

British doctors have been at the vanguard of medical science for more than two centuries, and our hospitals and universities are home to some of the brightest minds in the business. When it comes to medicine, the best in Britain is still the best in the world.

There has never been a definitive list of the UK's leading specialists, and there probably never will be. Deciding whether a specialist is at the top of his or her game isn't just about their academic prowess, diagnostic skills or clinical outcomes – it's also about more subjective qualities such as empathy, dedication and drive. And what works well for one patient can be awkward for another. But there are few things more important than having a good doctor, and there has •



never been as much opportunity to choose which specialist you see. People who have gone private will be used to consulting whoever they want, but in recent years choice has become an increasingly important part of the NHS, too. But that ability to choose is useless unless you have the knowledge to make the right decision.

At the moment, patients simply don't have the information required to make fully informed decisions about where to go to have their hip operation or gall bladder removed. The NHS Choose and Book system offers patients a variety of different specialists and hospitals, but, in my experience, decisions are all too often made on the basis of geography – which hospital is closest? Or the patient simply says: "Where would you go, Doc?"

Asking your GP is very sensible. They should know who the best specialists are in their locality, and whom to avoid. But good regional knowledge is of little benefit when looking at a national picture, and this is where our list may help.

Over the past six months, a team of *Times* researchers asked charities, specialists and professional bodies and associations to come up with a list of leaders in their particular field. Our first

Being at the top isn't just about academic prowess, but more subjective qualities

discovery was that if you asked ten different people, you got ten different answers, such is the depth of expertise at the top of every area. But there are some names that appeared on everyone's lists and it is these specialists that we have recommended. From the fertility specialist responsible for the first "breast cancer gene-free" baby to the pioneering heart transplant surgeon who hates the sight of blood, from the anaesthetist who braves the front lines of Afghanistan to the doctor who performed the first laser surgery in the womb, they are not just extraordinary doctors, but extraordinary people.

The list is by no means exhaustive. There are lots of doctors who are regarded as key leaders in their fields who aren't featured simply because there isn't room, and there are some specialities that we haven't even covered. Just because your consultant doesn't appear on this list does not mean that he or she isn't world-class – all we can



say is, if they do feature, then you are likely to be in the right hands.

Dr Mark Porter is medical correspondent of The Times and a practising GP in South Gloucestershire. Can't find your favourite doctor? Go to thetimes.co.uk/magazine – we want to hear who you think should be on the list

Who contributed to our top doctor guide

NHS Trusts (NHST) and Foundation Trusts (FT) Addenbrooke's NHST; Alder Hey Children's FT; Basingstoke and North Hampshire FT; **Birmingham Heartlands** & Solihull NHST; Central Manchester University Hospitals FT; Chelsea and Westminster FT; Clatterbridge Centre for Oncology FT; Great Ormond Street NHST; Guy's and St Thomas' FT; Heart of England FT; Imperial College NHST; James Cook University Hospital; King's College FT; Leeds Teaching NHST; Oxford Radcliffe NHST; Lothian; Mile End; Moorfields Eye FT; Nottingham University Hospitals NHST; Papworth FT; Queen Victoria FT; Royal Brompton & Harefield FT; Royal Free Hampstead NHST; Royal National Orthopaedic NHST; Royal Orthopaedic Birmingham FT; Southampton General; St Bart's NHST; St George's NHST; University College London FT; University Hospitals Birmingham FT; University Hospitals Bristol FT; University Hospitals of Leicester NHST; Walton Centre FT; plus leading universities and private hospitals throughout the UK.

Charities, organisations and professional bodies

Alzheimer's Society; Association of British Neurologists; Asthma UK; Beating **Bowel Cancer:** Breakthrough Breast Cancer; Breast Cancer Care; British Acupuncture Council; British Association for Sexual Health and HIV: British Association of Aesthetic Plastic Surgeons; British Association of Dermatologists; **British Association** of Plastic, Reconstructive and Aesthetic Surgeons;

British Association of Urological Surgeons; **British Dietetics** Association; British Elbow and Shoulder Society: British Fertility Society; British Heart Foundation; British Lung Foundation; British Medical Acupuncture Society; British Medical Journal; **British Nutrition** Foundation; British Orthopaedic Association; British Osteopathic Association; British Sleep Society; British Society for Rheumatology; British Society of Gastroenterology: British Thoracic Society; Cancer Research UK: Centre for Reproductive and Genetic Health;

College of Emergency Medicine: Diabetes UK: **General Chiropractic** Council; Harley Medical Group; Harris Birthright Research Centre; Institute of Psychiatry: Journal of Laryngology & Otology; London Allergy Clinic; London **Organising Committee** of the Olympic Games and Paralympic Games; Macmillan Cancer Support; Macular Disease Society; Ministry of Defence; Oxford Osteopaths; Pelican Cancer Foundation; Premier Podiatry; Royal College of Anaesthetists; Royal College of Obstetricians and Gynaecologists; Royal College of Ophthalmologists; Royal College of Paediatrics and Child Health; Royal College of Physicians; Royal College of Psychiatrists; Royal College of Radiologists; Royal College of Surgeons of Edinburgh; Royal College of Surgeons of England; Royal Opera House; Society for Cardiothoracic Surgery; Society for Endocrinology; Society of Chiropodists and Podiatrists.

College of Chiropractors;







he first thing Sir Terry Pratchett wants to know when we're introduced is whether we have met before. We haven't, but he frowns and asks if I am sure. It's difficult to gauge what to say: everyone knows that the *Discworld* author, who has sold more than 65 million books worldwide, suffers from a form of Alzheimer's disease a fact

he made public in December 2007. At the same time, he also has a peculiarly spiky sense of humour, so it wouldn't come as a total shock to find that this is how he introduces himself to strangers before breaking into a grin. But he doesn't grin now, he just looks at me with a tinge of scepticism.

Pratchett suffers from Posterior Cortical Atrophy (PCA), a form of Alzheimer's that attacks the back of the brain and affects visual processing, unlike standard Alzheimer's, which attacks the temporal lobe at the front of the brain and affects memory. PCA is far rarer and can make simple, hand-eye-related tasks impossible.

"I can still do buttons up," he says. "But if I carelessly chucked my jeans on a chair, as we all do, and one of the legs goes inside out... Well, that would be like a Rubik's Cube to me. Shoes are fine – I can tie my laces, because my hands know how to tie shoelaces. But I can't write my name... Well, I can, but it would look about as good as the average company director's..."

"Or the average doctor's," says Professor Roy Jones, who sits and smiles patiently beside Pratchett. His patient chuckles and nods.

Professor Jones is director of RICE, the Research Institute for the Care of the Elderly. The purpose-built complex is part of the Royal United Hospital in Bath, and was officially opened by Pratchett two years ago. The 62-year-old author lives more than 30 miles away, in Salisbury, but there were no local doctors familiar enough with PCA to take him as a patient, so the Alzheimer's Research Trust put him in touch with Jones.

"I like to think that, since they had some knowledge of me, they thought we would get on," Pratchett says. "I'm glad I have a young, open-minded doctor. There are other sorts. I am lucky. Most people don't have the luxury of choosing their doctor."

"Obviously, because of his profile, Terry is not a typical patient, but we try to treat him like anyone else," says Jones. "Because of who he is, he gets lots of people sending him ideas for treatments, most of which he ignores and doesn't pass on to me. But some he does. If we think there might be something in them, we have a look at them sensibly. But we want to see evidence, rather than seeing Terry exploited."

"I have to add that Terry is not dumb," says Pratchett, talking about himself. "Most of the time, I can smell them. There's a lovely one, a guy in Australia, who says he can cure Alzheimer's, but the medical community just won't listen. In many cases, these people are fully convinced their nostrum works."

Alzheimer's is incurable, but Jones believes the stigma attached to it is slowly fading. "In a lot of ways, we have been where cancer was many years ago, when families and the patient didn't want to know the diagnosis, or didn't want anyone else to know the diagnosis, or talked about it in a whisper. But that is changing. There is better understanding, but we need to continue to regard patients as individuals with abilities and needs. That 'Does he take sugar?' approach, and ignoring the person completely, is vanishing."

Jones and Pratchett meet every six months to monitor how the disease is affecting him. Jones will speak to people who see Pratchett regularly, such as his wife, Lyn, or his PA, to ask if they have observed behavioural changes. Pratchett also does tests with a psychologist, some of which might involve asking him to demonstrate how he would use a series of everyday items. "One test might be, 'What do you do with a pair of scissors?" Jones explains. "But some patients might interpret this differently, and make a scissor action with their fingers, when actually what they should be doing is holding their fingers in the way they would if they were actually using scissors."

"And may I say, I am an incredibly

difficult person to do this sort of thing with," says Pratchett. "A very nice young lady psychologist asked me what I would do if I had a hammer. I ended up picking her up and whirling her around the room singing *If I Had a Hammer* [the Pete Seeger folk tune]. I sang it all the way through."

The human brain is, by Jones's own admission, "pretty inaccessible". There is a vast amount we do not know about how it works, let alone about how to fix it. Nevertheless, the work that Jones and his team undertake at RICE is not necessarily all high science, psychology and complex



medical research. In fact, much of it focuses on providing simple, practical pastoral care, not just for Alzheimer's patients, but for their families, too.

"Drug treatment is only a small part of

helping people to live as normal a life as possible," he explains. "We run courses here for carers, to help them understand what is going on not just medically, but in terms of the financial, social and legal things, such as lasting power of attorney. We can give advice about how to manage behaviour, from wandering to sleep disturbance. Respite care for the family is another element, because as the disease progresses, caring for someone with Alzheimer's can be very tiring."

Jones admits that treating this disease can be depressing and upsetting, especially when the patients are unusually young, but believes that medicine is as much about managing conditions as it is about curing them. He says that it is worrying there haven't been any major developments in pharmaceutical treatments for Alzheimer's since 2002, but that, as research continues and more is learnt about the brain, breakthroughs will come.

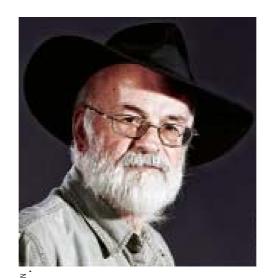
Pratchett, meanwhile, continues to rib his doctor about the use of alcohol as a treatment. "I keep pointing out to Roy that brandy is in the British Pharmacopoeia," he grins. "So are stout and sherry, I believe. I drink enormously."

Professor Jones smiles patiently. "Alcohol, moderate alcohol, is one of the things we would probably recommend for people in this situation," he concedes. "In general, what's good for the heart is good for the brain."

"It makes you feel better," says Pratchett. "And feeling better is part of it." BEN MACHELL

'I point out to Roy that brandy is in the British Pharmacopoeia. So are stout and sherry. I drink enormously'





PORTRAITS: MARK HARRISON



Our A-Z of Britain's top doctors

From A&E to Urology, a comprehensive guide to the country's medical experts

ACCIDENT & EMERGENCY

Jonathan Benger

Professor of Emergency Care at the University of the West of England and consultant in emergency medicine at University Hospitals Bristol. Helped establish the Great Western Air Ambulance in 2007, which has since treated more than 5,000 patients, and now acts as its medical adviser. Has been awarded 22 research grants totalling more than £7 million, including 3 to improve ambulance services for the 2012 Olympics.

Matthew Cooke

Professor of Emergency Medicine at the University of Warwick, involved in teaching, research and setting national emergency guidelines. Formerly directed the UK ambulance service, co-ordinated the national emergency medicine library and acted as clinical lead for the Darzi Review of the NHS. Now National Clinical Director for Urgent and Emergency Care for the Department of Health.

John Heyworth

Consultant in the emergency department at Southampton General Hospital and President of the College of Emergency Medicine, responsible for overseeing clinical standards, training, examinations, safety and quality. Previously president of the British Association for Emergency Medicine and Editor of the Journal of Accident & Emergency Medicine.

Kevin Mackway-Jones

Professor of Emergency Medicine at Manchester Metropolitan, Medical Director of the North West Ambulance Service and co-editor of Emergency Medicine Journal. One of the UK's foremost emergency experts, whose information website, BestBETs, has become an invaluable tool for the staff of emergency centres throughout the UK.

Neil McGuire

Currently the Defence Consultant Adviser in Anaesthesia, Pain and Critical Care to the Surgeon General, having overseen the work of more than 200 anaesthetists in the Armed Forces. Led the formation of the Royal Air Force Critical Care Air Support Teams and has personally been involved in the evacuation of more than 400 critically ill patients from war

zones, resulting in several high-profile awards.

ALLERGIES

Roger Aldridge

Clinical Lead of Dermatology at the Royal

Infirmary, Edinburgh, having conducted more than two decades of research on allergies, with a focus on nail disease and occupational skin disorders. **Andrew Clark**

Head of the Paediatric Allergy Unit at

Addenbrooke's Hospital, Cambridge. Earlier this year announced the results of a trial that should offer protection to children with peanut allergy, and currently conducting a larger, more widereaching study on food allergy. Lectures, writes and advises on childhood allergies for several national and international bodies.

