

Are we surgeons finding it all too much? Dealing with the pressures of our profession

C Niek van Dijk

We all agree that a review of the literature should be systematic and not selective. There is one field in which - I must admit - I have always allowed myself a selective read and that is on the positive effect of red wine on health. I love those steps down to my wine cellar to choose my daily 'medication'. But now there is no way to ignore it. A proper analysis of 599,912 current drinkers, published in the April issue of the *Lancet*, has demonstrated that there is no protective effect of alcohol on cardiovascular disease.¹ In fact, modern DNA techniques demonstrate that alcohol contributes to poorer health from the first pint! The outcome of the *Lancet* study provides a basis for further reduction of the health advice for alcohol to a maximum of 100 grams per week for men. Current recommendations are much higher in many countries; for example, in the US, the directive sets a ceiling of 196 grams per week for men.

How does this affect our profession? It has been shown that there are more heavy drinkers among physicians than among the general population.² This reminded me of a situation early in my career -back in the eighties- when I was invited for a live surgical demo. There I was, far away from home. The operating room and instrumentation seemed antique, and the nurses were chatting an unknown language. Twenty orthopods were standing around the OR waiting for me to demonstrate an ankle arthroscopy. In talking with the anesthesiologist, I noticed a heavy smell of alcohol. It was 2PM. What was I to do? I took my host aside, but he reassured me that he 'works better after a few beers, it's normal'. I accepted and performed my demo. My public was happy and the surgery successful.

This moment has always stayed with me. Did I do the right thing? Should I have refused to perform the surgery? But this also raises the question: are we specialists more prone to (heavy) drinking, drug abuse or other forbidden activities?

One of my close friends is a film producer and was recently tasked by the

Dutch Medical Association to produce an instructional video on alcohol and drug-abuse among specialists. The videos were thoughtful and of high-quality (I saw them!), but the DMA refused them because - as we learnt unofficially - they didn't want the media to 'get the wrong idea' about surgeons. This would certainly seem to indicate that they know there's a problem, but they don't want to make it public...

There definitely seems to be a problem. Consider the figures:

- ▶ burnout amongst surgeons is increasing at an alarming rate, with current reports exceeding 50%;^{3,4}
- ▶ surgeons divorce more than the general population (15% more);^{5,6}
- ▶ surgeons drink more than other types of workers (10% more 'heavy drinkers');^{2,7}
- ▶ 50% of surgeons older than 50 years have health problems, including depression;⁸
- ▶ surgeons ponder suicide more than other types of workers;^{9,4}
- ▶ surgeons think their work environment is 'unhealthy', more than any other profession.⁹

The reasons for dissatisfaction vary slightly from culture to culture, as you might expect. Among Chinese doctors, it is because they believe they are underpaid (nearly half want to quit because of this).¹⁰ In Western Europe and the US, the threat of malpractice is a risk factor for burnout (nearly half of American physicians have been sued for malpractice (42%)).¹¹ And academics have it marginally easier than private physicians (burnout at 38% vs 43%, depression at 28% vs 33%, suicidal moods at 4% vs 7%, and higher career satisfaction).⁹

It doesn't sound too good, does it?¹² It's clear that we surgeons have long working hours and that we feel we're always 'on duty'. It's clear that our administrative load is growing. And it's clear that our status has been changing. At one time, physicians were considered to be almost sacrosanct and were protected from hostile criticism. The respect has remained but socialised medicine and the internet have changed our patients, and with greater access to healthcare information, they have become

more demanding and less forgiving. But these are only things that keep us sharp. They are not the real problem.

In the nineteenth century everyone worked long hours in factories, and under much worse conditions, but they didn't 'burnout' or divorce their partners or put themselves on anti-depressants. They just 'got on with it', because they had no choice. Modern scholars and entrepreneurs, most of the self-employed and employees from start-ups work even longer hours than we do, and they don't take to drink or have break-downs or become emotionally exhausted to the same extent as apparently we do.

There must be something profound going on here, something that can't easily be fixed. A lot of us work in emergency surgery, where we deal with victims of traffic accidents, with industrial injuries and with the random violence of modern life. In this respect surgeons are like military personnel. Soldiers routinely deal with life and death, and so do surgeons, if we fail to get it right.

