The noble cause of medicine – fact or fallacy?

M de Roubaix, MB ChB, MMed, MD, MPhil, DPhil

Centre for Applied Ethics, Department of Philosophy, University of Stellenbosch, Stellenbosch, Tygerberg, Cape town, South Africa

Corresponding author: *M de Roubaix (malcolmderoubaix@gmail.com)*

The aim of the article is threefold: to argue and motivate that unnecessary surgery is a worldwide phenomenon, that it exposes patients to unwarranted risks and that patients should actively participate in decision-making and take a shared responsibility to protect their interests. There is a firm belief that the enterprise of medicine is something of value – both *intrinsically* because being healthy is good and *instrumentally* since being healthy allows us to do what we wish to, to attain happiness and to live valuable lives. However, this can only hold if treatment is justified in terms of accepted evidence-based criteria. Imperative for all forms of treatment, including costly and invasive investigations, this is particularly true for surgical interventions because no surgery is without risk. Surgery performed outside of the norms of accepted indications constitutes a grave form of assault. Medicine is a noble cause if we stick to the rules and help each other to do so. As professionals, our most fundamental regulation is by ourselves.

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The purpose of this section is not to criticise or sow doubt about, any specific healthcare provider, specialty, healthcare facility or system of healthcare delivery. The purpose is also not to evaluate any treatment modality or surgical procedure nor to advise on treatment. That falls outside of my capabilities. My aim has three parts: to argue persuasively that unnecessary surgery is a worldwide phenomenon, to show that it exposes patients to unwarranted risks and to advocate for active patient engagement in decision-making processes, emphasising a shared responsibility to protect their own interests.

There is a firm belief that the enterprise of medicine is something of value – both *intrinsically* because being healthy is good and *instrumentally* since being healthy allows us to do what we wish to, to attain happiness and to live valuable lives. This belief has been enhanced by the scientification of medicine – the development of medicine as a science – and the allied notions about the value of science, the Western belief in development and control and that science is 'always right'. This belief is further promoted by the 'noble enterprise' of medicine which operates within and deals with the public's greatest fears. Medicine is a profession characterised by self-regulation and the notions of aid, help and sacrifice:

We sacrifice years and sleepless nights, we are grateful for the ability to serve and most of us will give until we cannot give anymore. As healthcare changes and matures, I hope the changes do not make us lose sight of our noble cause: to heal and ease our patients' pain and suffering. I also hope the patients take their responsibility just as seriously.[1]

Moreover, 'nobility is in the practice of the profession of medicine and in the daily behavior (sic.) of the practitioners of medicine, more so than in the profession itself …':

'We may prefer to think of nobility as something we get from association with a profession. But the irony is we can get it only if those in the profession continuously give it to the profession, often under the most trying circumstances … physicians must be willing to make a personal sacrifice, to put aside their prudential concerns in the service of the welfare of others. This is the only way to preserve medicine as a noble profession'.[2]

But do these noble intentions necessarily characterise the enterprise of medicine, which has become a massive financial initiative? I would like to believe that for most healthcare professionals this is the case. It is sadly not invariably, as the following examples from the world of the surgeon illustrate. Of course, surgeons are not the only healthcare professionals who make mistakes or who perpetrate unnecessary treatments. However, the harms done through unnecessary surgery far exceed those of needless medical treatment and are more likely to be reported. Refer also to the cases of unethical research below.

In the UK:

- Dr Daniel Hay, consultant gynaecologist at the National Health Service (NHS) Royal Derby and Ripley Hospitals, had 'no clear reason' to operate on 90 women, thus causing them harm.[3] In legal terms, this equates to both civil and criminal assault as well as fraud.
- In 2017, Dr Ian Paterson was jailed for 20 years for performing unnecessary surgery on more than 1 000 women, including

radical mastectomy for cancer, when alternatives were indicated or equally effective without adequately informing the patients about the nature and extent of the disease.[4]