Gideon Lack

Leading international specialist on paediatric allergies, Head of the Paediatric Allergy Service at St Thomas' and Professor of Paediatric Allergy at King's College London. Research focuses on the relationship between food allergies, eczema and asthma; this year received the William Frankland Award for work on peanut allergies.

John Warner

Former professor of child health at the University of Southampton and now Professor of Paediatrics at St Mary's Hospital, Imperial College. Primary research has focused on the early-life origins of asthma and related allergic disorders. Has published more than 300 papers, is Editor-in-Chief of Paediatric Allergy and Immunology, and is chairman of the paediatric section of the British Society for Allergy and Clinical Immunology.

ANAESTHESIA

Michael Durkin

Consultant anaesthetist for the NHS South West and Medical Director of the South West Strategic Health Authority. Campaigns for better patient safety and has taught at the University of Bristol and Yale School of Medicine. Recently received a gold Advisory Committee on Clinical Excellence Award. **Nigel Harper**

Consultant anaesthetist running the Anaesthetic Reaction clinic at the Manchester Royal Infirmary.



Has lectured and published widely on anaphylactic reactions to anaesthetics and campaigns for greater recognition of the dangers of adverse reactions to anaesthetics.

Chandra Kumar

Based at the James Cook University Hospital in Middlesbrough, with professorships in Teesside and Riyadh. Has an international reputation in ophthalmic anaesthesia and this year received a platinum Advisory Committee on Clinical Excellence Award. Founded the British Ophthalmic Anaesthesia Society in 1998 and is its president.

Jerry Nolan

Expert in post-resuscitation care and consultant in anaesthesia and emergency medicine at the Royal United Hospital in Bath. Spearheaded work in therapeutic hypothermia (dropping the body temperature of a patient whose heart has stopped to prolong life in the vital organs) and developed the Immediate Life Support course, which has become standard for health professionals.

lan Russell

Champion of pain relief for women in labour, having published widely on obstetric anaesthesia. Controversially called for the use of spinal rather than general anaesthetics during Caesarean sections in the Eighties, a practice that has since become standard. Helped to develop the Isolated Forearm Technique, which alerts doctors to patients waking up during surgery. Based at Hull Royal Infirmary.

CARDIAC SURGERY

Roberto Casula

Pioneer in robotic-enhanced and minimalaccess surgery at Imperial College. Has operated on several thousand cardiac patients, and performed the UK's first coronary bypass without opening the chest in 2002, carrying out the procedure more than 135 times since.

Christopher McGregor

One of the foremost heart transplant surgeons in the world. Performed the first successful lung transplant in Europe in 1987, the first successful infant heart transplant in the UK in 1988 and the first successful heart, lung and liver transplant in the US in 1996. Now Professor of Cardiothoracic Surgery at UCL, specialising in the surgical removal of thickened heart muscle. **Neil Moat**

Consultant cardiac surgeon and former clinical director of cardiac surgery at the Royal Brompton Hospital, with one of the largest mitral-valve repair practices in the UK. **John Pepper**

Consultant surgeon at the Royal Brompton Hospital. Has performed some of the most advanced heart surgery in the UK, and is known for pioneering new techniques, such as using an engineered, polymeric mesh sleeve to support the aorta (rather than replacing it) in patients with the genetic disorder Marfan syndrome.

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Timothy Spall on the haematologist who saved his life



In 1975, the year before Professor Anthony Goldstone began working at University College Hospital as a consultant haematologist, his predecessor published a report in *The Lancet* about the treatment of blood

diseases. It wasn't particularly optimistic. "It basically said, 'Don't bother, it never

works," says Goldstone, who is compact, silverhaired and maintains an air of quietly wry good humour. "Obviously, it was a bit longer than that, but that was more or less the summary."

He sits on a hospital bed and his feet don't quite touch the floor. In the 35 years since then, Goldstone has held positions such as chairman of the European Bone Marrow Transplant Group for Lymphoma and president of the British Society for Haematology; today he is director of clinical services at Harley Street at UCH, a purpose-built private patients' unit at the hospital. Things, he explains, have got better. "We're now very fortunate in this area of medicine, because survival rates have improved – and they keep improving all the time. The doctors who work in lung cancer or treating pancreatic cancer, they're envious that we have people walking out alive." Sitting next to him is someone who, with his help, did walk out. Timothy Spall is today one of the most distinguished faces in British drama, but in 1996, at the age of 39, he was diagnosed with acute myeloid leukaemia.

"So suddenly, you're introduced to a stranger," Spall says, glancing at Goldstone and grinning almost bashfully. "And not only are they a stranger that you come to know very well, but they are also trying to save your life. But as soon as I met Professor Goldstone, I just thought, 'I trust that man.' There was something about him that was more than just medical. Not all doctors have the gift of being healers, but you get a sense that he is actually going to cure you."

And he did, though it was not without complications. Frailty, brought on by a severe chest infection, meant that Goldstone decided to give Spall just two courses of chemotherapy, rather than the four that would have been optimal. "He was having to play a bit of chess about what to do with me," explains Spall. "What he didn't want to do was kill me by trying to cure me."

Later, when other doctors believed Spall had relapsed and were ready to conduct a bone-marrow transplant and full-body radiation, Goldstone intervened. "I didn't have the transplant because I probably wouldn't have got through it. It was exactly the right decision. The man's a bloody genius."

"You get lucky," sighs Goldstone. "I don't know what luck is in clinical oncology, but you get it. One of the things I always tell junior doctors, which seems a little bit old-fashioned, is that you have to purvey hope. You have to keep hope going right through, whether the patient is going up or down. There's no point in giving false hope, but there are ways of being honest and hopeful."

"Which is what you want to hear," chuckles Spall. "You don't want someone blowing smoke up your arse."

When he was finally given the all-clear, Spall invited Goldstone and his medical team to a birthday party. "A wonderful, wonderful do," Spall says. "It was 50 per cent medics, 50 per cent actors. I was going round saying, "This is Professor Goldstone. He saved my life." Goldstone squirms and smiles.

"People say, 'Oh, I couldn't do your job,'" Goldstone confides. "But, actually, we do very well. Sometimes, someone you've treated will write you a nice letter... You get one every once in a while. I have them all stacked up in a drawer at home. I keep them all." BEN MACHELL



The female plastic surgeons whom women trust



Theatre 4 at the London Clinic looks like any other operating theatre being prepped for a plastic surgery procedure. Everyone is wearing scrubs. The nursing team has prepared the surgical instruments. The

surgeon approaches the table, the runner adjusts the lighting and the operation begins. But there is one crucial difference to this scene. Everyone in the room, from surgeon to nurse to runner, is a woman.

Consultant Dalia Nield's all-female plastic surgery team, the only one of its kind in the UK, evolved after demand from her patients.

"Some of them started to ask, 'Is your anaesthetist a man? I don't want him to see my breasts. Do you have an anaesthetist who's a woman?' So I thought this was something that needed doing."

Nield, 61, specialises in reconstructive

 $\stackrel{\square}{\cong}$ surgery (carried out after a mastectomy or $\stackrel{\square}{\cong}$ the removal of skin cancers) as well as purely

escontraction of the latter work

is liposculpture, using liposuction to change

women's body shapes.

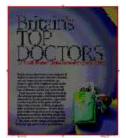
The increasing mix of patients from different social and religious backgrounds prompted Nield to form the team about five years ago. Muslim women, for example, did not want intimate areas of their bodies to be seen by a man. Other female patients were simply shy. As Deidre Guerin, one of the team's anaesthetists, puts it, "It is a question of trust and it is a question of privacy."

Many of Nield's patients tell her they come to her because she is a woman – a rarity, as only 9.5 per cent of consultants belonging to BAPRAS (the British Association of Plastic, Reconstructive and Aesthetic Surgeons) are female. "I think they feel I'm more sympathetic, probably because I am vainer than male surgeons." But she dislikes generalising – some male surgeons are very sensitive, some female ones have awful bedside manners. "Either you're good or you're not," she argues.

The way Nield refers to male colleagues as "the boys" in her muted Venezuelan accent is certainly more maternal than condescending. "The best thing about being a consultant is that the operating table is set at my height now," she jokes. "The boys who trained me were all so tall, I had to climb ladders to reach it." While almost 90 per cent of plastic surgery patients are female, it is not only women who feel more at ease with Nield. She also carries out gynecomastic ("moob") work in men. "They tell me they feel comfortable because they don't have to compete with me. They're not challenged by me as a woman."

Nield clearly loves her work. "It's such a beautiful specialism, because you do so much. You can change things, you can fill holes left by cancer or by accidents." She thinks more women should become plastic surgeons and that it's natural for them to be attracted to such a discipline. "Because I am a woman, I feel that I'm quite sensitive to beautiful things."

While more women are now becoming plastic surgeons (23.5 per cent of BAPRAS trainees are female), it is still a very maledominated industry. Nield, a mother of two grown-up daughters, says it is a tough gig for a woman. The working hours have become more flexible since she was a trainee, but the problems have not disappeared. "If you want to get married and have a family *and* do this, you need a good chair and a wonderful husband," she says, before adding glowingly, "I have both." **ABGAL RADOR**



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Francis Wells

One of Britain's top specialists for mitral valve repair, having performed more than 2,500 procedures at Papworth Hospital, Cambridge, one of the biggest mitral valve centres in Europe. Set up a two-stop lung cancer centre, one of the first in the UK, and is interested in the management of all thoracic disease, from heart valves to lung cancer.

DERMATOLOGY

Malcolm Greaves

Consultant in the Cutaneous Allergy Clinic at St John's Institute of Dermatology, St Thomas', and in general dermatology at Poole Hospital, with a private practice at the London Allergy Clinic. Specialises in skin allergies and patch testing, and has published more than 600 times. **Christopher Griffiths**

Co-author of one of the main textbooks on skin and author of more than 350 papers. Professor of Dermatology at the University of Manchester and consultant at Salford Royal Hospital, with a particular interest in psoriasis, including developing new biologics to relieve it and immunology research to prevent it. Past president of the British Association of Dermatologists and past chair of the British Society for Investigative Dermatology.

Nicholas Lowe

Former consultant dermatologist at UCL and currently Clinical Professor of Dermatology at the University of California, Los Angeles. Runs a private practice in London, creates his own products and is responsible for several well-known youthful faces on television. Has published more than 400 papers and 17 books. **Rona MacKie**

World expert on melanoma - the incidence of which is increasing more than any other cancerous tumour - at the University of Glasgow. Established primary research monitoring more than 14,000 melanoma patients. Awarded the Sir Archibald Grey Gold Medal by the British Association of Dermatologists in 1999.

Susan Mayou

Specialist in melanoma, paediatric dermatology and non-invasive cosmetic procedures. Ran the paediatric dermatology clinic at the Chelsea and Westminster and the paediatric and adult clinics at Queen Mary's Roehampton for 15 years. Now practises privately, seeing adults at the Cadogan Clinic and children at the Cromwell.

EAR, NOSE & THROAT

Peter Clarke

Royal Marsden specialist known for neck surgery, including surgical voice restoration. skull-base surgery and neck dissection. Has

written chapters for three of the leading ENT textbooks as well as a chapter of a recently published book on skull-base surgery. **Ben Hartley**

Consultant paediatric otolaryngologist at Great Ormond Street and lecturer at UCL. Known for cochlear implants in children with severe hearing loss, and removal of neck lumps, cysts and tumours. Valerie Lund

One of Britain's leading specialists in sinus tumours, awarded a CBE for services to medicine in 2008. Professor of Rhinology at the Ear Institute, UCL, as well as consultant ENT surgeon at the Royal National Throat, Nose and Ear Hospital, Moorfields Eye Hospital, University College Hospital and Imperial College. Chief Editor of Rhinology and Co-Chair of the European Academy of Allergy & Clinical Immunology Taskforce on Rhinosinusitis. Became Secretary of the European Rhinologic Society in 2008 and previously chaired Women in Surgical Training (WIST).

lan Mackay

Past president of the British Association of Otorhinolaryngologists and the Section of Laryngology and Rhinology at the Royal Society of Medicine, and now works in private practice on Harley Street. Formerly conducted rhinoplasty and surgery for sinusitis, treated nasal allergies and helped extreme snorers and those with sleep apnoea at the Royal Brompton.

Hesham Saleh

Leading figure in sinus surgery and rhinoplasty, both cosmetic and functional. Consultant rhinologist and facial and ENT surgeon at Charing Cross Hospital and Royal Brompton Hospital, and lecturer in ENT surgery at Imperial College. Secretary of the Section of Laryngology and Rhinology at the Royal Society of Medicine. Speaks regularly at conferences worldwide and has published more than 50 peer-reviewed articles. Janet Wilson

International authority on swallowing disorders and only the second UK female chair of a surgical discipline. Appointed Professor of Otolaryngology, Head and Neck Surgery at the University of Newcastle in 1995, and runs a clinic in the North East. Research interests include recurrent tonsillitis.



