



# DrRest Launch

PANEL TRANSCRIPT 22nd November 2022

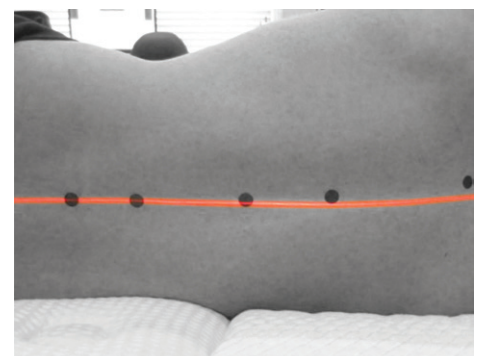
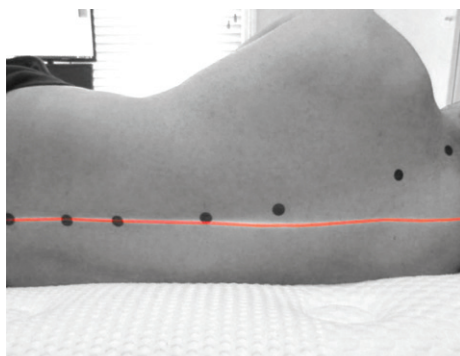
Jacqui Felgate - Host

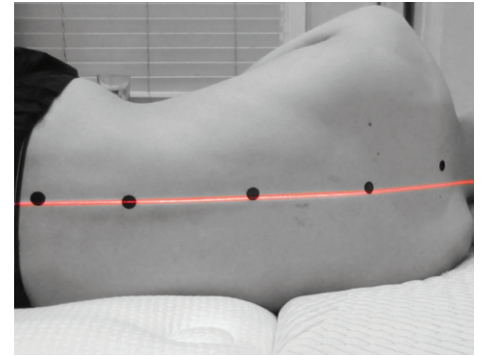
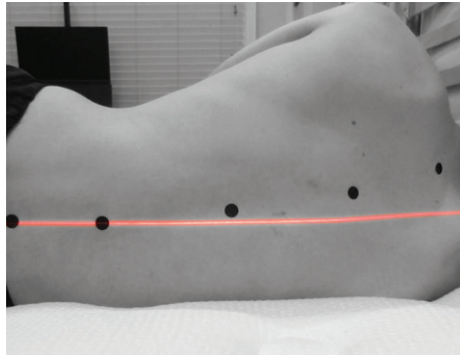
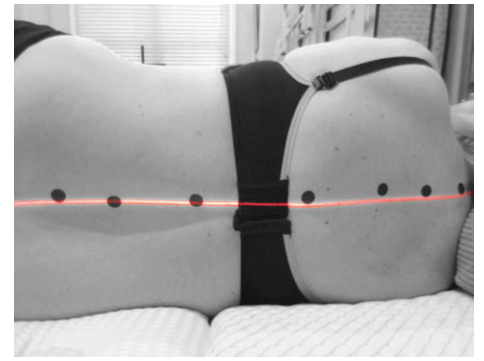
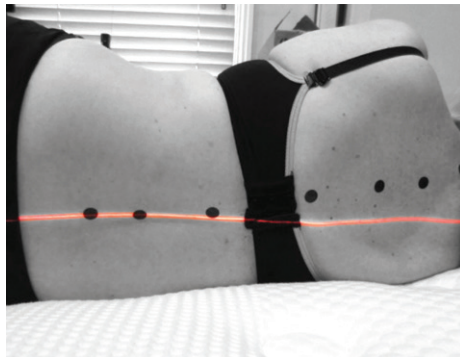
Dr George Michael - Osteopath BSc.MHSc.Dip Acu

Dr Gerald Quan - Orthopaedic Spinal Surgeon MB BS PhD FRACS FAOrthA

Dr Nick Antoniadis - Respiratory & Sleep Specialist MBBS, FRACP

JF - The first thing that struck me were those photos (before and after case studies), and the AHAH moment, what did you all think when you saw those photos and I appreciate you have seen 150 plus (of these before and after cases)





GM – It was an AHAH moment. The expectations were ok...this is what we're hoping to achieve and when it happened once, twice three times we thought, hang on a second is this real ? Is this really happening ?

