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Substance use disorder in anaesthetists: A personal perspective

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Abstract

In this article, I present a firsthand account as an anaesthetist with substance use disorder who has been through rehabilitation and returned to clinical anaesthesia, followed by an overview of substance use disorder in anaesthesia. Substance use disorder is prevalent within the anaesthesia community and can result in tragic consequences, including death in many cases. The incidence is around one to two per 1000 anaesthetist years and this appears to be rising, perhaps mirroring the population-wide increase in substance use disorder as a result of the opioid epidemic. Recognising substance use disorder in a colleague and intervening to try and help them and protect patients can be immensely challenging. Carrying out a successful intervention requires careful planning and coordination in order to protect the affected individual, their colleagues and patients. Returning to clinical anaesthesia following a diagnosis of substance use disorder is also contentious, with the high abstinence rate (relative to the wider substance use disorder population) having to be balanced against the risk of death following relapse. Any return to practice must be well planned and supported, and include appropriate toxicology screening. With such measures, rehabilitation and a return to clinical anaesthesia is possible in certain cases. For the affected individual regaining, then maintaining, their professional identity can be a powerful motivator to remain abstinent. Drug diversion and substance use disorder in anaesthesia is unlikely ever to be fully preventable, but strategies such as biometric dispensing, analysis of unused drugs, random toxicology and ongoing education may help to keep it to a minimum.

Keywords

Substance abuse, intervention, professional impairment, chemical dependence, alcohol, drug abuse, suicide, death

My story

The geographical

Moving to another hospital was the beginning of the end for my problem and deep down I knew this all along. Part of me wondered if this would be the 'new beginning' I needed to shake off the shackles of addiction, but as any addict will tell you—that's rubbish. Doing a 'geographical' as they call it, simply moves the main protagonist (me) from one area of using to another.

The lead up to self-administering intravenous fentanyl for the first time had been fairly rapid after a series of traumatic and emotionally unsettling episodes in my personal life. I saw firsthand the calming effect it seemed to have on patients and began to fantasise about using it myself. Opportunities to divert unused fentanyl became obvious the more I looked and then one day it happened—I slipped a syringe of unused fentanyl into my pocket at the end of the case and that was that. There was no accountability, the risk of being caught seemed almost non-existent, and the subsequent self-injection was easy. It would be a lie to say I didn't feel good—the physical effects were as expected and did provide respite from my troubles for a short while. It didn't last though and although I'd told myself it would be a 'one off', the next time I was in theatre thoughts of using returned. That's how an addiction begins.

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As it took hold it became the dominant force behind my practice. Every aspect of my professional life became in some way directed towards maintaining and controlling my addiction. The risks I took in order to obtain the drug grew quickly as my tolerance increased, and when I think back to the way I behaved it seems unbelievable that I wasn't detected in that initial period. I wasn't, however, and that empowered me to believe I was one step ahead. Sadly, this meant the aberrant behaviour and powerful addiction became ever more deeply entrenched. I slipped into a routine; it was easy, it seemed stable and contained.

The reality was somewhat different, however. There were many close shaves, and every aspect of my practice was impaired. Only my well-established reputation prevented more (any) questions being asked about behaviour which would otherwise be considered unusual. Always using two fentanyls for cases in which everyone else used one, asking to administer additional fentanyl in recovery, insisting on drawing up my own drugs. The list could go on. I can see now what an unhappy existence it was; the endless cycle of subterfuge and concealment, the overwhelming anxiety and fear of discovery, the constant knowledge that my behaviour was wrong and unacceptable. I felt like my professional self was a sham, with the whole thing being built on sand and prone to collapsing at any time. I knew I was an addict but could see no way out.

What impact did my behaviour have on the patients I looked after? Addiction is not an excuse and I failed in my duty as a doctor to provide the best possible care to the patients I was responsible for, which is indefensible. Although there were no critical incidents or complaints, I cannot exclude the fact that patients may have suffered more pain than necessary on emergence, and I would often overcompensate with attentive and enthusiastic management of acute pain in the postoperative period, behaviour which ironically enhanced my reputation as a caring practitioner. It didn't matter how remorseful I felt after such occasions, the cycle always began again when the next opportunity to divert came around.

There were times when I seriously considered seeking help. I'd read articles and sit looking at helpline phone numbers, but I never picked up the phone. On a few occasions I came close to telling my partner, but when the moment arose maintaining the status quo always prevailed. I read about addiction in the anaesthesia journals and recoiled in horror at the high mortality among anaesthetists. Could that happen to me? Should I seek help before it did? I had come close to overdosing on several occasions but sooner or later my luck was going to run out—it was only a matter of time.

Moving to a new hospital really caused the wheels to fall off in a big way. Removed from the fragile stability I had built around me, the last vestiges of control slipped away, and I began to unravel. In addition to contending with the new environment, the culture of fentanyl administration as the first line opioid there lent itself to greater diversion and therefore heavier use. I began suffering withdrawals more than ever before, experiencing anxiety, sweats, clamminess, insomnia and nasal congestion. It didn't take long for my new employers to become suspicious and I knew this could not continue much longer without tragic consequences ensuing.