ENDOCRINOLOGY

Andrew Hatterslev

Developed treatment for sufferers of the relatively unknown monogenic diabetes with a team at the Peninsula College of Medicine, University of Exeter. As Lead Physician in Endocrinology at the Royal Devon and Exeter Hospital, has put the Peninsula at the forefront of international research. Elected a Fellow of the Royal Society earlier this year.

Jayne Franklyn

Researches the many disorders arising from thyroid gland abnormalities and the best treatment of these conditions. Lead Researcher

at the Endocrinology, Diabetes and Metabolism unit of the University of Birmingham and consultant endocrinologist at the city's Queen Elizabeth Hospital. President of the British Thyroid Association.

Stephen O'Rahilly

Director of the University of Cambridge's Metabolic Research Laboratories and the Medical Research Council's Centre for Obesity and Related Metabolic Diseases, with particular expertise in type 2 diabetes. Practising clinician at Addenbrooke's Hospital, Cambridge, and the founder of three leading journals.

Frederick Wu

Consultant in endocrinology at Manchester Royal Infirmary, whose work looking into hypogonadism – a deficiency of the hormone testosterone - at the University of Manchester concluded earlier this year that there is evidence of a male menopause. Currently trialling a male contraceptive pill, and longeracting testosterone-progesterone combination male contraceptives (to maintain sex drive). President of the European Academy of Andrology.

FERTILITY

Hossam Abdalla

Director of the Lister Fertility Clinic, one of the largest fertility units in the UK with one of the highest IVF success rates. Produced research that resulted in the birth of Britain's first baby conceived from a donated embryo through Zygote Intrafallopian Transfer (ZIFT). Has designed a computer programme, ACUsys, that gives patients accurate statistics for their chances of conception.

Enda McVeigh

Consultant gynaecologist at the John Radcliffe Hospital, Oxford, and Medical Director of the Oxford Fertility Clinic. Renowned specialist

in reproductive medicine, with a particular interest in infertility, laparoscopic surgery and endometriosis. Principal author of the Oxford Handbook of Reproductive Medicine and Family Planning and adviser to the All-Party Parliamentary Group on Infertility.

Alison Murdoch

Consultant gynaecologist who founded and is head of the Fertility Centre at the International Centre for Life in Newcastle. Sits on the Nuffield Council on Bioethics and the advisory board of Infertility Network UK, and was chair of the British Fertility Society from 2003-2005. **Paul Serhal**

Consultant obstetrician who founded the Centre for Reproductive and Genetic Health (formerly the Assisted Conception Unit), London, one of Britain's most successful fertility clinics, in 1990. In 2009, was responsible for helping a woman give birth to the country's first

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"breast-cancer-gene free" baby, having screened embryos for the faulty hereditary BRCA1 gene before implantation.

Mohamed Taranissi

Runs the Assisted Reproduction and Gynaecology Centre, London, founded in 1995, which has some of the highest success rates of any British fertility clinic: in 2009, the live birth rate was more than double that of the national average. Pioneer of controversial therapies to help infertile couples, and has amassed an estimated £41 million fortune, becoming the UK's wealthiest doctor, according to the Sunday Times Rich List. **Geoffrey Trew**

Consultant in reproductive medicine and surgery at Hammersmith and Queen Charlotte's. One of the few European surgeons to practise complex open microsurgery to correct congenital abnormalities and reconnect Fallopian tubes after the removal of blockages. Lectures internationally in reproductive surgery and assisted conception, holds private clinics in Harley Street and has written more than 50 peer-reviewed papers and 10 book contributions.

GASTROENTEROLOGY

lan Gilmore

Specialist in liver disease based at the Royal Liverpool University Hospital, with particular interest in the consequences of alcohol and drug abuse in Britain. Earlier this year claimed the decriminalisation of drugs would prevent crime. President-elect of the British Society of Gastroenterology and a past president of the Royal College of Physicians.

Christopher Hawkey

Has pioneered the development of stem-cell transplantation for sufferers of Crohn's disease. Campaigned for greater awareness of the dangers of obesity and alcohol while president of the British Society of Gastroenterology, saying alcohol is more pernicious than smoking. Based at the University of Nottingham.

Martin Lombard

Consultant hepatologist at the Royal Liverpool University Hospital. Appointed the first National Clinical Director for Liver Disease in January this year, and is now attempting to implement a national liver strategy to combat liver disease, Britain's fifth biggest killer.

GENERAL SURGERY

Andrew Kingsnorth

Regarded as the UK's expert on hernias. Based at Derriford Hospital in Plymouth and teaches at the Peninsula College of Medicine, University of Exeter. Founded and is a past president of the British Hernia Society, and is currently

President of the European Hernia Society. Set up and works extensively with the charity Operation Hernia, treating sufferers in Africa.

Ara Darzi

Leads a team of surgeons at the forefront of developing new, minimally invasive techniques at St Mary's Hospital. Was created a life peer in 2007 and in the same year was asked to carry out a wide-ranging review of the NHS. Holds the Paul Hamlyn Chair of Surgery at Imperial College.

Michael Horrocks

Professor of General Surgery at the University of Bath and practising clinician at the city's Royal United Hospital. Specialises in vascular surgery, having pioneered endovascular aneurysm repair in this country, and varicose vein treatments, having been an early adopter of the revolutionary VNUS closure technique, now used widely.

Agostino Pierro

Consultant in neonatal and paediatric surgery at Great Ormond Street, responsible for surgical procedures on dangerously ill children and babies. Led the 20-strong team that attempted to separate the conjoined Williams twins in 2008. Specialises in necrotising enterocolitis, an often fatal bowel condition, and leads research in paediatric surgery at UCL's Institute of Child Health. **Justin Vale**

Surgeon at St Mary's Hospital, Imperial College, London, and Honorary Secretary of the British Association of Urological Surgeons (BAUS). Has pushed the boundaries of robotic surgery, introducing revolutionary approaches such as robotic prostatectomy. Special interests include laparoscopic renal surgery and cancer surgery of the pelvis.

HAEMATOLOGY

Alan Burnett

Head of Haematology at Cardiff University's Cancer Stem Cell Research Institute. Works at the forefront of research into acute myeloid leukaemia and has been involved in some of the biggest trials in treating the disease, resulting in the institute being named as a Centre of Excellence. **Finbarr Cotter**

Chair of Experimental Haematology and Clinical Lead for Molecular Pathology at Barts and the London NHS Trust, Editor-in-Chief of the British



Journal of Haematology and recently appointed President of the British Society of Haematology. Work focuses on molecular haematology, having developed bcl-2 antisense therapy - now widely used in the treatment of cancer - and created the Bloodmed website to help bring together haematological research.

David Keeling

Head of the Oxford Haemophilia Centre and Thrombosis Unit at the John Radcliffe Hospital, Oxford, specialising in bleeding disorders and deep-vein thrombosis. Lectures at the University of Oxford on haematology and is involved with

organisations advancing the study of both thrombosis and haemophilia.

David Linch

Professor of Haematology and consultant haematologist at UCL, and former president of the British Society for Haematology. Specialist in lymphoma and leukaemia, whose research has been instrumental in the development of high-dose therapies for treating these cancers. **Paul Telfer**

Based at the Royal London Hospital, with particular expertise in sickle-cell anaemia and thalassaemia, both potentially fatal conditions caused by an inherited gene that results in abnormalities in red blood cells. Currently developing treatments for sickle-cell anaemia and involved in projects in the Democratic Republic of Congo and Bangladesh, as well as acting as an adviser to the Cypriot government on thalassaemia.

MENTAL HEALTH

Henrietta Bowden-Jones

Consultant psychiatrist specialising in substance misuse. Works across several spheres, including outpatient work with the homeless at the Soho Rapid Access Clinic and a private practice treating professionals from addicted musicians to stressed footballers. Has a national role as a member of the Faculty of Addictions at the Royal College of Psychiatrists, and frequently works in human resources, helping patients return to work after hospitalisation. Trustee of Sporting Chance Clinic, a charity that helps athletes fight drugs, alcohol and gambling, and involved in research at Imperial College in the neurobiology of alcohol.

Colin Drummond

Expert on the treatment of alcoholics, Professor of Addiction Psychiatry at the National Addiction Centre, University of London, and consultant addiction psychiatrist at the Maudsley. Acts as the Royal College's spokesperson on alcohol problems and is a member of the WHO Expert Committee on Drug Dependence and Alcohol Problems.

Hamid Ghodse

Expert in drug dependency and Professor of Psychiatry and International Drug Policy at St George's, with more than 300 papers published on drug-related issues. Awarded a CBE in 1999 for his work treating alcohol abuse and drug dependency. As President of the International Narcotics Control Board, has criticised the decriminalisation of cannabis. **Michael Rutter**

Knighted in 1992 and the winner of the Lifetime Achievement Award at the 2010 Royal College of Psychiatrists Awards. Known as the "father of child psychology", and was the first consultant

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MELANIE REID'S LIFE SUPPORT



Since her horse-riding accident in April, Melanie Reid's extraordinary column in the Magazine has offered brief snapshots of some of the staff who work at the Glasgow spinal injury unit where she is

a patient. Now meet them properly – the dedicated, talented people helping her to rebuild body and soul

PHOTOGRAPHS Murdo Macleod















v rights. I shouldn't be the

journalist writing this piece. It's a bit like embedding reporters with the troops in Afghanistan, and then criticising them for filing subjective stuff saying our boys are such heroes. Look at it another way, and

I couldn't be better qualified to write about one of the best spinal

injuries units in Britain - and one of the top three in Europe - simply because I'm a reallife, long-term consumer. I arrived at the door dreadfully injured last April, and am now in the final months of my rehabilitation. Embedded in the unit - literally - I have witnessed the good, the bad and the genuinely amazing.

The Queen Elizabeth National Spinal Injury Unit (QENSIU) serves all of Scotland and the north of England. It was opened 18 years ago, a purpose-built single-storey building attached by a long corridor to the Southern General Hospital in Glasgow. From the outside, tucked away in the corner of the vast hospital site, the unit resembles nothing more than an unassuming sheltered housing complex, badly in need of some paint on the window frames and work on the roof. (Note to NHS maintenance staff: the gym has been littered with buckets to catch the rain ever since I arrived here. Please do something.)

But looks mean nothing. In terms of research, outreach, facilities, experience of staff, expertise to call upon and the simple trick of having absolutely everything under one roof, QENSIU is a nugget of international excellence. It is one of 13 spinal cord injury units in the UK and Ireland, including the English national centre, at Stoke Mandeville in Aylesbury. But this is the only unit to have Charter Mark accreditation, which it has held since 1994, and is also the only one to have attained the government's Customer Service Excellence standard, a kind of ultimate gold star for an organisation's culture, service delivery and the way it treats its customers.

Of this I knew nothing, of course, when I was flown in to the Southern General with a broken neck and back, to be received by the main Accident and Emergency department and then transferred to the unit's high-dependency ward for spinal injuries, which also qualifies, in terms of staffing and expertise, as an intensive care unit. Although I didn't realise it at the time, I was already seriously lucky. Many patients with spinal injuries are initially taken to other regional hospitals, where they

languish, without specialised care, until a bed becomes available in Glasgow for their rehabilitation. Over these past months, I have heard too many patients talk of the bed sores and complications they developed in ordinary hospitals - a measure, if one were needed, of the unique needs of spinal patients.

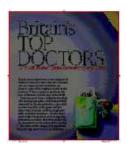
So when I fell off my horse, I became one of the 750-1,000 people in the UK who damage their spinal cord every year - there are no exact figures because it's not a notifiable condition - and one of the average 160 or so new admissions annually to QENSIU. The first I knew about my condition was when the director of the unit, David Allan, who performs the spinal surgery, loomed into my dinnerplate-sized view of the ceiling above me and told me I'd broken C6 and cracked T12, and horses were dangerous because he used to keep them himself. Quirky, direct but not at all doomladen, he told me my spine was not severed but I was paralysed and would need 18 months' rehabilitation. Seconds after he left, there popped up the ageless pixie face of my named nurse, the wonderful Christine Eden. "It may not take as long as that," she whispered "I have seen many wonderful things happen here." I don't know if theirs is a routine double act for

Up popped Christine Eden. 'It may not take 18 months,' she whispered. Tve seen many wonderful things happen here'

new patients, but what they both said was so vital to me. Hope filled me; and in a sense has never drained away. Christine has been a spinal nurse for 44 years; her care, expertise and kindness are equalled only by her modesty.

Thereafter, strapped to a special spinal tilt bed and befuddled by morphine, I met a procession of people upon whose expertise my life depended. My consultant, Dr Mariel Purcell, a charming Irishwoman; Dr Alan McLean, a respiratory specialist; Matthew Fraser, who specialises in microsurgery; and the lovely urology specialist known universally as Jig or Dr Jig, short for Jigajinni.

