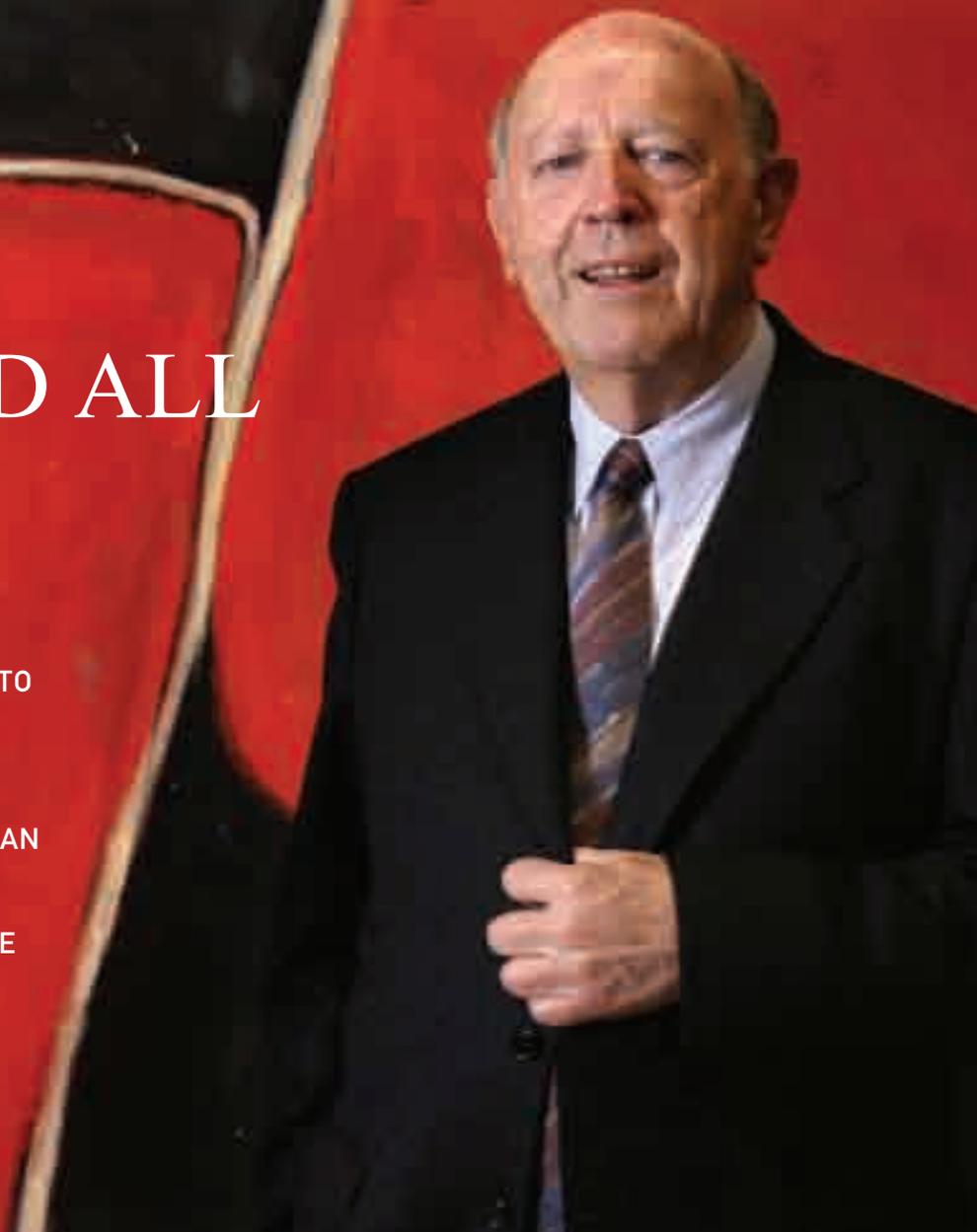


WARTS AND ALL

DR COLIN LAVERTY WAS THE FIRST TO PUBLISH THE KEY FINDING THAT GENITAL TRACT INFECTION BY THE HUMAN PAPILLOMA VIRUS, WHICH CAN CAUSE BOTH GENITAL WARTS AND CERVICAL CANCER, WAS MUCH MORE COMMON THAN THOUGHT. PETER LAVELLE EXAMINES HIS ACCOMPLISHED CAREER.

PHOTOGRAPHER: JAMES ALCOCK



What does a Pap smear have in common with a painting of Australia's red centre? They both get Dr Colin Laverty's adrenalin going.

The now retired pathologist spends his time collecting and promoting Australian art with his wife, Elizabeth. But to most in the pathology field he's probably more familiar as the Laverty of Laverty Pathology – the company he started in 1982 as a private practice specialising in cervical cytology (cell study) and histopathology (microscopic study of diseased tissue). The company grew steadily until it was bought out by the private pathology company, Mayne, five years ago.

What draws a man to the histopathology of the cervix as his life's work? It was while doing a BSc (Med) as part of his undergraduate training that Dr Laverty became interested in pathology. In those days, pathology trainees were rotated through different clinical

specialties, and a few years later while studying in the pathology department at King George Hospital for Mothers and Babies in Sydney, working closely with the clinicians there, he developed a particular interest in gynaecological cytology and histopathology.