The intervention

We go through much of our lives with one day merging indistinguishably into the next. Among these will be days which remain in our thoughts, and for me, the day of the intervention is one of them. It seemed to unfold in slow motion towards an inevitable conclusion and, although I found it an overwhelming and at times distressing experience, I also now identify it as the beginning of my recovery. I was fortunate to be working in a department with firsthand experience of dealing with impaired anaesthetists, meaning the intervention was coordinated along well-established local guidelines to protect my safety during this vulnerable period. The clinical director (CD) is a man of immense kindness and compassion who ensured the process was carried out in a discreet manner. When he called me that morning and asked if I could 'pop into his office to check a couple of things' I knew this was it.

Two pieces of paper were placed in front of me and I was asked to read them, no comment being made as to their contents. They were written accounts from staff members raising concerns about my behaviour with specific reference to the diversion of fentanyl, and as I read them time seemed to slow down. I deliberately took my time reading them, trying to formulate a response before looking up from the paper. It crossed my mind to try and address the points made in the statements, but any vestige of fight that remained within me rapidly dissipated, and I simply sat in silence for what seemed an age. Eventually, words came from my mouth in an almost involuntary manner. Words which will resonate with me for the rest of my life, and which said everything I wanted. 'I need help.' At that, there was a palpable sense of relief on the part of those present. 'And we shall give you help' came the reply, as I sat in stunned silence. I knew my life was never going to be the same again, but I also knew I didn't want it to be the same. The sense of relief was quite incredible, tempered however by the fear of what

was to come. Would I ever be able to work as a doctor again, let alone as an anaesthetist? Did I even want to continue in this profession? For the time being, these were questions which could remain unanswered. I would be removed from clinical duties and enter a period of extended leave while attempting to recover. Even at that early stage however, the CD gave me hope that perhaps a route back to clinical practice could be navigated.

'Get it right the first time'

The intervention, and the subsequent hours and days, marked the beginning of a new start which had been a long time coming. Even in that early and extremely raw phase, I could begin to sense how necessary this process was, helped immensely by the caring and compassionate way in which my partner dealt with me. They had no idea; I had somehow succeeded in hiding my addiction from them since we met. One of the most important tasks on that day had been to share my story with them at the end of the intervention and although difficult, this initiated the therapeutic process. I had been holding onto this secret for so long but could now finally talk to someone about it. In amongst the angst, self-recrimination and rumination, was an embryonic sense of purpose and duty. A duty to myself, my family, my friends and colleagues, to accept what must now happen in order to recover.

The immediate priority was to ensure my physical and mental health needs were met. This began with an assessment by the community drug and alcohol service who established that there was no need for inpatient detoxification, and my treatment could begin in the community. The main therapeutic focus then became frequent and regular individual sessions with a drug and alcohol counsellor, providing a safe space to talk through all that had happened and begin the recovery process. I also began attending Narcotics Anonymous (NA) meetings which was a powerful and humbling experience. I never felt comfortable enough to share my particular story in a public forum, however, but I did go on to attend some 12-step meetings aimed specifically at doctors, finding these immensely beneficial. Alongside all of this, there seemed to be an overwhelming amount of other issues to address; link in with my defence union, contact the medical authorities, meet with my employer again, speak to family and let them know what was happening. How to make sense of it all while also trying to get well again? I reached out to a 'Doctors in Recovery' helpline, the sort of move I had considered many times before but never followed through on. Things were different now; the genie was well and truly out of the bottle and there was no point in pretending otherwise. I found myself talking to another doctor and sharing my experience. They reciprocated and for the first time I was talking to someone who knew and understood where I was coming from. As well as support, they were able to provide some guidance on how to navigate the various administrative obstacles ahead. Through them, I met up with an anaesthetist who had been on a similar journey to mine and come out the other side. I can't overstate what an important aspect of the therapeutic process this was. By far the most important piece of advice was, 'get it right the first time'. In other words, don't try to rush it, do what needs to be done and accept whatever oversight is required in order to be able to rehabilitate before considering a return to clinical practice.

Return to work

The question of whether I should even attempt a return to anaesthesia was one I had reflected upon greatly. I had tried so many times to 'stop'—consistently failing. For long periods I just accepted it was something I could not control, instead simply trying to contain it. Inevitably, something would happen to thrust me back into the reality of the situation; almost overdosing, a realisation of one's impaired abilities, the deceit and manipulation required to obtain the drug, the appreciation of just how wrong it was. When presented with an opportunity to divert and use fentanyl all thoughts and actions became focused on obtaining the drug, and nothing was going to stop me—certainly not rational thought. How could I possibly put myself back into that situation, that environment, and hope to avoid using again?

The fundamental difference between then and now though was that my addiction was no longer a secret. Talking openly and honestly in therapy, and with family and friends, had shifted my entire perspective. I was no longer alone in trying to deal with it, there was support available from people who knew my situation, and this gave me great solace. Addiction therapy teaches you that successful recovery will only stem from a personal desire to rehabilitate. I no longer wanted to be gripped by addiction, I wanted to rediscover who I was professionally and begin to rebuild my career. I also wanted to prove myself to those around me; family, close friends, colleagues—I had changed in their eyes, and I wanted to drive that change in a positive direction.

Six months after the intervention I was deemed ready to return to clinical anaesthesia. My treating clinician, the medical authorities and my employer had all agreed a package of care to try and facilitate a safe return to practice. This would involve a phased return to work, not doing solo lists to begin with,

daily review with the CD, and ensuring key individuals in the theatre suite were aware of my situation. I would be taking regular naltrexone to reduce cravings and protect against overdose should I relapse. There would also be frequent random testing, both urine and hair. During my rehab I had spoken with other practitioners in recovery who considered such measures an imposition. Not me. I felt immensely reassured by them, being only too aware of the mortal dangers of relapse. Knowing that I would be tested and certainly caught should I use again provided me with a psychological safety net against permissive thoughts.

