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Raising the standard
Welcome to the summer edition of Arthritis Today. It’s tough for parents when their child is diagnosed with arthritis, in particular not knowing how severe the child’s condition is likely to be. Research due to start in Belfast could predict the likely prognosis: find out more on page 8. There’s a little-known connection between diabetes and arthritis, which our resident rheumatologist Dr Philip Helliwell explores in more detail on page 15. Ankle surgery is still regarded as a fringe activity by many orthopaedic surgeons, but this type of operation can be an effective life-line for selected patients. See page 12. The second of arc’s centres of research excellence is due for an official opening in September. We preview the biomechanics and bioengineering centre at the University of Cardiff on page 28. And due to popular demand Dr Helliwell answers more of your questions than usual on page 26.

Enjoy your read.
Jane Tadman,
Editor, Arthritis Today

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Second national centre of excellence launched

The second of arc’s national centres of excellence has been launched in Cardiff.

The Arthritis Research Campaign Biomechanics and Bioengineering Centre will receive funding of £2.5m over the next five years, and further funding of £7.5m from Cardiff University will drive forward the centre’s research over the next decade.

Building on studies between orthopaedics and engineering in Cardiff, the team will collaborate in using their cutting edge expertise in engineering, bioscience, genetics and imaging to compare joint movement in healthy people and patients with arthritis, and assess how it changes with age, injury, exercise and disease.

Pain is the major factor in arthritis and an exciting new aspect of the research is to relate molecular changes in the joint to pain and inflammation, to show how overworked joints are linked to pain and disease development. This new information will help them to devise and develop improved treatments such as better drugs and physical therapies.

Find out more about the new biomechanics and bioengineering centre in Focus on Cardiff, page 28.

Chief executive leaves arc

Fergus Logan has stepped down as chief executive of arc, a position he held since 1997.

During his time at the helm of arc, the charity made numerous advances and achievements, most notably the development of an exciting new class of drugs, anti-TNF therapy, licensed in the UK in 2000, which has transformed the treatment of inflammatory arthritis worldwide over the past decade. The discovery also resulted in royalty payments in excess of £30m for arc.

As the charity grew Mr Logan was committed to ensuring that the research arc funded was targeted at the greatest needs. The charity became a major driver among medical research charities in taking steps to ensure more rapid translation of the outcomes of research into patient benefit. To that end he engaged RAND Europe, a non-profit research and analysis organisation to undertake a major evaluation of arc’s past research outcomes, and to develop a system that could also be used to plan and evaluate future research, an activity which continues today and places arc as a leader in the medical research charity sector in this area.

Between 1997 and the present day, the charity grew in strength and stature in all its activities, recording 60 per cent growth in income levels, and a similar increase in the level of charitable expenditure.

Even despite the recent economic turbulence its activities, recording 60 per cent growth in income levels, and a similar increase in the level of charitable expenditure.

Fergus has led arc through many changes and developments and we are grateful to Fergus for his considerable contribution to the organisation since his appointment in November 1997.

“Fergus has led arc through many changes and developments and we are grateful to him for all he has achieved in these past 11½ years. He will be missed by many from within and outside the organisation. We offer him our best wishes as he pursues his career aspirations in new directions.”
High cholesterol drugs may prevent rheumatoid arthritis development

A study funded by arc and published recently in the scientific journal *Annals of the Rheumatic Diseases* suggests that a drug used to treat high cholesterol may also help to protect against rheumatoid arthritis (RA).

Drugs known as statins are often prescribed to people who have a higher risk of developing heart disease. They work by lowering the amount of cholesterol made by the body. Cholesterol is essential for many of the body’s normal functions, but too much cholesterol can increase the risk of heart disease or stroke.

As well as reducing cholesterol, laboratory studies have shown that statins may also help to reduce inflammation in a range of diseases, including RA.

In a project carried out by Professor Ian McInnes at the University of Glasgow, in collaboration with colleagues at Boston University School of Medicine, a large group of patients was studied to find out whether statin treatment may lower the risk of developing RA.

The study was based on information gathered from the UK General Practice Research Database. Firstly, the researchers studied only those patients who had been diagnosed with high cholesterol levels. They found that patients who took statins to lower their cholesterol were less likely to develop RA than those who did not take statins.

From a much larger group of patient records in the database, the researchers also found that patients who had high levels of cholesterol were more likely to develop RA than those with naturally low levels.

The study suggests that statins may be a promising treatment for patients who have high cholesterol levels, and are at greater risk of developing RA. arc is currently co-funding a multi-centre clinical trial to find out if giving RA patients statins reduces the number of deaths from heart attack and stroke.

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**Tower Hamlets Bangladeshis – higher rates of chronic pain**

Chronic musculoskeletal pain and chronic widespread pain are much more common in the Bangladeshi population than the white community in the deprived east London district of Tower Hamlets, a recently completed arc study has revealed.