After patients have their lives saved, they then must have them rebuilt. QENSIU has 12 high-dependency beds, but its 36 rehab



beds – including a specialist respiratory care unit – are the base for a whole new world of gym and hand therapy. Here, for those who put in the effort, lies salvation. The physiotherapy team – including Jon (Yoda) Hasler and Susan King, my beloved hobbit – has around 55 years' cumulative expertise in rehabilitating people with spinal injury, and a gym with everything from a hugely expensive Lokomat walking machine to (if we're honest) the far more useful scrap Fiat Punto, into which patients learn to transfer themselves.

In the gym, blood, sweat, tears and gallows humour reign, but lives are turned around.

For high-level spinal injuries, improving the use of damaged hands can massively effect future quality of life. In this regard, the unit boasts another specialist of world renown, Leslie Wallace, who is also at the forefront of tendon transplants, advising surgeons how to restore power. "If you can help someone learn to feed themselves, or give someone a transplant so they can grip with a thumb, then you transform lives," she says.

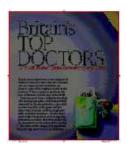
How far things have come. Until the early years of the last century, according to the charity Spinal Injuries Association, a spinal cord injury was regarded as fatal. Even by the Sixties there was still a 35 per cent death rate among those with tetraplegia. Improvements in the treatment of spinal cord injury have come about partly because of better initial paramedic care, but mostly because of the multidisciplinary approach now employed, where doctors, nurses, psychologists and therapists work together to manage the care required to enable a patient to become independent.

Perfecting that multidisciplinary approach has fallen to Margaret McKillop MBE, the formidable clinical services manager. She oversees the whole ship - the large nursing staff, including gentle, inspiring people such as Gillian Irvine, a senior staff nurse who always gives more time than she has to give, Amanda Howat, my occupational therapist, who taught me how to dress myself, shave my legs and laugh again, and Mandy Rocket, the auxiliary whose childhood was as hilariously oldfashioned as mine was. Remember stereograms and darned stockings? We certainly do. The best cheer is found in the dining room, where Ellen De Baie and Margaret Beecham, legendary Glasgow dinner ladies, rise above the perpetual mumping and moaning about the food with grace and humour and tongues too sharp for anyone to live with.

The unit's £7.5 million annual budget also

pays for liaison sisters, who travel the country visiting former inmates (once in QENSIU, you remain theirs for life); and the many outpatient clinics for everything from pain control to assisted conception. Plus, the unit offers a remarkable promise: if you make any significant recovery in motor function after you leave, you will be re-admitted when there is a bed free to continue work in the gym. It remains a unit much greater than the sum of its parts. Early in my time here, as I quailed at my plight, a fellow patient glided up to me in his chair. "This is a wonderful place, you know," he said. "Money simply could not buy what's here." And he was absolutely right.

David Allan, Christine Eden, Amanda Howat and Mariel Purcell were not on duty when our photoshoot took place



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in child and adolescent psychiatry in the UK. Has a children's and adolescents' centre named after him at the Maudsley.

Janet Treasure

Professor of Psychiatry at King's College, who also heads the Eating Disorders Unit at the Maudsley. Has more than 20 years' experience dealing with eating disorders and is Chief Medical Officer for the Eating Disorders Association. Has published more than 150 peer-reviewed papers and several influential lay guides to coping with anorexia.

Gordon Turnbull

The country's leading trauma and PTSD expert, having counselled well-known trauma victims such as Terry Waite, John McCarthy and Jackie Mann. Worked extensively with emergency services personnel following the Lockerbie plane crash and during the first Gulf War as the RAF's psychiatric adviser in the field. Developed treatment strategies for dealing with trauma in the RAF that are now used for police officers, emergency services personnel and military veterans. Currently consultant psychiatrist at the private Capio Nightingale Hospital, London.

NEUROLOGY & NEUROSURGERY

Tipu Aziz

Founder and Head of the Centre for Functional Neurosurgery at the John Radcliffe Hospital, Oxford, conducting ground-breaking research into movement disorders using surgery and deep-brain stimulation. The centre is one of the busiest for surgery in the UK, and specialises in helping restore movement to Parkinson's disease sufferers and treating those with other movement-related problems.

Alastair Compston

Chairman of the Cambridge Centre for Brain Repair from 1992-2002 and currently Head of the Department of Clinical Neurosciences at the University of Cambridge and honorary consultant neurologist at Addenbrooke's and Hinchingbrooke hospitals. Specialises in multiple sclerosis, with research interests in the genetics and biology of human demyelinating disease.

Andrew McEvoy

Neurosurgeon known for performing "awake" brain operations, using high-tech gamma-knife and cyber-knife techniques to minimalise neurological damage. Consultant neurosurgeon at the National Hospital for Neurology and Neurosurgery and the Institute of Neurology in London, and honorary consultant neurosurgeon to Great Ormond Street Hospital. Particularly interested in the preservation of function during neurosurgical procedures and the reorganisation of brain function around brain tumours. **David Mendelow**

Professor of Neurosurgery at the School of

Surgical & Reproductive Sciences, Newcastle University, and Head of Neurosurgery at Newcastle General Hospital. Has authored more than 130 papers on cerebrovascular disease and head injury, with particular specialisms in haemorrhage and stroke.

John Pickard

Professor of Neurosurgery in the Department of Neurosciences at the University of Cambridge. Research interests include advancing the care of patients with acute brain injury from trauma, coma and stroke. Clinical director of the Wolfson Brain Imaging Centre at Addenbrooke's.

OBSTETRICS & GYNAECOLOGY

Peter Braude

Head of Women's Health at King's College and former scientific chair of the Royal College of Obstetricians and Gynaecologists, known for research on screening embryos for genetic diseases. Directs the centre for Preimplantation Genetic Diagnosis at the Assisted Conception Unit at Guy's and St Thomas'.

Donald Gibb

Former head of teaching in obstetrics and gynaecology at King's College. Founded the Birth Company, where high-profile celebs head when pregnant, and also works as an obstetrician at the private Portland Hospital.

Yehudi Gordon

A pioneer of active and water birth, ostracised at the Royal Free Hospital in the Seventies for encouraging women to move around during birth. Founded the private birth unit at the Hospital of St John & St Elizabeth; co-founded and acts as a consultant at the alternative gynaecological practice Viveka in North London.

Sailesh Kumar

Senior lecturer at Imperial College and consultant in foetal medicine, obstetrics and gynaecology at Queen Charlotte's Hospital, London, specialising in high-risk pregnancy, multiple pregnancy, invasive foetal therapy and vaginal surgery.

Lesley Regan

Head of the Department of Obstetrics and Gynaecology at St Mary's Hospital, London, and was the first female chair of obstetrics and gynaecology in Britain. Specialises in treating couples who've suffered recurrent miscarriages, achieving an 80 per cent success rate. Set up



on-site laboratories at St Mary's that allow a rapid feedback loop between diagnoses, tests, research, ideas and treatments. Currently building a tissue database to try to identify the gene responsible for common complications during pregnancy, such as miscarriage and pre-eclampsia.

ONCOLOGY

Peter Clark

Consultant medical oncologist at the Clatterbridge Centre for Oncology, Wirral, specialising in lung,

testicular and breast cancer. Known for extending chemotherapy treatment to six district hospitals in northwest England, making it one of the most comprehensive networks of chemotherapy clinics in the UK. Also consultant medical oncologist at the Royal Liverpool Hospital and Honorary Professor of Medical Oncology at the University of Liverpool, Co-chairman of the National Chemotherapy Advisory Group, and head of the new North West Interim Cancer Drugs Fund.

Rob Grimer

Consultant at the Royal Orthopaedic Hospital in Birmingham specialising in musculoskeletal tumours, having written more than 200 peerreviewed papers. Pioneered the use of extendable prostheses and novel surgical techniques such as irradiation and reimplantation of bone, and research interests include tumours of the pelvis. Has served on the surgical boards of all the main bone tumour trials and is Chair of the National Cancer Intelligence Network's sarcoma group.

Gerald Gui

Consultant breast cancer surgeon at the Royal Marsden, with special interests in risk management, risk-reduction mastectomy and improved diagnostics. One of the first UK surgeons to offer sentinel node biopsy and immediate reconstruction after mastectomy. Member of the British Breast Group, the Surgical Research Society, the Association of Breast Surgery and the British Association of Surgical Oncology. Sits on the steering committee of a number of national training courses and is on the trial management committees of national and international studies.

Kefah Mokbel

Expert in breast disease from cancer to cysts, and founder of the charity Breast Cancer Hope, responsible for raising millions for breast cancer care. Currently the Lead Surgeon at the London Breast Institute at the Princess Grace Hospital, consultant breast surgeon at St George's, London, and Professor of Cancer Surgery at the Brunel Institute of Cancer Genetics and Pharmacogenomics, with more than 150 papers and 10 books published for postgraduate education.

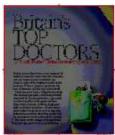
Brendan Moran

Consultant surgeon at Basingstoke & North Hampshire since 1995, specialising in colorectal cancer, and Colorectal Director and Lead Surgeon for the Pelican Cancer Foundation. Honorary Senior Clinical Lecturer at the University of Southampton's Cancer Sciences Division and a member of council for the Association of Coloproctology of Great Britain & Ireland. Recently appointed National Clinical Lead for the National Cancer Action Team's low rectal cancer training programme.

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How to look ten years younger, by Louise Redknapp's doctor



You can see why Dr Frances Prenna Jones swapped cardiology for dermatology. She's gone from doing angioplasties in the middle of the night in a gritty hospital to a nine-to-five job tending complexions

in a Mayfair townhouse. She'd quibble at the word "dermatology" – she prefers "anti-ageing skincare" – but what she does is make your complexion look as good as it possibly can.

Louise Redknapp, the 35-year-old presenter, former singer and wife of football pundit Jamie Redknapp, first sought out Prenna Jones five years ago when she was suffering from

pregnancy-induced hyperpigmentation – dark patches of skin – on her face after the birth of bher first child, Charley. "I'm talking terrible pigmentation," she says now, looking glowing. "It used to really get me down. It was my

ີ່ຍໍ່ serious hang-up. It was horrible, because I'm the not a big make-up wearer, so I would just have the pigment showing and have to deal with it." Redknapp searched for a cure, to no avail. Several doctors suggested laser resurfacing; others gave her creams. One said she would have to wear a hat outside for the rest of her life. Another advised bleaching. "I'm a bit of a scaredy cat," says Redknapp. "My husband always says: 'Don't muck around with what you've got.' So I thought going home with a half-bleached face was not going to work."

Finally, her friend Natalie Imbruglia recommended Prenna Jones. Now, twice a year, she applies a face mask to attack the enzymes that drive the pigmentation. That stays on for four hours while she goes home. ("Jamie picks me up outside because it's not a good look.") Then she dabs on what she calls "some other cream" for a few weeks and the pigmentation's gone. "It's about £400 and for me that's totally worth it because of what I do for a living."

Prenna Jones, who qualified 20 years ago, says that when she trained as a doctor, her speciality didn't exist. She spent ten years as a cardiologist until she'd had enough of the on-call hours. "An anaesthetist friend was gassing for some plastic surgeons," she says. "He said: 'You'd be amazing doing cosmetic medicine because you're artistic and you've got a general medicine background." No formal training existed, so Prenna Jones went round current practitioners asking if she could learn from them. She helped Boots to set up its laser clinics and eventually started her own practice. Her waiting list is three months long.

She says she would never perform a procedure that hasn't been done on herself and won't do anything if she thinks the patient doesn't need it. "It would be in my interest to do more treatments because I'd make more money, but I don't want to do that." So what has she had done? "Everything. A bit of Botox, a bit of filler, lots of machine work. It's about maintenance. How old am I? I'm not saying.

"My colleagues in general medicine used to refer to me as 'the quack'," she says with a smile. "Now they're all at the age where they want to come and have things done. They don't call me the quack any more." HILARY ROSE



The baby saver: 'People come expecting miracles'



To the outside observer, most doctors seem to be dispassionate sorts. They might be seething with passion inside, but the exterior is usually measured. Professor Kypros Nicolaides is not most doctors. The

expert in foetal medicine fizzes with energy and enthusiasm for his subject, banging his hand on the desk to emphasise a point, getting worked up about how long it takes for new procedures to become mainstream and saying he loves his job so much he can't bear to take a holiday. Nicolaides is a man in a hurry about everything. Holidays, it seems, are for wimps.

The man who is now one of the world's leading experts on pregnancy says he fell in love with the field at first sight. "When I was a student at King's, a new ultrasound machine arrived," he remembers. "It was 1979. I went to have a look and when I saw the foetus moving within the mother, that did it for me. It's silly to think that life begins at birth."

Nicolaides now specialises in pioneering techniques that allow him to diagnose, treat or even prevent certain conditions before a baby is born. He was the first doctor to perform laser surgery in the womb, and it was he who discovered the link between Down's syndrome and the amount of fluid behind a foetus's neck, then developed the nuchal translucency test to check for it. The NHS antenatal clinic that he established and heads at King's College Hospital in South London is the go-to place for any woman with any antenatal problem, from pre-eclampsia to surgical intervention; it now receives 20,000 patients each year.