Second only to relapsing, my biggest source of anxiety was the reception I would receive from colleagues. Over the years I'd heard gossip and insinuation regarding colleagues with possible drug and alcohol problems. In my eyes, there wasn't much sympathy for such people within the medical fraternity. Succumbing to addiction was morally wrong and anyone who did so shouldn't be allowed to work again. I was convinced this would be the reception awaiting me when I returned to clinical practice, but the reality was somewhat different and testament to the tone set by the CD. He had maintained confidentiality within the department while I was absent, and controlled the narrative on my return, keeping the department informed while discouraging unhelpful gossip.

In true 12-step tradition, I took it one day at a time. In fact, I broke it down even further to begin with and saw each case, each time I gave a 'normal' anaesthetic, as another step forward. As the days turned to weeks and months, I consolidated this normal way of practising ever further. Permissive thoughts would continue to enter my mind, but less frequently as time went on. These were not intrusive, however, and I was able to be mindful rather than react. While actively using, I had been carrying around an immense amount of anxiety and stress about how to maintain and conceal my addiction. Without this, I could concentrate on the job at hand, the people around me and the patient I was caring for. Instead of leaving work each day filled with remorse, I left feeling satisfied and content.

The present

I'm not the first anaesthetist to become addicted to intravenous opioids and I certainly won't be the last. For me, it became apparent early on in my recovery that attempting a return to anaesthetic practice was something that was not only possible, but desirable. I am fortunate to have a support network around me, both professionally and personally, which has allowed me to work towards this goal. Others will be in different situations and each case must be managed in its own right. Ultimately, for me and for many other anaesthetists with substance use disorder (SUD), a successful return to clinical practice is a significant driver of recovery and sobriety.

As I write, I have been back working as a full-time anaesthetist for over three years. Not a day goes by when I don't recall how things used to be, and how every aspect of my professional and personal life is better now. Every time I sign out and administer fentanyl, I become aware, even for the briefest of moments, just how transformative these last years have been. Whenever I undergo hair and urine testing, I see it not as an imposition or inconvenience, but instead a necessary part of the process to protect my sobriety, keep me safe, and keep my patients safe.

This may all sound rather easy and straightforward—it isn't. It's a constant process which I must embrace and accept. I have to avoid complacency, remain self-aware, be open with colleagues and family about how I am feeling and, with time, be willing to support others in similar situations. In so many ways I have been lucky, and it requires little effort for me to feel a huge amount of gratitude for how my situation has worked out.

Substance use disorder in anaesthetists: A personal perspective

Introduction

While I was actively addicted to fentanyl, reading articles relating to SUD among anaesthetists was difficult. Part of me was drawn to the topic whenever it appeared in the anaesthesia journals, but when faced with the stark reality of the condition it would cut through the veneer of denial, and bring home yet again how much of a problem I had. In the weeks and months following the intervention, however, I began the cathartic process of writing about my experience and researching the topic in general to try and understand where my story fitted in. What follows is a personal perspective on SUD in anaesthesia based on an extensive literature review as well as my experience of addiction, rehabilitation and recovery.

Search strategy

A literature search was carried out to look at SUD in anaesthesia, seeking information on epidemiology, mortality, presentation, intervention, rehabilitation, prevention and education. OVID Medline was searched using {Anesthesia OR anaesthesia OR anesthesiology AND substance-related disorders OR substance abuse intravenous OR substance abuse oral}, limited to (English language AND humans) yielding 419 publications between 1946 and 2020. These were

screened by title identifying 105 relevant publications. The abstracts were reviewed, and full text articles obtained where appropriate. Reference lists were utilised to identify further articles where relevant. A total of 53 articles were retrieved and 39 form the basis of the review.

Definitions

An impaired physician can be defined as one suffering from any physical or mental condition, which affects or has the potential to affect, his or her capacity to practise medicine safely.

It may be acute, episodic or chronic.[1] It is important to note, however, that a doctor can be unwell or suffering from significant stress without their practice being objectively impaired. There are many examples of highly functioning alcoholics and addicts who continue to fulfil their professional duties to a satisfactory standard (personal communication). The fact that they are continuing to work helps to maintain the delusion that they are in control of their addiction. Drug addiction in anaesthesia differs from some other situations, in that the work environment can be intrinsically linked to obtaining and consuming the drug of choice.

SUD is defined by 'a cluster of cognitive, behavioural and physiological symptoms indicating that the individual continues using the substance despite significant substance-related problems'.[2] The diagnosis of SUD is based around four broad categories; impaired control, social impairment, risky use, and pharmacological criteria (tolerance and withdrawal).