The study comprised a short postal/telephone questionnaire, and more in-depth face-to-face interviews of 20 further Bangladeshi patients. While 46 per cent of the white population reported chronic pain, 53 per cent of Bangladeshis either born in the UK or who had come to Britain before the age of 14, reported chronic pain, while among those who had arrived in the UK after the age of 15 the number was almost 67 per cent.

Researcher Yasmin Choudhury from Barts and The London, Queen Mary School of Medicine and Dentistry, said that ongoing work, informed by the findings, was now looking at improving ways of providing specialist pain services and improved self-management programmes for Tower Hamlets residents.

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**Acupuncture on the NHS for back pain sufferers**

Acupuncture on the NHS is to be offered to people with long-term back pain, under new national guidelines.

Guidelines from the National Institute for Health and Clinical Excellence (NICE) will mean easier access to acupuncturists, chiropractors and osteopaths for people who have had persistent non-specific low back pain for more than six weeks but less than one year.

Recommendations from the government’s health watchdog body include encouraging and advising patients to be physically active, and offering them a course of manual therapy (such as spinal manipulation, spinal mobilisation and massage) or a course of acupuncture up to a maximum of ten sessions.

People considered to have high disability pain and/or psychological distress can be referred for up to eight weeks of physical and psychological treatment (including cognitive behavioural therapy).

However, doctors are advised against offering x-rays, or giving steroid injections into the spine, along with laser therapy, ultrasound, lumbar supports and traction under the new guidelines.

Professor Martin Underwood, a GP in Coventry, Professor of Primary Care at Warwick University, and former arc researcher, who chaired the guideline development group, said: “This guideline heralds a sea change in the treatment of low back pain. I am delighted that now I will be able to offer my patients a choice of therapies that have been shown to work.”

Currently some GPs offer their arthritis patients acupuncture, or refer patients to other practitioners, but in some parts of the country patients have to pay.

Professor Alan Silman, arc medical director said it was appropriate that NICE had recognised that back pain was a common disabling condition and was not a single disorder. “Clinical trials have not produced a clear cut best treatment and different combinations have to be tried,” he added. “More research is needed to find out the most effective treatments.”

arc is currently carrying out several studies into establishing the best treatments for back pain, including the benefits of tailored physiotherapy, acupuncture and yoga.

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**Nigel Sandford**

We regret to report that Nigel Sandford, head of research and education at arc from 1991 to 1999 died in April at the age of 69 after suffering from cancer.

Keir Windsor, arc education officer and a close colleague of Mr Sandford said: “Our thoughts go to his wife Pamela, children Martin and Gill, and other members of the family.

“Nigel will be remembered fondly as a fine colleague by those who worked with him at arc head office and no doubt with affection by those who came into contact with him in their roles as arc committee members or grant-holders.”
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Leeds nurse wins arc prize for his work with arthritis patients

A Leeds nurse has won a national arc prize in recognition of his work with arthritis patients.

Mwidimi Ndsosi, a research nurse at the Academic and Clinical Unit of Musculoskeletal Nursing (ACUMeN) at the University of Leeds, has been awarded the arc Prize in Rheumatology for Allied Health Professionals.

He was presented with a £1,000 cash prize and a silver medal at a leading arthritis conference in Glasgow in April.

Mwidimi won the prize after writing an article about an arc funded research project carried out by himself and supervised by Dr Jackie Hill, which looked at the educational needs of patients with arthritis.

They have developed a short questionnaire (the Educational Needs Assessment Tool – the ENAT) for patients with a variety of different types of arthritis including rheumatoid arthritis, osteoarthritis, lupus, psoriatic arthritis, scleroderma and ankylosing spondylitis.

“We know that patients want to know more about their condition – how to manage pain, help themselves, what treatments are available, and how to deal with their feelings as well as practical help with movement and joint protection,” said Mwidimi, who is based at ACUMeN in Chapel Allerton Hospital.

Miners with knee osteoarthritis to receive disability benefits

Men who have developed osteoarthritis of the knee through working in mines will now be able to claim state benefits, the Department for Work and Pensions has announced.

Miners are likely to develop knee OA because of the nature of their jobs and the government has now placed the condition on its ‘prescribed disease’ list – meaning that thousands of miners can now claim compensation under the Industrial Injuries Disablement Benefit.

An arc spokeswoman welcomed the news. “Several years ago, largely as a result of our research, osteoarthritis of the hip was put on the government’s ‘prescribed list’ for farmers, so it seems appropriate that miners, whose knees have been affected by their work, should also be able to benefit,” she added.

Former arc epidemiology unit director honoured

The arc epidemiology unit in Manchester has named one of its seminar rooms after its second director, Philip Wood, who died last year.