Now conceptually we thought, this should work but seeing it in real time and on various patients that had different ailments it was a wow moment, it was emotional moment because for the first time you're coming across a design that you have had input in and it's going to have a positive impact with these patients outcomes.

GQ – I sent the guys a photo of a competitor advertisement that I saw and it was showing this type of spinal alignment (referring to DrRest photos).

The competitors definition of spinal alignment was not true – they're on a different pillow, how can when you lie on your side with a uniform mattress have a balanced spine at the end of it ? So then when I looked at GMs photos where he was doing a lot of the clinical trials with the various patients, I was thinking well this is not photo-shopped, this is the real deal.

JF – Nick were you surprised it wasn't just the one or two patients (with spinal alignment) when you look at those photos it was 150

NA – Absolutely... it was during COVID that the testing was being done so by the time we met, a lot of these patients had been tested and when we were shown the photos, it was quite impressive. I look after a lot of patients that need to sleep on their side because of problems with snoring and sleep apnoea when they lie on their back and to see the spinal alignment, the comfort and the results that were achieved was quite impressive.

JF - I'll get you to continue on from that Nick, describe your patient cohort to the audience here today and their main issues.

NA - I look after all sleep disorders. These include snoring, sleep apnoea, insomnia, hypersomnolence disorders like narcolepsy and parasomnias.

JF - (Jokingly) Interesting job...

NA - When I was asked to have input, as part of the Medical Advisory Panel to DrRest, as to what components in a mattress design would help my patients, the main issues in my practice were improving musculoskeletal pain, looking at the surface and whether that can improve sleep architecture and helping people that need to sleep on their side stay in this position. Some of my patients snore only on their back or have obstructive sleep apnoea only in a supine position so designing a mattress that was comfortable for people to sleep on their side was essential.

JF - For you Gerald, as a surgeon, how significant are sleep difficulties for your patients pre & post surgery ?

GQ - Obviously patients with major spinal pathologies, half the time you spend your time on your feet with pain and the rest of the time is in bed with pain. One of the key differentiators of whether someone needs surgery or has pain bad enough for surgery is whether they have pain at night keeping them up and unable to sleep because that's all encompassing and it affects every facet of your life. If you can't have a comfortable night's rest or comfortable night's sleep, that's one of the key negotiatives for intense pain that might be amendable to surgery. So, as part of that, we were really interested in whether a mattress itself can promote sleep comfort such that you don't have that all encompassing 24/7 pain impacting your quality of life non stop.

JF - That's really debilitating for people isn't it and you think by perhaps doing this (helping design DrRest) and trialling a different mattress, the difference it would make to the quality of life of your patients

GQ - Half the operations I do to be honest, are for spinal imbalance. If you have a crooked spine or scoliosis in medical terminology, the biomechanics of the spine are not evenly distributed. So, you're predisposed to getting muscular pains, nerve compression, walking off balance. If you could balance that spine during sleep, which is a third or more of your living life, then surely you set yourself up into trying and to prevent major pathologies from progressing into the future.

JF - That's what you want... and George, your patients, what do you see ?

