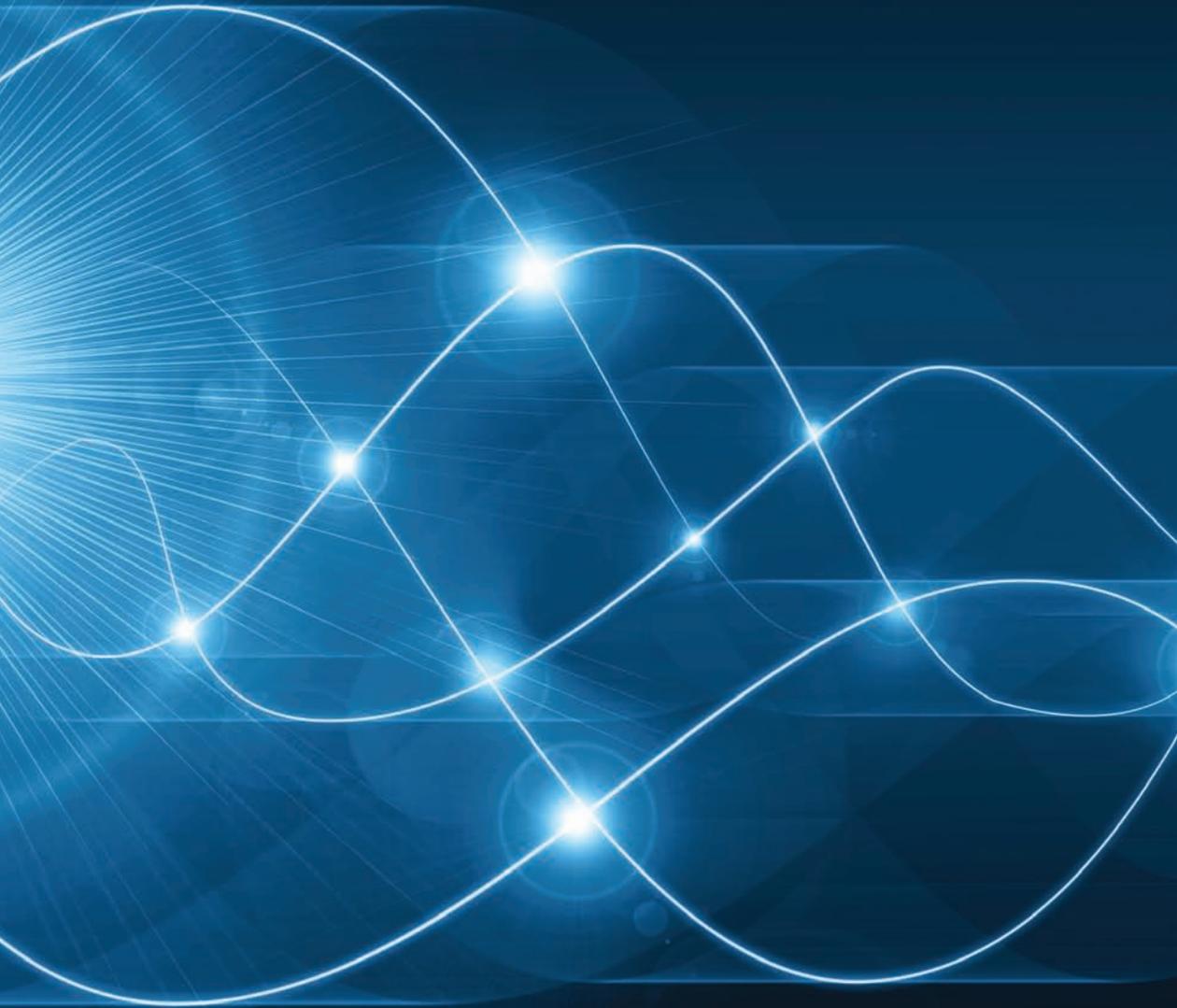




# NHS Innovations South East



# RISING TO THE CHALLENGE

NISE was set up in 2004 in response to the Department of Health Intellectual Property framework and guidance. From the outset, its Memorandum of Association recognised that its primary purpose was to benefit NHS patients by 'providing services to NHS bodies in relation to the exploitation of all potential and actual IP' and 'facilitating technology transfer.... leading to the introduction of improved healthcare': any financial surplus is always reinvested in the company to support these activities.