Anna Lawrence, 43, first went to him when, after multiple attempts at assisted conceptions, she finally became pregnant for the first time, at 41. "It was a very precious pregnancy," she says, "and the only one I thought I'd have." (She went on to have a second baby, Elizabeth, pictured on the previous page, six months ago.) A friend who had contracted meningitis when pregnant recommended Nicolaides. "He has a reputation for passion, personality and complete expertise," says Lawrence. "He is *the* person who knows about it, has discovered it, researched it, and will do anything it takes to sort out a problem. It's courage, really."

In the event, Lawrence had no problems and gave birth to both of her daughters at home, but the three scans she went for as a private patient gave her peace of mind. "I was extremely lucky. He made me feel safe."

As well as his NHS work, Nicolaides runs the Foetal Medicine Foundation, which in turn funds a private clinic on Harley Street. And because he ploughs the money he makes from his private work back into the clinic, he's able to charge comparatively low fees. (Lawrence only paid £120 to £150 for her scans.) But it's not enough for him: in the next few years, he says, banging the table, he wants to set up what he calls NHS super-clinics, where every woman will see an expert at 12 weeks who will check for Down's, any major problems and possible risks such as diabetes. "TII either make sure it happens, or I'll be destroyed completely through failure," he says dramatically.

He is not without his detractors – antiabortion campaigners and the Catholic Church disapprove – but he worries constantly about the ethical side, about mothers who don't want a disabled child, or whether abortion is the same at 20 weeks as at 5. He's been accused of playing God. Is he? "Yes. But that can be so in any field of medicine. People come to me expecting miracles. For some I become God, and for others the devil. It has distressed me a lot, but I have learnt to accept it."

Unlike most doctors, he admits to getting emotionally involved with his job. Experience has taught him that if a woman loses her baby she will probably initially blame herself, then him. "It's something I accept, but it depresses me each time. It doesn't get any easier, in the same way that it doesn't get any easier when you're doing an operation and you watch the baby die. But," he adds, "there is the enormous joy that the vast majority are born normal, and the even greater joy when there is something wrong and you do something and the baby survives. I think things balance out." HILARY ROSE



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Michael Peake

Consultant physician, senior lecturer and Lead Clinician for Lung Cancer for the University Hospitals of Leicester, based at the Glenfield, Leicester. Chairs the Intercollegiate Lung Cancer Group, is a member of the Department of Health's Lung Cancer and Mesothelioma Advisory Group and is National Lead Clinician for Lung Cancer in the Cancer Services Collaborative Programme. Editor of *Lung Cancer in Practice* and chairs the UK Lung Cancer Coalition and the National Cancer Research Institute's Lung Cancer Early Diagnosis and Screening group.

Barry Pizer

Consultant paediatric oncologist at Alder Hey Children's Hospital, Liverpool, with a particular interest in tumours of the central nervous system in children. Member of the International Society of Paediatric Oncology and honorary senior lecturer at the University of Liverpool, with 100 published research papers and book contributions. Founding member and Chair of the Children, Cancer and Leukaemia Group's Paediatric Oncology in Developing Countries branch.

Hugh Sinnett

Professor of Breast Surgery at Imperial College and former quality assurance surgeon for the national NHS Breast Cancer Screening Programme; national secretary of the British Association of Surgical Oncology and a member of the medical advisory committee for Breast Cancer Care. Helped produce the national surgical guidelines for the treatment of breast cancer, and has published a number of papers on breast disease as well as DVDs for the BMA and the national breast screening programme. Ian Smith

Leading researcher in breast cancer, sitting on the steering committees of several major international clinical research trials and closely involved in the development of the drugs trastuzumab (Herceptin) and letrozole (Femara) for use in breast cancer. Pioneered the use of pre-operative medical treatment before surgery for large breast cancers and has published more than 350 research papers. Lectures widely around the world and is a professor of cancer medicine at the Royal Marsden Hospital and the Institute of Cancer Research, London, Head of the Breast Unit at the Marsden and a past chairman of the Association of Cancer Physicians.

OPHTHALMOLOGY

Harminder Dua

Professor of Ophthalmology and Visual Sciences at the University of Nottingham, President of the European Association for

Vision and Eye Research Foundation, Editor-in-Chief of the *British Journal of Ophthalmology* and consultant civilian adviser to the Royal Air Force. Known for research using stem cells to regrow the cornea and recently received funds from the Centre for Defence Medicine to develop research on techniques that can be used in war theatres. Recently elected as a chair of the Academia Ophthalmologica Internationalis, an academic body of 70 ophthalmic professors worldwide.

Andrew Jacks

Consultant surgeon at the Birmingham and Midland Eye Centre. Joined the Army after graduating in medicine and served in war zones including Iraq. Expert in ophthalmic trauma among servicemen, and specialises in neuroophthalmology, which concerns vision problems related to the nervous system.

Peng Khaw

Consultant ophthalmic surgeon and Director of Research and Development at Moorfields Eye Hospital. Led research into healing so that patients have less scarring, and has carried out stem-cell work that aims to give the blind some light sight. Has helped to raise £50 million for eye centres and is co-author of the acclaimed *ABC of Eyes*. **Brian Little**

Consultant at Moorfields Eye Hospital specialisng in cataracts and glaucoma. A key trainer of surgeons around the world, and was recently appointed the sole international member of the Cataract Clinical Committee of the American Society of Cataract and Refractive Surgery. Series editor of the award-winning *Video Atlas of Eye Surgery* DVD series, now used by more than half the trainee ophthalmologists in the USA. Ambassador for the sight charity Orbis.

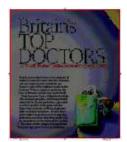
Andrew Lotery

The first Chair of Ophthalmology at the University of Southampton, overseeing a team undertaking cutting-edge research on the genetic causes of eye disease and the use of stem cells to prevent blindness. Cinical interests include age-related macular degeneration, diabetic retinopathy, inherited eye diseases and cataract surgery.

ORTHOPAEDICS

Tim Briggs

Developed the internationally acclaimed Bone



and Soft Tissue Tumour Service, which deals with about 1,700 patients annually, treating them for soft tissue and bone cancers at the Royal National Orthopaedic Hospital. Created new techniques for treating these conditions, which often require complex surgery, resulting in two national awards and the post of Professor of Surgery and Interventional Science at UCL. Has written more than 110 peer-reviewed publications and book contributions and is actively involved in the teaching of around a fifth of all trainee orthopaedic surgeons. Acts as the surgeon for Arsenal FC.

Rohit Kulkarni

One of the few orthopaedic surgeons to specialise in shoulders and elbows, focusing particularly on those with sporting injuries. Currently conducting research at the Royal Gwent Hospital, Newport, into injuries sustained by rugby players. Elbow adviser to the National Institute of Clinical Excellence (NICE) and Reviews Editor of Shoulder and Elbow.

Aresh Hashemi-Nejad

Expert on young adult bones, undertaking complex femoral/pelvic reconstruction and hip replacement surgery, as well as treating youngsters with complex neuromuscular hip problems, at the Royal National Orthopaedic Hospital in Stanmore, Middlesex. A regular speaker internationally and a consultant in hospitals worldwide on complex hip cases.

Andrew Thomas

Consultant orthopaedic surgeon with two decades of experience in the surgical treatment of patients with rheumatoid arthritis. Has extensive experience of hip and knee replacement and hip resurfacing in rheumatoid patients, as well as less common joint replacements including shoulder resurfacing and total elbow replacement. Became Medical Director of Birmingham's Royal Orthopaedic Hospital in 1995 after campaigning to stop its closure a year earlier; it is now one of the largest, most highly respected orthopaedic units in Europe.

PAEDIATRICS

Andrew Bush

Leading expert in respiratory disease in children and frequent speaker at international conferences. Specialises in the assessment of airway inflammation in children with asthma and cystic fibrosis. Joint Editor of respiratory medicine journal *Thorax* (the first paediatrician to be appointed to the role) and author of 270 papers, as well as books on lung conditions. Director of Paediatrics at the National Heart & Lung Institute, and an honorary consultant at the Royal Brompton Hospital.

Duncan Macrae

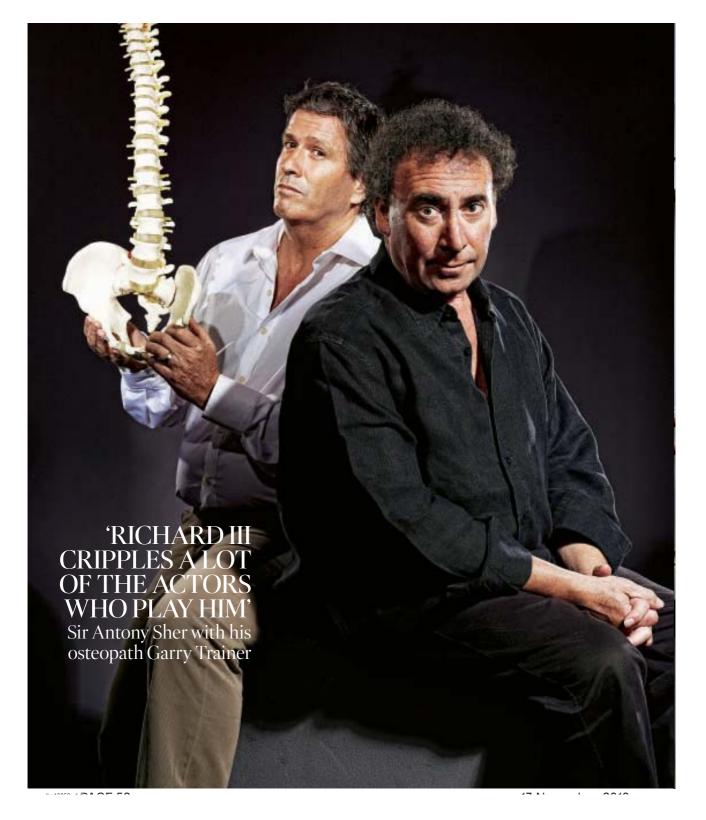
Director of Paediatric Intensive Care, and one of the country's leading specialists, at the Royal Brompton, and consultant for more than a decade at Great Ormond Street. Sits on the scientific committee of the World Congress on Paediatric Critical Care, is President of the Paediatric Cardiac Intensive Care Society and is an associate editor of the US journal Pediatric Critical Care Medicine.

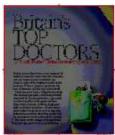
Terence Stephenson

Expert on neonatal medicine and paediatric emergencies, and a key government adviser

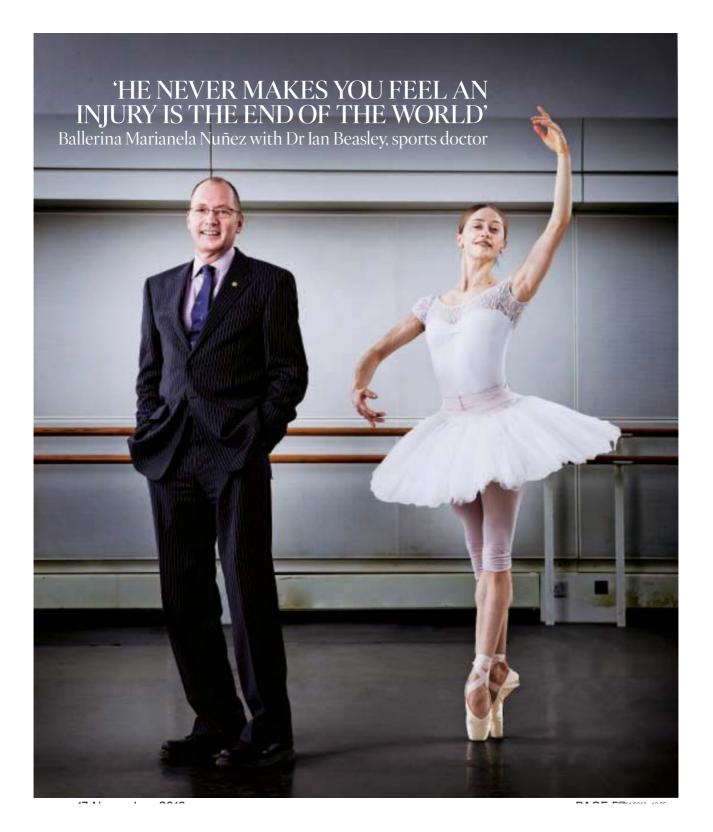
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The back man the luvvies can't live without



Sir Antony Sher first met Garry Trainer when he took the title role in the Royal Shakespeare Company's 1984 production of *Richard III*. It sounds like a tidy little irony – a humpbacked king and an osteopath – but it wasn't. In

fact, Sher knew exactly what he was doing.

"Richard III ends up crippling a lot of the actors who play him," he explains. "It's the thirdbiggest part in Shakespeare, he's an enormously energetic character, and however you play his disability, you're holding yourself in some kind of twisted position. I made the decision early on that I would take a preventative approach."

