber has been equally transparent about his relationship with TRT. Sparked, he believes, by an episode of long Covid, Coomber saw his T-levels dip from 20.5 nmol/L to 13.5 nmol/L in just two years. 'That's a huge drop in a very short space of time,' he tells *MH* from his home in Suffolk.

Speaking on his podcast, Coomber says he also felt a sense of depersonalisation. 'It was almost like I was dead inside. I felt pretty darn depressed most of the time. That meant I worked more than I should have done so I didn't get stuck in my head as much. I was very low, very mopey, very hard to live with.'

His test results prompted him to get a better hold on his sleep, nutrition, exercise and stress, he says, but nothing seemed to trigger an uptick in testosterone. He then went to see Dr Robert Stevens. 'He said, "For your age, your level is really low. You've got all the symptoms… and you look terrible."' Initial curiosity soon morphed into feelings of emasculation.

'I felt very vulnerable,' he says. 'It felt a bit scary because I knew I'd be going on a lifelong treatment for something. It wasn't something I envisaged – being a healthy, athletic man – that I would have to do so young. I know the physiology of the body and how testosterone declines over time. But I didn't think it would happen so early.'

Coomber's therapy involved microdosing testosterone with a self-administered daily injection. 'The first six weeks you feel really good,' he says. 'You really notice that extra testosterone in your system. Then from six weeks to 10 months you go through this really rocky period as you try to optimise the levels for your body.'

22%

NHS data indicates that TRT prescriptions increased by almost a quarter in 2023

Throughout the process, Coomber was having regular blood tests, allowing Dr Stevens to carefully titrate the dose. 'I'd say it took around a year to get my levels in a really good place,' Coomber says, sharing that his T-levels have more than doubled, from 13.5 to near 30. 'Now I feel great.'

Yet, for all the potential physical benefits, he says the greatest effect of TRT has been on his overall mental wellbeing. 'The feeling of who I am. Being able to experience joy. A lot of people focus on testosterone for physical gains, and while that is true, I think its overwhelming benefit is on who you are mentally and emotionally.'

Falling below the line

Low testosterone symptoms, Coomber tells me, can also include fatigue, brain fog and elusive muscle gains. I feel a pang of recognition. Our chat encourages me to investigate my own levels via Dr Stevens' clinic and the results throw up more questions than answers.

A comprehensive blood panel indicates a clean bill of health. And I score 15.1 nmol/L for testosterone (between 8.7 and 29.0 is cited by many sources as a healthy range) and 0.269 nmol/L for free testosterone (optimal ranging between 0.162 and 0.628).

Yet my T-levels are only fractionally higher than Coomber's and considerably lower than Smith's. 'Your testosterone of 15.1 is borderline. It's not clinically low according to British Society for Sexual Medicine guidelines, which is less than 12, but is it low for a 37-year-old? Yes,' says Dr Stevens, crushingly.

Does that mean I need TRT? 'Hold on,' he says. Total testosterone is only a small part of the picture. And Dr Stevens is looking at the big picture. 'We're always looking for causation. All hormones are dependent on each other, so we're looking at everything in conjunction, not isolation.'

Next, he talks me through my free testosterone results. 'That's your bioavailable testosterone level, your "feel-good testosterone",' he explains. Again, my levels are pretty low. In fact, my overall testosterone picture is sub-optimal.

Now it gets really complicated. My free testosterone is low, he says, because I have a nice, healthy SHBG (sex hormone binding globulin). 'Therein lies the paradox.' The rest of my hormones appear to be doing their jobs, but he identifies low levels of vitamin D, B12, zinc and folate – micronutrients that help build testosterone. 'If there's one takeaway it's that everyone should

How TRT got big
From the fitness industry's bulk-up cheat code to the middle-aged man's panacea

1935
A Dutch research group led by Karoly David and Ernst Laqueur isolates testosterone from bull testes in Amsterdam.

1935
Leopold Ružička and Adolf Butenandt discover how to chemically synthesise testosterone, ushering in the dawn of TRT.

1950s
Injectable testosterone enanthate becomes the preferred therapeutic form of treatment.

1970s
Speaking in 2003, Arnold Schwarzenegger admits using testosterone and Dbol (a steroid) during his heyday.

1990
US Congress passes the Anabolic Steroids Control Act, making steroids, including testosterone, illegal.

1999
From its inception, the World Anti-Doping Agency prohibits the use of TRT in sport.

2014
The UFC bans TRT for its athletes, including via a therapeutic use exemption (TUE).

2018
Podcast host Joe Rogan reveals he's been using TRT since he turned 40, having noticed a dip in energy after 30.

2023
NHS data indicates TRT prescriptions in the UK increased by almost a quarter this year.

2024
NHS spending on testosterone therapy rises above £13.5m.

take 400 IU of vitamin D3 in the morning all year round,' he says, also recommending a B complex supplement. 'We don't want you jumping on TRT unless you clinically need it.'