Professor Wood was director of the unit from 1968–1988. His major contribution was in raising the awareness of the general public, the medical profession and politicians to the high cost to the individual and to society of musculoskeletal conditions. In particular, he drew attention to the poor level of education of undergraduate medical students about musculoskeletal problems and the poor provision nationally of rheumatology consultants.

Correction: In the winter edition of Arthritis Today in an article on arc’s new complementary medicines report, a headline claimed that “fish body oil scores highly for osteoarthritis”. This was incorrect and should have said: “fish body oil scores highly for rheumatoid arthritis.” We apologise for any confusion.

In the report we said that phytodolor and SAMe, which both scored 4 for osteoarthritis, were available in some UK pharmacies. We have since become aware that this is not the case. Both products are regarded as medicinal and are regulated by the Medicines Act. Neither product has a UK Marketing Authorisation and therefore should not be sold in the UK.

Medical director receives honorary doctorate

arc medical director Alan Silman has been awarded an Honorary Doctorate of Science from the University of East Anglia.

Professor Silman became arc’s first medical director in January 2007. A former director of the arc epidemiology unit at the University of Manchester, he is also a Professor of Rheumatic Disease Epidemiology at the University of Manchester, and an honorary consultant in rheumatology at Manchester Royal Infirmary.
It’s difficult to predict how childhood arthritis will pan out. *Arthritis Today* looks at new research which could improve prognosis, and talks to the parents of three youngsters whose arthritis is at very different stages.

When a child is diagnosed with arthritis, their parents are desperate to know the answer to the questions: “What will happen to my child in the future? Will the arthritis spread to all her joints? Will she ever be able to lead a normal life?”

Unfortunately, doctors can’t currently give worried parents the answers they crave because there is no way of predicting at the time of diagnosis what the likely prognosis will be.

Dr Madeleine Rooney, a paediatric rheumatologist at Musgrave Park Hospital in Belfast, knows only too well the frustrations that this can cause for both parents and clinicians.

Dr Rooney says: “Not knowing how the disease will progress leads to uncertainty, which is very distressing for children and families who have to wait, perhaps for years, to see how their arthritis develops. It is also very difficult for doctors who have to wait before they can start the most effective treatment. At the same time it would be wrong to treat all children with powerful treatments if their disease would not need it in the future.”

Juvenile idiopathic arthritis (JIA) is an inflammatory form of arthritis affecting one in a thousand children and teenagers, between the ages of six months and 17 years.

The difficulty is that there are many subtypes of the condition. The classical features of JIA are joint swelling, with pain and stiffness, and sometimes severe anaemia and tiredness. For some children only a few joints are affected, while for others the disease gradually spreads to affect many joints within months of the disease starting. In time a number of these children will develop significant joint destruction, which is irreversible.

While drug treatment such as methotrexate and anti-TNF therapy work well in most children doctors are understandably cautious about giving young children such powerful new drugs if there is a chance that they don’t actually need them. By the same token, though, waiting to put the children on those drugs means that those with severe disease will suffer unnecessarily.

Now Dr Rooney, who is also a senior lecturer at Queen’s University, Belfast, and a team of researchers, believe they might have found a way out of this dilemma.

With funding of £282,175 over three years from *arc*, they are hoping to develop a new way of predicting the outcome of disease with a simple blood test.

“In a pilot study we identified a number of proteins in the body fluids of children measured at the beginning of the disease that can correctly predict disease outcome at two years,” Dr Rooney explains.

“The purpose of this study is to confirm these findings in a large group of children in Northern Ireland and also in a group of children from the US. If we confirm our findings we will be able to start better treatments earlier.”

The team will look to see whether these proteins are present in the joint tissue, which they believe is an important site where inflammation begins. They will also examine the blood of affected youngsters. If they can find these proteins in the blood they may lead to the development of a simple blood test to predict the outcome of disease.
proteins in the blood they can develop a simple blood test to predict the outcome of arthritis.

Up to 80 children will be recruited in Northern Ireland to take part in the study, which started in May.

The study was instigated by doctors asking parents of children with arthritis in Northern Ireland what were their main concerns about their child’s condition.

Several expressed concerns that their child had to have steroid injections under general aesthetic as their child was frightened of the anaesthetic, and hoped that they would not have to undergo that too often. Parents of children with many affected joints wanted to know whether they would respond to powerful drugs such as anti-TNF therapy, and whether their child’s disease would stay settled if the drugs were stopped, as their child did not like taking the drugs, and parents feared the side-effects.

Dr Rooney is hopeful that these fears will be allayed and parents’ questions answered more easily if their research bears fruit.

“Our study could minimise the stress on families, and cut the costs to the NHS by reducing visits to specialists, theatre time and stays in hospital,” she adds.

The teenager with severe arthritis

For 11 of his 14 years Christopher Waite from Tonypandy in South Wales has known little but a life of pain.