NISE has always worked under the NHS banner, complying with DH branding instructions, and reporting to DH on a regular basis (quarterly / annually). Funding originally came from both DH and the DTI PSRE fund, with additional funding from SEEDA, the South East Regional Development Agency. Over the past nine years, NISE has worked on more than 1047 healthcare innovation projects. Last year alone, we registered 126 new innovations with the potential to deliver improved patient care and / or better patient outcomes, along with significant savings for the NHS. The current number of completed commercial agreements is 52. However there are many other innovations currently being progressed that have real commercial

potential, both at home and overseas.



At the same time, we have worked with NHS Trusts throughout the South East to ensure that they are 'innovations-friendly' and have the strategies, policies and systems in place that they need, going forward, to face the challenge of the future NHS.

In spite of the challenging times in which we are currently operating, we believe the future for healthcare innovation is bright – and we look forward to continued successful partnerships with the region's healthcare innovators and NHS organisations.

# The art and science of Strategic Innovation Management

Our business is innovation-management. But what do we mean by that term? People often assume that NISE exists solely to develop new healthcare products and services. Certainly, that is a major feature of our work; we have helped launch more than fifty commercially successful healthcare innovations, many of which have had enormous benefits for patients and enjoyed considerable commercial success, both nationally and internationally. But innovations-management isn't just about developing new products and services; the comprehensive range of innovation-management services that NISE provides makes an important contribution to the vital culture change taking place across the NHS as a whole in relation to innovation. By supporting NHS Trusts with their innovation strategies we help them deliver more for less. Ultimately, our shared challenge is to improve outcomes, whilst reducing costs and meeting increasing demand - without risking patient safety.

There are three main strands to our work, which we call

- Innovation awareness... ensuring that NHS organisations and staff understand the importance of innovation and that they have the right strategy, policy and procedures in place to recognise, encourage and reward it, whilst mitigating risks.
- Innovation development... translating the innovative ideas of NHS

staff into successful healthcare products and services, whilst responding to less viable ideas from staff in a positive and encouraging manner.

- Innovation adoption... helping NHS organisations identify and realise the benefits from innovations developed elsewhere.



## Awareness

Today's NHS is an extremely complex, challenging and fast-moving environment in which to operate. For NHS trusts, an effective innovation strategy is important to successful performance. (cf 2013/14 CQUIN pre-qualification criteria: international & commercial activity must "demonstrate that clear plans are in place to exploit the value of commercial intellectual property".) NISE supports NHS organisations to develop a comprehensive innovations strategy that will

- Facilitate mutually beneficial collaboration with industry;
- promote innovations-awareness among staff at all levels;
- provide motivation and incentive for innovation;
- manage risk and measure outcomes

- effectively and consistently;
- develop an infrastructure capable of building and sustaining a culture of innovation;
- manage 'in-house' and collaborative innovation projects efficiently;
- make sense of and respond-to the NHS innovations agenda nationally.

To complement this strategic approach to innovations awareness, NISE can also offer a training programme in healthcare innovation. Our latest training package 'Innovation in the NHS: a National Perspective' was initially developed for the King's Fund and is aimed at board members, chief executives and other senior managers in NHS Trusts. To find out more about this, contact Sally Robinson at [sally.robinson@nisehub.co.uk](mailto:sally.robinson@nisehub.co.uk)



## Development

We have been supporting the region's NHS innovators for nine years now and in that time we have learnt a lot about the process of developing an idea and translating it into a successful innovation. It invariably involves a lot of painstaking work. Along the way, that bright idea needs to be

- Assessed... to establish whether it is genuinely new and original;
- Tested... to make sure that it works;
- Protected... any new intellectual property created has to be protected;
- Market-tested... to assess the potential market for the 'end product or service';
- Planned... a properly prepared business plan will help take the project forward;
- Funded... it is usually necessary to raise funds for further development work (e.g. in the case of a new medical device, to build a prototype);

- Partnered... at some stage, it will probably be necessary to find a commercial partner to handle the manufacture, sales and marketing of the innovation.

