

# To intercalate or not to intercalate

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Sultan is in his 5th year of an intercalated MBChB/PhD programme at the University of Otago. He is now in his second year of research focussing on the preparedness of New Zealand's emergency, surgical and intensive care services to deal with mass casualty incidents.

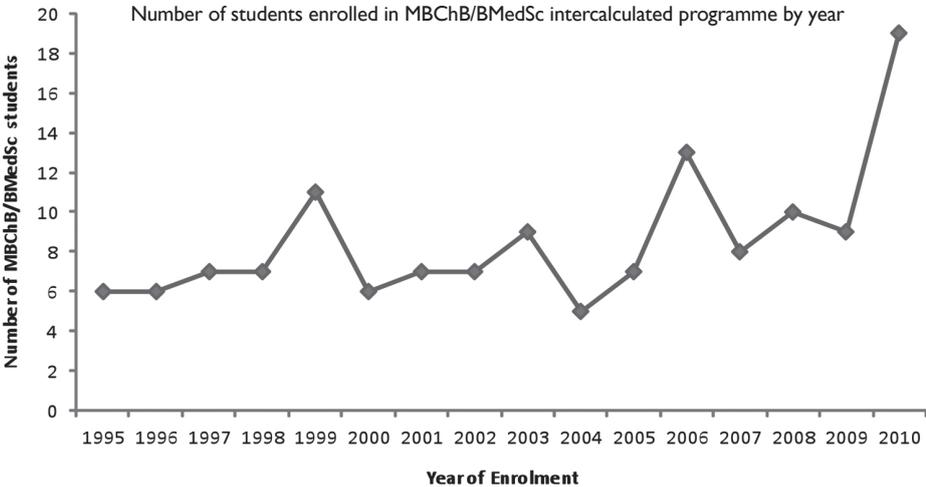
Annually in May, New Zealand's third and fifth year medical students are given the opportunity to undertake an extra year of research-based study to earn a Bachelor of Medical Sciences Honours (BMedSc) (University of Otago) or a Bachelor of Human Biology Honours (University of Auckland) in parallel with their Bachelor of Medicine and Bachelor of Surgery (MBChB) degree. Statistics from the University of Otago show that the degree has had ranging levels of popularity over the years (Figure 1). Research from the United Kingdom (UK), however, shows that over a third of UK medical students obtain an intercalated degree<sup>1</sup>. This intercalated degree requires medical students to conduct research on health-related topics of their interest and it can have a major bearing on future study, career and life direction. Medical students are required to decide whether to take up this option early in their careers, yet the advice they receive is usually conflicting and confusing<sup>2</sup>. This article aims to address some of the issues faced by NZ medical students thinking about undertaking a year of intercalated study.

What subjects are studied in the intercalated degrees? Historically, students studied basic science subjects, such as physiology and pathology, although a minority chose subjects such as Medical Law, Medical Anthropology and even subjects not directly related to medicine. Recently, clinically orientated subjects such as general practice, emergency medicine, surgery, paediatrics and internal medicine became available<sup>3</sup>. Currently the degree is intercalated as one year full-time study after the third or fifth year (University of Otago) or it can be intercalated over two years as part-time study (University of

Figure 2. List of subjects that are currently being offered for intercalated programme.

- Selection of subjects that are currently offered**
- Basic Sciences:**
- Anatomy
  - Physiology
  - Pathology
  - Microbiology
  - Pharmacology
  - Neuroscience
  - Genetics
  - Cell and molecular biology
- Clinical sciences:**
- Primary health care
  - Public health , epidemiology
  - Health care ethics and law
  - Surgery
  - Internal medicine (e.g. neurology, emergency medicine and cardiology)
  - Orthopaedic sciences
  - Woman's health and paediatrics

Figure 1. Number of students enrolled in MBChB/BMedSc intercalated programme at the University of Otago from 1995-2010.



Auckland). It is purely research-based at University of Otago while the University of Auckland offers a combination of papers and research. Figure 2 summarises a range of subjects currently offered.

### The potential benefits

Will it really make a difference in your life and future career? For those who have an interest in medical academia, the answer is a clear YES. In New Zealand, Australia and UK, medically qualified professors and readers are likely to have an intercalated degree<sup>4</sup>. Furthermore, those with intercalated degrees tend to gain substantially more research funding and have better publication records than those without one<sup>4-7</sup>. A longitudinal study of all 1996-1997 UK medical schools graduates found students who had taken an intercalated degree had higher strategic and deep learning scores and lower surface learning scores than those who had not<sup>1</sup>. The bottom line is that, intercalated degrees are very helpful for people who would like to pursue a medical academic career.

The benefits of an intercalated degree for future clinical practice are much less obvious. There is a conflicting evidence whether intercalated degrees are useful for medical students who prefer clinical practice over a future career in academia<sup>8,9</sup>. A recent study showed that students who received intercalated honours before starting fourth and fifth years of medicine had higher performance scores on three different styles of examinations during subsequent clinical years. These students scored significantly higher in Observed Structured Clinical Examination (OSCE), written clinical examinations and journal-style essay writings than their peers without intercalated degrees<sup>10</sup>.

Furthermore, intercalated degrees may influence students' subsequent career choices. Those with intercalated degrees are likely to enter academic, hospital-based medical specialties and less likely to choose general practice. For medical students wishing to pursue a speciality with competitive entry, such as general surgery, urology or ophthalmology, as a future career, they will be required to have research knowledge and skills. Thus, an intercalated degree gives the applicant a higher chance of being accepted into one of the competitive training programmes. In addition, many research projects require the learning of extra laboratory based skills. The skill and knowledge that arises from this laboratory exposure is potentially beneficial to the future study and understanding of specialty medicine. This is especially relevant to those aiming to enter laboratory based specialties, such as pathology, haematology and oncology.

### The potential drawbacks

In face of these possible benefits, two potential drawbacks for students contemplating an intercalated degree are time and money. The current lengthy undergraduate and postgraduate medical training discourages students from spending another year studying at university. Will you be better off graduating a year earlier?

The current increasing cost and debt of medical education will surely put off some students from this option. Will you be better off starting to earn a year earlier?

Another potential factor that discourages medical students from doing intercalated degrees is the norm of medical school itself. If these degrees are perceived to be only for high achievers, then many students will not consider this option<sup>4</sup>. In some medical schools around the world, such degrees are obligatory and students accept this commitment as a part of their medical training.

Another worry that many students express when thinking about intercalated degrees, is whether a year away from structured medical learning will lead to a decline in medical knowledge. This is not the case, as this year will enhance and consolidate the knowledge and skills gained during earlier years. A year of research gives students an appreciation of medical research and its importance in day-to-day practice of clinical medicine.

### It is your call

So, should you do an intercalated degree? This decision must involve a careful and balanced consideration of the educational benefits on one hand and time and financial constraints on the other. It would definitely be a good idea if you intend to pursue a career in academic medicine or specialties with competitive entry, or a laboratory base, such as pathology and haematology. It will probably be of less value if you are intending to pursue a career in fields such as general practice or psychiatry, where basic science skills are not so essential. Finally, for those students who do not know what they actually want to do later on, the intercalated degree is ideal, as it provides a deep insight into the medical research field as well as leaving future opportunities wide open.

So, to intercalate or not to intercalate, is up to you and what you want from your career in medicine. Think carefully and ask for advice from senior students.

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