We feel a certain sympathy when we look back. Imagine being a surgeon in the 17th century on Michiel de Ruyters' Dutch warship or in 1812 on Lord Nelson's flagship the HMS Victory, and working by candlelight in a tiny OR, safe below the waterline, safe from cannonballs at least. We would have worked without anaesthesia and disinfectant and probably done exactly what those surgeons did: shared our patient's pint of navy rum before amputating his leg without anaesthesia.

And we can understand young doctors in the 20th century, who survived a harrowing workload on benzedrine and nicotine, and then sought relief in drinking.

But are we so very different in the twenty-first century, with our smartphones and gadgets? Are *our* problems any different? We talk about 'burnout', 'stress factors' and 'unhealthy work environments' but do these words best describe what is happening to us?

We used to talk about 'pressure' building up, as if we resembled the system of pipes and reservoirs of a house's plumbing, where a pipe could burst and flood everything, unless we somehow 'relieved' the pressure. This was how Freud regarded the mind, as a simple hydraulic system. And he was wrong, of course.

Then we began talking about 'break-downs', as if we were cars that might blow a gasket and end up beside the road. Then we talked about 'overload' and 'stress' and 'collapse' as if we were just bits of a metal

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bridge that would bend and bend until they suddenly broke.

And now we talk knowingly about 'burnouts', as if we were electrical circuits that might burst into flame and burn down our homes.

All these metaphors suggest that we can continue working at our tremendous pace, until we suddenly stop because we're finished and beyond repair, like cars in a dump or burned-out houses.

But that's not how the military sees it, and they best understand the problem, which they call '*combat fatigue*'. Lord Moran was Churchill's private physician during the Second World War, but in the First World War he was a battalion medical officer, serving in the trenches, where he saw officers commit suicide by 'putting themselves in the way of a bullet' rather than disgrace their comrades by collapsing in tears.

In 1940 he wrote a book that is still a standard text in military academies. Like most military wisdom, it has been adopted by civilians. Moran's book was called 'The Anatomy of Courage', and it tells us everything we need to know.¹³

Moran explained that moral courage is not something that *some* have (the brave) and *others* lack (the cowards), which allows some to get through the horrors of war or of life, like some sort of armour plating. Moral courage is something that we all have, but in differing amounts, just as we *all* have different balances in our bank accounts. But everyone does have a bank account, and everyone can empty that account, either with a single massive withdrawal – a major trauma, such as a patient dying horribly, or a major battle – or in smaller, more manageable withdrawals – like the daily drip-drip of stress and anxiety and routine danger. We all can exhaust our moral courage, and when it's gone, we will fail. But our 'account' *can* be managed. It can be monitored, and when it's drifting into the red, it can be frozen, and then replenished.

As you can see, Moran was using a different metaphor. And it was far more optimistic. He thought that officers could be trained to watch their men – almost like old-fashioned bank managers watched their customers – because *if* they acted in time, they could save their men from burnout – just as the bank manager could forewarn of bankruptcy and default.

And he was proven correct. In the Second World War, the US Air Force required its bomber crews to fly only 25 missions, after which they would be retired back to the US. They had very few men who failed. But the British air force

just kept their pilots flying, and flying, until many of them collapsed – which was the very reason Moran wrote his book, to try and persuade the air force to learn what the army had learnt in the First World War.

If I were a military commander – and could apply Moran's military wisdom to surgery – it would go like this: 'We are asking too much of ourselves! Our work is very hard, and there is too much of it. Too little is being done to monitor us and too much to satisfy the administrators. We need to watch our colleagues, and if they are close to failing, we need to help, to get them out, to get them into rest-and-recreation.¹⁴ (and sport is the best form of recreation). If we *can* do this, and do it in time, then we can save them. But if we fail to do this, we shall lose them, and they WILL fail. Either they will turn to drink or drugs, or they will turn against themselves'.

As Lord Moran added: 'It is the tough ones you need to watch, the ones who never show the strain, who always keep a calm face. They are the ones you find in middle-age, sitting behind their desks, with the tears pouring down their faces'.

If my thesis is correct, there are other things we can do, apart from watching for *tell-tale signs*, as if we were combat officers. We can explain to our employers, who tend to be governments or insurance companies, that a surgeon's work *is* difficult and different. They have to start realising this and stop taking advantage.

But *is* my thesis correct? I think we sports-medicine orthopods prove it.