To these ends our team of innovation experts offers a varied range of technical, scientific, legal and commercial support services, all designed to give the bright ideas of NHS innovators the best possible chance of success. We work collaboratively; not only with our customers but also with the academic and scientific communities – we are an active partner in the AHSN's across the South of England – and with our extensive network of private sector healthcare companies, ranging from global names to small, highly specialised SMEs working at the cutting edge of scientific and technological developments.



## Adoption

Healthcare policy is constantly evolving, but one constant theme that has emerged again and again is that the NHS has to innovate; there simply is no alternative. The publication of Innovation, Health and Wealth in December 2011 served only to emphasise the reputation of the NHS as a 'late and slow adopter' (Wanless 2002); a problem it has sought to address with a number of initiatives.

NISE has been actively supporting NHS organisations for several years now. Indeed, we are part of the innovation landscape, with an established track record in healthcare innovation. We are ready to deliver now; offering a range of adoption support services, from horizon-scanning to detailed assistance with the adoption of the High Impact Innovations and other emerging technologies. In our experience, two of the biggest challenges that NHS organisations face in relation to innovation are

(a) developing and validating business justification cases for technological innovations that they sometimes find difficult to articulate,

and

(b) knowing how to quantify the financial benefits of adoption before implementation. NISE has frequently acted as an intermediary between suppliers and NHS organisations, helping to validate the business case for adoption and articulate the benefits of an innovation in a way that the NHS understands and can quantify.



# Innovations Development

## some FAQ's

### **At what point should an innovator share their idea?**

Ideas need to be professionally assessed and any new intellectual property (IP) protected – and the sooner the better. Why? Because there is a risk that someone else has had, and laid claim to, the same idea as you. It is not unknown for inventors to spend years working on projects that they are subsequently unable to exploit. And remember, if two or more people try to patent the same idea, the patent is likely to be awarded to whoever applied for it first. They may not have had the idea first; perhaps they were simply quicker to recognise its potential or just better organised. Anyway, if you have a bright idea, talk to us about it and let us advise you on how best to protect it!

### **What exactly do you mean by Intellectual Property (IP) management?**

Most people appreciate the importance of protecting their initial intellectual property. But the job doesn't end there. The innovation journey can be a long one, with ideas being refined and adapted along the way. What began as one person's project can become a broader collaboration. The twin processes of refining and sharing ideas are often essential to successful innovation but they require very careful IP management. NISE has a wealth of experience in protecting and managing shared intellectual property, as it grows and develops. We can draft and negotiate agreements 'from inception', vet existing arrangements and we also have a strong track record in resolving the disputes that

can arise if agreements are contested.



### **Does innovation have to be high-tech?**

We are proud to say that many of the innovations we have helped bring to the market have exploited the latest scientific knowledge linked to cutting-edge technology. But it doesn't have to be that way. They do say that the best ideas are often the simplest. Some of our most successful innovations – both commercially-speaking and in terms of their healthcare benefits – are far from high-tech. They include

- simple practical devices – like the cannula fixing which delivers a stronger and more flexible device for better cannula management;
- educational tools – e.g. the board games used to teach patients and carers the essentials of catheter-management, or the children's book about MRSA;
- newer, more flexible and more effective staff training packages;
- improved administrative systems;
- innovative approaches to service-design – i.e. a proven way of doing something better.

Such innovations are far from glamorous – but they can make an enormous difference.

## Do things ever go wrong?

Yes, a lot can go wrong. Ensuring the IP is protected before it is disclosed or lost. The innovator may lose – or inadvertently disclose - the IP before it is properly protected. Finding finance may prove difficult. Selecting the right commercial partner – on the right terms - is never easy. Fortunately, NISE has experience of helping innovators solve these and most of the other problems that tend to arise. However, support from the originating Trust is equally important and we place great emphasis on the importance of working with NHS innovators and their Trusts.