Diagnosed just after his third birthday, Christopher’s JIA is so severe that despite the advent of numerous new therapies, his doctors are still struggling to control the disease. Christopher has been in a wheelchair for the past six months, and has only managed to attend school for one day so far this year.

He is one of the unlucky few whose condition cannot be controlled by any of the anti-TNF therapies, although when he was six, infliximab held the disease in check long enough for him to go to school almost as normal for a year. But almost overnight its effects wore off and he was back to square one.

He is currently taking tociluzumab (RoActemra) which is yet to be officially licensed. It’s a mark of the severity of his condition that doctors have been forced to try this brand new treatment, and so far the signs aren’t good; it’s not working very well and Christopher’s liver is becoming affected.

A few years ago he had a fracture in his spine as a result of the high-dose steroids, and because he didn’t grow for four years he needed to take a growth hormone to boost his stature. When the youngster was ten he asked him mum to saw off his leg because it was hurting so much.

Despite the severity of his condition, Christopher’s mum Julia says her son is a “brick,” and it is obvious that as well as a life of pain, his life is also filled with love.

“He makes it easy for us to cope,” says Julia, who with husband Mark has two other younger children. “He never complains even though he has been through so much. Everyone loves him at school and in hospital.

“No-one knows what the future holds, and we try and take each day as it comes. But when Christopher is bad I can’t touch him because he is in so much pain. That’s one of the hardest things – I can’t be a mum to him.”

The newly diagnosed child

It’s still early days for eight-year-old Kray Milnes, diagnosed with JIA at the end of last year, to the astonishment of his parents Kelly and Gary.

The football-mad youngster from Sheffield had just signed up for a local under nine’s team, and his dad had only days earlier registered him for Sheffield United’s summer football camp.

All that is now on hold as doctors try to control the arthritis that continues to rack the young boy’s wrists, ankles, knees and hips. As well as being in acute pain, Kray doesn’t really understand why he can’t play sport any more, and why his friends, who don’t understand either, accuse him of “wagging it” when he has to miss lessons.

His mum Kelly, who has three other children aged between four and one, says that at first the diagnosis of arthritis, which came about six weeks after he developed a severely swollen knee, was a huge relief. But since that first reaction she says the diagnosis has turned her family’s world upside down.

“To be honest when we first left A & E at Sheffield Children’s Hospital, where we’d taken Kray when he was first ill, I was thinking it was leukaemia, and didn’t sleep a wink,” remembers Kelly. “Until we got to see the rheumatologist I got more and more panicky, so when arthritis was diagnosed it was a bit of a relief because it wasn’t life-threatening.

“It wasn’t until I got home, it began to sink in and when I started to read up on it I hit rock bottom. I was devastated.

Kray is such a lovely little boy. He is up most nights squealing with the pain in his joints. It is so, so hard for him.”

Kray has so far been on steroids but as more and more of his joints are being affected he is due to start taking methotrexate which his rheumatologist Dr Sue Wyatt hopes will start to control his condition more effectively. In the meantime Kelly has thrown herself into organising a football five-a-side competition in aid of arc. Both Sheffield’s football teams, United and Wednesday, have donated raffle prizes, as have the local ice hockey team, the
Sheffield Steelers, and the local ski village. “The arc’s booklets really helped me through the first couple of weeks, when I needed to find out more about JIA, and I’m also hoping the tournament will help to raise awareness of the fact that children get arthritis too,” says Kelly. “I get lots of people coming up to me and saying ‘how can he have arthritis, he’s only a child?’ That needs to change.”

The 16-year-old leading a near-normal life

Earlier this year millions of TV viewers tuning in for the BBC’s “Tonight’s the Night” talent show saw Emma Dorée accompany singer Mick Hucknall on the cello, as the singer serenaded her mum Sally.

Emma nominated Sally to appear on the show as a way for the 16-year-old to say ‘thank you’ for the years of love and support that has helped her to get through the tough times endured since being diagnosed with JIA at the age of four.

After years of treatment, Emma, who has just taken her GCSEs and is planning to stay on at school to take A-levels, is leading a relatively normal life and has followed her mother, a music teacher who plays the piano and cello – in learning to play the piano and cello! Emma, from Middlesbrough, was on etanercept for nearly eight years and switched to adalimumab last year, so far with good results. Although she has limited mobility, and is still much smaller and gets tired more easily than her contemporaries, she has coped remarkably well with the pain and fatigue of JIA.

Sally, who gave up work to look after her daughter and only returned to teaching two years ago, is full of praise for the youngster’s courage in facing up to her disability. “She’s an old head on young shoulders but she’s rarely without a smile,” says Sally, who has been a regular supporter and fundraiser for both arc and Arthritis Care over the years. “I once said to her: ‘you seem really well and happy today.’ She said: ‘Mum I’m in pain every day, it’s just some days are better than others.’ She is maturing into a lovely young lady and although she still has ups and downs I think we have come out on the other side. We wouldn’t have got nearly as far on as we have without arc.”