Epidemiology

The prevalence of SUD among physicians may be higher than in the general population, and perhaps higher still within the anaesthesia community. In a survey of American physicians, 15.4% fulfilled the criteria of SUD, mostly alcohol related, compared to the general population prevalence of 12.6%.[3] When stratified by specialty, anaesthetists ranked higher than average, with a prevalence of 18%.[3] The incidence of SUD differs between the anaesthesia trainee and specialist. Among trainees in the USA it is 2.16 per 1000 anaesthetist years,[4] whereas specialist anaesthetists have an incidence of 0.75 per 1000 anaesthetist years,[5] perhaps reflecting the greater oversight trainees receive and the increased likelihood of their SUD being detected. These figures compare with Australia and New Zealand, where a ten-year retrospective survey of departments found an incidence of 1.2 per 1000 anaesthetist years overall, with trainees having a higher incidence than specialists.[6,7] Overall, male anaesthetists are more likely to develop SUD than women with an incidence among US trainees of 2.68 per 1000 anaesthesia years compared to 0.65 for women.[4] In Australia and New Zealand the gender gap is smaller, with a similar incidence in men and women (0.8 versus 1.0 per 1000 anaesthesia years).[6]

Among doctors in general, alcohol is the most widely abused substance.[8] Anaesthetists are more likely to abuse anaesthetic agents, perhaps due to the ease with which they can be accessed and diverted, and intravenous opioids are the most commonly abused anaesthetic agents.[4,5,9,10] There is a trend towards propofol abuse, however, with this being the most commonly implicated substance in the most recent Australia and New Zealand survey.[6] Other agents abused include benzodiazepines and inhalational agents, as well as mainstream recreational drugs.[11] The huge increase in prescription opioid use and abuse in Western societies as a whole over the past 20 years may also be contributing to the problem of SUD among anaesthetists,[12] with a rising incidence since 2003.[4]

Mortality

SUD in anaesthesia often results in death, either as the first presentation or following a subsequent relapse. Eighteen percent of US trainees with SUD presented as a fatal or near fatal overdose in one survey of academic training programmes.[13] Among Australian and New Zealand anaesthetists there was an 11% fatality rate, either as first presentation or due to subsequent relapse,[6] with propofol being implicated in all drug-related deaths among anaesthetists in this particular survey. Werner and colleagues[4,5] looked at anaesthetists who developed SUD following completion of specialist training, reporting that 19% died from a cause related to their condition. They also established that 23% of all deaths among anaesthetists of working age in the USA over a 30-year period were attributable to SUD, which translates to 17.1 SUD-related deaths per 100,000 anaesthetist years. They highlighted the fact that this places anaesthesia among the riskiest occupations in the USA, where the highest risk of fatal work-related injuries occurs in farming, fishing and forestry, with death rates of 20.9 per 100,000 years.[5]

Presentation

Alcohol abuse may take years to become apparent but intravenous opioid abuse, particularly quick acting highly lipid-soluble agents such as fentanyl, usually (but not always) presents much more quickly.[4] Detecting drug diversion and impairment can be difficult, with the signs and symptoms both subtle and non-

specific, particularly in the early stages of the disease process.

The following description is based on my personal experience as well as the ANZCA Welfare of Anaesthetists Special Interest Group document 'Suspected or proven substance abuse (misuse)'.[14] The affected individual will often engineer their time in theatre to allow maximum opportunity for diversion while minimising the chance of detection. They may volunteer for additional lists, prefer to work alone and refuse meal breaks. Changes in mood and personality can occur, and they may begin wearing long sleeves to hide injection marks. They may take frequent toilet breaks and be difficult to find between cases or at the start of the list. Their patients may report unusually high pain scores in the immediate postoperative period. Record keeping may become illegible and inaccurate. Any one of these can be entirely innocent, but when a pattern develops it should raise suspicion of drug diversion and use. As tolerance increases, greater amounts of the drug will be required to avoid withdrawal. This can lead to a progressive and often rapid deterioration with increasingly risky and reckless behaviour in order to obtain the drug and conceal signs of intoxication and withdrawal. Direct evidence of diversion and self-administration may be witnessed such as obvious injection marks, observed drug diversion, syringes or ampoules in pockets or bags, and clear signs of intoxication or withdrawal. One of the cardinal features of addiction/SUD is denial, and the affected individual will almost always be in denial of the full extent of their problem. Denial among colleagues, friends and family also occurs, as well as a natural reluctance to speak out and risk levelling false accusations. In 7% to 18% of cases death is the first presentation of SUD[6,13] and in all such tragic cases, it can be difficult to distinguish suicide from accidental overdose.[15] This has devastating repercussions for those who knew the individual and some will be left wondering whether they could have spotted the warning signs earlier.

The intervention process

Intervening when a colleague is suspected of suffering from SUD is a challenging process,[14] best managed as a team rather than left to an individual. Ideally, all departments should have an agreed policy for such eventualities, in order to ensure it is carried out as smoothly and compassionately as possible. Many departments will have a substance abuse committee or analogous group and their members should be involved early. A prevailing culture within the entire service of openness and fairness will facilitate all members of staff speaking out when they have concerns. When concerns are raised, they must be taken seriously and handled confidentially while further investigations take place.

Although there are few reports in the literature of patients suffering harm from an anaesthetist under the influence of illicit substances,[16,17] there are cases of patients being infected with blood-borne infections by drug-diverting healthcare workers in general.[18] Patients may also suffer as a result of inadequate analgesia.[19] A balance must be struck between protecting the individual under suspicion, and ensuring no patients are placed at risk while gathering evidence. Anaesthetists have committed suicide following confrontation regarding suspected drug use (personal communication), so a judicious and well-planned intervention is the recommended way to proceed. Careful observation for signs and symptoms of abuse as well as meticulous collation of written and oral evidence will increase the likelihood of a successful intervention. Both the suspect and patients must be protected during this process. Protection may be achieved by the overview of the suspected abuser by an intervention team member, senior consultant anaesthetist, registrar or in some circumstances perhaps a senior nurse or technician.