## Which comes first – patients or profits?

In our experience, an innovation that is good for patients is likely to be profitable too. (Conversely, a healthcare product with no obvious patient benefits would be certain to fail commercially.) Though originally established with public funds, NISE itself is a commercial company. But unlike most other healthcare companies, we work collaboratively rather than in competition with the rest of the private sector; often acting as a broker and helping our NHS innovators and Trusts negotiate mutually-beneficial agreements with major healthcare companies. We were established to ensure that as many patients as possible benefit from the products and services we help bring to the market – and that the hard work, creativity and commitment of NHS innovators and Trusts is recognised and rewarded. The best way to make that happen is, almost invariably, to create a partnership between the people behind an innovation and one of the specialist healthcare and / or technology companies who make such an important contribution to the regional and national economy. NISE has

been responsible for a lot of highly successful commercial partnerships between the NHS and the private sector. Our partners range from small ‘start-ups’ and ‘spin-outs’ in highly specialised niche markets to global companies.

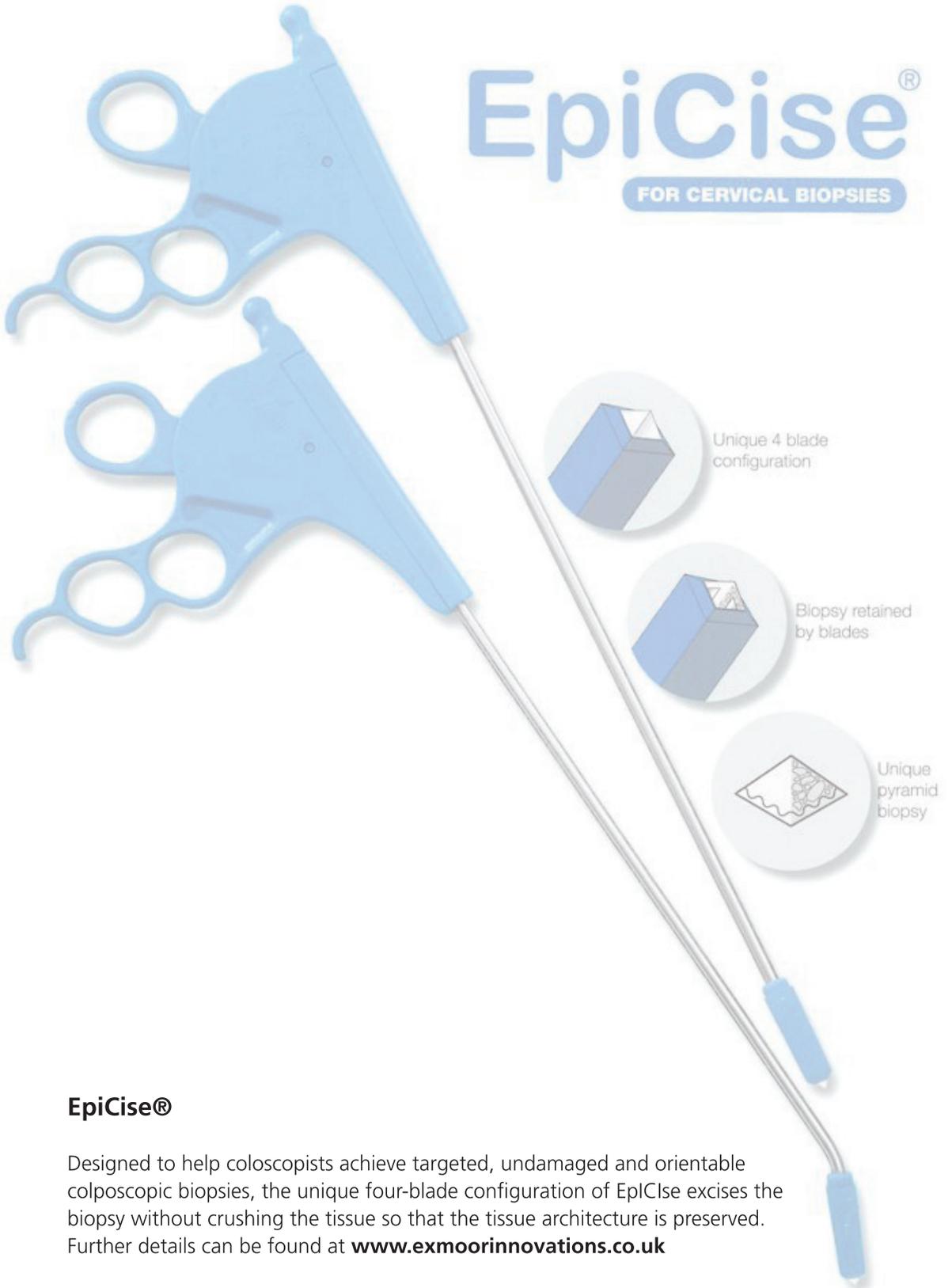
## How long does it all take?