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Hot on the heels of fusion surgery, ankle replacement is now becoming more commonly performed. Jane Tadman reports.

It’s unlikely that ankle replacement surgery will ever overtake either knee or hip replacement in terms of popularity or numbers of operations performed. Whilst more than 65,000 people in the UK have a new knee fitted each year and similar numbers undergo hip replacement surgery, only around 1,000 people with arthritis have their ankle replaced at present.

But while even its most enthusiastic advocates concede that ankle replacement surgery is still regarded as developmental rather than a mainstream orthopaedic procedure, the operation has considerable merits when performed on the right patients.

When Arthritis Today covered this topic five years ago, only a handful of orthopaedic surgeons were carrying out ankle replacement, as many remained sceptical about the lack of robust evidence of its success rate.

Pioneering ankle surgeon Peter Wood, from Wrightington Hospital in Wigan, led the way in the UK when he started performing the surgery in the early 1990s. Now, as he is about to retire, he reflects that while only a couple of hundred operations were performed in 2003 in the UK, the number has greatly increased. “All over the world, more designs have become available, and surgical experience has increased tenfold,” he says.

Other orthopedic surgeons are now taking up the cudgels on behalf of ankle replacement and are now much more willing to do the surgery, despite the absence of evidence of long-term durability.

Paul Cooke, an orthopaedic surgeon from the Nuffield Orthopaedic Centre in Oxford who has ten years of specialising in ankle replacement, says that from the very limited number of patients who have been followed up over 15 years, the failure rate is higher than that of hip replacement. Peter Wood puts the failure rate as between one and two per cent a year, as measured by the re-operation rate. A recent journal article written by Mr Wood and colleagues estimates a survival rate of 95 per cent over five years, which drops to 80 per cent after a decade.

Orthopaedic surgeon Paul Cooke

“The end of ankle pain?

There’s a calculation of need against predicted outcome, but sometimes the patient’s need is so great we will take the increased risk compared with fusion. Ankle replacement is not the answer to every ankle problem but it can be very effective in the right patient,” says Paul Cooke. “The latest generation of prostheses, which have a mobile bearing in them, have proved to work well and the early outcomes that Peter Wood was showing have been sustained.”

The surgery is performed as an alternative to ankle fusion. Fusion results in a more robust ankle and has a higher rate of success, but means that the joint becomes stiff and immobile. Fusion enables the recipient to walk without a limp and over rough ground, but is only really effective if other joints near the ankle such as the hip and knee are working well.

“The advantage of ankle replacement is that it gives you movement, but you can’t always be as active after this type of surgery compared to fusion,” says Paul Cooke, who carries out an equal number of fusions and replacements, so is well-placed to judge the two operations’ pros and cons.
To return to playing golf after surgery.

Those who had had a fusion were able always as robust or stable as fusion. All illustrated that ankle replacement is not replacement patients at the Nuffield Infirmary, the Avon Orthopaedic Centre in Bristol or the Queen’s Medical Centre, Nottingham.

Post-operatively, the patient is in splints for between four and eight weeks, and once the plaster cast is removed physiotherapy is very important to get the new joint working effectively. It is usually around six months before the patient can enjoy recreational walking again. The swelling and the stiffness when starting to move the joint can last for up to 18 months, and may never go away entirely.

A life-transforming experience

Only a handful of people with ankle problems caused by arthritis will ever have surgery. (Of the 30,000 referrals to foot and ankle clinics every year for ankle arthritis, only 3,000 come to surgery; either fusion or replacement. A further 3,000 will have an arthroscopy, and the rest will have injections or orthotics.) Nevertheless, for those few, it remains a life-transforming experience.

“There are a lot more surgeons carrying out ankle replacement surgery, although only six of us are doing more than 20 a year, and the rest are doing relatively few,” says Paul Cooke. “Over the next few years they will be doing a lot more. Just recently it has spread from being performed in a very few centres to becoming much more widely available.”

Peter Wood concurs. “People who say that ankle replacement will never take off are wrong,” he says. “I think for every ten knee replacements performed there will be one ankle replacement, so 6,000 a year. It will be done in every town and in every large hospital trust.”
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Diabetes and arthritis – is there a connection?

*Arthritis Today*’s resident doctor Philip Helliwell explains the links between these two common conditions.

