Editor's note

In about 1984, under the leadership of Dr. J. George Moore, 50–60 experts from the main UCLA campus, Cedars Sinai Medical Center, Harbor (LA County) General Hospital, Martin Luther King Jr Memorial Hospital and Kern County Medical Center, commenced to write the book Hacker & Moore’s Essentials of Obstetrics and Gynecology. At the same time, Prof. Neville F. Hacker was invited by Dr. Moore to edit the book. In the past three decades, Prof. Neville F. Hacker has persistently devoted his efforts to this book series as an editor.

Gynecology and Pelvic Medicine (GPM) is honored to have an interview with Prof. Neville F. Hacker. In this interview, Prof. Neville F. Hacker has shared with us the stories and the features of the book, his impressive stories in UCLA, the development of the first multidisciplinary Gynecological Cancer Centre in Australia at the Royal Hospital for Women, as well as his experience and insights in this field of Obstetrics and Gynecology.

Expert's introduction

Prof. Neville Hacker, AM, MD, FRANZCOG, FRCOG, FACOG, FACS, CGO (Figure 1), a Founder of Australian Gynecological Cancer Foundation, is Professor of Gynecological Oncology, Conjoint, at the University of NSW. Graduating from the University of Queensland with First Class Honours in 1967, Neville trained in Obstetrics and Gynecology in Brisbane, and then trained in Gynecologic Oncology at the University of California in Los Angeles (UCLA), where he stayed for 9 years.

Neville was Director of Gynecological Oncology at UCLA 1984–1986, before returning to Australia to establish the Gynecological Cancer Centre at the Royal Hospital for Women in Sydney. He retired from clinical practice at the end of 2018. He is a former President of the International Gynecologic Cancer Society, former Chairman of the Oncology Committee of the Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG), former President of the Society of Pelvic Surgeons, and a former Member of the FIGO Cancer Committee.

Neville has received many honours, and was a New South Wales finalist for Australian of the Year in 2008. He was made a member of the Order of Australia in 2012 for services to medicine. Other awards include the 2007 Ernst Wertheim Prize of the Austrian Gynecological Cancer Society for Lifetime Achievements, the 2008 International Gynecological Cancer Society’s Award for Excellence in Gynecological Oncology, the 2013 inaugural Jeanne Ferris Award from Cancer Australia for contributions to Gynecological Oncology, and the inaugural 2013 Robert Sutherland AO “Making a difference” Award from the NSW Cancer Institute.

Neville has written over 200 peer reviewed articles, over 30 book chapters, and edited two textbooks, both in their 6th editions.
Interview questions

GPM: How did you become a medical specialist and researcher in the field of Gynecological Oncology?

Prof. Hacker: As a medical student, I found every rotation interesting, but was most enthusiastic about the medical specialties. I had no particular interest in Obstetrics and Gynecology, and I found watching a surgeon operate to be quite boring. By the end of Medical School, my inclination was towards the medical specialties.

I had received a Queensland State Government Fellowship on graduating from High School. The Fellowship provided me with a salary as a Medical student but meant that I was required to serve 5 years in rural hospitals in Queensland after graduation. This was an effective way for the Government to help staff its country hospitals.

After an intern year at the Royal Brisbane Hospital, I was sent to Gympie Hospital for 2 years in 1969 as a Resident Medical Officer. The Medical Superintendent of the hospital, Dr Bruce Robertson, was a very good surgeon, and I found that I enjoyed assisting him at surgery. I also learnt that I had a natural talent for surgery, and that I enjoyed operating myself, as opposed to watching someone else operate. Over those 2 years, I was able to learn how to safely perform major operations such as abdominal hysterectomy, cholecystectomy, appendicectomy and Caesarean section.

In 1971, I was sent to Atherton Hospital in Far North Queensland as Medical Superintendent for 3 years. Here, I was basically functioning as a country general practitioner, covering all medical, surgical and obstetrical aspects of General Practice.

It was during those 3 years that I decided that I wanted to pursue a career in Obstetrics and Gynecology, because it combined interesting aspects of both medicine and surgery. My wife and I also enjoyed the country lifestyle, and I enjoyed the challenges of General Practice, so I decided to train in Obstetrics and Gynecology and then return to Atherton as a GP-Obstetrician/Gynecologist.