How long is a piece of string?! It is not unknown for a project to go from idea to commercial reality in less than a year – but that is highly unusual. Most innovations are the result of two or three years work; some significantly longer. This, again, is where NISE comes into its own; we engage early and stay with the project until it is fully realised. Since we were established, we have helped bring more than fifty new healthcare products and services to the market-place – almost all of them benefitting from the involvement of other private sector partners. But it is doubtful whether any of those innovations would have found their commercial partners but for the prior involvement of NISE.



# EpiCise®

FOR CERVICAL BIOPSIES



Unique 4 blade configuration

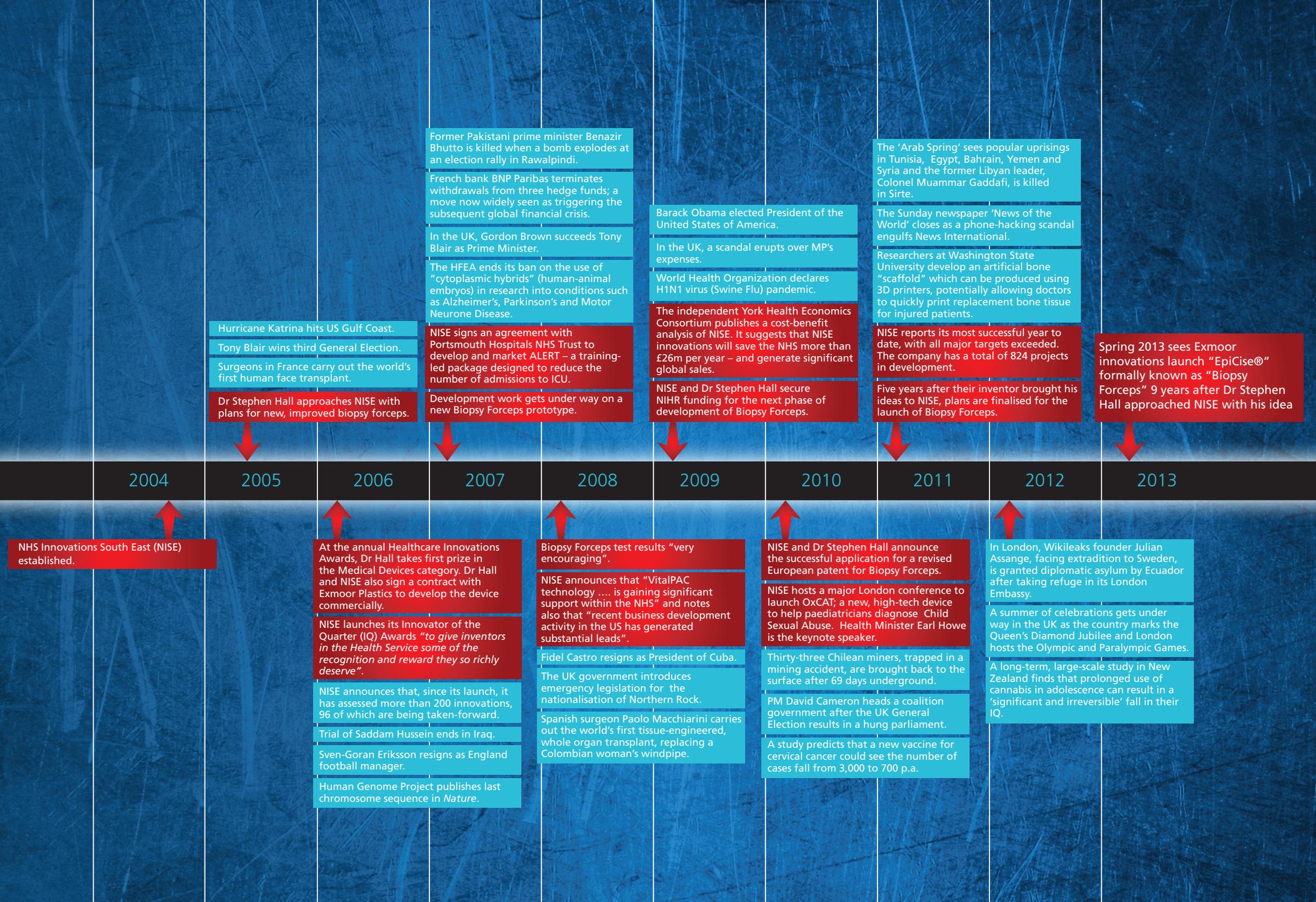
Biopsy retained by blades

Unique pyramid biopsy

## EpiCise®

Designed to help coloscopists achieve targeted, undamaged and orientable coloscopic biopsies, the unique four-blade configuration of EpiCise excises the biopsy without crushing the tissue so that the tissue architecture is preserved.

Further details can be found at [www.exmoorinnovations.co.uk](http://www.exmoorinnovations.co.uk)



NHS Innovations South East (NISE) established.

Hurricane Katrina hits US Gulf Coast.  
 Tony Blair wins third General Election.  
 Surgeons in France carry out the world's first human face transplant.  
 Dr Stephen Hall approaches NISE with plans for new, improved biopsy forceps.

Former Pakistani prime minister Benazir Bhutto is killed when a bomb explodes at an election rally in Rawalpindi.  
 French bank BNP Paribas terminates withdrawals from three hedge funds; a move now widely seen as triggering the subsequent global financial crisis.  