Once sufficient evidence has been gathered, the intervention can be initiated. When selecting the intervention team, gender mix should be considered carefully, particularly where the individual is a woman. The team should outline in advance the plan for the intervention, including the post-intervention treatment strategy and how this will be facilitated. The intervention is best conducted early on a standard operating day when the anaesthetist in question is normally on duty. Once informed of the intervention, the anaesthetist in question should be given the opportunity to appoint a support person, and should be accompanied at all times to prevent abscondment and potential self-harm.

The intervention should be carried out in a firm yet sensitive manner. Explain the reason for the intervention, present the evidence collated and allow them time to respond. Try to control the narrative and avoid becoming side-tracked from the central purpose of the meeting. Present the treatment options proposed by the team and reassure them of continued support during this process. This is not the time to raise any disciplinary accusations or propose punitive measures; rather it is the opportunity to initiate therapy and ensure the safety of the individual. Based on prior planning and how the meeting unfolds, the individual may require accompaniment to an inpatient detoxification unit or, if discharge to the community is deemed appropriate, a risk assessment from a qualified mental health professional with clear plans for follow-up. Finally, a

concurrent record of the meeting must be prepared, and the relevant medical authorities must be informed.

In the following days, a decision will have to be taken as to how and when the wider department will be informed of what has happened to their colleague. Some may be completely unaware of any problem having occurred, while others will have more detailed knowledge of the situation. The confidentiality of the individual in question ought to be maintained as much as possible, and any updates provided in a discreet and respectful manner. They may eventually attempt a return to work in that department, and laying the groundwork for a successful return begins at the point of the intervention.

It is important not to overlook the wellbeing of those who speak up and report their colleague for suspected drug use. They may be filled with guilt and fear of what will happen to the individual. As much as possible, ensure they receive whatever support is required for them at this difficult time.

A more rapid intervention may be required when there is direct evidence of substance abuse such as finding a needle or cannula in situ or observing self-injection. This justifies immediate action and may present a medical emergency with potential for harm to both doctor and patient, depending on the circumstances. Intervening at this point is mandatory, and the doctor must be relieved of their duties, not left alone, and taken to a safe environment while help is summoned from colleagues. The duty psychiatrist should be informed, and they will facilitate the safe transfer of the doctor to an appropriate place of care.

There is limited literature to guide an intervention in private practice or small regional centres, where the sort of departmental approach described above may not be possible. The general principles will be the same, however, and it is acknowledged that interventions will vary across states and countries. When there is uncertainty as to how to proceed, the medical board or council should be informed and, in some circumstances, they will participate in the intervention process.

What about a return to anaesthesia practice?

There is no doubt that doctors in general can rehabilitate from SUD and return to clinical practice. Those who undertake appropriate treatment and rehabilitation have abstinence rates of up to 90% at five years.[8] Anaesthetists with SUD who have completed their training and return to clinical practice have a five-year abstinence rate of 73%, falling to 37% at 15 years.[5] Much of the outcome data in this area are from the USA, where state-run physician health programmes (PHPs) have existed since the 1970s, providing a framework within which treatment, rehabilitation, monitoring and a return to work can occur. The high rate of abstinence among doctors with SUD who undergo appropriate treatment may be due to a desire to hold on to their professional identity, as well as the rigorous oversight required for that to happen. A similar picture is seen in aviation, where well-established programmes exist to support and rehabilitate pilots with SUD. The Human Intervention Motivation Study (HIMS) is a programme for rehabilitating pilots with SUD and facilitating their return to the cockpit. Since its inception in the 1970s in the USA, over 5000 pilots have passed through with an abstinence rate of over 80%.[20] The common features of HIMS and the PHPs are that they recognise addiction as a disease, offer therapy rather than punishment, and work alongside the regulatory bodies overseeing the doctors or pilots. Airline management also recognises the significant financial saving in rehabilitation; every dollar spent on rehabilitation saves $11 in training costs for a new pilot. Given the time and expense involved in training a doctor, there is little doubt that rehabilitation also makes financial sense in this context.

A core component of all rehabilitation strategies will be peer support groups, of which Alcoholics Anonymous (AA) and NA are the prototypical models. This can pose a challenge to some doctors, however, with concerns around the confidentiality of what they share among the group[21]—a problem which may be further compounded if the doctor works in a smaller regional or rural location. In order for peer support to be truly therapeutic the individual must be comfortable speaking openly, so groups have been established within the AA and NA models which admit only doctors with SUD. This allows doctors to share their stories with a greater degree of confidence, and also hear the stories of others in similar situations to their own. Peer support groups, including those aimed specifically at doctors, are increasingly utilising remote video communication services (personal experience), allowing doctors from a much wider geographical area to participate. Continuing to attend some form of peer support will often be part of any agreement which allows the doctor with SUD to return to practice.

Not everyone does well, however, with the five-year relapse rate among doctors in general being 19% overall, as quantified by failure of at least one drug/alcohol test, increasing to 25% after ten years.[16] With this in mind, the question of whether an addicted anaesthesia care practitioner (ACP) can return to practising clinical anaesthesia is a contentious one. Unlike most other physicians with SUD, the primary source of drugs for ACPs with SUD is the workplace. Returning to this environment places the individual in direct contact

with highly addictive and potent anaesthetic agents, where relapse can have tragic consequences.