Diabetes mellitus (also known as ‘sugar’ diabetes) interferes with the body’s ability to use sugar. It is a long term condition requiring treatment by diet, pills and often injections of insulin. Generally doctors recognise two types of diabetes. Type 1 typically occurs in younger people and often requires treatment with insulin. Type 2 occurs in older overweight people and is treated with tablets but there can be a lot of overlap between the two types. There is often a family history of diabetes in both. Early symptoms of diabetes include thirst and passing a lot of urine, and some people lose a lot of weight. The problems with handling sugar, and specifically high blood sugar levels, can eventually lead to complications in the blood vessels, kidneys, eyes, and the nerves to the hands and feet. These complications can be delayed and minimised by controlling the blood sugar with treatment.

People with diabetes are also prone to a number of musculoskeletal complications but the relationship between these complications and the diabetic control is not clear. Many of these problems are not unique to diabetes but occur more frequently in this condition. This short article describes the complications and offers advice on treatment and prevention.

**Shoulder problems**

(see also [arc booklet *Pain in the shoulder*])

This is probably the commonest musculoskeletal disorder which I see associated with diabetes. Specifically the shoulder becomes stiff and painful due to inflammation and thickening of the tissue surrounding the shoulder joint – sometimes known as frozen shoulder. The pain may start following a minor injury or just come out of the blue. Typically the pain builds up to a constant nagging pain which limits the movement of the joint and causes sleep disturbance. The pain is worse in the first three months and then subsides gradually, although the stiffness may remain for several months.

Sometimes the condition occurs in both shoulders, either one after the other or at the same time.

Treatment consists of taking painkillers, and physiotherapy. Sometimes a steroid injection will be given into the shoulder. Physiotherapists will advise on exercises and may offer pain control through such devices as a TENS machine (a device which generates a small electrical current, felt as a tingling sensation, through pads on the skin).

**Hand problems**

A number of hand problems may occur in diabetes.

**Carpal tunnel syndrome**

(see [arc booklet *Carpal tunnel syndrome]*)

One of the nerves to the fingers (the median nerve) may become trapped as it passes through the tunnel made by the bones and ligaments of the wrist (the carpal tunnel). The first symptom is usually pins and needles felt in the thumb, index and middle fingers of the affected hand. The symptoms are often worse at night causing disturbance of sleep. As the condition progresses the grip may become weaker and the affected fingers become numb. Initial treatments include using a wrist brace and, sometimes, injection of steroid into the carpal tunnel. If these treatments fail to work, and it is better not to wait too long, then a small operation to ‘release’ the trapped nerve can be performed. Sometimes pins and needles...
can occur in the hands and feet as a result of diabetic damage to the nerve endings and this can occasionally be confused with carpal tunnel syndrome. It is possible to distinguish between these conditions by performing an electrical test on the hands.

**Dupuytren’s contracture**

Dupuytren was a French physician who described thickening (known as fibrosis) of the tissues of the palm. It often starts at the outer edge of the palm and appears as a ‘knot’ in the skin. The thickening can progress and involve the tendons (or guiders) to the fingers so that they become bent over towards the palm. This process starts in the fourth and fifth fingers and progresses slowly over many years, although sometimes it may not progress at all. If progression does occur then surgical removal of the thickened tissues may be necessary but it is best not to leave this condition too late.

Diabetic ‘Charcot’ arthropathy (sometimes known as diabetic osteoarthropathy)

This can be a devastating complication of diabetes. Awareness is very important as early treatment can prevent the worst outcome. Charcot was a French physician who described a severe form of arthritis in people who had lost the feeling in a limb. For this condition to occur diabetic damage to the nerves, causing loss of feeling, must already be present. The foot and ankle are most often affected. The condition is sometimes triggered by an injury (such as an ankle sprain). The ankle sprain itself may be relatively minor but the long term consequences, in terms of inflammation and damage, may be profound.

The usual sequence of events is therefore as follows. The person usually has had diabetes for some time. Damage to the nerve endings in the hands and feet is present and causes symptoms such as burning and pins and needles. A minor injury such as turning the ankle on a pebble or kerb stone may occur but this condition can occur without reason. The pain and bruising from the injury is usually only brief and the ankle or foot may appear to settle down. Unfortunately, after a short period of time the affected area starts to swell, and become warm, painful and stiff. This may progress rapidly until the person starts to limp. If an x-ray is taken at this point it will be clear that the bones and joints are severely affected. If the person continues to walk on this foot then more damage may result.

It is thought that if the condition can be caught early enough then much of the inflammation and damage can be prevented. The foot and ankle must be rested completely. This is usually done by putting a cast or a boot on to the affected leg. People can still get around but the device stops them putting too much weight through the affected limb. It may be necessary to wear this for several weeks. At the same time there are drugs that can be given to suppress the inflammation and to restore the bone loss. Although anti-inflammatory drugs (NSAIDs) are given it is usually necessary to give much stronger anti-inflammatory drugs. Drugs which are effective in bone disorders (such as osteoporosis and Paget’s disease) are also effective in preventing bone loss in this condition. These drugs, called bisphosphonates, are usually given by injection, as a day case in hospital. Several injections may be necessary. Diabetic Charcot arthropathy is serious and can be minimised by early and appropriate treatment. Both patients and their health care providers should be aware and alert to this condition.