GM - So I have a similar cohort, non-surgically based, but they're musculoskeletal, lower back, neck pain and hip and shoulder pain. I see a similar thing, whereby many, many years ago when I was looking at this, we all know as healthcare professionals that mat-

tress ergonomics are really important and we knew to some extent, having read the research, it does influence certain musculoskeletal pathologies. Upon investigating further, especially with my patients, who had back pain, come and seen me and identified that they need conservative management and don't need Gerald's skill set, you realise that at times, they were waking up with back pain. Then you're thinking, hang on a second, what's going on here? I felt that I had done my job well but pain kept progressing. Then you realise, on that journey, it was their mattress that contributed to the problem. Even when some of these patients had purchased new mattresses, you realise it's not just about the quality of mattress you sleep on alone but the surface that you sleep on and whether or not that mattress resonates with that particular individual. I think this why we found DrRest so special because its one thing to have prescriptive mattresses made for an individual and another thing to be able to have a mattress that customises to each individual. That's really special on another level with the implications of that being huge, because now you have patients with existing musculoskeletal problem that relate to a sleep surface and impact that in such a positive manner to influence their quality of life in terms of pain reduction and functionality, is really special.

■ GQ – In a way George, when you say you spend all your day trying to align someone's spine or balance someone's spine, you spend all this time working on that, achieving that and then 8-9 hours subsequently, that patient sleeps on an uneven mattress. In a way they have undone all the hard work that you have put into them.

■ GM – 100%, and that comes back to what you were saying before about spinal balance and spinal alignment. We use the term spinal alignment and as health care professionals we have an understanding of what that is. To take the pressure off your lumbar, thoracic, and cervical spine and really do that in a way that reflects musculoskeletal health is pretty special. We've tested this by looking at interface pressure, which is the pressure that the mattress exerts on you when you lay on it. So laying on a mattress and it feels plush, firm or medium, that's the interface pressure. So to have spinal alignment with really low interface pressure, that's another unique attribute of DrRest.

■ JF – One thing I want to cover off in this discussion is that we talk about people with injuries and musculoskeletal conditions but DrRest can also be for every person... every body type right?

■ GM – Agree, you don't need to have a musculoskeletal or any serious pathology to sleep or rest on DrRest mattress. It's for anyone who wants to have a good night's sleep.

■ GQ – I think we've all gone to holiday houses or hotels where you sleep on a mattress that has that hammock styled configuration and you sink into that mattress then waking up the next day with back ache and basically with aches and pains everywhere. So we were trying to optimise it such that if you sleep on this mattress, no matter on your back or side or your front, this is a specialised mattress for side

sleeping that would promote total spinal balance.

JF – What about the age range of people who perhaps purchase a DrRest mattress? I know in my experience, my parents always say they need a soft mattress. If you're an elderly person, is this a good mattress for them as well?

GM – So interesting you say that. You're right and we're hoping to cater a broad spectrum of age ranges. With the elderly, they're a bit more sensitive in terms of their bony prominences, whether it's the shoulder or their hip and what I find, elderly patients tend to comment on what they're sleeping on more often because of these sensitive bony prominences. So to be able to cater to that with spinal alignment and low interface pressure with DrRest, is very suitable option for them.

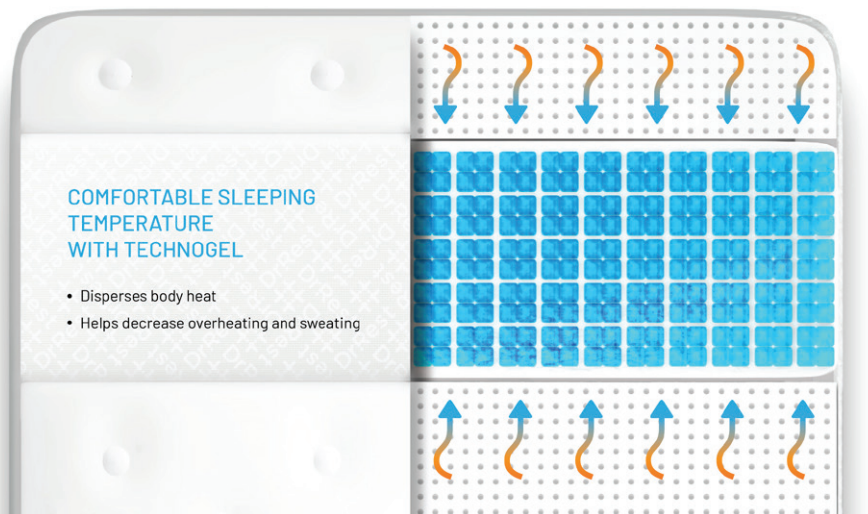
GQ – It's also not only about their age but also their weight. If you're heavier, you put different loads on different parts of the mattress which DrRest will respond to the body that lies on it.