ACPs with SUD who return to anaesthetic practice are no more likely to relapse than addicted physicians in general, provided they are appropriately screened and return as part of a formal rehabilitation programme with ongoing therapy and stringent oversight.[16,22,23] However, the likelihood of dying is significant for the ACP who relapses and uses intravenous opioids or propofol again. Collins et al.[24] reported a 9% (9/100) mortality rate among anaesthesia trainees with SUD who returned to anaesthesia practice and subsequently relapsed. Menk et al.[25] described a mortality rate of 16% (13/79) among intravenous opioid—abusing trainees who returned to anaesthetic practice, although this figure may be exaggerated due to the way in which the survey was carried out.[26] Warner et al. reported a 13% (12/91) mortality among anaesthesia trainees with SUD who relapsed after return to clinical practice.[4]

The two main factors which increase the risk of relapse when a healthcare professional with SUD returns to the workplace are a coexisting psychiatric diagnosis and a family history of SUD. Use of a major opioid is not in itself a risk factor for relapse, but when combined with a dual diagnosis and/or family history, the risk of relapse increases markedly. Having relapsed once also increases the likelihood of relapsing again.[16]

Any consideration of return to clinical practice will only occur following an appropriate period of rehabilitation. When a return is planned, there must be a robust package of care in place to protect both patients and the doctor. Often a formal agreement is entered into between the ACP, the regulatory body overseeing their registration and their employer. This will specify what is expected of the ACP, and the framework within which they will have to operate in order to be allowed to practice. Requirements will include a willingness to undergo random toxicology screening, a commitment to continuing with therapy such as AA or NA, and an agreement to work within whatever local arrangements are decided by their department in relation to handling opioids and other drugs of abuse. These agreements generally last at least five years[27] and are dependent on clear and ongoing communication between all parties.

Toxicology screening is a fundamental aspect of any safe return to practice and the ACP must be encouraged to view this as such. Rather than see it as an imposition, it can instead be framed as a means by which they can 'prove' they are committed to recovery and continuing to work. Urine screens are quick and easy to implement, but the short half-life of many opioids means their metabolites will only be detectable for a few days after use.[27] Hair analysis allows a longer-term overview of drug use measured in weeks and months, rather than days. All testing must be conducted with the strictest levels of governance to minimise the risk of spurious results. The individuals being tested must also be made aware of everyday substances such as poppy seeds which may contaminate their results.[28]

Most regulatory bodies will insist on a named supervisor within the department who can oversee the practitioner and coordinate ongoing management. This will include regular appraisal of performance and should be someone with a skill for mentorship who can provide firm yet empathic guidance. Depending on the specific arrangements for toxicology screening they may coordinate testing and provide performance reports to the regulatory authorities. It is important that the practitioner has some independent support person(s) in the work environment who can provide ongoing help and guidance, although this will be purely supportive rather than therapeutic. The Australasian Anaesthesia Wellbeing Special Interest Group recommends that all departments and private groups of anaesthetists have a welfare advocate[29] who may be well placed to fill this role, provided they receive the necessary support and training to do so. Ideally, their contact with the practitioner will begin before any return to work occurs.

The ACP should generally return in a phased manner, with routine lists, direct supervision and no out-of-hours work to begin with. An agreement will be reached as to how they may obtain, prepare and administer opioids and other potential drugs of abuse. This will be person- and situation-specific, but there should be close monitoring for signs of aberrant behaviour. With time, and where there are clear signs of positive recovery, some of these restrictions may be relaxed. Some advocate for a phased return in which the practitioner initially works in a 'safe' environment such as a simulator[27] before progressing to clinical anaesthesia. During this period there is an opportunity to establish how committed the ACP is to their recovery. Medication may also aid this process, namely naltrexone; a mu opioid receptor antagonist which is bioavailable when taken orally, and can also be administered as an extended release injection.[30] Although it has not been shown to be superior to placebo in preventing relapse among the general population with opioid use disorder,[31] it may be a useful part of the relapse prevention strategy for ACPs with opioid use disorder who are contemplating a return to clinical practice.[32]

Ultimately, for many ACPs with SUD, the risk of returning to clinical anaesthesia is just too great, and they will be directed towards an alternative specialty

should they wish to remain in the healthcare setting. This may be decided following the initial intervention or could be a decision reached after a subsequent relapse.

Prevention

Anaesthesia may attract individuals with underlying SUD who see the specialty as a means of accessing narcotics.[33] For others with a strong predisposition to SUD, entering the theatre environment will place them in a vulnerable position. Preventing high-risk individuals from entering the specialty can be attempted at the selection process, and some anaesthesia training programmes apply proactive SUD screening tools and urine toxicology at this stage, although there is little evidence that these strategies are effective.[24,34]

Preventing diversion and abuse of anaesthetic agents by ACPs is difficult. They work in a unique environment among healthcare providers, in that they prepare and personally administer intravenous drugs to patients—mostly in an unsupervised manner. There is a multitude of opportunities for diversion between the pharmacy and the patient. By way of example, intravenous opioids are constituted as clear fluids, allowing easy substitution for other agents such as saline. This can occur before or after administration to the patient, and syringes of partially used opioids may unintentionally be left by colleagues in theatres and the anaesthetic rooms. The amount of opioid signed out from the locked cupboard is often more than the patient is likely to require—just in case the surgery is more extensive than anticipated. Multiple ampoules may also be signed out at the start of the day for the entire list. As with all other aspects of anaesthetic practice, there are variations in how much opioid practitioners use for similar types of surgery, allowing the individual to divert opioid while providing adequate analgesia by other means. Methods for discarding unused opioid at the end of cases are often lax and easily manipulated with very little accountability.