I commenced training as an Obstetrician/Gynecologist in Brisbane in 1974, which was the year Fellowship training in Gynecologic Oncology started in the United States. The two senior gynaecologists doing cancer surgery in Brisbane at the time were Prof. Eric Mackay and Dr. Keith Cockburn. They travelled to the US in 1976 to investigate this new Fellowship training and returned convinced that this was the way forward.

They asked me if I would go to the US to undertake this training. I would never have thought of training in Gynecological Oncology and had already arranged to go to the UK to undertake 1 or 2 years of additional training. After some thought, my wife and I agreed that I would undertake this training, and Prof. Eric Mackay was able to arrange a Fellowship training position for me at the University of California, Los Angeles (UCLA) through his friendship with Dr. J. George Moore, the Chairman of the Ob Gyn Department.

After completing training in 1980, I was offered a position on the faculty at UCLA. As Gynecological Oncology was not recognized as a subspecialty by the Royal Australian College of Obstetricians and Gynaecologists (RACOG) at that time, I accepted the offer to stay in Los Angeles, progressing to become Director of Gynecologic Oncology there in 1984.

GPM: What is the current training pathway for a gynecological surgeon in Australia? What are the biggest changes compared with your experience?

Prof. Hacker: After graduation from Medical School, a young doctor must do 1 year of internship, and then at least 2 years of rotating residency training. He/she is then eligible to apply for registrar training in Obstetrics and Gynecology. If accepted, the training is for 6 years. To become a member of the RANZCOG, the Registrar must successfully complete each of the 6 years and pass a written and oral examination.

The basic training is unchanged since my era, except that the Australian and New Zealand Colleges have now amalgamated. Official subspecialty training was introduced by the RACOG in 1987, so a gynecologist wishing to be an oncologist can now enter 3 years of subspecialty training after 5 years of general training in Obstetrics and Gynecology.

GPM: What were some of the critical moments at UCLA which encouraged you to pursue clinical work and academic research?

Prof. Hacker: The two biggest changes in clinical practice I saw when I went to UCLA were the separate groin incision approach to the management of vulvar cancer and the aggressive debulking of advanced ovarian cancer.

My experience with the management of vulvar cancer was based on the Stanley Way approach, which involved an en bloc radical vulvectomy and bilateral groin dissection. Patients were in hospital for weeks while granulating and epithelializing their groin wounds. The separate incision...
approach had been started by Dr. Ralph Byron, one of the Surgical Oncologists at the City of Hope Hospital in Duarte, California, USA. The latter was one of the rotations for the UCLA Fellowship, and I was able to operate with Dr. Ralph Byron himself. The procedure had also been adopted by Dr. Leo Lagasse and Dr. Jerry Moore at the main UCLA campus hospital, and I was impressed with the easier post-operative recovery of these patients. I was interested to know whether they would have comparable survival to the patients having the en bloc approach, so I reviewed the first 100 patients treated by separate incisions at the two hospitals. I did this research purely out of interest, but in doing so, I found that I enjoyed research, and that I could write effectively. When we published the article on separate incisions, it was very controversial, but over the next decade, the technique was widely adopted, without any randomised trial.

Since the first paper by Dr. Tom Griffiths on cytoreductive surgery for advanced ovarian cancer in 1975, no one had written on the subject. Griffiths, who became a good friend, claimed that if patients could be “optimally debulked”, (residual nodules 1.5 cm or less), they had a better survival, regardless of their initial tumor burden. When I looked at the UCLA experience, we found that the initial tumor burden was important, and this was confirmed in all subsequent publications.

Although I did this initial research out of curiosity, I found the research and writing both easy and enjoyable and the success of these early papers stimulated me to continue. I could see clearly that major advances in medicine would come from the basic research laboratory, but my personal interest was in clinical practice and clinical research. I was happy to facilitate laboratory research by supporting researchers with tissue specimens and clinical guidance.