- An orthopaedic surgeon at Oxford University Hospital, Prof Andy Carr, claims that 'tens of thousands' of NHS operations are done unnecessarily because favourable results are due to the placebo effect and not necessarily the surgery. He pleads that surgeons should identify procedures that fall into this category (alleviating through a placebo effect) and desist from performing them.[5] A study by Dr Aneel Bhangu reported that of the 80 000 emergency appendectomies performed in NHS hospitals annually, histological examination confirmed that 5 500 of the removed organs were normal. One-third of women and 12% of men had normal appendices removed. This compares unfavourably with a study done in Italy, Portugal and the Republic of Ireland (only 10.2% of women and 2.6% of men). The reason? The British patients have less access to a computer-aided tomography (CT) examination.[6] Many surgeons would argue that it may be better to remove any number of 'lily white' appendices than not operating on one that is actually infected, because of the possible complications. I recall a young patient, the son of an operating room (OR) scrub sister, on whom it was decided not to operate but who eventually died of severe sepsis due to gangrene of the organ and spreading infection. This happened at the training hospital where I did my undergraduate studies.

In the USA:

- Since 2005, according to official data analysed by USA Today, more than 1 000 doctors have made payments to settle or close malpractice claims in surgical cases that involved allegations of unnecessary or inappropriate procedures. In many cases, there were multiple complaints – in one case, as many as 1 000.[7]
- A 2011 report found that upon reviewing the data of 112 000 patients who had received implanted pacemaker-defibrillators, more than 20% were unwarranted.
- In 2011, a Maryland cardiologist was sentenced on charges that he put cardiac stents in more than 100 patients who did not require them.
- In a lawsuit filed by nearly 100 patients in 2013, a Cincinnati doctor was alleged to have performed needless spinal surgeries to implant bone-grafting devices.
- In 1953, Dr Paul Hawley, Director of the American College of Surgeons stated, 'The public would be shocked if it knew the amount of unnecessary surgery performed (…)'.[8]
- In 1976, the American Medical Association (AMA) called for a congressional hearing on unnecessary surgery, claiming that there were '2.4 million unnecessary operations performed on Americans at a cost of USD3.9 billion and that 11 900 patients had died from unneeded operations (…)'.[9]
- In 2016, it was reported that 'the existence of unnecessary surgery remains a daunting reality that continues to expose our patients to an unjustified surgical risk' in the USA.[10] This may be as high as 10% of all surgeries.
- The most common unneeded operations each year in the USA include:[7]
    - Heart stents
    - Pacemakers
    - Back (spine) surgeries
    - Knee and hip surgeries
    - Hysterectomies
    - Radical prostatectomy
    - Gallbladder removal
    - Caesarean sections
    - Tonsillectomies
- Some of the most widely cited evidence of unnecessary surgery emanates from the Dartmouth College Institute for Health Policy and Clinical Practice. Data from Medicare and other sources points to surprisingly large variances in the rates of different surgical procedures in different parts of the USA. Data from 2008 - 2010, examining common surgeries that carry a risk of being performed unnecessarily, show markedly different rates among Medicare patients:[7]
    - In Lansing, Michigan, patients were 10 times more likely to have surgical prostate removals than those 500 miles away, in York, Pennsylvania. Lansing's surgery rate was the nation's highest, 2.7 times the average and York's was the lowest, less than a third of the average.
    - In McAllen, Texas, patients were three times more likely to have a surgical gall bladder removal than in Mason City, Iowa. McAllen's rate for surgeries was the nation's highest, 1.6 times the average, while Mason City's was the lowest, closer to half the average.
    - In Lincoln, Nebraska, patients were about four times more likely to have knee replacement than in Honolulu. Lincoln's rate for surgeries was the nation's highest, nearly 55% above the national average and Honolulu's was the lowest, less than half the average.
    - Without data on what drives the different surgery rates, researchers have adopted a generic explanation – physician preference. I recall an old dictum that the incidence of certain elective surgeries in a community runs parallel to the number of doctors, not population size. However, we need to be careful in drawing unwarranted conclusions from these data. For example, were the populations referred to demographically comparable?