Trainer arrived in London from New Zealand in the late Seventies to study osteopathy and acupuncture. He hoped to work with sports teams, but found they were sceptical of what were then viewed as unconventional methods. Sher was more open-minded.

"It was the phone call that changed my life," says Trainer, who is tanned, tall and unmistakably Antipodean. "Normally you get one call and it's for one treatment. I got one call that was, 'Please can you come in three nights a week?' for however many months the run was. My knowledge of Shakespeare was almost nil. I didn't know who Tony was. I didn't know who Richard III was."

But the day of each performance, Trainer would arrive and treat Sher, who went on to earn an Olivier Award for his performance. It didn't take long before other actors at the RSC, and then beyond, saw the advantages of having someone keep an eye on their moving parts.

"Suddenly, I was quite busy," grins Trainer.

"Didn't you do Ben Kingsley when he did a run of *Othello*?" asks Sher. "Sorry, Sir Ben Kingsley. You have to be careful about that..." "I know. Someone once said I've treated

more knights than sat at the Round Table...

Since establishing his own practice, other patients have included Sir Paul McCartney and Sir Derek Jacobi, Gwyneth Paltrow and Emma Thompson. He has toured with George Michael and has just returned from doing a world tour with Depeche Mode.

"Every two weeks, they would fly me out for five days' intensive treatment. Depeche Mode like a good massage for relaxing, but even more relaxing is acupuncture. They use it to calm down."

Trainer explains the different sounds patients' joints can make. "Pings" are the little noises that anyone can produce by stretching their bodies, but "thuds" are the satisfying, dull sounds of release, which show that synovial fluid is being sucked back into the joints. "When I'm working with a patient and I hear that noise, it's great," he says dreamily.

Sher explains how he has had niggling problems with his back for some years. "I remember when I was doing *Macbeth* in Stratford. I rang Garry, because my back had gone during the big fight. And this man jumped in his car, drove to Stratford, treated me, and then drove back to London."

They both chuckle at the memory.

"I read once that if people describe their symptoms in flowery ways, there's a good chance there is a psychosomatic influence," says Trainer. "Actors describe things that way all the time. But I love working with them. They have this fantastic expression, "The show must go on!" They always want to get back on stage," he smiles. "It makes me look very good." BEN MACHELL



Fractured fingers to broken toes: the athlete's choice



It's a fairly safe bet that Dr Ian Beasley is the only person who shows up for work at the Royal Opera House wearing football cufflinks. The 58-year-old sports doctor has been medical adviser to the Royal

Ballet Company for the past five years, a parttime role he juggles with his position as senior doctor to the England football team: two very different disciplines united by one common fact. "Whether you're talking about football players or ballet dancers," he explains, "the human body probably wasn't meant to do what they do every single day of their lives."

The former GP from Newham wears thicksoled, comfortable-looking shoes, architect's glasses and a pin badge that shows he is a member of the Uefa medical committee. He's chatty and congenial, but there's an unvoiced note of authority too: he's a bit like a school teacher you've bumped into at the weekend.

Marianela Nuñez meets him in a bright, airy studio. The Argentine prima ballerina giprouettes around him and giggles. At one point last year, this would have been impossible. "I had a problem with my Lisfranc joint, which is in the middle of the foot," the 28-year-old explains. "It was one of the most painful things. I remember waking up one morning and just thinking, 'Oh. My. God.' It wasn't just painful to dance, it was painful to walk. I was out for a month."

"In ballet, we see a lot of stress fractures in the feet," Beasley explains. "Dancers get what you call axial pressure – the pressure through the bone from pounding the stage."

He presses the palm of his hand against his index finger to demonstrate.

"So they get fractures which, if you pull at it, they couldn't care less. But if you push it, they hit you on the chin."

Have dancers really hit him?

"They've tried," he grins. "Same with footballers with broken toes. And goalkeepers with broken fingers. With male dancers, they also get stress fractures in their shinbone. They jump so high and with such power that the muscles start to pull away. In the end, it's a bit like getting a paperclip and bending it between your fingers all the time."

Nuñez describes how the first reaction of any dancer when they discover they'll be unable to dance is one of panic. "We don't like to go off stage. We can be stubborn. It's our life, really. Ian can probably see our faces go, 'Noooo! when he tells us we'll be sidelined."

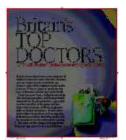
Beasley is used to this reaction. He spent years working with football clubs while he was a GP, and says one of the toughest parts of the job is addressing the psychological niggles that come with athletes' injuries.

"Usually, they don't want to hear it. If I'm away with a football team, players will avoid me because they associate me with not playing. If a player or dancer is injured, and they're very upset, I'm not going to charge in and say, 'Yeah, it's going to keep you out for a year.' That doesn't help. But I might say, 'Let's see how it feels over the next few weeks.' And, during that time, physios, myself and anyone else involved in their care will feed them more information."

"He's wonderful," chimes Nuñez. "He has a fantastic sense of humour and never makes you feel like it's the end of the world. He calms you down. I think that's what a good doctor ought to do."

She admits that she is lucky she has never been especially injury-prone, although the gnarled state of her toes and the painful corns on her feet mean her dream of being able to wear Jimmy Choos remains unfulfilled.

Beasley says he relishes the excitement of the difficult decisions he has to make. He says he can feel helpless when there's nothing he can do for someone, but always makes sure to remind himself of one thing: "Whatever happens in this job, nobody dies," he says. "I always have to remember that." BEN MACHELI



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on child health. One of the specialists putting pressure on the government to force a ban on smoking in cars containing children. President of the Royal College of Paediatrics and Child Health, Nuffield Professor of Child Health at the Institute of Child Health, UCL, and a practising paediatrician at Great Ormond Street. Has published more than 120 peer-reviewed papers. **Paul Vevs**

Director of the Bone Marrow Transplant (BMT) Unit at Great Ormond Street, the largest paediatric unit in Europe, which provides treatment for a broad mix of children with lifethreatening leukaemias, immune deficiencies and rheumatoid, metabolic and gastrointestinal disorders. The unit has recently developed a method of using bone marrow treatment rather than aggressive chemotherapy for some cancers. **Hamish Wallace**

Consultant paediatric oncologist at the Royal Hospital for Sick Children, Edinburgh, and a reader in the Department of Child Life and Health at the University of Edinburgh. Expert in Hodgkin's lymphoma, fertility preservation and the effects of treatment on survivors of childhood cancer, and since the Nineties has offered to harvest ovarian cortical strips for young women at high risk of infertility following childhood treatment for cancer. Head of the Euronet trial comparing different ways of treating Hodgkin's lymphoma and their long-term side effects, and Lead Clinician for Catscan, the network for children and teenagers with cancer in Scotland.

PLASTIC SURGERY

Paul Banwell

Consultant in plastic and reconstructive surgery at the Queen Victoria Hospital in East Grinstead, and Director of its Melanoma and Skin Cancer Unit, which treats thousands of skin cancers each year. Lectures internationally on wound healing and skin cancer and is leading a landmark study looking at sun protection policies in schools. **Peter Butler**

Expert in treating badly maimed faces and hopes to perform the UK's first full facial transplant. Professor of Plastic Surgery at UCL and head of the Face Transplantation Team at the Royal Free Hospital. Co-founded the Face Trust to raise money to give disfigured patients facial transplants, and has published more than 150 papers on plastic surgery.

Rajiv Grover

Practises privately at King Edward VII's Hospital,

London, and in Harley Street, with a primary focus on aesthetic surgery of the face and breast as well as reconstructive surgery in those with skin cancer. Responsible for the National Audit of Cosmetic Surgery and Safety performed through the Royal College of Surgeons.

Barry Jones

Honorary senior lecturer at the Institute for Child Health, University of London, consultant plastic surgeon at the King Edward VII's Hospital, Hunterian Professor at the Royal College of Surgeons and consultant plastic and craniofacial surgeon at Great Ormond Street, with expertise in facial surgery on children. Granted the Raymond Vilain award by the American Society of Aesthetic Plastic Surgeons in 2008, and has written more than 120 papers on facial, breast and craniofacial surgery.

Simon Kay

Past president of the British Association of Plastic, Reconstructive and Aesthetic Surgeons. Specialises in hand surgery and has a dedicated hand surgery service at St James's University Hospital, Leeds. Demonstrated the value of microsurgery in reconstructing congenital defects on children's hands, an approach that has now become internationally accepted. Also an active researcher in nerve repair, in association with Umeå University in Sweden.

Norman Waterhouse

Co-founder of the Facing the World charity, which ensures children in poor countries receive surgery to repair damaged faces, and previously head of the Craniofacial Unit at Chelsea and Westminster. Lectures internationally on modern cosmetic surgery and leads an active research and teaching programme as well as practising privately in Harley Street.

PODIATRY

Dave Dunning

Biomechanics expert practising privately in Newcastle-under-Lyme for more than 20 years. Special interests in biomechanics and musculoskeletal medicine have led to work with professional sports clubs, including Premier League football teams and national squads. Lectures and researches at Staffordshire University and has worked in specialist diabetic, rheumatology and orthopaedic hospital departments and as an adviser to the orthopaedic footwear industry. **Trevor Prior**

Consultant podiatric surgeon at Homerton Hospital with particular interests in foot surgery, sports injuries, biomechanics, gait analysis, orthoses and foot complications in those



with diabetes. Has worked extensively with professional athletes in sports ranging from badminton to rugby and is director of a private podiatry practice and Dean of the Faculty of Podiatric Surgery at the Society of Chiropodists and Podiatrists.

Anthony Redmond

Current Chair of the Arthritis and Musculoskeletal Alliance, based at the University of Leeds. For the past two decades, has focused on researching the effects and care of arthritis and has contributed to more than 50 textbooks.

Won the prestigious American Podiatric Association's silver W.J. Stickel award.

Louise Stuart

Consultant podiatrist and lecturer working for the North Manchester Primary Care Trust and at the University of Salford. Awarded an MBE in 2008 in recognition of her services to the profession. Has been committed to the care of those suffering from diabetes for over 20 years, and was instrumental in setting up the multidisciplinary foot clinic at North Manchester General Diabetes Centre. Former chair of Foot In Diabetes UK and an adviser to Diabetes UK. **Wesley Vernon**

Head of Podiatry Services in Sheffield, Visiting Professor for Podiatry at Staffordshire and Huddersfield Universities and Associate Clinical Adviser to the Healthcare Commission. Former chiropodist with a PhD in Forensic Podiatry. Previously headed a specialised diabetic foot clinic at the Royal Hallamshire Hospital, and is a member of several forensic associations and the Society of Shoe Fitters.

RADIOLOGY

Andreas Adam

Professor of Radiology at King's College London, and a consultant at Guy's & St Thomas'. Instrumental in the field of developing interventional radiological procedures (which aim to provide the least invasive approach using imaging techniques). Past president of both the European Radiology Society and the Royal College of Radiologists.

Philip Anslow

Consultant in neuroradiology at Oxford's John Radcliffe Hospital, working in the area of paediatric imaging of head and neck injuries. Has written on non-accidental head injuries in children and acted as an expert witness in court cases involving alleged instances of shaken baby syndrome.

Adrian Dixon

Has spent more than 30 years at the University

of Cambridge and is now Professor of Radiology and a consultant at Addenbrooke's. Has a particular interest in body-computed tomography and magnetic resonance imaging (CAT scans), and is Editor-in-Chief of the journal *European Radiology*.

Rodney Reznek

Honoured by the Royal College of Radiologists in 2008 for work progressing radiology internationally. Professor of Diagnostic Imaging at Barts and the London and a world expert in using images to diagnose and treat gynaecological, abdominal and endocrine cancers. Co-founded the International Cancer Imaging Society and has published widely on radiology.