We seem happier and less strained than our comrades in emergency surgery or even general surgery.^{9 15} The figures are clear about this. And it is not just because we have bigger hands! It is simply because, I would suggest, we do not deal as much with life and death issues. In fact, we rarely need to think about death. We are closer to artisans – to sculptors and restorers – than to Michiel de Ruyters' drink-sodden surgeon. In short, we don't need to anaesthetize ourselves as well as our patients.

But do we also work too many hours? Airline pilots and train drivers are carefully monitored for their hours, to make sure they are adequately rested. The reason, presumably, is that insurance companies will refuse to pay out if they can prove human malfeasance.

Why aren't we surgeons monitored and similarly prevented from overworking? Why are we liable to prosecution when it is already too late – and then by unscrupulous 'ambulance-chasers' – rather than

protected beforehand, by having rules that we must follow?

Are we assumed to be morally superior because of our Hippocratic Oath? Or is it because we can only damage the occasional patient if we are exhausted, rather than an entire planeload? Is it simply a bureaucratic question of numbers? All modern governments put a price on a human life, whatever they may claim. The Dutch government has a figure – call it 'x', but it's surprisingly low – that it will spend on a road improvement, if that improvement will prevent one death a year. In that case, they have a clear price for a human life.

And it's not just airline pilots and train drivers who are regularly tested for using (or 'abusing') alcohol or drugs. Chemical workers are also tested. In my country there's an argument between employers (who claim the right to test their employees regularly) and the unions (who claim privacy).

We orthopods rarely administer blood tests to our patients to diagnose an orthopaedic sports medicine problem. But that might change in the future. Biomarkers are *tell-tales* signs of disease. In this issue of JISAKOS, biomarkers in the blood are used to diagnose labral lesions in the hip joint (FAI).¹⁶ Pro-inflammatory cytokines are a biomarker for osteoarthritis (OA). Since FAI can precede OA, it can be assumed that OA biomarkers are present in FAI. This holds great promise as a means to monitor orthopaedic disease. It must be remembered, however, that the specificity of these biomarkers is low. A positive test tells us there is inflammation. It does not tell us where the inflammation is.

In the science fiction film *Gattaca*, set in the 'not too distant future', all employees are tested as they pass through the turnstile of an extremely busy space agency. A small sample of blood is automatically taken from their finger, and the turnstile checks their identity and health through their hormonal balance. It should be possible (and it's theoretically conceivable) to detect our own exhaustion – and our attempts to hide it or drown it out – through hormonal-balance in the blood and biomarkers.¹⁷

I have been in ORs in many countries all over the world. And I would not be surprised if, in some countries, an alcohol test taken after lunch would be positive.

We surgeons need to fix this problem ourselves, before government steps in. We accept that there *is* a problem, and we're bright enough to understand *how* to fix it. That puts us two steps ahead of our governments...

And to come back to my dilemma concerning the arthroscopic demo: yes, I should have refused to perform the surgery. And concerning my wine cellar... Maybe I should *consider* skipping my trip to the cellar today. But will this consideration prevent me from *taking* these steps down? Probably not...