**GPM: You established the first multidisciplinary Gynecological Cancer Centre in Australia at the Royal Hospital for Women. Were there any obstacles when you first started it up?**

**Prof. Hacker:** When I was recruited to the Royal Hospital for Women in late 1986 to establish a Gynecological Cancer Centre, there were no multidisciplinary units in Australia and cancer management was not centralised. There were only about 50 patients a year treated at the Royal. There were several dedicated individuals operating on patients with gynecological cancer, but they all practised general obstetrics and gynecology, and spent about 50% of their time in private practice. Having seen how things were organised at UCLA, I was not prepared to come back to work under such an arrangement. When first approached in 1985, I negotiated conditions under which I would be prepared to return to Australia. These included a full-time position as a Gynecological Oncologist, administrative support, dedicated oncology beds, dedicated oncology nurses, data manager, other paramedical personnel such as a psychono-oncologist, and funding to start a Fellowship training program. After about 12 months, the New South Wales State Government agreed to give me $2.6 million in recurrent annual funding if I was able to attract enough oncology patients to the hospital. Being the only fully trained sub specialist in the state, it was not difficult to attract patients, and within a couple of years, the Benevolent Society, which owned the hospital, and the State Government, agreed to build a Gynecological Cancer Centre with 20 oncology beds, outpatient facilities, and administrative offices.

**GPM: What were your goals when you established such a centre? To what extent have you fulfilled your goals?**

**Prof. Hacker:** My goals were to provide “state of the art” care for women with gynecological cancer, and to establish the first Fellowship training program in gynecological oncology in Australia. To achieve this, I had to get a multidisciplinary team organised. Dr. Michael Friedlander was keen to perform the medical oncology in the unit, and it was soon possible to secure him a position. We have worked together for about 30 years, and he has been a tower of strength. We also needed to have a dedicated radiation oncologist, pathologist, palliative medicine consultant, general medical consultant, dedicated nurses, psychologist, dietician, and physiotherapist, and these positions were progressively filled. The Fellowship program commenced in 1989, and Dr. Frank Lawton from London was my first Fellow. My second Fellow, Dr. Gerry Wain from Melbourne, joined me on the faculty, and the unit has continued to thrive ever since. There has been wonderful support from gynecologists and general practitioners, and I feel that my decision to return to Australia has been vindicated. My goals have been achieved.

**GPM: Please talk about your laboratory research interests.**

**Prof. Hacker:** I am predominantly a gynecological cancer surgeon, and my major clinical and research interest is in the surgical management of gynecological cancers. Ovarian
cancer has the highest mortality among these cancers because it is usually asymptomatic until it has spread beyond the ovaries, when the chances of curing it are 10–20%. For many years, I have believed that development of a screening test for epithelial ovarian cancer would be the Holy Grail of cancer research in gynecology, so I established a research team to investigate this problem about 15 years ago. The project targets circulating cell-free DNA, with the aim of developing a blood test of sufficient sensitivity and specificity to allow population screening. If diagnosed while still confined to the ovary, most ovarian cancers can be cured with surgery alone. The test will be based on detection of ovarian cancer specific DNA methylation patterns, rather than mutations, as methylation changes are more consistent between individual tumours. The bulk of our work to date has focussed on increasing the sensitivity of cell-free DNA methylation assays, because while the presence of tumour-derived DNA in the blood of cancer patients is very well established, lack of sensitivity and specificity have been major hurdles to applying circulating DNA biomarkers to population screening.

**GPM: Over the years, who had a great impact on you?**

**Prof. Hacker:** I will restrict my comments to professional colleagues, and highlight three individuals, although many more have had a major impact on me.

My earliest mentor was Prof. Eric Mackay (Figure 2), who was appointed the Chair of Obstetrics and Gynaecology at the University of Queensland in 1965, when I was in the 4th year at Medical School. I believe Eric had a greater breadth of knowledge about all branches of the specialty than anyone I ever met. Eric was a great teacher, and a great surgeon. He was very helpful to me with challenging cases when I was working for 5 years in country Queensland, and he then secured me a training position in Brisbane in Obstetrics and Gynecology in 1974, when I decided to specialise in the field. He did much of the cancer surgery in Brisbane at the time, and as I mentioned earlier, he went to the US with his oncological colleague Dr. Keith Cockburn, to look at the new Fellowship programs in Gynecologic Oncology. He was mainly responsible for encouraging me to train in the subspecialty, and for arranging the Fellowship position for me at UCLA, through his friend Jerry Moore. Eric and his wife Gae have been very good friends for over 40 years and he is still alive and in pretty reasonable health at 94 years.

