President's Blog

April 2018

Disruptive technology – what might this mean for doctors?

It has been sometime since I have written a blog. Two months, and arguably the world is not the same place. China and Russia are exerting their power; the United States has agreed to a meeting with North Korea to make progress on denuclearisation; Facebook is under intense scrutiny and criticism for breaches of privacy with some predicting its demise; Fletchers and Fonterra have their backs against the wall; Australian cricket has reached a new low (not that this is news to us here in NZ – underarm 1981) and the recent opioid policy has rocked almost every ERAS protocol.

For me personally, I have had the privilege of visiting several hospitals in my role as NZSA President to discuss the NZSA's work, attended a workshop on welfare which was hosted by the college, and I was a guest at the Australian Society of Anaesthetist's strategy planning day. It has been a pleasure to interact with so many colleagues at these events

I have been reflecting on the above as well as the old chestnut issues and briefly want to revisit a couple of those issues here; specifically, disruptive technologies and welfare.

But firstly, I want to touch on the Opioid Guideline published by ANZCA and supported by both ASA and NZSA. (1) This policy comes from the Safety and Quality Committee, which I am on. I confess that initially I opposed this proposal, however there are two main drivers as outlined in the document:

- The current opioid crisis with availability of opioids in the community and potential addiction which follows surgery – so an iatrogenic issue which we have a direct impact on.
- Adverse effects from in-patient prescribing of sustained release preparations in opioid naive patients and particularly those with at risk co-morbidities such as morbid obesity and sleep related breathing disturbances. There have been several high-profile cases both here and in Australia highlighting this. One of these cases has been published on the HDC website within the last couple of months (2) and is worth a read. So, does this mean we cannot prescribe controlled release opioids in the in-patient non-chronic pain population? Something which is done in many ERAS protocols. Good question and my reading of the document is *probably NOT within the first 24 hours*. This may have an impact on ERAS joint replacement programmes and for us here at Waikato, for post-caesarean section patients as we don't use intrathecal morphine. (Is the use of intrathecal morphine the same in principle as a controlled release oral preparation?) Very interesting and I would value member feedback regarding these points.

This again highlights the importance of careful prescribing. It also cautions against a one-size-fits-all approach.

There is an editorial in the BJA which puts an interesting slant on this topic and perhaps enables a deeper understanding of where we have gone wrong. (3) It goes back to the mid-nineties with the adoption of pain as the fifth vital sign and concurrent concept that no one need be in unnecessary pain. We now know that this is unrealistic, and the suggested approach and philosophy is to use a functional activity scale. In essence, there are three simple levels:

- No limitation (due to pain)
- Mild limitation
- Significant limitation.

Disruptive Technology

I assume that many of you are members of MAS and will have at least glanced at the recent rag (4) that was sent round. Two articles caught my eye: “Doctor Digital” about e-health and “Welcome to a Bright New Future” about how the drive for a sustainable future is impacting on investment practice and strategy. Firstly, to e-health. Two versions of e-health are outlined:

- iMOKO, a smart digital health programme aiming to deliver faster, cheaper high quality healthcare to children in communities with high needs. In essence, a layperson with digital back-up becomes a health worker.
- SwiftMed, a service that enables patients to obtain prescriptions online.

We had a version of a virtual health app at Waikato Hospital called SmartHealth but the DHB has just this month pulled the plug as it failed to attract enough users and has said it cannot justify spending any more money to continue providing the service.

In parallel with the MAS doctor digital article, I read an essay by Richard Seglenieks, the Chair of the ASA Trainee Committee. (5) He was also crystal ball gazing but went a step further to ask if robots will take over our jobs. Some, such as Silicon Valley investor Vinod Khosla, think they will and says: “Technology will soon replace all but the best 20% of human bred doctors” and “Human doctors may be completely superseded by Dr Algorithm.” Much of the preoperative assessment process could be algorithm guided. A significant proportion of postoperative care is also vulnerable to Dr Algorithm. Although from a different perspective, a study in the BJA looks at a novel approach to postoperative fluid management – PCFT or patient-controlled fluid titration. (6)

Back to analgesia and the editorial mentioned above, there is now a drive to optimise perioperative dreaming with the use of procedure-specific postoperative pain management (PROSPECT) to underpin ERAS programmes. The research group at Waikato is currently using the EEG to guide opioid titration to optimise the alpha component i.e. “sleep.” In his article Richard posts that potentially an algorithm-equipped and ultrasound guided computer could insert IVs and place regional blocks. New opioid agonists may increase the safety threshold for opioid prescription (7) by selectively activating a different sub receptor pathway; β-arrestin as opposed to conventional g-protein. As a specialty we have always embraced technology and channelled it to reduce errors and increase patient safety. Many of the current changes are potentially profound and analagous to the magnitude of a third industrial revolution, as referred to in the second MAS article – Bright New Future – which looks at investment strategy rather than medical practice.

Conversely, Dr Bertalan Meskó, a medical futurist (who’s work I have not read in detail but hope to) suggests that technology won’t replace doctors. (8) Rather, it will

help us focus on the heart and soul of medicine – treating patients and innovating – while computers, machines and artificial intelligence perform the menial and repetitive roles. Interestingly, in the recent *Current Opinions in Anaesthesia* there is an article on "Spirituality" in the ICU; it highlights how toward the end of life conversations in this regard become more valued. (9) End of life issues are becoming more common in various guises, as reflected in the current assisted dying debate; I would hope that we will be able to focus more on issues such as these and that they remain a human-to-human conversation. Contrary to the popular stereotype of an anaesthesiologist, I personally think we do the doctor-patient personal interaction better than most.

Finally, and briefly, welfare: This is an ongoing concern for us and an area in which I think the NZSA has a significant role. To this end we are making this a focus of this year's NZSA Annual Forum 'Behind the Scenes' which will be held in Christchurch following the Shakes meeting – save the dates (3-4 August 2018). Another forum theme will be communication, as well as NZSA updates on areas such as private practice, assistant to the anaesthetist and our subspecialty networks. Details about the programme will be provided to members in due course. We've had excellent feedback on the forum from past attendees and encourage you to come along.

Once again, may the force be with you.

David

1. http://www.anzca.edu.au/resources/endorsed-guidelines/position-statement-on-the-use-of-slow-release-opio
2. 15HDC00850
3. MAS, Autumn 2018
4. N. Levy, J. Sturgess and P. Mills "Pain as the fifth vital sign" and dependence on the "numerical pain scale" is being abandoned in the US: Why? BJA 2018 , 120 (3): 438-440
5. Richard Segleniehs, The Magazine of the Australian Society of Anaesthetists, March 2018
6. Hughes F, Ng SC, Mythen M. Could patient controlled thirst-driven fluid administration lead to more rapid rehydration than clinician-directed fluid management? An early feasibility study. Br J Anaesth 2018; 120: 284-90
7. James P. Rathmell, Evan D. Kharasch, Frontiers in Opioid Pharmacology. Anesthesiology vol128, no 5 May 2018.
8. Meskó B. 'The Top Medical Specialties with the Biggest Potential in the Future'.
9. Cynthiane Morgenweck, Spirituality at the end of Life, Current Opinions in Anesthesiology Vol31.Number 2, April 2018 pp.185.