

at of new drugs and saved the lives of thousands



at work. He was a keen rugby player

parents' understandable relief. The decision was made irrevocable by his first significant rugby injury: a shattered tibia and fibula that put him out of action for four months. In this, if not his choice of sport, he followed his father, who was known as "the most injured man in football", with one spectacular leg break putting him out for two seasons. Stan's rugby career would be punctuated with similar injuries, including a cracked vertebra in his neck.

In 1941 Peart started his clinical course and his work with Fleming. These were the very earliest days of antibiotics. Penicillin was not yet available and sulphonamide could be hit-and-miss at best. Wound sepsis and gangrene were everywhere. It was around this point that he met Peggy Parkes, a "sweet and pretty" staff nurse. It took him some time to pluck up the courage to speak to her and his opening line was: "Can I borrow your scissors?" A romance nevertheless blossomed.

At the urging of his mentor, George Pickering, Peart moved to Edinburgh with Peggy, whom he married in 1947. Fuel rationing was still in place, so heating was impossible. He would wear his overcoat in the lab and one winter his saline solutions froze solid overnight. It was a strange mix of ancient and modern medicine: he undertook his groundbreaking work on the chemical

transmission of sympathetic nerve pulses while also making his own pills from powdered foxglove in a lab that had leeches, which "weren't for show", in beakers.

He was earning £300 a year (about £13,500 today), but still sometimes had to make use of the charity food kitchens that offered a meal for a shilling. He and Peggy had to move several times because landlords kept letting their apartments to new tenants for more money. On one occasion he was stopped by police while hauling a sack of coal between flats in the middle of the night. Eventually the couple settled in a flat in George Square that had been unoccupied for 14 years, save for the mummified dead bird in the sink.

After Edinburgh — and another serious injury, a broken jaw on the frozen Murrayfield turf while playing for Wanderers — he moved to Ely in Cambridgeshire, where he joined the RAF Medical Services, but returned to

He was witty and never pompous, and always Stan, never Sir Stanley

St Mary's in London after two years. Apart from a stint in Mill Hill in north-west London, Peart spent the rest of his career at St Mary's, where he created a world-leading kidney transplant scheme. He also took up important roles in the Wellcome Trust and the Medical Research Council, and was vice-president of the Royal Society during the presidency of Michael Atiyah. He was knighted in 1985. He remained with the NHS throughout his career, refusing to take private fees, although he would occasionally accept a bottle of wine. He was witty and never pompous; always "Stan", never "Sir Stanley".

Pickering, his early mentor, had advised him not to start a family until he had made his name, so it was not until 1953 that Celia, his daughter, was born; Robert followed in 1955. She was a midwife, he became an IT consultant. In later life Peggy suffered from dementia, so Peart cared for her for 13 years until her death in 2002. The arrival of four grandchildren was a joy. He lived in Highgate, north London, and would play with them in Waterlow Park. To keep pace, he took up a new sport at the age of 70: inline skating. He was still skiing on his 88th birthday.

Peart loved research, but insisted throughout his career on maintaining the clinical side of his work; it was easier to be a generalist in those days. "I felt an allegiance to patients," he said. "I felt very satisfied when I did something for them. I liked talking to them and dissecting the problem."

He enjoyed reminiscing about his early days and how he would be elbow-deep in it, often literally: taking blood and urine and faeces from patients. He recalled how he had loved the close contact with patients and would say regretfully that modern medical students are deprived of it, adding: "The only faeces students ever see are their own."

Sir Stanley Peart, FRS, renal physician, was born on March 31, 1922. He died on March 14, 2019, aged 96

Sir Stanley Peart

Pioneering renal physician whose research into blood pressure led to the developme

Stan Peart's research could seem gory and almost medieval in nature, and at one time required the use of thousands of rabbit kidneys. He would go up to Northumberland, where the animals were trapped, cut out their kidneys, put them in Thermos flasks filled with dry ice and bring them back to London by train. He also used hundreds of gallons of cows' blood spun in a centrifuge. His work, however, saved many thousands of lives.