My second great mentor was J George “Jerry” Moore (Figure 3), who was Professor and Chairman of the Department of Obstetrics and Gynecology at UCLA when I was there. He greeted me with a firm handshake and the words “Welcome aboard”, and he always made me feel part
of his large team. Jerry was the Chairman of the American Board of Obstetricians and Gynecologists at the time, and his major clinical interest was in oncology. He introduced me to the Society of Gynecologic Oncologists (SGO), the Western Association of Gynecologic Oncologists (WAGO), the Society of Pelvic Surgeons, and to American Gridiron. When Dr. Leo Lagasse left in 1984 to go to Cedars Sinai Medical Center, Jerry promoted me to Director of Gynecologic Oncology. He was keen that I succeed him as Chair when he retired and was disappointed when I returned to Australia. However, he and his wife Mary Lou came to Sydney with me for the first 6 months and helped to get me established. He assisted me in all major operations until I was able to build a team and was a great advocate for me and for the establishment of the unit. I jokingly told Jerry he was my “first Fellow”.

Dr. Jonathan S. Berek (Figure 4) was 1 year behind me as a Fellow at UCLA, starting there in 1979. He and his wife Deb had 3 children about the same age as our 3 children and we became personal friends. Jonathan had gone to Johns Hopkins for Medical School, to Harvard for Obstetrics and Gynecology, and was very enthusiastic and hard working. We both had an interest in clinical research, and we collaborated well together. We published many papers together, and in about 1986, he suggested that we write a textbook together. I felt we were too inexperienced at the time, but he was quite persistent and the first edition of Berek and Hacker’s Practical Gynecologic Oncology was published in 1989. We are presently writing the 7th edition. When I left UCLA in 1986, Jonathan took over as Director of Gynecologic Oncology, and remained in that position until he was appointed Professor and Chair at Stanford in 2005 (Figure 5). Estelle and I spent a very pleasant week with Jonathan and Deb when I was visiting Professor at Stanford in 2015, and Jonathan was the keynote speaker at my valedictory meeting in Sydney last year.

GPM: What qualities would you like to pass on to your students?

Prof. Hacker: Honesty, empathy, collegiality and dedication are qualities that I admire and try to pass on to my students.

GPM: What do you think is the most critical issue facing the field of Obstetrics and Gynecology?

Prof. Hacker: I think the most critical issue is loss of surgical skills among non-oncologically trained obstetricians and gynecologists. There is no doubt that subspecialty training in oncology has markedly improved the care of women with gynecological cancer, but a consequence has...
been that the difficult surgery has been concentrated in the hands of a few, and most others have progressively lost their skills. In addition, the indications for benign gynecological surgery have decreased over the years, and most of the benign surgery is now performed laparoscopically. It takes much longer to become competent in laparoscopic than open surgery, so I believe that it is no longer reasonable to attempt to train all registrars to perform major gynecological surgery. I think after 2 or 3 years of training (in a 6-year training program), trainees who do not wish to enter a subspecialty should be asked to decide whether they want to pursue a career in Obstetrics and office gynecology, or a career in operative benign gynecology.

**GPM: What have been the most pivotal changes during your career?**

**Prof. Hacker:** There have been many advances in all aspects of medicine in the 45 years since I commenced training in Obstetrics and Gynecology, but I believe the two most impressive changes have been advances in medical imaging and the unravelling of the human genome.

In 1974, the only imaging we had was the simple X-ray. In 1975, we got the first greyscale ultrasound in Brisbane. This was an amazing advance at the time, because it was now possible to determine exactly where the placenta and the foetus were situated without exposing the foetus to radiation. Around the same time, computed tomographic (CT) scanning became available, which made visualisation of all organs in the body very easy. Next came magnetic resonance imaging in the 1990s, which allowed more accurate definition of the exact extent of many primary, particularly cervical, cancers. Finally, the positron emission tomographic (PET) scan became generally available about 15 years ago. This was a functional imaging device, which when combined with CT scanning, (PET/CT) was able to identify metastatic cancer nodules less than 10 mm in diameter. When I commenced in oncology, we would warn patients undergoing a pelvic exenteration that there was a 50% likelihood that we would have to abandon the operation because we would find metastatic disease when we opened the abdomen. This rarely happens today because of the PET/CT scan.