Instead, were I a paying customer, his advice would be to address a host of lifestyle factors, including stress, sleep, nutrition, exercise and mindset, then retest in six to eight weeks.

'My goal is to not put you on TRT, which sounds idiotic because I'm a private clinic and I make a lot of money from TRT,' he says. 'But you won't fully appreciate it unless you need it. It's costly in terms of time, effort and money. It's not always an easy journey. And there's always a grey area between "do you clinically need it" and "would you benefit from it".'

My conversation with Dr Stevens moves on to more general matters around TRT use and misuse, but later, reflecting on that appraisal, I realise I'm more confused about my next steps than when I started.

'Had you presented with negative symptoms, such as low mood, unexplained fatigue, brain fog and low libido, I would have suggested a blood test sooner, in four to eight weeks, dependent on how you felt after addressing lifestyle, diet and exercise, [so we could] then have a more considered discussion,' he replies via email later that week.

In the meantime, the results are a wake-up call to prioritise sleep, eat less crap and stress less – factors that could have been chipping away at my T-levels for the past decade. But my consultation leaves me wondering: would greater access to the therapy – whether via the NHS or private clinics – be beneficial or detrimental?

Too much of a good thing

With my T-levels scraping into the normal range, it's unlikely that I would be offered TRT on the NHS. Instead, someone faced with my sub-optimal report might be tempted to turn to the private sector – or black market – to get their fix.

Dr Michael Sagner, from Harley Street's Sarena Clinic, says he's seen a recent spike in both legitimate and unregulated clinics peddling TRT.

There are three main use-cases, he says. First, people presenting with signs of low testosterone. Second, gym-goers looking to get a bit more out of their workouts. 'That's been the case since the 1940s and 50s,' he says.

Now we have a third category, he tells *MH*, with people looking to enhance their levels way beyond optimal recommendations. 'On the longevity side, we've seen people who want super-physiological amounts of testosterone, way higher than a genetically gifted person would ever get.'

Unlike with vitamins, where it's not always advisable to exceed reference ranges, Dr Sagner says that with testosterone you can enjoy an almost 'linear improvement in many physiological functions up to a certain point'. It's little wonder RFK Jr is such a big fan. But – and it's a big but – Dr Sagner insists testosterone is not a quick fix.

'Medically supervised, TRT is extremely benign, but as an industry we have to be very careful. A lot of people might be told they don't need it, that their levels are okay. The unfortunate thing is many of these patients might then go to their local gym and start injecting themselves.'

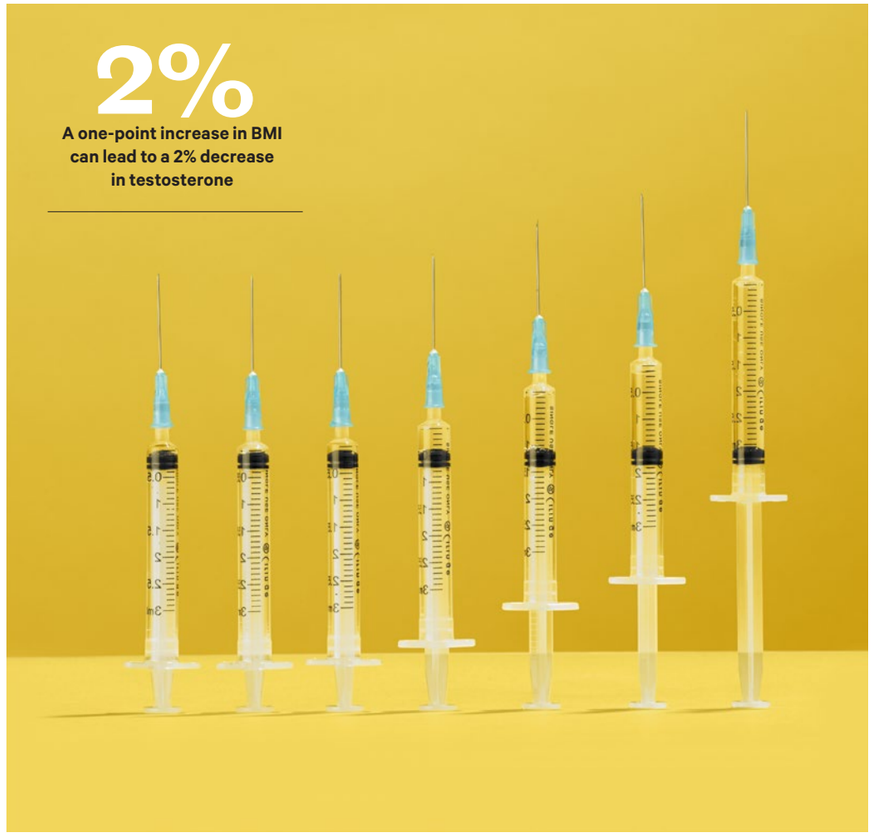
When people use non-pharmaceutical products they get from some underground lab, when people don't do their blood work, when people are unaware of genetic predispositions, that's when it gets really dangerous, he says.