JF – Nick, what considerations did you take into account as part of the design process?

NA – The main consideration was something that was going to be comfortable. I see a lot of patients with neck pain, shoulder pain and hip pain and that results in fragmented sleep, so it increases arousals throughout the night and that can affect sleep architecture and result in less of the important sleep such as slow wave sleep. Pain can also lead to sleep restriction as frequent awakenings and time spent awake with pain can reduce total sleep time. We know that sleep restriction can affect judgment, mood, memory and can increase the risk of accidents. If sleep restriction is severe for a long period of time it can have long term health consequences. The other part to take into consideration was my cohort of patients with sleep apnoea and snoring. Approximately a third of my practice snore or have sleep apnoea on their back only. The management for them includes lifestyle management, which is if they're overweight to lose weight, avoid excess alcohol and maintain non supine sleep. One of the devices we use is called the nightshift device whereby they put a strap around their neck or chest and when they get on their back it vibrates until they get back on their side. A proportion of those patients won't be able to maintain non supine sleep because of shoulder, neck or hip pain and some will try it but come back and say I just can't sleep on my side. So for me a comfortable mattress that allows people to sleep on their side, while using a positional aid for supine sleep disorder breathing was important.

GQ – To follow on from Nick, other aspects we considered were that people can be prone to allergies and all materials and components in the mattress had to be hypo-allergenic. We also considered thermal properties and how that might influence sleep. For example, if you sleep on a non-breathable mattress or cover and the body gets too hot, it will stimulate the nervous system to wake you up during

the night. The Technogel component is actually an inherent cooling material that may decrease body temperature by up to 3 degrees. Where the Technogel is located in the DrRest mattress, this is where the core part of your body lies on.



NA – The University of Basel & The University of Torino actually did a study with Technogel. There were 15 patients and they looked at changes in mattress, body surface and core body temperature vs a foam mattress and showed there was a significant decrease in core body and back surface temperature during sleep with the Technogel mattress. These patients also had sleep studies at the same time and the decrease in core body temperature resulted in a significant increase in slow wave sleep. Slow wave sleep, otherwise known as deep sleep, is the sleep when our breathing becomes slower, our heart rate slows, our blood pressure reduces, and is the most restorative stage of sleep so is very important. Albeit a small study, it did show that by reducing core body temperature with a high heat capacity layer in Technogel, that you were able to improve sleep architecture.

JF – When we talk about studies, obviously this has been years and years in the making, what other research did you all look at when it came to creating this mattress ?

GM – When we were looking at the research, there was a lot of academic data and in an ideal world to be able to combine this low interface pressure that I mentioned earlier on, with spinal alignment is the optimum. This was challenging. One of the attributes in addition to what both Gerald and Nick mentioned, is super important so from my perspective, and when I'm treating a patient with a musculoskeletal ailment, if we can achieve spinal alignment concurrently with this interface pressure being low, it not only offloads the skeletal system but the muscular system and nervous system dampens down. This lends into having a good night's sleep, as Nick mentioned is super important but in getting a good night's sleep involves many qualities. From my perspective the mechanical features as a bare

minimum needs to be addressed, whether you're on your side or back and being able to achieve this where studies have mentioned that when they have assessed the electrical activity of the muscles when someone is sidelined, the best outcomes for those patients were the ones that were laying spinal neutral sidelined, with minimal interface pressure. All good and well having spinal alignment but if the pressure is too great making you uncomfortable, tossing and turning, you won't get a good night's sleep, you wake up with a sore back and worst case scenario, you end having to require a consult with Gerald