There are a number of strategies which have been employed to try and mitigate the risk of drug diversion in the theatre environment. Although tighter controls will never completely eliminate the opportunity for drug diversion, they will facilitate earlier detection of aberrant behaviour.

Biometric dispensing machines (Pyxis), as opposed to handwritten drug books, allow an accurate record of controlled drug use among ACPs which can then be audited for unusual patterns. Fifty-three percent of Canadian anaesthesia programmes use such a system.[9] Anaesthesia information management systems can compare computerised anaesthesia and prescribing records with the electronic controlled drug dispensing records to find atypical transactions. Such systems have been used to identify previously unsuspected individuals who were diverting drugs.[35] Eighty percent of anaesthesia training programmes in the USA utilised some comparison of drug dispensed with drug usage.[13] Analysis of unused drugs can detect discrepancies in the content of syringes and opened ampoules. In some centres, all unused drugs are returned to the pharmacy and analysed on a random basis, both qualitatively and quantitively, to establish the accuracy of their contents.[36] Any discrepancy can then be followed up and investigated further. Almost half of anaesthesia training programmes in the USA utilise some sort of random analysis of unused controlled drugs in this manner.[13]

Drug testing is commonplace in work environments, such as construction, mining and haulage, and has been linked to a reduction in accidents.[37] Opinion is mixed as to whether such programmes would be effective and feasible in anaesthesia training programmes,[9,13] but where random drug testing of ACPs is carried out, an association with less SUD has been demonstrated.[34]

The amount of education anaesthetic trainees and specialists receive around addiction in their specialty varies[9,13] and when programmes with formal training are compared to those without, there does not appear to be any difference in the incidence of SUD among ACPs.[13] Despite the fact that education and an increased awareness does not appear to correlate with a reduction in mortality and relapse rate,[38] it would still seem a sensible endeavour given the extent of the problem. Within the Australasian anaesthesia community, efforts have been made to increase awareness by the Wellbeing Special Interest Group, who have produced a number of valuable educational resources.[1,14] Recognising the signs of drug dependency in a colleague and accessing the necessary support are also part of the Australian and New Zealand College of Anaesthetists training curriculum,[39] and the topic has been included in the Fellowship examination.

Advice for others

Given the prevalence of SUD within the anaesthesia community it is likely that someone reading this article is currently in the same situation I found myself in. You know you have a problem and want to do something about it but cannot see a way out. You are terrified of the reaction you'll receive from family, friends, colleagues, the medical authorities, and certain that any admission of your situation will mean losing everything. My advice is this: Ask for help. Reach out to one of the support groups listed below and begin to talk, in confidence, about what you are going through. There is a way out and it is possible to rehabilitate both

personally and professionally, but you need to admit you are powerless to do it alone and accept help. I hope that my story can help you reach this conclusion.

Resources

Australian and New Zealand College of Anaesthetists, Doctors Health and Wellbeing: https://www.anzca.edu.au/about-us/doctors-health-and-wellbeing
Australian and New Zealand Doctors in Recovery: www.idaa.org/sites/adr/
Sick Doctors Trust: http://sick-doctors-trust.co.uk
British Doctors and Dentists Group: www.bddg.org
Association of Anaesthetists Wellbeing and Support: https://anaesthetists.org/Home/Wellbeing-support
International Doctors in Recovery: www.idaa.org

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References

1. Australian and New Zealand College of Anaesthetists, Australian Society of Anaesthetists, New Zealand Society of Anaesthetists Wellbeing Special Interest Group. *Impairment in a Colleague*. 2020. https://libguides.anzca.edu.au/ld.php?content_id=48308747 (accessed August 2020).
2. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*, 5th ed. Arlington, VA: American Psychiatric Association, 2013, pp. 483–485.
3. Oreskovich MR, Shanafelt T, Dyrebye LN et al. The prevalence of substance use disorders in American physicians. *Am J Addictions* 2015; 24: 30–38.
4. Warner DO, Berge K, Sun H et al. Substance use disorder among anesthesiology residents 1975–2009. *JAMA* 2013; 310: 2289–2296.
5. Warner DO, Berge K, Sun H et al. Substance use disorder in physicians after completion of training in anesthesiology in the United States from 1977 to 2013. *Anesthesiology* 2020; 133: 342–349.
6. Fry RA, Fry LE and Castanelli DJA. Retrospective survey of substance abuse in anaesthetists in Australia and New Zealand from 2004 to 2013. *Anaesth Intensive Care* 2015; 43: 111–117.
7. Fry RA, Fry LE and Weeks A. Substance use disorder amongst Australian and New Zealand anaesthetic trainees: an analysis of 30 years of data (letter). *Anaesth Intensive Care* 2015; 43: 530.
8. McLellan TA, Skipper GS, Campbell M et al. Five year outcomes in a cohort study of physicians treated for substance use disorders in the United States. *BMJ* 2008; 337: a2038.
9. Boulis S, Khanduja PK, Downey K et al. Substance abuse: a national survey of Canadian residency program directors and site chiefs at university-affiliated anesthesia departments. *Can J Anesth* 2015; 62: 964–971.
10. Skipper GE, Campbell MD and Dupont RL. Anesthesiologists with substance use disorders: a 5-year outcome study from 16 state physician health programs. *Anesth Analg* 2009; 109: 891–896.
11. Burnett G, Fry RA and Bryson EO. Emerging worldwide trends in substances diverted for personal non-medical use by anaesthetists. *BJA Education* 2020; 20: 114–119.
12. Bryson EO. The opioid epidemic and the current prevalence of substance use disorder in anesthesiologists. *Curr Opin Anesthesiol* 2018; 31: 388–392.
13. Booth JV, Grossman D, Moore J et al. Substance abuse among physicians: a survey of academic anesthesiology programs. *Anesth Analg* 2002; 95: 1024–1030.
14. Australian and New Zealand College of Anaesthetists, Australian Society of Anaesthetists, New Zealand Society of Anaesthetists Wellbeing Special Interest Group. *Suspected or Proven Substance Abuse (Misuse)*, 2020. https://libguides.anzca.edu.au/ld.php?content_id=48308851 (accessed August 2020).
15. Shinde S, Yentis SM, Asanati K et al. Guidelines on suicide amongst anaesthetists 2019. *Anaesthesia* 2020; 75: 96–108.
16. Domino KB, Hornbein TF, Polissar NL et al. Risk factors for relapse in health care professionals with substance use disorders. *JAMA* 2005; 293: 1453–1460.
17. Sivarajan M, Posner KI, Caplan RA et al. Substance abuse amongst anesthesiologists. *Anesthesiology* 1994; 80: 704.
18. Schaefer MK and Perz JF. Outbreaks of infections associated with drug diversion by US health care personnel. *Mayo Clin Proc* 2014; 89: 878–887.
19. Berge KH, Dillon KR, Sikkink KM et al. Diversion of drugs within health care facilities, a multiple-victim crime: patterns of diversion, scope, consequences, detection, and prevention. *Mayo Clin Proc* 2012; 87: 674–682.
20. Cuddihy K. *HIMS: Helping Pilots for Forty Years*. 2020. https://himsprogram.com/Content/HimsResources/