Excessively high T-levels can also lead to costly side-effects. 'High testosterone has been associated with erectile dysfunction, liver disease, acne, high blood pressure, high cholesterol and stunted growth (in adolescents), as well as irritability and impaired emotional regulation,' says Dr Bhavini Shah, a GP with LloydsPharmacy Online Doctor.

'Testosterone can also thicken your blood, increasing your risk of heart attack, stroke and blood clots,' she adds. 'It can cause an enlarged prostate, along with other prostate disorders. And TRT can affect sperm production, which could negatively affect fertility.'

£150
per month is the cost of TRT via a typical private clinic

2%
A one-point increase in BMI can lead to a 2% decrease in testosterone



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Truth and lies

That's not to say there isn't a need for TRT. Exact figures on low testosterone prevalence vary wildly due to differing definitions, with estimates ranging from as low as 2% to as high as 40% globally. But with TRT becoming increasingly accessible, thanks to the emergence of online health clinics, Dr Stevens believes its use has become rampant.

'Everyone's on TRT,' he says. 'I'll quote [mixed martial artist] Nate Diaz when he said, "Everyone's on steroids." But actually, everybody's on testosterone replacement therapy. It really is the fitness industry's dirty little secret. All these fitness influencers who say, "Buy my product, that's what's made me jacked." They're selling a lie.'

The number of bodybuilders who have committed suicide, he says, is 'utterly horrendous'. 'People might say, "Oh, but it's synthetic testosterone." Listen, it's in the same ballpark.'

TRT is either mimicking physiology or correcting a pathology to allow for normal physiology, he says. 'Now, does normal physiology allow you to gain muscle? Well, if you do all the right things, it would allow you to attain your genetic potential through hard work, but that's it. There's no magic here.'

Dr Sagner couldn't agree more. 'We have to get away from the notion that more is better,' he says, likening TRT to multivitamins, where many continue to pop daily pills even if their levels are perfectly adequate.

'TRT is not going to make you feel like He-Man or guarantee you a super-long life,' he says. And everything needs to be taken on a case by case basis. 'I've seen top athletes with very low testosterone and they're performing at a very high level. I've seen people with high testosterone who are overweight and very unfit,' he says.

'Everybody absorbs testosterone differently. You can metabolise it differently. Subjectively, do you feel better? Do you sleep better? You might need a bit more or a bit less. You also have to consider DHEA – the anti-stress hormone – along with a host of other compounds,' he says. 'It's never just about testosterone.'

Crucially, he adds, if you don't need it, don't take it.

Earn your reward

For all the noise around TRT, it's worth noting that you can give your T-levels a boost naturally. One 2022 study on male football players, published in the journal *Biology*, found that an eight-week programme of high-intensity resistance training significantly decreased levels of cortisol, while significantly boosting levels of growth hormones and testosterone.

According to Steven Dick, co-founder and certified strength coach at The Fitness Group, heavy strength training with five reps or fewer per set, explosive power training with moves such as box jumps and kettlebell swings, and sprint-based HIIT sessions all support optimal testosterone production.

Conversely, he says, excessive steady-state cardio can spike cortisol, the stress hormone that lowers testosterone, and chronic overtraining without sufficient recovery can lead to burnout and hormonal imbalances.

'Most men assume that training harder leads to better results, but the type of training also matters,' says Dick. 'Prioritise strength, power and recovery for the best hormonal response.' Consuming enough protein, healthy fats and key micronutrients, such as zinc and magnesium, can also optimise testosterone production naturally.

That said, if your T-levels are chronically low, if you're battling symptoms of low libido and low mood, like Coomber and Smith, if you've already tried eating clean, drinking less, sleeping well and training right, then TRT could be a solution to set you back on an even keel.

Coomber's advice? 'First, honour what your body needs,' he says. If you then suspect a testosterone issue, get a private blood test and a private interpretation, he says. 'In my opinion, you're not going to get the right kind of advice from the NHS, because the reference ranges are so wide.'

Then, he says, consult a doctor to determine a path forwards, 'but give yourself six to 12 months to address things naturally before taking that decision', because TRT can be costly and lifelong.

'Testosterone replacement therapy can be utterly life-changing, too – in fact, it can be life-saving,' says Dr Roberts. 'Many of my patients talk about wanting to still be lifting weights in their sixties or climbing mountains with their grandkids. And TRT can provide the foundation that allows you to go and earn your reward.'

But, he says, you should only go on TRT if you clinically need it – and that isn't a decision you can make on your own.

4in
A four-inch increase in waist circumference can increase a man's odds of low T-levels by 75%