In South Africa (SA)

- ***Anecdotal:*** Some time ago, an orthopaedic surgeon was found guilty of performing open reductions, involving plating and screwing of fractures of the long bones, on patients with workplace-related injuries who only had soft-tissue injuries and no actual fractures. Both his regular assistant and anaesthesiologist justified their collusion by claiming that their responsibilities were to do, not to question why. On occasion, I have personally wondered about the indications for surgery in patients for whom I administered anaesthesia. In one instance, my practice declined further services to a surgeon who filled his operation sleights with operations on 'abdominal adhesions'. Any experienced surgeon would vouch that one should stay out of an abdomen full of adhesions unless obstruction occurs that cannot be relieved using conservative treatment. There is no published data about 'unnecessary surgeries' in SA, apart from caesarean sections.
- A 1998 report stated that the prevalence of caesarean section deliveries was twice as high in private than public hospitals, and higher among 'White' and 'Coloured' women compared with 'Black' women (categories as defined under apartheid legislation).[11]

- The South African Council of Medical Schemes published an investigation of the prevalence of caesarean section deliveries in private (medical aid) patients for the 2015 - 2018 period. Almost 77% of deliveries were operative at an average cost of ZAR37 000 (~ZAR21 000 for vaginal deliveries). This ranks among the highest globally, much higher than the 10-15% suggested by the World Health Organization (WHO), and the global average of 7% reported in 1990.[12] By comparison, the rate of caesarean deliveries in the public sector was approximately 25%. Compare these figures with ~36% in Poland and Hungary (highest in Europe) and 18% in the Scandinavian countries. Preferences of healthcare providers and patients are the foremost reasons, while funders have no means of control. Fear of litigation is also mentioned as a reason. As far as I could ascertain, the risk for the fetus is not higher with abdominal delivery. I am therefore careful not to criticise a woman for preferring an operative delivery – it remains her choice. The study referred to was looking into funding and cost to the public sector in a future National Healthcare Insurance system. But the upshot is that a vast majority of these procedures are not medically (evidence-based) indicated.[13]

Unnecessary operations can be defined as '… any surgical intervention that is either not needed, not indicated or not in the patient's best interest when weighed against other available options, including conservative measures'. [14] Indications for surgery – reasons for performing surgery – may fall into one of three categories:

- Absolutely indicated: most healthcare professionals agree that surgery is necessary. Examples are obstructed labour, fetal or maternal distress and some cases of placenta praevia (the placenta is implanted low down in the uterus and obstructs labour or may dehisce before the baby is born and cause anoxia – oxygen shortage); acute abdominal conditions like perforation of the bowel; acute injuries like compound (open) fractures, open wounds, penetrating wounds to the abdomen and some forms of cancer.
- Relatively indicated: in these instances, an operation may be one of two or three forms of treatment. Examples include some forms of breast cancer where radiotherapy and/or a less-destructive operation may be an evidence-based alternative; an overactive thyroid, which can be treated with radioactive iodine or surgery and osteoarthritis of the knee, which can be treated with a knee replacement or non-invasive methods (weight loss, low-impact exercise and judicious use of pain medication). Whether the patient undergoes surgery (or more radical surgery) may depend less on need than on who is consulted. Many of these operations may be unnecessary or unnecessarily invasive, extensive, or destructive.
- Contraindicated: where most authorities and available evidence do not support a decision to operate. Unfortunately, this does not necessarily mean a particular surgeon may not advise and do surgery. These procedures are unnecessary.

All forms of surgery pose risks. For the patient, there is no 'routine surgery'. Apart from the risk unnecessary operations pose, informed consent is out of the question and perpetrators are clearly guilty of assault. Why do they do it? From a surgeon's perspective, two distinct answers appear intuitive:

- They are surgeons trained to perform surgery, which is what they do. They seek surgical solutions to medical problems. They need to operate frequently and repeatedly do the same procedures to hone their skills and maintain their status within a hospital setting. I once overheard a surgeon proclaiming that he was a surgeon and therefore he operated. Patients consulted with him because they needed or wanted surgery, not medical treatment. The latter was not his domain.
- Incentives: financial gain, renown or both. There may be nothing more dangerous than a surgeon with an open theatre and a large home mortgage.