**General advice for people with diabetes**

What are my chances of developing a musculoskeletal complication?

This is impossible to answer. There is some evidence that better diabetic control will help prevent the complications such as kidney disease...
but not necessarily musculoskeletal complications. And the longer you have diabetes the more likely you are to develop a musculoskeletal complication. And don’t forget that if you have evidence of damage to the nerves (peripheral neuropathy) then you will be liable to develop diabetic Charcot arthropathy and you should report any symptoms occurring in your foot and ankle, particularly after an injury, however minor.

Am I at risk of more side-effects from drugs used to treat musculoskeletal complications?

People with diabetes are at increased risk of developing heart disease. This is why it is so important to pay attention to the usual risk factors for heart disease such as smoking, obesity, blood pressure and cholesterol levels. Anti-inflammatory drugs used in musculoskeletal disease are associated with a small but definite increased risk of a heart attack so this should be taken into account when choosing a drug. Current advice is to use the smallest effective dose for the shortest possible time (see arc leaflet ‘Non steroidal anti-inflammatory drugs’). It is important to remember, however, that these drugs are very helpful and any decision to start them should be taken after a full discussion of the risks and benefits.

What about complementary and alternative therapy?

There is no evidence that alternative treatments are of any use in preventing the complications of diabetes. It is worth noting, however, that many people use glucosamine to help or prevent arthritic symptoms. Glucosamine, as the name suggests, has a sugar molecule within its chemical structure and there were fears that taking this supplement might induce or worsen diabetes. Current evidence and experience indicates that this is not the case and you should therefore have no problems taking this supplement, should you wish. The only warnings with glucosamine are, firstly that is inadvisable for people with shellfish allergy to take it, and, secondly, glucosamine may make Dupuytren’s contracture worse.

Dr Philip Helliwell is a senior lecturer in rheumatology and a rheumatologist at St Luke’s Hospital in Bradford.
Recognising ‘self’

Most rheumatoid arthritis (RA) patients today have a clear understanding of the disease that causes their pain and immobility. They know that their own immune system is attacking the body and that research is needed to understand why this happens and how to prevent it or halt it.

The immune system normally recognises the invaders that are foreign to the body – bacteria, viruses, or chemicals – and attacks them. It leaves the body’s own tissues or ‘self’ alone. In RA, both ‘self’ and ‘non-self’ cells are attacked in the same way suggesting that the immune system doesn’t recognise the difference between them. Understanding how the recognition mechanism works normally is key to being able to understand what happens when it goes wrong and developing therapies to correct or counter it.

An army of white cells

At University College London’s Department of Immunology and Pathology, Dr David Escors, a non-clinical career development research fellow, is tackling this problem using novel gene therapy techniques. He explains: “The white blood cells in our body are like an immune system army. There are different types of white blood cell just as there are different roles and ranks in the army. Dendritic cells are very important in terms of ordering other white cells – they’re like the army generals. They initiate the battles and direct large
Gene therapy expertise

Gene therapy is rapidly becoming a serious treatment option for some disease states. It’s possible to insert new genes into the body that can instruct faulty cells to work normally. Collaboration with the Department of Rheumatology has combined the group’s expertise in gene therapy techniques with the most advanced immunological knowledge.

Dr Escors studies viruses and has expertise in techniques using harmless viruses to transport genetic material into cells that have faulty genetic programming. The correct genetic material can be transferred into immune cells where it ‘teaches’ the cells how to recognise ‘self’ and ‘non-self’, and stops them from attacking healthy tissue.

Corrective therapy for the immune system

Lentiviruses are viruses that are very efficient at targeting and entering cells and introducing their genetic material. The virus has all its disease-causing material removed and replaced with the corrective genes, becoming a non-infectious gene-carrier (lentivector). Dr Escors has successfully used a lentivector to replace the genetic material in dendritic cells and is now ready to progress to human cell testing.

“We want to work out exactly which genetic instructions control the recognition part of the immune attack,” says Dr Escors, “so that we can engineer therapies that alter just these specific components.

“First we have to test the lentivector on patient cells in culture and make sure that we get the effects that we want. Then, we’ll test the therapy in clinical trials.

“Making lentivectors is expensive rather than difficult,” he adds. “UCL is currently involved in setting up a facility to provide more economic production methods for scaling up manufacture of clinical trial grade material for human use. Lentivectors are already being used in other human clinical applications, including cancer trials, and so we already have the advantage of safety and performance information from those studies.”