 In the UK, Gordon Brown succeeds Tony Blair as Prime Minister.  
 The HFEA ends its ban on the use of "cytoplasmic hybrids" (human-animal embryos) in research into conditions such as Alzheimer's, Parkinson's and Motor Neurone Disease.  
 NISE signs an agreement with Portsmouth Hospitals NHS Trust to develop and market ALERT – a training-led package designed to reduce the number of admissions to ICU.  
 Development work gets under way on a new Biopsy Forceps prototype.

Barack Obama elected President of the United States of America.  
 In the UK, a scandal erupts over MP's expenses.  
 World Health Organization declares H1N1 virus (Swine Flu) pandemic.  
 The independent York Health Economics Consortium publishes a cost-benefit analysis of NISE. It suggests that NISE innovations will save the NHS more than £26m per year – and generate significant global sales.  
 NISE and Dr Stephen Hall secure NIHR funding for the next phase of development of Biopsy Forceps.

The 'Arab Spring' sees popular uprisings in Tunisia, Egypt, Bahrain, Yemen and Syria and the former Libyan leader, Colonel Muammar Gaddafi, is killed in Sirte.  
 The Sunday newspaper 'News of the World' closes as a phone-hacking scandal engulfs News International.  
 Researchers at Washington State University develop an artificial bone "scaffold" which can be produced using 3D printers, potentially allowing doctors to quickly print replacement bone tissue for injured patients.  
 NISE reports its most successful year to date, with all major targets exceeded. The company has a total of 824 projects in development.  
 Five years after their inventor brought his ideas to NISE, plans are finalised for the launch of Biopsy Forceps.