Healthcare practitioners know that they may risk litigation if complications arise. They should also take note that law firms have extended their marketing to inform patients of the possibility and implications of unnecessary surgery. As Clore[15] puts it,

> 'The fundamental question for a surgeon who recommends an operation is whether the potential benefits outweigh the known risks. Surgery carries risks. We all know that. The question is how badly does the person need surgery and what are the risks (and severity of risks) of complications that can happen? When the risks of serious complications exceed the potential benefits, common sense tells us that surgery is not a wise choice. So, why do doctors still recommend and order unnecessary surgeries in this day and age? It would be comforting to us to think that surgeons do this purely for altruistic reasons, based on a belief that hope should transcend fear. But medicine depends on evidence-based outcomes, not hope or fear. Sadly, the truth of why most unnecessary surgeries occur is not because of the surgeons' hope, nor the patient's fear; the reasons, as will be discussed, commonly have to do with surgeons' personal interests taking precedence over the patients' personal interests'.

The 'fee-for-service' model in the USA and SA's private healthcare sector, which rewards surgery and even more so complex or invasive surgeries, is supported by private hospitals in whose financial interests it is to maximise operating theatre use, exacerbating the drive to operate. Surgeons are incentivised by subsidised (even free) consulting rooms on the premises and are treated like little gods because they are the harbingers of boon, and sometimes financially, though mostly frowned upon by regulators. Other healthcare providers are gently or more aggressively pushed aside to accommodate more surgical disciplines.

Surgical procedures are not regulated in the same way as new medications, vaccinations or medical devices are[16] (the citation refers to the USA, but the analogy is valid for most countries, including SA).

> 'Consider this provocative analogy: If surgery were a pharmaceutical drug, the procedure would be required to undergo scrutiny of testing its safety and feasibility in phase 1 and 2 trials. Subsequently, its efficacy would have to be proven in prospective randomised controlled trials prior to approval by the Food and Drug Administration (FDA). Yet, the FDA does *not* regulate surgical procedures. Common sense would impose the expectation that whenever new level 1 evidence disproves a benefit for a certain surgical procedure, the ineffective practice would be called into question and abandoned immediately. This is obviously not the case in the field of surgery'.

Who regulates surgery? Well, the surgical fraternity self-regulates, unless a new procedure is evaluated through a clinical trial process,

which in my extensive experience as chair of a research ethics committee is rare. The development of surgical procedures is not regarded as research, and once surgeons are licenced (registered with the SA Health Professions Council as specialists), they are free to do so.

Finally, a word of warning from a retired professor of medicine to Hong Kong University medical graduates:

> 'As medical care became more complex specialisation was inevitable, but perhaps we have become too organ/system orientated. There is a tendency to overlook the fact that a patient is a human being living in his or her special environment and these are important considerations in patient care. We should remember that perhaps with the exception of inoculations against disease, food, sanitation, housing, and education are more important determinants of health than medications. Medicine is a time-honoured profession. It is not a trade and making a profit should not be your aim. There should be a large component of service which implies personal sacrifice. The labelling of patients as clients has somewhat undermined this concept'.

What Mencius said over 2 000 years ago when he went to see King Hui of Liang is relevant to medical practice today, 'What is the point of mentioning the word "profit"? All that matters is that there should be benevolence and rightness'.[17]

Conclusions

A few points to ponder and questions surgeons need to answer when surgery is suggested (refer also to the requirements of informed consent):

- What are the consequences of not having this surgery?
- How urgent is the surgery?
- What are the implications, hazards and potential risks of having this surgery?
- What alternative treatments are available, other operations or medical treatments?
- How many of these operations have you performed?
- What is your success/complications rate? How does this compare?
- How will this procedure benefit? Do the benefits justify the risks? What are the risks and complications? How will you manage them?
- Is this procedure evidence-based?
- Do you mind a second opinion?

When my cardiac surgeon suggested I undergo urgent bypass surgery, I had only one question: are your results in this hospital comparable to the best in the country? He answered in the affirmative and that settled it for me. Patients should be wary if surgeons get frustrated at answering questions or with a request for a second opinion.

Patients should be mindful that they must make definitive decisions to undergo surgery or to defer it. It is their bodies; they are taking risks and suffering consequences. From the patient's point of view, there is no 'routine surgery'.