HIMS_Helping%20Pilots%20for%20Forty%20Years.pdf (accessed April 2020).
21. Roback HB, Moore RF, Waterhouse GJ et al. Confidentiality dilemmas in group psychotherapy with substance dependent physicians. *Am J Psychiatry* 1996; 153: 1250–1260.
22. Paris RT and Canavan DI. Physician substance abuse impairment. *J Addict Dis* 1999; 18: 1–7.
23. Pelton C and Ikeda RM. The California physicians diversion program's experience with recovering anesthesiologists. *J Psychoactive Drugs* 1991; 23: 427–431.
24. Collins GB, McAllister MS, Jensen M et al. Chemical dependency treatment outcomes of residents in anesthesiology: results of a survey. *Anesth Analg* 2005; 101: 1457–1462.
25. Menk EJ, Baumgarten RK, Kingsley CP et al. Success of re-entry into anesthesiology training programs by residents with a history of substance abuse. *JAMA* 1990; 263: 3060–3062.
26. Oreskovich MR and Caldeiro RM. Anesthesiologists recovering from chemical dependency: can they safely return to the operating room? *Mayo Clin Proc* 2009; 84: 576–580.
27. Bryson EO and Levine A. One approach to the return to residency for anesthesia residents recovering from opioid addiction. *J Clin Anesth* 2008; 20: 397–400.
28. Samano KL, Clouette RE, Rowland BJ et al. Concentrations of morphine and codeine in paired oral fluid and urine specimens following ingestion of a poppy seed roll and raw poppy seeds. *J Analyt Toxicol* 2015; 39: 655–661.
29. Australian and New Zealand College of Anaesthetists, Australian Society of Anaesthetists, New Zealand Society of Anaesthetists Wellbeing Special Interest Group. *The Welfare Advocate*, 2020. https://libguides.anzca.edu.au/ld.php?content_id=48309018 (accessed August 2020).
30. Nunes EV, Krupitsky E, Ling W et al. Treating opioid dependence with injectable extended-release naltrexone (XR-NTX). *J Addict Med* 2015; 9: 238–243.
31. Minozzi S, Amato L, Vecchi S et al. Oral naltrexone maintenance treatment for opioid dependence. *Cochrane Database Syst Rev* 2011; 2011: CD001333.
32. Merlo LJ, Greene WM and Pomm R. Mandatory naltrexone treatment prevents relapse among opiate-dependent anesthesiologists returning to practice. *J Addict Med* 2011; 5: 279–283.
33. Talbott GD, Gallegos KV, Wilson PO et al. The Medical Association of Georgia's impaired physicians program review of the first 1000 physicians: analysis of specialty. *JAMA* 1987; 257: 2927–2930.
34. Fitzsimons MG, Baker K, Malhotra R et al. Reducing the incidence of substance use disorders in anesthesiology residents: 13 years of comprehensive urine drug screening. *Anesthesiology* 2018; 129: 821–828.
35. Epstein RH, Gratch DM, McNulty S et al. Validation of a system to detect scheduled drug diversion by anesthesia care providers. *Anesth Analg* 2011; 113: 160–164.
36. Bryson EO and Silverstein JH. Addiction and substance abuse in anesthesiology. *Anesthesiology* 2008; 109: 905–917.
37. Jacobson M. Drug testing in the trucking industry: the effect on highway safety. *J Law Econ* 2003; 46: 131–157.
38. Mayall R. Substance abuse in anaesthetists. *BJA Education* 2016; 16: 236–241.
39. Australian and New Zealand College of Anaesthetists. *Anaesthesia Training Program Curriculum*, 2019. https://www.anzca.edu.au/getattachment/f77f6ee6-66af-4801-8905-bd0ded1a67b1/ANZCA-Anaesthesia-Training-Program-Curriculum (accessed August 2020).