VIEW POINT

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Research is not for everyone, so why and how should you get involved?

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Clinical work vs research: Which one should I prioritise?

Clinical work and research do not compete with each other; rather, they are complementary. I can understand the urge to drown in clinical work. The success of clinical orthopaedics is intoxicating. We all came to medicine because we wanted to help people. It is, therefore, quite gratifying to see the success of one's handiwork. When a young working man, the sole bread-earner of his family, walks home after recovering from a debilitating limb injury or a child with a congenitally deformed foot smiles in happiness after successful treatment, your work feels fulfilling. The burden of work, especially in the developing world, is so massive and the impact so profound that it is easy to become immersed in clinical work. Further, in many parts of the world, there is no recognised career structure for research. Despite the constraints, I believe that young surgeons would benefit from becoming involved in medical research before their career path is established. In the absence of adequate resources and career support, research is likely to remain the poor cousin of clinical work in the developing world, but that should not stop you from conducting research.

Why does research matter to me?

The idea of research can overwhelm a young mind. To many, research conjures the vision of large trials and grand discoveries. Good research is not only about grand discoveries; finding answers to everyday small issues also matters. The most important usefulness of undertaking medical research is to learn the generic skills of developing a questioning mind, of learning to test theories, ideas, and conventions before accepting them as gospel truth. Medical research is the foundation of clinical practice. While tradition, community practice, dogma, or even self-medication still influence medicine in our part of the world, things are changing, and informed evidence-based medicine is gradually finding its way. Therefore, I hope that young surgeons engaging in research would be at the forefront of leading your nation through the revolution of a modern, science-based, evidence-informed medical practice.

When should I commence research?

Start early, do not delay until you have an established practice. Early in clinical practice, you have an impressionable mind and are at the threshold of a lifelong journey. Try to develop good habits early, and they will serve you well for the rest of your career. The most important habit to develop at this stage is to build an inquisitive mind. Medicine is science after all, and science thrives on questioning.

What personal and professional benefits can I expect from research?

One clear benefit of research is professional development: improving one's CV, attending overseas conferences, presenting papers, and networking with colleagues. On a more altruistic level, it is useful not to forget that research does improve patient care, and

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you can contribute to yours. Most of the practice guidelines are based on clinical research performed in developed countries, but in countries like Nepal, resources, patient circumstances, and affordability are different. Therefore, these guidelines may not be entirely appropriate. Your research and review of local practices and outcomes will prove invaluable to you and your colleagues and build a foundation over which you can modify and adopt international guidelines for your local practice.

Let me give you an example. Tibial plateau fractures would rarely be treated non-operatively in the West, but Rijal and Rajthala showed that conservative management of these fractures can still result in a reasonable outcome.[1] Therefore, if you are worried about managing these cases non-operatively, fear not. Your colleagues' hard work means that the void of local evidence gaps has been filled. You can now confidently take a clinical decision that takes into account the local perspective. On a related note, reputable local publications will also enhance Nepal's global visibility in the academic field, as demonstrated in Regmi and Niraula's bibliometric study.[2]

How do I start?

Do you need to start a Randomised controlled trials (RCTs)? RCTs certainly are valuable. They are the pinnacle of primary research, but not everyone will have the resources to conduct an RCT. You can start with a case report, a short audit, or a retrospective review of a specific disease/fracture outcome. Learn to question your everyday routine. You might think that nothing is exciting in your practice, but to your surprise, you will find gems of material hiding in plain sight among your own patients. Patient records, x-rays, and operation notes are all invaluable resources for conducting research.

Let me give you a personal anecdote. As an orthopaedic registrar, I once had a sudden wave of patients who became very unwell after undergoing cemented hip hemiarthroplasty for hip fractures. This may well have been a completely random event, but the human mind always looks for a pattern, and the most obvious pattern was the risks of performing cemented hip hemiarthroplasty. What was the culprit? The patients or the cementing technique? Colleagues who favoured uncemented implants were up in arms. The incidents prompted me to carefully review patient notes. Sadly, I did not get any clear answers. So, I conducted a literature review. The review was conclusive; the benefits of cemented hip hemiarthroplasty far outweighed the risks. So, I decided to dig deeper and undertook an audit of all cemented vs uncemented cases that we undertook over a few years. What started as a sad event eventually turned into a publication in the Injury Journal.[3]

How do I find my feet?

If you are keen to start research but struggling to find a suitable topic, look around and think about where your strengths lie in numbers and practices. Late presenters, neglected cases, deformity, etc., are common in developing countries. Why not look at their outcome? Such types of evidence would make a valuable contribution to the world literature, as they are rare from a Western perspective. Let me give you an example: you have a child with a painful hip, no treatment seems to be working, you are quietly contemplating whether to perform a hip arthrodesis, but you are not sure about the long-term prospects. After all, how common is hip arthrodesis in the paediatric population? You find precious little in books; what about journals? Well, you are in luck because your colleagues from the Hospital for the Disabled Children published possibly the largest series with the longest follow-up of this procedure.[4] The same team also made an important contribution to our collective knowledge of the outcome of Ponseti treatment for the treatment of children with idiopathic clubfoot presenting between five and ten years of age.[5] Both these studies made significant contributions to scientific literature by addressing clinical challenges common in Nepal but rarely studied elsewhere.

What else do I need to be mindful of?

Now let's get down to the nitty-gritty of research. Before you start any project, it is important to remember the ethical aspects of conducting research. Research can take time; you may struggle to recruit patients, the results may not always turn out as you expected, and publication may prove difficult. But maintaining honesty is essential. Do not fudge the figures and do not be tempted to follow the dark side! If you are interested to learn more about the governance issues of clinical research, I would recommend several online sites that allow complete access to their online resources, which range from introductory modules to research management and governance.[6-8]

Time is limited, especially in training stages. One tip is to collaborate, get your friends and colleagues, and share the work. That way, all of you can share in the glory. In the UK, orthopaedic trainees are now engaged in ground-breaking research through collaboration, some of which has been published in journals of the calibre of the Bone and Joint Journal.[9] Find a mentor; your senior colleagues would be only too happy to support their junior colleagues and leave a legacy.

Data collection can be troublesome; retrospective data collection can leave large gaps in evidence and is not very reliable. Fortunately, digital information technology can be your saviour. If your Hospital has digital data services, take advantage of them.

What is the next step?

Once your research is completed, it is time to write it up. Writing can be daunting, since English is not our mother language. Again, several online resources can help you with your presentation and writing.[10-13] Publication can prove frustrating. Do not fall into the trap of paying exorbitant fees to publish in predatory journals. Aim small with your local journals, and as you build up your practice and networking, opportunities and scopes will improve. It is useful to remember that many of the open-access journals will waive fees for authors from developing countries.

Any final words?

Clinical work is at the heart of our profession, but research is the guide that drives it forward. You do not need to wait for the perfect research opportunity — you can begin today by asking a question from your daily practice, reviewing your own cases, and working with colleagues. Each case you see is not only an opportunity to help your patient, but also a chance to learn and to share with the world about your unique local context. Each project, however small, strengthens your skills, improves patient care, and adds Nepal's voice to that of the global orthopaedics. Start small, stay curious, and remember that even the simplest study can have a lasting impact on both your patients and your profession. Clinical work is demanding, and research may feel like a distant luxury — but it is within your reach.

Let me finish by quoting the late Steve Jobs. While delivering the commencement address at Stanford University, Jobs shared stories from his childhood and life lessons and encouraged students to remain curious throughout life by reminding them to "Stay hungry, stay foolish".

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