Using equipment and methods that would look laughably primitive to modern researchers, Peart identified two chemicals that are the key to the workings of our circulatory system: angiotensin, the hormone that constricts the blood vessels and increases blood pressure, and renin, the enzyme that counteracts it. The renin-angiotensin system was crucial to a greater understanding of blood pressure and therefore to the development of drugs for treatment of hypertension.

Later, while based in Edinburgh, he was working on a different but related question about which chemical was released when sympathetic nerves — those responsible for stimulating the flight-or-fight response in humans — were stimulated. At about the same time he spotted a set of beautiful pearl-handled knives and forks in a jeweller's window and promised his wife, Peggy, that if he solved the problem he would buy them for her.

Soon afterwards he began using a spleen instead of a liver for his research and started to find that his experiments indicated that the chemical was not adrenaline, but was perhaps noradrenaline. The results started to build up. Then, one morning, Peggy found the set of pearl-handled cutlery by their bed: there had been a breakthrough.

Earlier in his career he had worked at St Mary's Hospital in Paddington, west London, with Alexander Fleming, the microbiologist who had discovered penicillin. Fleming was an unpopular lecturer because he spoke in a whisper, but Peart became his "penicillin registrar".

The work was often shocking: the penicillin-procaine injections caused terrible pain, as Peart discovered when Fleming gave him a shot in an infected boil. "I nearly collapsed," he recalled, but the effects were dramatic. The streets around St Mary's were full of backstreet abortionists, and Peart recalled how women would come in with "tremendous fevers, just about dead... you could give this crude penicillin and some of these women were absolutely cured, it was quite miraculous".

Yet it was sport, as much as science, that was the guiding influence in Peart's life. His father, John George "Jack" Peart, had been a professional footballer, a talented centre forward who played for Newcastle United and Notts County, among other clubs. As a result, Stan's early years were peripatetic, with the family following Jack's career around the country, first as a player and then as a manager.

William Stanley Peart, known for most of his life as Stan, was born in South Shields in 1922, the son of Jack



Sir Stanley Peart, left, in 2016 and, above

would always evoke bitter memories. Back at school he found himself in his chemistry master's room, looking through papers on the teacher's desk. One caught his eye: a rugby scholarship to St Mary's Hospital, Paddington. To his father's undisguised disappointment, Peart had preferred the oval-ball code to association football and was by then a talented wing. He applied immediately and was interviewed by Charles Wilson, later Lord Moran, who was Churchill's personal physician.

Wilson knew that Peart had the

He broke his jaw on the Murrayfield turf while playing for Wanderers

grades; he was more interested in other things. The key question he wanted answered was how fast Peart could run the hundred yards. "I knew roughly how fast," Peart said many years later. "But I thought if I take 0.2 of a second off it'll look good. So I said 10.2 and brazened it out a bit. Lo and behold, they offered me a scholarship."

When war broke out in 1939, Peart was a medical student and protected from conscription, but he almost joined the RAF anyway and the decision not to would gnaw at him, despite his

and his wife, Margaret (née Fraser). The family soon moved to Rochdale in Lancashire and then to West Yorkshire after Jack was appointed manager of Bradford City. Stan was educated at Bradford Grammar School. When he was 13 his father became manager of Fulham and the family moved to west London. At this point Stan joined the local King's College School, where he soon lost his Yorkshire accent after his attempts to speak French with flat vowels in class were cruelly mocked.

His family were far from wealthy — footballers did not earn the millions they do now — but Stan was bright and won scholarships that enabled him to get a good education. He had high hopes of getting another scholarship, to Oxford, but the entrance exam stumped him and he only did well enough to be offered a place, not a scholarship. His first response was to ask how much the place would cost. The figure was small, but he knew immediately that his parents would not be able to afford it. He left disconsolate and the sight of Magdalen Bridge