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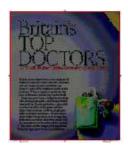


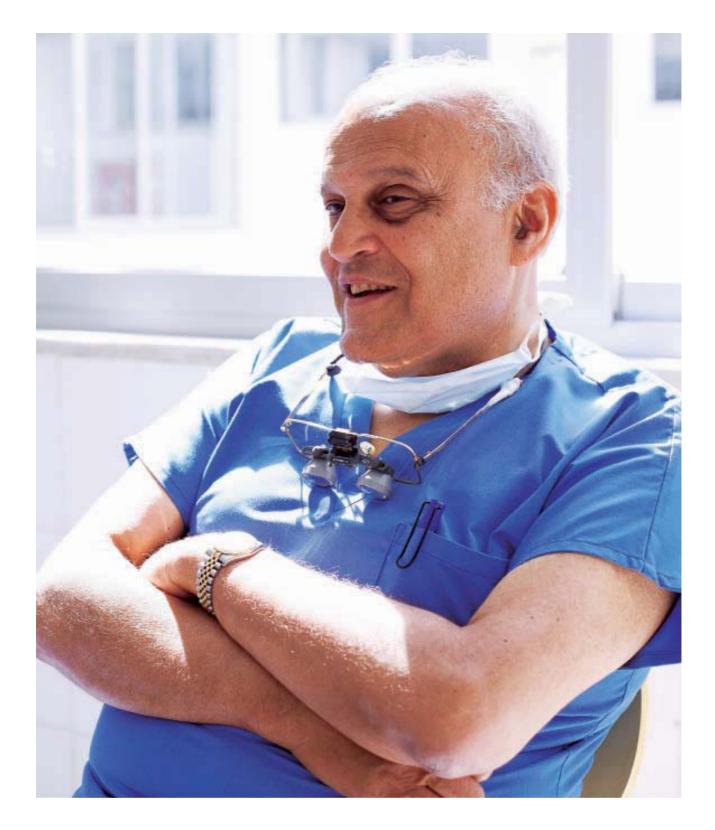


The man who has performed more transplants than any other yet hates the sight of blood

Squeamish he may be, but at 75 Professor Sir Magdi Yacoub is still saving lives, like that of seven-year-old Gizachew (left). Kate Muir joins him in Ethiopia

PHOTOGRAPHS Julie Fisher







t's like a piece of confetti, this patch that Professor Sir Magdi Yacoub is now sewing so tidily into a tiny holed heart. Behind the sterile drapes of the operating table, away from the brightly lit blood and scalpels in the chest cavity, the patient's head sleeps serenely, with perfectly plaited corn rows tucked into a blue paper hat. This is Tesfanesh Mesfin:

eight years old and whip-smart. Her heart has failed for so long that Tesfanesh is a miniature version of a child, her arms not much fatter than a mop handle.

"I've never been to school," said Tesfanesh, a few hours before Yacoub operated. "It was too far for me to walk to school every day, but in fact I'm absolutely fine when I'm sitting down though I do get really exhausted when I get up and walk. So I'm very happy today because I'll be getting better after surgery and going to school. When I grow up, I'd quite like to work in a place like this." Tesfanesh talks in long, confident sentences; she's spent a lot of time at home in the company of adults, helping her mother around the house, and waiting.

Her wait was about to end in the spanking new Cardiac Centre of Ethiopia, a white behemoth of calm in the roiling, hooting, dusty, deranged streets of Addis Ababa. Tesfanesh's chest caved in on each breath and her fingers were clubbed from lack of circulation, but she giggled with Andualem Teshome, a six-year-old friend. The day before his heart operation, Andualem wanted to be a doctor, but as he fasted nervously for surgery, he was favouring a swift getaway and was keen to be a pilot instead. Tesfanesh put her arm round him as they posed proudly for a photograph on the stairs.

What Tesfanesh did not know was that she was about to land in the hands of possibly the best cardiac surgeon in the world, an unlikely stroke of luck for a bean farmer's daughter from the countryside beyond Addis. Yacoub pioneered the art of heart-transplant surgery in Britain in perhaps the NHS's finest hour. Today, he is on a rescue mission with his Chain of Hope medical charity to Ethiopia, a country of 85 million people, one of the poorest in the world, which until now had no paediatric cardiac surgery whatsoever.

Yacoub fashions a Lilliputian heart valve for Tesfanesh, neat parachute cords of blue thread which will pull open and shut naturally as the blood pumps. "It's Tetralogy of Fallot," he tells me, looking up over his glasses, keen to educate at all times. This is the medical term for the quadruple set of heart defects plaguing Tesfanesh, defects so complicated that Yacoub announces cheerfully, "We're entering tiger country here..." Yacoub is amazed that Tesfanesh has survived for so long, and oddly fascinated. He pokes around in the chest cavity. "You don't see anything this

'The heart is an elegant organ, a million molecules acting together. I believe in the mystique of the heart'

far gone in Britain any more," he marvels to Herbert Witzke, the other volunteer surgeon. "Extraordinary. A deserving candidate."

In the distance, cars hoot and the muezzin calls people to prayer, but in the windowless, fluorescent operating theatre there's no time for a break. Yacoub has been on his feet for nine hours, and he will probably be awake for nine more, as usual. But he is keener to talk about the stamina of his small heart patients. "These children often seem much older than their age, and they are utterly uncomplaining. And they will walk to the OR and jump on the operating table. Doesn't happen in Britain."

Being on a mission with Yacoub is rather like being in an episode of *House*, except Yacoub has better manners. He possesses a messianic charisma which sucks in disciples and bulldozes through bureaucrats. His whole career has been about making the impossible possible. He was involved in the first British heart transplant 30 years ago, then the first heart-lung transplant, and he has performed more transplants than any other surgeon. On average, Yacoub did 800 operations a year.

In between times, he has experimented with linking humans to baboons to give respite to failing organs, creating artificial hearts and growing heart valves from stem cells. Diana, Princess of Wales, used to watch his operations. His patients have included Eric Morecambe

and Omar Sharif. Yacoub is presently Professor of Cardiothoracic Surgery at Imperial College London and director of his own research institute at Harefield. But his obsession is the Chain of Hope charity he helped found in 1995, which brings heart surgery to developing countries. Not satisfied with flying in help, Yacoub is now setting up training and research



centres in Egypt, Mozambique and Ethiopia.

The charity has come to operate on eight children – including seven-year-old Gizachew, pictured on the previous spread – and to teach local surgeons the mysteries of the craft. "This is not medical tourism," says Yacoub. "This is training surgeons to stay here and do the job themselves. Sustainability is what matters." His charity hopes to prevent medical brain drain by creating centres of excellence and research around the developing world.

Yacoub is 75. He should, of course, be retired, and tending his beloved orchids at home in Ealing with his wife Marianne. By law, he is no longer allowed to practise in Britain, but his hands seem as deft as ever, palpating the children's hearts before he opens up their dreadful surprises, as though there were thoughts passing through his fingertips. After three hours at the operating table, the stress leaves him panting a little. It is ironic that his heart should be exhausted in sympathy with the broken ones he's fixing.

The doctors and nurses here are all volunteers - on "holiday" from Harefield, Papworth, London and even Toronto – and battle-hardened by the madness of previous Yacoub missions in the developing world. They call him "the Prof". Dr Chris Walker, the consultant anaesthetist, says, "I guarantee he'll try to operate on four patients a day when we've only time for three, and he'll work into the night, so we just try to rein him in a bit. And we probably won't have all the equipment we need." He grins. "Could be worse - we've operated by torchlight before in power cuts. And the Prof and I have sat down and given blood when they've run out." Actually, skip the House analogy. It's more the war footing of M*A*S*H.

Yacoub's daughter Lisa, who co-ordinates Chain of Hope, sighs, "We all used to worry about him a lot: my mother, me, my sister. But then we realised, if you try to stop him doing what he wants, it makes him do more – or it stresses him. If you were to make him give up work and travel, he'd drop dead. He's one of British Airways' most favoured customers..."

For Yacoub, retirement means wherever I lay my scalpel, that's my home. "This year I've been to Egypt, South Africa, Mozambique, Australia, Germany, France, Italy, Greece, and I go 12 times a year to the States. I'm going from here to Atlanta to lecture at Georgia Tech, straight to Milan for two days to lecture, then over to the West Coast for a meeting and back to the UK and Egypt. Then I'm off to Grand Rapids."



Professor Yacoub's patients Tesfanesh (left) and Andualem



He only has time to talk at this length because we're lunching in the Cardiac Centre canteen on vegetables, rice and fish. "There is no other way of doing it," Yacoub says. "I wish there was, but appearing there works – in Egypt yesterday I saw the architect who's designing the research centre free. The degree of enthusiasm gets inflated if I am there."

Yacoub sounds grand, but he is terribly modest. He chats with whoever is passing as he grabs a coffee between operations: the cleaner, the nurses, a doctor he's writing a paper with, and he seems to remember everyone's name. His ability to connect comes from a nomadic childhood in Egypt. "My dad was a general surgeon and we moved from villages to towns and big cities with his job. We were like gypsies. We moved every two or three years and I lost all my friends and had to form new ones."

The Yacoubs were Coptic Christians, but Yacoub says his medical epiphany came as a child, when his "beautiful, young" 22-year-old aunt died of mitral stenosis, a narrowing of the heart's mitral valve. The surgery to cure her was not then available in Egypt. Yacoub trained as a doctor and came to Britain to work for the NHS, because he liked "the intellectual atmosphere and fairness of the system".

He still does. "In spite of all its difficulties, the NHS is the best system in the world and must be kept at any price. People should know how good it is. Of course there are problems. But the NHS is a wonderful thing. In the USA, before Obama, there were 46 million uninsured. How can you ever, ever condone that?"

Following a long career in the NHS, Yacoub's doing three mitral valve operations – of the kind that would have saved his aunt – in two days on the Ethiopian kids. Dr Barbora Parizkova, the anaesthetist also working the echocardiogram, shows me the barely opening valve, furred like a kettle, inside 14-year-old Woinshet Abera (I met Woinshet earlier, wearing a rhinestone-studded denim jacket and – inevitably – making plans to become a doctor afterwards). Yacoub trims the valve and takes the heart back off bypass. Soon we're looking at a video of the flaps of Woinshet's valve opening and shutting perfectly, like two wings. Parizkova prints me off a photo, as a souvenir.

The unpaid operating team – way smaller than you'd see in a British heart operation – jokes and chats with Yacoub, and there's an almost telepathic connection between the Prof and his theatre nurse, Kelly Meakins, who passes all the sterile instruments just before he asks for them. While Yacoub does the main operation and leaves, another surgeon, Witzke, opens and closes the chest, and the other staff are there from beginning to end. The operating room seems timeless. Jonathan Sheppard, the perfusionist who works the heart-lung machine, is goggle-eyed with exhaustion, and he's seen the machine go on to a generator

through one of the regular Addis Ababa power cuts. At one point, Meakins is looking so shaky at the operating table that she has a two-minute emergency chocolate break and then marches back. The Prof's work ethic is not for the weak.

Nothing is easy here: even getting to the hospital from the hotel requires playing chicken in a van on pullulating road junctions, and getting a bag of the right blood on time is touch and go. The man who set up the Cardiac Centre, Dr Belay Abegaz, says the project has taken him 30 years. So a great deal is resting on the shoulders of the local trainee cardiac surgeon, Abebe Bezabih from the University of Addis Ababa – and Birmingham. He looks somewhat terrified when he has to operate. Witzke has him open up the sternum with a circular saw. "Keep it vertical!" he snaps. But after two operations with Yacoub saying, "Gently now please, you cannot afford to be rough," Bezabih becomes more confident and his hands move deftly. "I've never done cases as complicated as this," he says. "But it's actually OK ... and it's really exceptional learning like this.'

'We've operated by torchlight in power cuts. Yacoub and I have sat down and given blood when they've run out'

As we gather round the table, there's a bit of splashback from the aorta as the patient's heart gets swapped to the tubes from the heart-lung machine. Someone wipes the blood from Yacoub's glasses. He grins. "I hate the sight of blood," he says. "I almost feel faint and have to look away when I see blood on the street. Don't like it in films either. I don't mind it when I'm in control."

"Yes," confirms Lisa Yacoub later, "Dad would always get upset when you were little and showed him a wobbly, bleeding tooth. He hated seeing that."

Lisa and I are in the intensive care ward, where Tesfanesh is waking up groggily, a



spaghetti of tubes issuing from her body, a bandage on her chest. "We want to get her breathing tube out as soon as possible," says Pravina Pindoria, an ICU nurse, "so she recovers quicker." In Britain, they leave the tubes in for days sometimes, but there's no time or money here; in fact, the early removal seems to work better. "We're also giving them half the amount of painkillers than we do at home. The local nurses say it's plenty," says Pindoria. "These kids have a different pain threshold."

While the team prepares the next child

for surgery, Yacoub makes notes on a paper from his Harefield Research Foundation, which employs 60 scientists on heart research. He sits on a chair in the changing rooms, his blue sterile hat inadvertently pushed up into a point over his huge head so he looks like a painting of a Coptic pope. And he does bring a religious-style fervour to it all. "Why does the heart co-ordinate itself to beat so elegantly again?" he says, as we discuss the way the heart restarts itself after an operation. "The heart is a sophisticated, elegant organ, a million molecules acting together... I do believe in the mystique surrounding the heart. I am fascinated by the poetry and philosophy of the heart, which I would like to study later when I have time, but for the moment I am fascinated more by it as a functioning organ."

One of Yacoub's first transplant patients lived for 25 years, and hundreds more are in good health. At first, most transplants failed, but Yacoub was not just daring, but persistent, and as immune system-suppressing drugs improved, so did the survival rate. When patients are going to die, Yacoub believes anything is worth trying. "So long as the patient has a fair chance and you are maintaining their dignity and not tormenting them unnecessarily, why not? Without that there is no progress."

When Yacoub at last calls it a day in Addis Ababa and heads for his hotel, the medical team goes to recover from the turbo-charged day in a local bar. "He'll never stop. One day he'll go on the job," says someone over Ethiopian St George beer, after a 12-hour shift. Outside it's late, but the city never stops.