The completion of the Human Genome Project in 2003 has opened an incredible range of new targeted therapies which are dramatically changing the prognosis for many cancers. When I commenced subspecialty training in 1978, cisplatin had just become available, and cisplatin combinations proved to be superior to single agent alkylating agents, which were the standard of care for patients with advanced ovarian cancer at the time. Although we subsequently got carboplatin and paclitaxel, they did not really change the prognosis for these patients. Today, the lay person can read about a new “gene therapy” every month in the newspaper. These therapies are based on the genetic profile of the cancer, not the organ of origin of the cancer, so Molecular Tumor Boards are now being held in some centers. It is now reasonable to give patients with advanced cancers hope that a targeted therapy may become available in their own limited lifetime.

Laparoscopic and robotic surgery have certainly been of benefit to the patient in terms of post-operative recovery, but the same operation still must be performed.

**GPM: What sparked your interest in editing Hacker and Moore’s Essentials of Obstetrics and Gynecology? Can you tell some stories about yourself and Dr. J George Moore?**

**Prof. Hacker:** In about 1984, the publishing company WB Saunders identified that there was a need for a medical student textbook on Obstetrics and Gynecology. They approached Dr Moore, as the Chair of this discipline at one of the major medical schools in the US and asked him if he would be prepared to edit such a book. As was typical of his style, Jerry decided to arrange a dinner, and seek the faculty’s advice. Between the main UCLA campus and the four affiliated hospitals, Cedars Sinai Medical Center, Harbor (LA County) General Hospital, Martin Luther King Jr Memorial Hospital and Kern County Medical Center we had a faculty of 50–60 consultants, with a combined expertise which covered every aspect of the specialty.

The faculty voted overwhelmingly to write the book, with each contributing one or two chapters in their individual area of expertise. I was then the Director of the medical student Clerkship Program, and the next day, Jerry came to ask me if I would edit the book with him. I was somewhat surprised, as I was still an Associate Professor at the time. Nevertheless, Jerry and I had an excellent personal and professional relationship, and I was happy to accept the challenge.

It was a wonderful experience. Jerry was very busy with Departmental and American College responsibilities at the time, so much of the responsibility for organising the first edition fell to me. However, he oversaw every chapter, and subedited the section on Gynecology. After he relinquished the Chairs of both the UCLA Department and the American Board, Jerry was able to devote more time to
the book. After he retired, he remained committed right up until his death. I have happy memories of spending a few days with Jerry and Mary Lou at their home in Malibu arranging details for the 4th edition while I was attending a conference in the US.

Jerry was a great mentor to me. The monthly faculty meetings at the main UCLA hospital were very social events. They started at 6 pm with a 2-course meal which Jerry had catered, and often went on until after 10 at night. He was always happy to let everyone express a point of view without interruption. He arranged a departmental picnic every year in Will Rogers Park, and our children really looked forward to this event.

GPM: In the “Dedication” of the fifth edition, you mentioned your wife and the wives of the other editors. Why did you do that?

Prof. Hacker: Writing a textbook is a major time commitment. It takes about 9 months to do the assignment of chapters, the writing of personal contributions and the editing of all chapters. Joe Gambone, Cal Hobel and I were all working full-time, so this work had to be done at nights and on weekends. This is discretionary time which we would normally spend with our wives and families, so there had to be a sacrifice on their part for us to be able to accomplish the task. We all felt that this sacrifice should be publicly acknowledged.

GPM: What are the key features of the book? How often do you publish a new edition? What was the difference between the various editions?