Spring 2013 sees Exmoor innovations launch "EpiCise®" formally known as "Biopsy Forceps" 9 years after Dr Stephen Hall approached NISE with his idea

2004

2005

2006

2007

2008

2009

2010

2011

2012

2013

At the annual Healthcare Innovations Awards, Dr Hall takes first prize in the Medical Devices category. Dr Hall and NISE also sign a contract with Exmoor Plastics to develop the device commercially.  
 NISE launches its Innovator of the Quarter (IQ) Awards "to give inventors in the Health Service some of the recognition and reward they so richly deserve".  
 NISE announces that, since its launch, it has assessed more than 200 innovations, 96 of which are being taken-forward.  
 Trial of Saddam Hussein ends in Iraq.  
 Sven-Goran Eriksson resigns as England football manager.  
 Human Genome Project publishes last chromosome sequence in *Nature*.

Biopsy Forceps test results "very encouraging".  
 NISE announces that "VitalPAC technology ... is gaining significant support within the NHS" and notes also that "recent business development activity in the US has generated substantial leads".  
 Fidel Castro resigns as President of Cuba.  
 The UK government introduces emergency legislation for the nationalisation of Northern Rock.  
 Spanish surgeon Paolo Macchiarini carries out the world's first tissue-engineered, whole organ transplant, replacing a Colombian woman's windpipe.

NISE and Dr Stephen Hall announce the successful application for a revised European patent for Biopsy Forceps.  
 NISE hosts a major London conference to launch OxCAT; a new, high-tech device to help paediatricians diagnose Child Sexual Abuse. Health Minister Earl Howe is the keynote speaker.  
 Thirty-three Chilean miners, trapped in a mining accident, are brought back to the surface after 69 days underground.  
 PM David Cameron heads a coalition government after the UK General Election results in a hung parliament.  
 A study predicts that a new vaccine for cervical cancer could see the number of cases fall from 3,000 to 700 p.a.

In London, Wikileaks founder Julian Assange, facing extradition to Sweden, is granted diplomatic asylum by Ecuador after taking refuge in its London Embassy.  
 A summer of celebrations gets under way in the UK as the country marks the Queen's Diamond Jubilee and London hosts the Olympic and Paralympic Games.  
 A long-term, large-scale study in New Zealand finds that prolonged use of cannabis in adolescence can result in a 'significant and irreversible' fall in their IQ.

Also developed in conjunction with NHS Innovations South East are -

## **OxCat**

Diagnosing Child Sexual Abuse (CSA) is extraordinarily difficult. The OxCat Trainer consists of an anatomical model and supporting DVD for use in training medical practitioners and other authorised specialists to carry out a colposcopy in suspected cases of CSA. For further details contact Sally Robinson at NHS Innovations South East.

## **Emotional First Aid (EFA)**

Emotional First Aid is an innovative training course that seeks to dispel the myth that mental health means mental illness. Its aim is to encourage the wider Children's Workforce to get alongside a child or young person experiencing emotional distress, before any professional help is sought. Further details can be found at [www.emotionalfirstaid.co.uk/](http://www.emotionalfirstaid.co.uk/)

## **New Forest Parenting Programme (NFPP)**

The New Forest Parenting Programme began life as a parenting course for the parents of children with Attention Deficit Hyperactivity Disorder (ADHD). This remains its primary function but, with the assistance of NHS Innovations South East, NFPP have more recently developed a range of additional resources for parents, teachers and those working with children with ADHD. These include a self-help manual - Step by Step Help for Children With ADHD - which can be purchased via Amazon.

## **ALERT**

This flexible, multidisciplinary programme teaches healthcare staff how to anticipate, recognise and prevent critical illness at an early stage, offering them a structured, prioritised system of patient assessment and management. For more information, visit the website at [www.alert-course.com](http://www.alert-course.com); send an email to [alert.course@porthosp.nhs.uk](mailto:alert.course@porthosp.nhs.uk). or contact the ALERT course headquarters at: **The Deteriorating Hospital Patient Unit, Queen Alexandra Hospital, Portsmouth.**

## **VitalPAC**

This clinical software system enables nurses and doctors to record important clinical data at the bedside, analyse it instantly, and summon help when needed. Since its introduction hospitals have seen significant reductions in mortality rates, intensive care admissions, length of stay and infection rates. For further details go to [www.vitalpac.co.uk](http://www.vitalpac.co.uk)

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