

Where does research come from?



The world of infertility treatment has changed comparatively little in the past 10 years, and yet any infertility expert will tell you that modifications have been many and that there is a great difference between doing infertility well and not well. Much is dependent on adequate data, adequate research, and familiarity with that research.

Infertility care is highly specialised: it is an academic subject wherever it is practised. Many infertility experts are employed in non-academic hospitals and private clinics and yet could match more conventional academics for their knowledge and expertise. This may be true throughout obstetrics and gynaecology, and perhaps throughout medicine.

The first gynaecologist to perform a successful *in vitro* fertilisation (IVF) was never academically employed. Patrick Steptoe was an employee of Oldham General Hospital, and established a private infertility clinic quite separate from the neighbouring teaching centres of Manchester and Liverpool. It was at his district hospital in Oldham that Louise Brown, the first surviving IVF baby, was born by caesarean section in 1978. Steptoe was by academic standards merely a 'gifted amateur'. He had met Robert Brown, his laboratory scientist colleague (and later winner of the Nobel Prize for physiology in 2010) at a conference. The non-academic collaborated with the academic. Their shared enthusiasm is recorded in history.

Brown was a true academic. But despite his pedigree, his PhD and his publications, the two were denied Medical Research Council funding. The research was controversial.

Steptoe was the author of a book on laparoscopy, which was one of his particular skills. He had learnt from the great Raoul Palmer (Palmer's point) from France, and had also travelled to study in America. For Steptoe, the title or absence of title 'academic' had no meaning. Everyone can write, test an idea, or push back a barrier.

The IVF story has many interesting twists. In 1978 when IVF baby Louise Brown was born, Steptoe was already 65 years old. Age is no barrier to ability.

Another simple truth in infertility is that, as everywhere in medicine, there are issues yet to be properly addressed: among the many problems are funding in resource-limited academic institutions and the collation of data. Two articles in this issue^[1,2] refer to these problems.

Famous articles are often produced by famous academics who have published widely, usually published in English, and usually published in celebrated journals. But this is not always the case – Vithal Shirodkar immortalised his famous suture in a little-known journal, though he would later present internationally and publish

widely. Louise Call, who gave her name to the Call-Exner bodies found in granulosa cell tumours, is remembered in an article in this issue.^[3] Call published only a single article in her long career. She also published in German, having travelled from Boston to Europe, where she worked for Dr Sigmund Exner. Exner was both a physiologist and a psychologist, an unusual combination more common among the doctors of his day. But unusual combinations were not just a feature of the 19th century. Papanicolaou, who travelled from his training in Greece where he was born to the USA to develop his famous test, had two qualifications – one in pathology, the other in psychiatry.

It has been said that the polymath is more likely to notice things; that constrained academic thought, although vital to prove a point, may limit invention and inventiveness or the ability to recognise the apparent.

Many discoveries rely on simple observation. The use of chlorpromazine in the treatment of delusional psychosis was recognised by a physician who noticed the disappearance of delusions by chance in patients coincidentally given chlorpromazine not for psychosis but as premedication for a procedure. Norman Gregg, the famous Australian ophthalmologist, recognised the rubella syndrome from overhearing patients in a waiting room discuss their previous rubella infection after an outbreak in Sydney in the 1940s as he attended to their children with congenital cataracts. He would later add deafness to the syndrome after being contacted by two mothers. His initial conclusions were criticised by the London *Lancet* as being conjecture and would await later serological proof.

Stringent science is certainly required to put the truth or lie to a phenomenon or association, but to recognise a phenomenon for the first time may require an additional skill.

Whatever skills it takes to see the obvious or whatever determination and talent it takes to test a theory, there may be someone or a group somewhere keen to publish; that person or group may come from a conventional academic environment, as Robert Edwards did, or, like Patrick Steptoe, may not.

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