

Function, function, function



Dr J questions what we are looking for: results which are the best in terms of function, or results which are the best in terms of cosmetic outcome?

Rock music – the pre-eminent musical genre of our time – is generally notable for its rhythm and melody, with many of the lyrics clichéd and repetitive. Chris Lilley on *Angry Boys* made this point clearly with S-Mouse's rap anthem *Slap My Elbow* (if you count rap as part of the bigger rock/pop genre). Occasionally though you find some profound offerings, one which I'll use to segue into this issue's Dr J topic. Neil Finn's second band Crowded House has a song which starts 'I'd much rather have a caravan in the hills...than a *Mansion in the Slums*'. This is a more eloquent line than the classic real estate mantra about the three most important features of a property being 'location, location and location'. In recent years I have contributed to the movement of the pendulum in this direction by choosing to purchase a smaller property in a sought-after beachside suburb in preference to (for the same price) a much larger free-standing home further away from the city and beach. Sadly, from the perspective of ridiculous property prices, the majority of the real estate market well and truly 'got it' years ago with regard to the benefits of having surfing, snorkelling, sand and great views within walking distance of your doorstep. In the 21st century, it doesn't take a genius to declare that beachside locations within a short distance of a major city represent the bluest of blue chip locations. It does however give people the

opportunity to regularly blurt out a 'captain obvious' statement like 'gee I wish I decided in 1985 to buy a big house on the beach at [insert Bondi, Byron Bay, Albert Park, Cottesloe etc] when they were selling for next to nothing, given that they are now worth [insert 1985 price and add a few zeroes]'. There isn't much value in listening to the so-called 'Monday's experts' (in football terms) who point out the trend after 99 per cent of people have realised it, which in property terms is that location is a more sought after commodity than size.

“What about in sports medicine? Are we looking for results which are the best in terms of function or the best in terms of cosmetic outcome?”

I want to discuss an emerging trend that relates to sports medicine that has one feature in common with the real estate obsession with location, but another feature which is the exact opposite. Although everyone will generally agree on which suburbs in a city are the most desirable, there is a genuine divergence on why they are considered desirable. Is it due to functional factors (proximity to the city, public transport and amenities like parks and beaches) or cosmetic/status factors (like nice views and the fact that nearby properties are neatly maintained by wealthy owners)? This is probably a classic chicken-and-egg debate. It goes without saying that the nearby houses are nicer and the streets are safer

in rich suburbs, but did they become rich in the first place for cosmetic or functional reasons? Do people like living near the water or a big park because the views are better (cosmetic) or there is functionality that you can go for a run or go for a swim more easily? The answer has to be that both location factors (cosmesis and functionality) have a value, although they are usually, but not always, found together. Train stations and multi-level shopping centres are highly functional, generally quite ugly and noisy, but will still tend to make nearby properties more valuable because of their utility. However, there is a point where this trend reverses, with properties near airports and busy main roads being less valuable, because the functionality is outweighed by the perceived cosmetic and auditory negatives.

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So in real estate it is all about location, but the value of a location is partially due to functional factors and partially cosmetic factors. What about in sports medicine? Are we looking for results which are the best in terms of function or the best in terms of cosmetic outcome? Without thinking about it too much, I'm sure that 95 per cent of the sports medicine community would immediately insist that we always are (or should be) looking for the best functional results, rather than what might look good. To support this philosophy, we have evidence that physical activity levels are strongly protective against most of the major diseases afflicting Western society. You need physical activity function to stay healthy. So, if an 18 year old female who is a keen netballer has an ACL injury and finds she can't change direction without her knee collapsing after this injury, most of us will recommend



Post fracture and infection.

an ACL reconstruction. If she was worried about getting a knee reconstruction simply because of the presence of a scar on her knee, we would try to counsel her about the long-term value of continuing to play her favourite sport and how this would be a much greater gain than the loss of a virgin knee in terms of presence of a scar. But to prove we aren't always knife happy, if a 50 year old male presented with a 'Popeye sign' having just ruptured his long head of biceps, we would probably counsel against a surgical solution to the problem. His biceps strength would probably be totally adequate and the cosmetic deformity of a bulging biceps would be considered mild compared to the risks of surgically trying to correct this. Function over cosmesis wins again.

“Do we need to persist with trying to find the holy grail of functional total joint replacements for these joints below the knee...or admit that a perfectly good functional alternative is already available and that we need to get our heads around using it more often?”