JF - Can you talk to us about the importance of spinal alignment

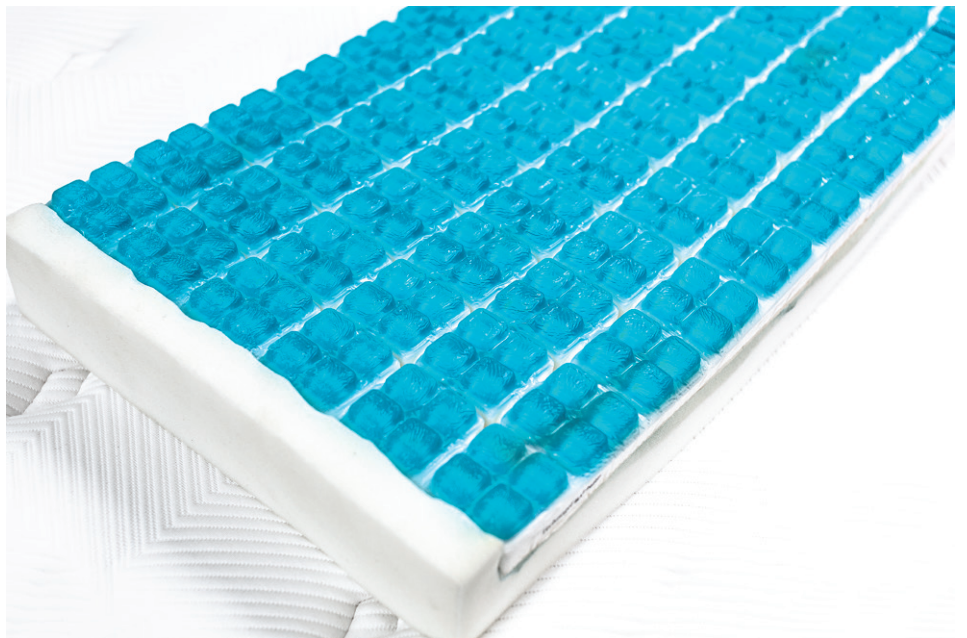
GM - I see a lot of patients with spinal problems and I treat them in a conservative fashion. We talk about being upright, having proper posture and ergonomics when we undergo certain activities and exercise.

It's no real difference when laying sidelined, especially when laying sidelined for anywhere between 6-8 hours at night, your postural ergonomics are very similar there. So, it's extremely important that those ergonomics are addressed.

JF - And if we get that wrong, we end up seeing Gerald...

GQ - I totally agree with what George has said, the skeleton has a balance on the front, the coronal plane, and on the side, the sagittal plane. These curvatures of the spine are super important to balance the body such that the head is directly above the pelvis and the legs for example. Often when the spine is way off balance in either of those planes, that's when patients may need surgery, whereby the spine is off balance, you have a predisposition to get osteoarthritis, arthritic spurs that can cause nerve compression, morbidity, sciatica, can't walk etc . I think the whole point of the DrRest mattress is to try and balance the spine both the coronal and sagittal planes. For me, one of the key points of difference in the mattress itself is the Technogel second tier shoulder zone which really is a unique part of DrRest. The gel you can see in the display, is the gel we use in operative surgery for pressure care to not cause nerve damage or pressure sores after prolonged periods of undergoing surgery that can last anywhere between 2-3 hours, so being in that same position all that time, you need something that protects the bony prominences and pressure areas. Not only that but Technogel keeps things stable, firm and providing support so as when you're operating, the patient isn't moving about thanks to its 3D conformity, where it molds itself to each individual users physical structure and pressure is evenly distributed over the entire contact surface, generating a substantial reduction in pressure peaks, leading to an improvement in blood circulation.