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REFERENCES

- 1 Wood AM, Kaptoge S, Butterworth AS, *et al*. Risk thresholds for alcohol consumption: combined analysis of individual-participant data for 599 912 current drinkers in 83 prospective studies. *Lancet* 2018;**391**:1513–23.
- 2 McAulliffe W, Rohman M, Breer P, *et al*. Alcohol use and abuse in random samples of physicians. *Am J Public Health* 1991;**81**:177–82.
- 3 Campbell DA, Sonnad SS, Eckhauser FE, *et al*. Burnout among American surgeons. *Surgery* 2001;**130**:696–705.
- 4 Dimou FM, Eckelbarger D, Riall TS, *et al*. Surgeon Burnout: a systematic review. *J Am Coll Surg* 2016;**222**:1230–9.
- 5 Rollman BL, Mead LA, Wang NY, *et al*. Medical specialty and the incidence of divorce. *N Engl J Med* 1997;**336**:800–3.
- 6 Dyrbye LN, Shanafelt TD, Balch CM, *et al*. Relationship between work-home conflicts and burnout among American surgeons: a comparison by sex. *Arch Surg* 2011;**146**:211–7.
- 7 Oreskovich MR, Kaups KL, Balch CM, *et al*. Prevalence of alcohol use disorders among American surgeons. *Arch Surg* 2012;**147**:168–74.
- 8 McHenry CR. In search of balance: a successful career, health, and family. *Am J Surg* 2007;**193**:293–7.
- 9 Balch CM, Shanafelt TD, Sloan JA, *et al*. Distress and career satisfaction among 14 surgical specialties, comparing academic and private practice settings. *Ann Surg* 2011;**254**:558–68.
- 10 Zhang Y, Feng X. The relationship between job satisfaction, burnout, and turnover intention among physicians from urban state-owned medical institutions in Hubei, China: a cross-sectional study. *BMC Health Serv Res* 2011;**11**:235.
- 11 Balch CM, Oreskovich MR, Dyrbye LN, *et al*. Personal consequences of malpractice lawsuits on American surgeons. *J Am Coll Surg* 2011;**213**:657–67.
- 12 Elton C. Health and fitness: depression, burn out, trauma, exhaustion: inside the minds of doctors. 2018. <https://www.telegraph.co.uk/health-fitness/mind/depression-burn-trauma-exhaustion-inside-minds-doctors/>
- 13 Moran LJ. *The Anatomy of Courage*. 1945.
- 14 Schnohr P, O'Keefe JH, Marott JL, *et al*. Dose of jogging and long-term mortality: the Copenhagen City Heart Study. *J Am Coll Cardiol* 2015;**65**:411–9.
- 15 Farley FA, Kramer J, Watkins-Castillo S. Work satisfaction and retirement plans of orthopaedic surgeons 50 years of age and older. *Clin Orthop Relat Res* 2008;**466**:231–8.
- 16 Kay J, Memon M, Zou V, *et al*. Biomarkers in the serum, synovial fluid and articular cartilage show promising utility in patients with femoroacetabular impingement: a systematic review. *JISAKOS* 2018;**3**.
- 17 Gattaca. The movie 1997 Direction Andrew Niccol. 1997. <https://www.youtube.com/watch?v=q-loBxmbnbl0>

JOURNAL OF ISAKOS

Closer monitoring of surgeons needed to stave off burn-out and heavy drinking

Time for the profession to fix this problem itself before government steps in, urges leading surgeon

Surgeons need closer monitoring to stave off their risk of burn-out, heavy drinking, and other unhealthy behaviours, and it's time for the profession to fix this problem itself before the government steps in, urges a leading surgeon in an editorial published in the ***Journal of ISAKOS (JISAKOS)***.

Surgeons definitely seem to have a problem, and need to be treated as a special case, writes the journal's editor, Professor Niek van Dijk of the Academic Medical Center in Amsterdam, citing various published studies.

Levels of burn-out among surgeons top 50 percent, and are increasing "at an alarming rate," while surgeons are 15 percent more likely to divorce than the general public, he points out. And they drink more than other types of worker, added to which they are 10 percent more likely to drink heavily.

Half of all surgeons over the age of 50 have health problems, including depression, and they are more likely to contemplate suicide than other workers. And they are more likely than any other profession to describe their work environment as 'unhealthy,' he says.

Long working hours, increasing amounts of red tape, the ever present threat of litigation, and more demanding and less forgiving patients have all piled on the stress for surgeons, claims van Dijk.

And while there are many other sectors of the job market where long working hours are the norm, people who work in them don't seem to be as prone to break-downs, heavy drinking, or emotional exhaustion as surgeons apparently are, he suggests.

Apart from working at a furious pace and dealing with the often grim consequences of road traffic collisions, industrial injuries, and "the random violence of modern life," surgeons ask far too much of themselves, he suggests.

"Our work is very hard, and there is too much of it. Too little is being done to monitor us and too much to satisfy the administrators. We need to watch our colleagues, and if they are close to failing, we need to help, to get them out, to get them into rest-and-recreation," he writes.

"If we *can* do this, and do it in time then we can save them. But if we fail to do this, we shall lose them, and they *WILL* fail. Either they will turn to drink or drugs, or they turn against themselves," he insists.

And it's those who never show the strain who are the most vulnerable, he suggests.

The hours airline pilots and train drivers clock up are carefully monitored to make sure they get adequate rest and don't compromise safety. But the same can't be said of surgeons, he says.

"Why aren't we surgeons monitored and similarly prevented from overworking?" he asks. "Is it because we can only damage the occasional patient if we are exhausted, rather than an entire planeload?" he ventures.

It's time for the profession to get its own house in order, he says. "We surgeons need to fix this problem ourselves, before government steps in. We accept that there *is* a problem, and we are bright enough to understand *how* to fix it," he concludes.