

Optimise ourselves at work to provide the best care for our patients

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As surgeons, we sometimes don't look after ourselves at work, forgetting to take regular breaks during long operations, drinking inadequate quantities of fluid, or missing lunch because of busy operating lists or outpatient clinics. Surgery is a demanding profession with theatre days often starting early and finishing late. Sometimes there are seemingly few opportunities for breaks unless we ensure these occur especially during long operations that can take many hours to complete. It is unlikely that we would drive non stop for 4–5 hours before taking a break so why do some surgeons operate for a similar time while caring for someone else's life. A critical component of being 'optimised' at all times to reduce the chance of patient harm and human error is to take those regular breaks and eat and drink regularly.

Many staff have prolonged periods without food and drink even before starting work if not regularly eating breakfast. With limited opportunity for catching up on nutrition and hydration during the working day, some surgeons may be under hydrated or adequately fed to optimise their own energy, concentration and performance.

There are relatively few healthcare publications about the importance of nutrition and hydration to

optimise performance. Much of our own human factors promotion originates from aviation, where safety and optimisation are taken seriously.¹ Awareness of the importance of physiological needs is made clear to pilots early on in their regulatory training and pilots certainly understand the need to prioritise their own well-being in the interest of delivering a safe and effective operation. All operators provide complimentary bottled water hot drinks, some (typically legacy airlines) have industrial agreements that provide meals, even further trays of sandwiches/ snacks (Figure 1) for longer range flights to ensure energy levels can be maintained even at times of low circadian rhythm.

Figure 1. Many major airlines ensure their pilots maintain their energy levels by providing nutritious snacks on long flights as seen here on the jump seat (behind the captain's) of a Boeing 777 aircraft.



Hydration at work

Water accounts for over 60% body mass. In healthy and active people, water balance is regulated to within 0.66% of bodyweight.³ Even small deficits impede physical performance and worsening dehydration causing headache, sleepiness, impatience and apathy.³ How many surgical trainees and consultants come home with a headache because of a lack of fluid drunk during the day? While thirst cues usually present before the ill effects of low hydration occur, it is easy to see how staff might become under hydrated if they fail to look after themselves and especially in an operating theatre with air conditioning and gowns also contributing to dehydration. The importance of hydration for pilots is well known as significant reductions in flight performance and spatial cognition occur with dehydration equivalent to a 1 to 3kg loss of body mass.⁴

We advocate drinking regularly and stopping for a short break every 2–3 hours during an operating list or outpatient clinic. Individual requirements vary considerably, but as a minimum, 2L of fluid per day is recommended unless restriction is needed on medical grounds. Caffeine – containing drinks including tea and coffee have a diuretic effect but this does not offset the fluid they provide.

Surgeons might not be aware how low hydration affects their performance or stop to think why their urine is so concentrated. Theatre teams could agree to have regular fluid breaks when planning all day operating lists. Fluid should be palatable and available in different forms, e.g. water, canned drinks cordials, and ideally drunk regularly throughout the day. Check your own urine colour to make sure you are drinking enough! (Figure 2)

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Any visitor to a flight deck would certainly see bottles of water on hand to pilots, especially important in the low humidity air environment in flight. Some pilots try to consume a certain quantity e.g. one 500ml water bottle each two hours.

Nutrition

In aviation, hunger can lead to including poor communication between flight crew and other performance-related errors.⁵ Pilots who miss breakfast report a 22% increase in cognitive dysfunction.⁵ Children’s learning and academic performance is affected when they do not eat breakfast regularly.⁶ Missing breakfast leads

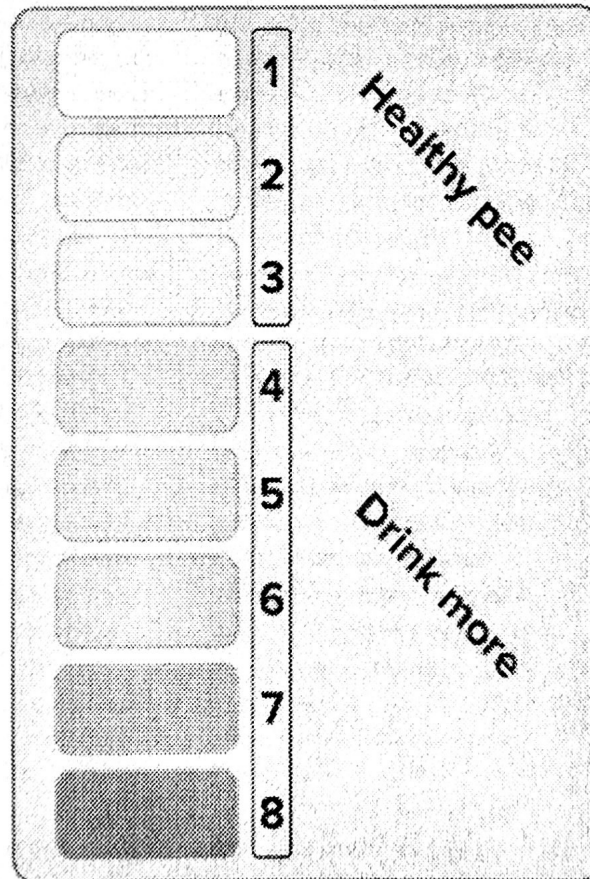


Figure 2. Urine (pee) colour chart. Dilute urine confirms that we are well hydrated.

to a reduction in metabolic rate with fewer burned calories, lower energy and motivation. We strongly recommend having something to eat before starting the day and especially if operating in theatre.

Since eating breakfast has a positive effect and nutrients deplete and need replacing throughout the day, surgical trainees should not only be eating before work, but also during the day. A break also helps with subsequent concentration and the completion of clinical tasks. While eating as often as drinking is probably not essential, eating a balanced portion of carbohydrate, fat and protein every 3-4 hours is beneficial, though as frequency is increased its size should be smaller than a standard meal. If this is not possible or desired, please at least consider eating breakfast and lunch during a working day.

Omitting a meal to lose weight should be discouraged as overall hunger is increased resulting in over eating at the next meal. Fast/processed food is linked to poorer performance.⁷ High carbohydrate chocolate bars do not satisfy hunger, but raise insulin levels can paradoxically reduce performance.

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Planning for a shift by ensuring the right type of food is readily available can ensure a healthy and nutritious, slow release option (e.g. fruit, nuts, porridge, etc) is available to hand can avoid turning to less suitable, if more readily accessible and perhaps comforting options.

To give our patients the best care possible and to reduce the chance of medical error, we must make sure we look after ourselves too. This vital pre-requisite to safe medical practice is supported and actively encouraged by many senior healthcare leaders. If this is something that the boss has not routinely adopted, why not suggest it and show him/her the evidence of the benefits. Not only might they feel better too, but the whole surgical team will be happier and perform better. It works!

References

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