Yet what is the extreme to which we would take this argument? Between my writing of this column and your reading of it, perhaps one of the greatest moments in Olympic history will occur with Oscar Pistorius competing in the 400m sprint event at the Olympics. It may even qualify as the greatest moment ever if he wins a medal in the able-bodied event, although indications are that this is very unlikely to happen. But even just his ability to qualify for the Olympics is a monumental moment for so-called 'disabled' people around the world. In his case, I use the term 'so-called disabled' quite deliberately. He is actually cosmetically disabled. He is not functionally disabled to much degree at all. How can you be one of the fastest runners on the planet and call yourself functionally disabled? The bottom line is that his artificial feet and shanks are doing a job almost as well, in a functional sense, as the real thing. There has even been previous debate over whether his artificial limbs are better (with the implication that he should not be allowed to compete in the Olympics) although common sense has prevailed in determining that he has no unfair advantage.

Pistorius was born without fibulas in both legs and had a family and medical staff that made the decision when he was only 11 months old to amputate both legs below the knee. This momentous call was all about putting function ahead of cosmesis, in that the option remained to have apparently normal legs and feet which would have been functionally unsuitable for walking and running. The decision was life-changing and history has proven it to be the correct one, showing the great courage and clear vision his parents had.



But how many older people (with much better autonomy to make a decision than an 11 month old) in a similar situation would ever make the same call? What about patients with severe arthritis of the ankle, or subtalar joint or even 1st metatarsophalangeal joint? Many of these patients consider surgery not because they can't run, but because everyday walking is painful. And if offered surgery it is most likely to be a fusion of one of the aforementioned joints, which is likely to help somewhat before inevitably leading to degenerative change of a nearby joint. For a single but major arthritic joint below the knee, almost no patient would be offered a below knee amputation (or would consider it), yet this stance is one which completely puts cosmesis firmly ahead of function. The functional level you can reach with a below knee amputation has now been shown to be a 400m qualification at the Olympics. Do we need to persist with trying to find the holy grail of functional total joint replacements for these joints below the knee (which we don't have yet) or admit that a perfectly good functional alternative is already available and that we need to get our heads around using it more often?

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Tawera Nikau.

There are certainly some people who get below knee amputations – severe diabetics with horrible vascular supply to the foot or malignant tumour patients are amongst them. Michael Milton is a famous Aussie Paralympian and multiple gold medal winner who had the mixed curse (but perhaps late blessing) to have suffered cancer as a child. Would his life have been better if this had never occurred? It is hard to know, but he has certainly made a

wonderful life for himself as an athlete of the highest level (and has even broken the all-comers Australian record for

downhill ski velocity). Tawera Nikau had his leg mangled in a motorcycle accident after his professional rugby league career had finished and he was advised and/or chose to have the leg amputated rather than keep a shrivelled non-functional appendage after multiple fractures and compartment syndrome. He hasn't won any medals post-surgery but has managed to complete the New York Marathon on an artificial leg. He has also worked in the media and as a motivational speaker and wouldn't regret the decision to put function over cosmetic appearance. He wouldn't be the only amputee to have run a marathon, but I doubt anyone with bone on bone ankle arthritis or an ankle fusion or replacement could ever do it. Who is the more functional then?

It sounds good in theory, but the Crowded House song I started with reveals a sting in the tail. One of the later lines in the song is 'I'd much rather have a Mansion in the Hills, than a Mansion in the Slums... Yeah I'd much rather, what I mean is, would you mind if I had it all? I'll take it when it comes'. If you have to choose between function and cosmesis, it is a difficult choice and most people would say 'why can't I have both? Why can't I find a large house with a big backyard in a beachside suburb with great views and within my budget? Do you mind if I have it all?'

If you have an arthritic ankle that stops you from walking, it is easy to articulate what you want – a normal looking leg that is fully functional. You might have an ankle that looks close to walking and you can hold onto the dream – which may be closer to a delusion – that one day it will be fully functional and allow you to run on it again without pain. That dream may be able to get you through the constant reality that you can't ever run again with the joint in the state it is in. If you decided to have a below-knee amputation, it would end the dream forever of having it all, in terms of cosmesis and function. But which is the more important? It has always seemed a no-brainer that you would never trade off a normal looking leg for something foreign-looking just to improve function. But when you see Oscar Pistorius at the Olympics it has to make you look at this question from a different perspective. He is not there because he is a disabled athlete. He is there because he is one of the fastest 400m runners in the world. And in being there he may give more inspiration to people around the world than anyone in the history of the Olympic movement.

Dr J

The opinions expressed in Dr J are the personal opinions of the author.