Prof. Hacker: The book is intended to cover the entire field of Obstetrics and Gynecology at the level of understanding required to practice as a general practitioner. It has been written so that medical students can gain a good understanding of the specialty, and residents in training can use it to pass their Board examination. It is not intended for subspecialists. Each edition has 5 sections: (I) an Introduction, which covers topics such as pelvic anatomy, physiology, the clinical approach to the patient, (II) Maternal-Fetal Medicine, (III) Gynecology, (IV) Reproductive Endocrinology and Infertility, and (V) Gynecologic Oncology.

A new edition has been published approximately every 5 years. There have been 6 editions to date. The interval between editions is determined by the publisher, but 5 years is a reasonable spacing, as it ensures that each edition is reasonably up to date with recent advances in the specialty.

The main difference between the editions is related to the authors of the individual chapters and the editors for the particular edition. As faculty members retired, another author from UCLA was usually found, although Dr. Richard Bayshore continued to write his chapter on Dystocia and Fetal monitoring long after he retired. When a faculty member moved to another institution, most were happy to continue to contribute to the book, so it progressively became a multi institutional textbook.

I had returned to Australia after the publication of the first edition, and when the 4th edition was being discussed, Jerry Moore’s health was failing. We decided that it was necessary to get another coeditor from the US if the book was to continue successfully. We were very fortunate to be able to encourage Dr. Joseph Gambone to accept this role. Joe was a reproductive endocrinologist, who had trained at UCLA during my time there, and was a good friend to Jerry and to me. He had moved to Colorado in 2003, at the time the 4th edition was being prepared. Joe was a wonderful clinician and a great organiser, and he very successfully oversaw the contributions of all the US authors for the 4th, 5th and 6th editions. As Joe and I were both basically Gynecologists, we felt we also needed an obstetrician as a Coeditor for the 5th edition, and Dr. Calvin Hobel from Cedars Sinai Medical Centre in Los Angles, one of the UCLA affiliated hospitals, agreed to accept this role. Cal had been the subeditor for the Obstetrics section from the first edition.

GPM: What was the major problem encountered with the preparation of the books?

Prof. Hacker: The major problem was getting chapters returned in a timely manner. Most authors were able to meet the deadline without difficulty, but a few were unable to comply with their commitment. After two editions, we were able to easily identify the repeat offenders, and to replace them for subsequent editions.

GPM: How do you feel when your books are translated into other languages and can influence another young generation of Obstetricians and Gynecologists?

Prof. Hacker: It is always a privilege to have one’s work translated into other languages, because it is recognition that other cultures appreciate the significance of the work. This book has also been translated into Spanish. It is always
rewarding when young Gynecologists come and introduce themselves at conferences and seek some clinical advice.

**GPM: What would be your advice to young gynecologists?**

**Prof. Hacker:** Obstetrics and Gynecology is a broad specialty, and my advice would be to keep an open mind about ultimate career plans for as long as possible. I did not decide to do Obstetrics and Gynecology until 5 years after graduation, and it was another 6 years before I chose to restrict my career to Gynecologic Oncology. I believe that you have to love dealing with the “bread and butter” issues in any particular field if you are to be successful and not burn out—you have to want to get up and go to work each day.

My other advice would be to keep a balance between professional and personal life. Some get too involved with their patients and other professional responsibilities and neglect their families. This inevitably leads to burnout and/or marital breakdown.

**GPM: How is retired life? Would you like to write more books?**

**Prof. Hacker:** My plan was always to retire from clinical practice but continue with some academic activities which I had not completed. These included supervising two PhD students and continuing with some clinical research which was still in progress. I did not plan to do locums or surgical assisting but have just returned from doing a 5-week locum for the sole gynecologic oncologist in Tasmania, the small island off the south coast of Australia. He had not had a holiday for about 4 years.

Much of my time this year has been taken up writing and editing the 7th edition of Berek and Hacker’s Gynecologic Oncology, which has also been translated into Chinese. Being retired, I can do this during the day, rather than at nights and on weekends.

My wife and I are going on a Viking cruise in September with some old friends, following which we will travel around Canada for 2 weeks. When the book is finished, I look forward to having more time to read, watch sport and travel.

**Acknowledgments**

We would like to express our sincerest gratitude to Prof. Neville Hacker for sharing his stories, insights and opinions with us.

**Footnote**

*Conflicts of Interest:* The author has no conflicts of interest to declare.

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