This specifically designed Technogel for the DrRest mattress, responds by the more weight or pressure you apply to it, the liquid that acts as a solid and generates a hydraulic response.



DrRest Mattress - Technogel shoulder zone

- JF - For me, when I'm sleeping and my pillow isn't right as well, I have a terrible night's sleep, how important is the Technogel Adjustable pillow as part of the DrRest Sleep System ?
- GQ - The Technogel Adjustable pillow complements the DrRest Sleep System. Having the DrRest mattress on its own, without the adjustable pillow, the head can be put in a suboptimal alignment. You need something, as this mattress is designed for side sleepers, to support the head and neck zone. When you consider 29% of your spine is in your neck, the Technogel Adjustable range pillows adjust to variable heights for the neck to maintain a comfortable and truly aligned and balanced spine to complete the DrRest sleep system.



Technogel Pillow -  
Adjustable Deluxe



Technogel Pillow -  
Adjustable Anatomic Curve



JF – When people do sleep in the wrong position, what impact does that have on their quality of sleep and in their quality of life ?

NA – It depends on whether they have an underlying medical issue such as musculoskeletal pain that is worsened by position or a sleep disorder that is affected by position such as supine obstructive sleep apnoea. As discussed previously pain can lead to increased arousals, insomnia, sleep restriction and affect your ability to consolidate sleep and therefore affect your sleep architecture. Not getting enough sleep or restful sleep can lead to issues with judgment, mood, memory, concentration and could lead to increased accidents as well. Similarly, if you have significant sleep apnoea only on your back and you sleep in this position without any treatment such as CPAP then this can also lead to unrefreshing sleep and excessive daytime somnolence, affect memory and concentration and if somnolence is severe, increase your risk of accidents including motor vehicle accidents. If severe enough it can also lead to long term health consequences such as increased risk of cardiovascular and cerebrovascular disease and memory issues. So sleeping in the right position for what sleep disorder you have is important.

GM – Also from a musculoskeletal perspective, my cohort of patients who have got problems such as shoulder or hip bursitis, especially when they're laying on their side, not only do they toss and turn and affect their sleep, but it also affects their musculoskeletal system. It all interrelates and it's all really important and you can't separate sleep and musculoskeletal dysfunction, they go hand in hand. When one gets affected, the other gets affected as well. What Gerald was explaining before about the gel and the interface pressure is important. When sidelining and you have bursitis of your hip or your shoulder, to be able to take that pressure off and to be able to sleep uninterrupted, again, is crucial.

NA – If you do have disrupted sleep and sleep restriction due to pain you can develop hyperalgesia. What this means is that your body overreacts to painful stimuli making you feel increased pain. So because you're sleep deprived, you actually develop more pain towards the painful stimuli so then it's a vicious cycle. So controlling pain at night is very important.

GQ – To your point Nick, sleep has become a massive, not just an industry but massive health issue. I was driving only recently and there were at least 4 or 5 sleep clinics on their own I saw in my travels. It is so important that you have a restful night's sleep nowadays. People used to under appreciate how valuable that was. Actually, at our age particularly it's not for granted

JF – You just need a good nights sleep !

NA – There's various reasons why we need a good night's sleep and why we need to sleep. Sleep helps us to restore and rejuvenate. We secrete important hormones such as growth hormone, our cells repair, we have muscle growth, protein synthesis and it's important for

our immune function. So getting the right amount and type of sleep is incredibly important.

GM – It's interesting hearing Nick say that because when I see patients with torn muscles or ligaments from trauma but don't require surgery but are on the cusp and they're not sleeping, it means they're not healing correctly because they're not producing the appropriate restorative hormones, that lends to that vicious cycle and before you know it, there's this psychological overlay when you have heaps of pain and you're not healing. You treat patients and they go home and don't get a proper night's sleep, it doesn't matter what you've done, they're back again seeking treatment, falling into that vicious cycle

JF – What did you notice when you slept on a DrRest mattress the first time and the difference between the mattress you had before ?