Then Witzke gets a call on his mobile. It's the hospital: Tesfanesh is bleeding internally. The team drop their barely touched beers and head off in a minibus. Witzke has to open up Tesfanesh's chest again to stop the bleeding. The signs are not good.

The next morning, Tesfanesh is semiconscious, battered by surgery but recovering. She doesn't make a sound. Meanwhile Yacoub is back on the ward, preparing for the next operation. "The happiest day of my life will be when we stop this mayhem. See how awful it is: the children suffer in silence because they are used to misery. They have unbelievable attitudes, and human misery is so unnecessary. People say, 'This is a drop in the ocean. You are wasting your time,' but this is a beginning which will eventually save millions. When people see children going back to their villages looking great, word will spread."

Two weeks later, Tesfanesh takes a newly deep breath, leaves Addis Ababa wearing her earrings and her best red cardigan, and goes back to her village. ■

To donate, go to chainofhope.org, or by post to Chain of Hope, South Parade, London SW3 6NP (020-7351 1978)



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RESPIRATORY HEALTH

Neil Barnes

Consultant in and Professor of Respiratory Medicine at Barts and the London, and Head of Respiratory Illnesses at the London Chest Hospital and the Royal London. Specialises in severe and difficult asthma and pleural disease, and has published more than 180 peer-reviewed papers, book contributions, editorials and reviews.

Peter Calverley

An expert on chronic obstructive pulmonary disease and sleep and breathing disorders. Has published extensively on these subjects, including a recent second edition of the major textbook *Chronic Obstructive Pulmonary Disease*. Professor of Respiratory Medicine at the University of Liverpool and works at Aintree University Hospitals, Liverpool. Previous president of the British Thoracic Society. **Tak Lee**

Iak Lee

Secured funding to start an allergy service at Guy's and St Thomas', which is now one of the few NHS adult and paediatric allergy services in the country. Director of the centre, with a special interest in finding a cure for asthma. Has authored more than 160 peer-reviewed journal articles in the past ten years, with research focusing on bronchial asthma.

Martyn Partridge

Asthma expert practising at Charing Cross Hospital, and an honorary consultant and Professor of Respiratory Medicine at Imperial College. Chairman of the Department of Health's Asthma Steering Group and a member of its Respiratory Programme board. Has been closely involved in the production of British asthma guidelines.

Robert Wilson

Consultant in respiratory medicine at the Royal Brompton, and Director of its lung division, with responsibility for respiratory medicine, thoracic surgery and pulmonary radiology. Lectures in Europe, the USA and China, has written more than 100 peer-reviewed papers, sits on the editorial board of the journal *Clinical Pulmonary Medicine* and is Chair of Asthma UK.

SEXUAL HEALTH

Simon Barton

Clinical Director of the largest HIV/sexual health department in the UK, at Chelsea and Westminster, having been a consultant in

genitourinary and HIV medicine since 1990. A past president of the British Association for Sexual Health and HIV, with research interests including HIV and the herpes simplex virus, immunology, recurrent genital infections and genital dermatology.

Raj Patel

Recognised international leader in viral sexually transmitted infection management, and in particular genital herpes. President of the International Union Against Sexually Transmitted Infections and an expert adviser to and patron of the Herpes Viruses Association. Adviser to the Royal College of Physicians, helping to draft the curriculum in sexual health and develop sexual health training programmes for hospitals to ensure patients receive appropriate care. Based at the Royal South Hants Hospital in Southampton. **Keith Radcliffe**

Leading national figure and international lecturer in sexual health, currently Clinical Director and consultant at the Whittall Street Clinic and the Birmingham University Medical School. Leads a clinical effectiveness group that sets the standards and national guidelines for clinical practice; also sits on the Department of Health's Expert Advisory Group on Aids.

Angela Robinson

Expert in the sexual health of adolescents and young people, working full-time from the Mortimer Market Centre in London, one of the largest genitourinary medicine clinics in the UK. Specialises in vulval and genital skin problems, acts as an adviser to the Department of Health and is active in the training of future consultants. Janet Wilson

Jailet Wilsoli Full times elimin

Full-time clinician, with expertise in vaginal infections and their effects on female reproductive health, at the Department of Genitourinary Medicine, Leeds General Infirmary. Has been active in trying to eradicate sexually transmitted diseases through work as the Assistant Secretary General of the International Union Against Sexually Transmitted Infections.

SLEEP

Paul Gringras

Professor in Sleep Medicine at Guy's & St Thomas' and consultant at the Evelina Children's Hospital. Runs one of the few comprehensive specialist paediatric sleep disorder units in the UK. Researches the impact of poor sleep on children's development and its effects on behaviour and concentration as well as eating habits. Lead investigator on studies exploring sleep, ADHD and autism, and has set up a "cradle



to grave" sleep service at Guy's and St Thomas', working with psychologists, physiologists and technicians to improve sleep.

Paul Reading

Consultant neurologist running the Sleep Clinic at the James Cook University Hospital in Middlesbrough. Has a particular interest in narcolepsy and abnormal sleep in neurodegenerative diseases such as Parkinson's and Huntington's. Treasurer of the British Sleep Society, the largest body in the UK for professionals involved in sleep medicine and science.

John Shneerson

Established the largest sleep centre in the UK at the Papworth Hospital, Cambridge, in 1980 while pioneering new treatments for patients experiencing respiratory failure in their sleep. Developed a sleep service for patients with neurological conditions such as narcolepsy, as well as sleep-walking and sleep violence. Has written numerous books and over 400 papers and is President of the British Sleep Society. John Stradling

Professor of Respiratory Medicine at Oxford and Director of the Respiratory Sleep Service, appointed an NHS consultant in 1985 and awarded a chair at Oxford in 1999. Main research focuses on sleep-related breathing disorders and their effects on health, having treated more than 6,000 patients with obstructive sleep apnoea over 25 years at the Churchill Hospital. Voted UK Hospital Doctor of the Year in 2002.

Adrian Williams

Former professor of medicine and co-director of the sleep laboratory at the University of California, Los Angeles. One of the first to become an accredited polysomnographer (a specialist in measuring sleep). Established the Sleep Disorders Centre at St Thomas' in 1994, and is a founding member of the British Sleep Foundation and the sleep medicine section of the Royal Society of Medicine.

SPORTS MEDICINE

Richard Budgett

Former athlete, as part of the British coxed four with Steve Redgrave that won the gold medal at the 1984 Los Angeles Olympics, who will be overseeing all things medical for the London 2012 Olympics. Chief Medical Officer at the Olympic Medical Institute since 1989. **Bryan English**

Medical Director at Chelsea Football Club, and former chief medical officer of UK Athletics. Widely credited with fine-tuning Dame Kelly

Holmes's fitness and health during her successful Olympic Games in 2004. Worked within the NHS for 13 years, mostly as a consultant in orthopaedic/musculoskeletal medicine in Sheffield and Leeds, before turning full-time to sports medicine in 2000.

John Fairclough

Leading orthopaedic surgeon at University Hospital Llandough. Has worked with numerous leading football teams and treated athletes such as hurdler Colin Jackson and boxer Joe Calzaghe. Professor of Sports Medicine at the University of Wales Institute Cardiff (UWIC), Chairman of the Medical Committee for the Wales Football Team, a member of the Medical Committee of the Welsh Rugby Union

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and a former president of the British Orthopaedic Sports Trauma Association. Nicola Maffulli

Visiting Professor of Trauma and Orthopaedic Surgery at Keele University. World-renowned sports medicine professor, with clinical interests including osteoarthritis in young people. Has published nearly 500 articles in peer-reviewed journals on trauma and orthopaedic surgery, sports medicine and sports traumatology. Former president of the British Orthopaedic Sports Trauma Association.

UROLOGY

Roger Kirby

Leading prostate surgeon, having performed nearly 2,000 radical prostatectomy operations, the most recent 765 using keyhole surgery with the da Vinci robot. Left the NHS to open the Prostate Centre in London, devoted to prostate diseases and related men's health. Has raised more than $\pounds 3$ million for prostate charities, is Chairman of Prostate UK and is Honorary Secretary of the Urology Foundation.

Anthony Mundy

The UK's leading authority on the management of genitourinary reconstruction, particularly in men with urethral injuries, practising at UCLH. Civilian Consultant Urological Surgeon for the Royal Navy, with 182 papers published in peerreviewed journals, plus numerous books.

David Neal

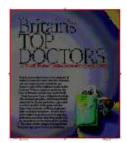
Practising surgeon at Addenbrooke's and an expert in robotic prostatectomy. Senior Group Leader at the Cambridge Research Institute, Senior Investigator at the National Institute for Health Research and a Fellow of the Academy of Medical Sciences. Teaches at Cambridge, researches bladder and prostate diseases and leads a £35 million research programme into prostate cancer.

David Tolley

President of the Royal College of Surgeons of Edinburgh. Has treated more than 20,000 patients with kidney-stone disease, developed the first national kidney stone service for Scotland and is pioneering minimally invasive treatments for patients with stones. Has played a major part in the development of urological skills training throughout Europe.

Christopher Woodhouse

Leading international specialist focusing on adolescents and adults born with major congenital abnormalities of the kidneys, bladder and genitals. Consultant urologist at the Royal Marsden, seeing patients with urological cancers. Research has led to the development of techniques to reconstruct the bladder and to provide new bladders for patients whose own have been removed.



Alternative practitioners

Ten leading experts in complementary medicine

ACUPUNCTURE

Anthony Campbell

Former consultant physician at the Royal London Hospital for Integrated Medicine, having introduced an acupuncture service there in 1977. Since 1981, has taught Western medical acupuncture in Britain and abroad, and has written three books on the subject. Past vice-chairman of the British Medical Acupuncture Society, and recently appointed as external examiner for the postgraduate Western Medical Acupuncture courses at the University of Hertfordshire. **George Lewith**

Oualified doctor and currently Professor of Health Research at the Complementary & Integrated Medicine Research Unit at the University of Southampton. Teaches medical students acupuncture and herbal medicine to complement traditional medicine. Interests include evaluating the effect of acupuncture on the nervous system using techniques such as functional MRIs.

Mike Cummings

Medical Director of the British Medical Acupuncture Society (BMAS), a post that involves running the teaching clinic and co-ordinating Western medical acupuncture courses and acting as an associate editor for Acupuncture in Medicine. Honorary Clinical Specialist at the Royal London Hospital for Integrated Medicine, and Senior Visiting Clinical Fellow at the Bedfordshire and Hertfordshire Postgraduate Medical School. Principal interest is musculoskeletal pain and, in particular, using needles to treat myofascial pain syndromes (chronic forms of muscle pain).

CHIROPRACTICS

Jonathan Field

Back specialist working privately in Surrey and doing postgraduate research at the University of Portsmouth looking at patients' feelings of reassurance following initial consultations with physical therapists, and the effects of this reassurance on long-term outcome. Currently the Research Clinics Representative for the College of Chiropractors, and heavily involved in setting up awards to reward high-quality chiropractic clinics and encourage transparency in practice. Interests include non-pharmacological management of chronic pain conditions. Thomas Greenway

Practises privately in Teddington, with a focus on sports and athletes. Accompanied the British team to Sydney for the 2000 Olympics. Spent four

seasons at Chelsea FC as the club's chiropractor and now works with QPR. Involved with the provision of physical therapy services for the 2012 London Olympics Games. Mark Gurden

Has provided chiropractic care to both private and NHS patients over the past ten years in Essex, and is working with the NHS on the design and monitoring of a pilot study using chiropractics, osteopathy and physiotherapy for the treatment of back and neck pain. Currently on the Professional Standards Committee of the British Chiropractic Association and the Chiropractic Sports Council, Interested in the treatment of both acute and chronic conditions using exercise and self-help.

OSTEOPATHY

Mathew Cousins

President of the British Osteonathic Association. Has a practice in London dedicated to the prevention, diagnosis, treatment and rehabilitation of musculoskeletal problems and sports injuries. A vocal advocate for NHS funding of osteopathy treatments. Stuart Korth

One of the country's leading osteopaths, with a private practice in Tunbridge Wells, Kent. Co-founder and Director of Osteopathy at the Foundation for Paediatric Osteopathy, a charity that offers free osteopathic treatment to babies and children, with the aim of reducing the need for medication, assisting recovery from illness and fortifying the body during drug therapy. **Brvan Mcllwraith**

Studied osteopathy in the Seventies and has spent many of the years since researching the detrimental effects of driving on the skeleton. Has developed a database rating car layouts, with the aim of helping people choose a model that will best suit their ergonomic needs. Has a practice in his native Inverness.

Renzo Molinari

One of Europe's leading figures in osteopathy,

and an expert in osteopathic treatments during pregnancy, labour and post-partum. Formerly principal of the European School of Osteopathy, having developed the teaching osteopathic clinic in obstetrics there. Established the Osteopathic European Academic Network and was co-founder of the World Osteopathic Health Organisation.

Researched by Lisa Grainger, Angela Pertusini, Abigail Radnor and Annabel Cutler