In the event of complications, a modified version of this list may be asked. If a patient suffers consequences that have not been disclosed and discussed, the surgeon is at the very least guilty of negligence.

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1. McMahan T. The noble cause of medicine. Letter to the Editor, Emerg Med News 2014; 36(2):23. https://doi.org/10.1097/01.EEM.0000443928.22466.59
2. Dwyer C. Society's values, fears support health care's noble cause. Physician Exec 2006; 28(3):8-10. https://repository.upenn.edu/handle/20.500.14332/35215
3. Johnston N Trust apologises for unnecessary operations on 90 patients. The Times. May 11, 2021. https://www.thetimes.co.uk/article/trust-apologises-for-doctors-unnecessary-surgery-on-90-women-833bcwdbw (14 November 2022).
4. Johnson B. Rogue surgeon mistreated more than 1,000 patients report finds. Sky News, 4 February 2020. https://news.sky.com/story/rogue-surgeons-still-free-to-operate-report-on-disgraced-doctor-ian-paterson-finds-11926051 (14 November 2022).
5. Bulman M. Tens of thousands of NHS operations could be unnecessary, says leading surgeon. Independent, 12 June 2017. https://www.independent.co.uk/news/uk/home-news/nhs-operations-surgery-unnecessary-claim-medical-procedures-a7786626.html (3 November 2022).
6. Davis N. Unnecessary appendix surgery 'performed on thousands in UK'. The Guardian, 4 Dec 2019. https://www.theguardian.com/society/2019/dec/04/unnecessary-appendix-surgery-performed-on-thousands-in-uk (14 November 2022).
7. Eisler P, Hansen B. Thousands of doctors practicing despite errors, misconduct. USA Today. August 20 2013. https://psnet.ahrq.gov/issue/thousands-doctors-practicing-despite-errors-misconduct (21 November 2022).
8. Editorial. Unneeded operating charged to surgeons. The New York Times, February 17, 1953. https://www.nytimes.com/1953/02/17/archives/unneeded-operating-charged-to-surgeons.html (13 December 2022)
9. Stahel PF, VanderHeiden TF, Kim FJ Why do surgeons continue to perform unnecessary surgery? Patient Saf Surg 2017;11:1 https://doi.org/10.1186/s13037-016-0117-6
10. Stahel PF, VandeHeiden TF & Kim FJ (2017) ibid.
11. Matshidze KP, Richter LM, Ellison GT, Levin JB, McIntyre JA. Caesarean section rates in South Africa: Evidence of bias among different 'population groups'. Ethn Health 1998;3(1-2):71-79. https://doi.org/10.1080/13557858.1998.9961850
12. Angolile CM, Max BL, Mushemba J, Mashauri HL. Global increased cesarean section rates and public health implications: A call to action. *Health Sci Rep*. 2023;6(5):e1274. Published 2023 May 18. doi:10.1002/hsr2.1274
13. Solanki GC, Cornell JE, Daviaud E, Fawcus S. Caesarean section rates in South Africa: A case study of the health systems challenges for the proposed National Health Insurance. S Afr Med J 2020 August;110(8):747-750. https://doi.org/10.7196/SAMJ.2020.v110i8.14699
14. VanderHeiden TF, Kim FJ. Why do surgeons continue to perform unnecessary surgery? Patient Saf Surg 2017;11:1. https://doi.org/10.1186/s13037-016-0117-6
15. Clore M. Unnecessary Surgery: When the doctor gambles, who puts up the stakes? Clorelaw website; January 21 2021. https://www.clorelaw.com/insights/unnecessary-surgery-when-the-doctor-gambles-who-puts-up-the-stakes (9 January 2023).
16. Andreoletti M, Bina F. A defense of surgical procedures regulation. *Theor Med Bioeth*. 2022;43(2-3):155-168. doi:10.1007/s11017-022-09569-0
17. Todd D. Abstracted from the address to graduates of the Faculty of Medicine, University of Hong Kong, January 15, 2011, by Sir David Todd, Emeritus Professor, Department of Medicine, Hong Kong University. Highlighted in Frontispiece Summer 2016 (8)3 https://hekint.org/2017/01/29/medicine-a-noble-profession/ (5 December 2024).

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