GM – It was unusual, because for the first time I had a straight spine. Your shoulders are slightly lower. As Gerald and Nick mentioned, as you're laying on the shoulder zone, it allows for your shoulder to sink in the way it needs to and give you that support. It was unusual but enlightening at the same time because I genuinely felt my spine was relaxing. It was interesting and I felt when I was laying on it, I couldn't feel any pressure nor that reaction force... the sensation of the springs pushing up. Which again, I was sensitive to it when I was laying on it just to analyse it, it was unbelievable... almost too good to be true in some respects yet it was amazing as it lends to what we're trying to achieve and it would make sense that it would feel that way but it was nice to actually experience it.

GQ – It was an Aha moment for me. I came quite late to side sleeping and sleeping on my side on a firm mattress in the past, I would wake up with aches and pains. I am biased, but sleeping on a DrRest mattress, I just thought this is ticking all the boxes in giving me the optimal rest and recovery. Otherwise, I wouldn't be here or part of this

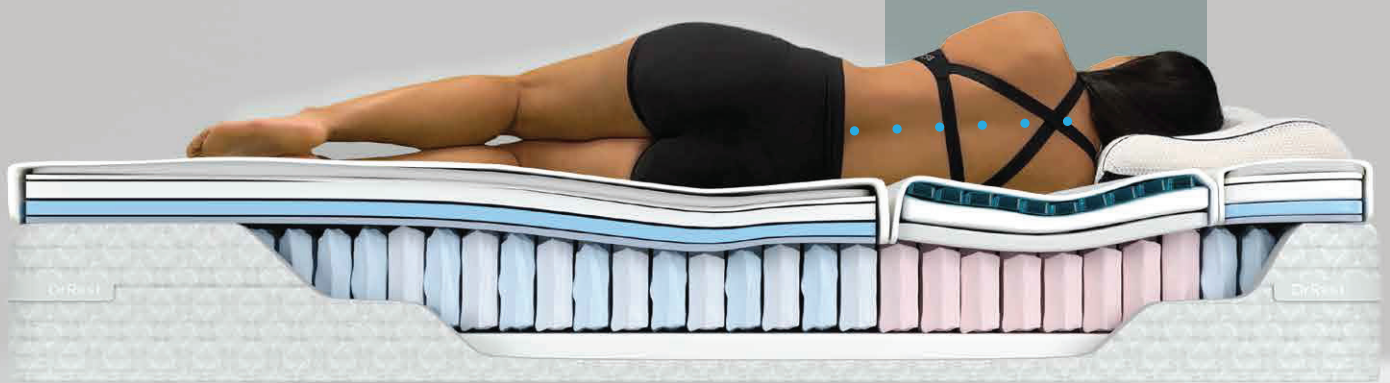
NA – I'm a side sleeper, so when I slept on the mattress, I thought it was fantastic. On my current mattress I often wake up with a sore shoulder or a sore neck, my pillow isn't right, I keep on adjusting it. So when I slept on a DrRest, I said when are they available as I think it will help improve my sleep.

JF – Would you encourage everyone here to have a lie down on the DrRest mattress ?

GM – You should and need to experience it. It's a unique feel. Again, when you're sidelined, you're used to this pressure on your shoulder, that is there in a supportive fashion but it feels really comfortable.

# DrRest

Introducing DrRest, the most innovative sleep system designed by health experts for spinal alignment and quality rest.



Patented design, Australian owned and made.

Following five years of research and development and a further two years of real-time trials in an osteopathic clinical setting, our DrRest experts have created a mattress that health professionals can confidently recommend to patients. A sleep system that complements and supports the care that osteopathic practitioners provide.

Learn more about becoming a DrRest referrer or partner at [drrest.com.au/join](https://drrest.com.au/join)

UNIQUE SHOULDER ZONE