Later, he was awarded a British Council scholarship and did postgraduate training in gynaecological pathology at St Mary's Hospital, Manchester, in Britain. He returned to Australia to take up staff specialist jobs at the Royal Women's Hospital in Melbourne and later King George V Hospital in Sydney.

At the time – this was the early 1970s – it was thought that genital tract warts, or condylomas, were quite uncommon lesions, usually vulval, and merely occasionally cosmetically distressing, though difficult to treat, he says.

But Dr Laverty recognised that the cellular abnormalities known as koilocytosis and koilocytic or “warty”

atypia (first reported in the 1950s and associated with genital warts) were much more common in Pap smears than generally realised and that, surprisingly, in the great majority of cases, clinical warts were absent, even with careful examination of the entire female genital tract.

To confirm this, a technique was needed to demonstrate the presence of human papilloma virus (HPV) in these previously unrecognised cases. So he hired a researcher, Ellen Hills, an electron microscopic technique was devised and with the aid of Ted Wills, head of the EM unit at Royal Prince Alfred Hospital, he was able to confirm that papilloma virus particles were present in these abnormal cells, in both Pap smears and cervical biopsies.

Thus it was proven that atypical, potentially premalignant cells in cervical cytologic and histopathologic preparations in women without actual genital warts

Left: Colin Lavery photographed in front of a painting by Sydney artist Ildiko Kovacs.

were in fact virus infected, and that this virus had the electron microscopic appearances of papilloma virus.

In 1978 Dr Lavery was the first in the world to publish this finding. In this *Acta Cytologica* paper, he suggested the investigation of the possible role of HPV in genital tract cancer production. In the same year he presented a paper titled *Wart Virus Infections of the Cervix: Cytologic, Histopathologic and Electronmicroscopic Features* at the 3rd World Congress of Cervical Pathology and Colposcopy in Florida.

At that time, electron microscopic demonstration of the virus particles within the nucleus of the cell was the only way of confirming papilloma virus infection, he says. Unlike other genital tract viruses, such as herpes, confirmation of papilloma virus by culture wasn't possible (and still isn't possible) by conventional virological methods.

Nor could the diagnosis be confirmed by techniques known as immunoperoxidase testing or HPV DNA and RNA hybridisation, which at that time had not been developed, but which were later to become widely used.

The findings that HPV infection was much more common than anybody thought, that most infections were clinically invisible and at that time unknown to colposcopists (who use a magnifying instrument to examine the cervix), proved to be of profound significance.

"It changed the interpretation of Pap smears, cervical biopsies and colposcopic appearances and therefore the management of women with abnormal Pap smears," Dr Lavery says.

It also led to later research by others that confirmed that HPV was needed for the genesis of cervical cancer and also uncovered the mechanism by which this

In 1982 Dr Lavery took the step ("some would say a gamble", he says) of setting up a private practice, specialising in gynaecological cytology and histopathology. "We were competing with all the giants of pathology," he says. "But we had the advantage that we were specialising in cervical pathology – that's all we did."

happens. This led ultimately to the development of vaccines that theoretically can eradicate cervical cancer.

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The practice invested heavily in making sure staff were up to date with the latest research and developments in cytology. "We employed a statistician and our pathologists were given a day off a week to do research work. We did our own trials of new sampling implements and slide preparation and reading technologies in private practice, which is very unusual," Dr Lavery says.

For example, he published some of the very first trials of ThinPrep and CytoRich monolayer Pap test technologies which are now widely used throughout the world.

"We also provided a great deal of feedback to referring doctors, about developments in cytology generally – (newsletters, for example) about how good the quality of their Pap smears was and how to take better, more representative, more easily and accurately read slides."

He was also interested in the cytologic recognition of cervical adenocarcinoma in situ (an important subset of cervical cancer precursors) and demonstrated a place for HPV in this form of cervical cancer also.

Business grew to the point where the practice was employing about 100 staff (mainly in NSW but also in Victoria) and processing almost 200,000 Pap smears annually.

Dr Lavery was for many years a member of the Advisory Committee to the

Australian National Cervical Screening Program, multiple NSW Cancer Council committees, the Committee of the Australian Society for Colposcopy and Cervical Pathology and the Continuing Education, Quality Assurance and Evolving Technologies committees of the International Academy of Cytology.

In August 1998 his practice was sold to Health Care of Australia (HCoA). Dr Lavery was initially medical director of Mayne Health – Lavery Pathology in NSW, a large, statewide general pathology practice that still bears his name.

Now retired, he and his wife, Elizabeth, manage their contemporary art collection, one of Australia's best known. From their collection, works are regularly lent to the Australian national and state art galleries.

He has written a book and published articles on Australian art and was recently invited to write an article based on the Lavery collection of Aboriginal art for international magazine *Arts of Asia*.

Like many Australians, he didn't consider indigenous art to be of particular importance, until 1988 when he visited the Brisbane Expo and saw some Papunya Central Desert paintings that sparked real interest. Now a major part of his time is spent visiting community art centres and meeting artists in central and northern Australia and acquiring indigenous art.

Aboriginal works are particularly sought for exhibition by leading international galleries, he says, and the Lavertys have just lent half a dozen bark paintings by Maningrida artist John Mawurndjul (one of Australia's leading living artists and winner of the last Clemenger prize at the National Gallery of Victoria) to the Tinguely Museum in Basel, Switzerland. 🔥