Flagging up infection

Cells that become infected by microorganisms have to let the immune system know that they are infected so that it can recognise them and destroy them. They do this by displaying protein ‘flags’ on their surface that alert the immune system. The flags are made inside the cells and when the cells become infected, the flags are transported to the cell surface and displayed. The flags are made to a strict design and are constructed and packaged up on a sort of conveyor belt system of protein production. This involves the flag being folded up in a certain sequence. Just like quality control in a factory, if the product is not made correctly, it’s rejected – in this case, if the flag isn’t folded correctly, the cell’s monitoring system is alerted and destroys it.

Dr Antony Antoniou, arc non-clinical career development fellow, explains what happens in certain inflammatory forms of arthritis such as ankylosing spondylitis (AS): “For some reason, when individuals have a certain genetic make-up that makes them susceptible to arthritis, misfolding of these flags can occur. This may give the wrong signal to the immune system and allows it to destroy healthy cells. We know that in cystic fibrosis there is a defect in a protein ‘flag’ on their surface that the system knows it can recognise so that it can destroy it. In AS, the system doesn’t know how to work out which is the right flag and which is the wrong one.”

Ankylosing spondylitis – an elusive disease

It’s been known for over 30 years that AS is very strongly linked with one specific flag called HLA-B27. Despite this, and after many years of dedicated research, the disease process still isn’t understood. Although anti-TNF therapy does make a difference to some AS patients, the condition, unlike RA, hasn’t benefited from new therapy developments.

Research in the first arc research fellowship awarded to Dr Antoniou confirmed that HLA-B27 flag folding problems do occur in AS patients. A second research fellowship which began early in 2009 is continuing the investigation.

“Our studies in both animal models and human cell lines show that individuals with the HLA-B27 gene have this flag folding problem,” explains Dr Antoniou. “At each stage of the conveyor belt model in the cell, there is a molecular ‘specialist operator’ that helps to put together and package each process in the system. It’s possible that one of these is not functioning properly and we need to check each one. If we can find where the system goes wrong, we may be able to develop a therapy that will correct it. Chemical operators have already been developed that work in the test-tube and we hope to develop one that can be put into the AS flag production system.”

An infection trigger?

Another research focus is examining how environmental factors affect AS development. It’s known that as well as gene susceptibility, microbial infection may affect flag folding, but how it does
this is uncertain. “Animals with the HLA-B27 gene don’t develop flag folding problems if they are raised in germ-free environments,” says Dr Antoniou. “Also, Salmonella organisms like to live in cells that have active HLA-B27 genes. Why is this? We’re currently tagging Salmonella microbes with fluorescent markers so that we can track what happens to them in individual cells. It may be that infection is one of several factors contributing to the flag folding problems.”

**Controlling bone erosion**

Bone loss is a serious problem in joint and bone diseases. Its control is still poorly understood although it’s known that many factors influence its development and progress. One of these factors was discovered almost by accident during research in the 1980s. Professor Timothy Arnett, in the Department of Cell and Developmental Biology, recounts how his earlier postdoctoral research had a surprising outcome: “We were trying to culture the cells that cause bone destruction – osteoclasts. They move across the bone surface, dissolving bone as they go. We had no success with the cultures, until we changed the acidity of the culture solution. When the culture medium was acidified, the osteoclasts ate away huge holes in the bone.”

**Acid production affects bone loss**

Acid production is a normal consequence of the metabolism of living cells, and in healthy individuals the body usually gets rid of excess acid. If the body can’t eliminate it efficiently enough however, it accumulates, resulting in acidosis (acid build up in the blood and tissues). This can result from kidney or lung disease, or can be due to a poor blood supply caused by inflammation or ageing. Acidosis increases the activity of the bone-destroying osteoclasts and this causes bone erosion.

Professor Arnett has also shown that low oxygen levels increase osteoclast activity. He explains: “In conditions of inflammation and swelling, the blood supply is restricted and tissue can be starved of oxygen. It starts to metabolise anaerobically, that is, without using oxygen – just like the muscles of endurance athletes do. This type of metabolism increases acid production and accelerates bone destruction.”

**Acid sensors control bone erosion**

How acid conditions influence osteoclast activity is the goal of Professor Arnett’s current research. He has discovered that these cells are extremely sensitive to even very tiny changes in acidity; how do they sense these changes? “We’re looking at special receptors on the osteoclast cell surface that respond to changes in acidity,” says Professor Arnett, “to see how they regulate cell function. We will also study mice that have been specially bred to lack these receptors and examine their bone formation using a new state of the art micro-scanner.”

Professor Arnett thinks that the acid-sensitive receptors can be blocked by drugs to prevent their activation. In the longer term, this approach offers potential for the development of new drug therapies that may prevent or slow down bone destruction in bone erosion conditions such as RA.

**The Hints Box**

**Arnica for Dupuytren’s and arthritic knees: Age Concern’s insurance company good for people with arthritis**

I was put on Cuprofen for my Dupuytren’s-like trouble. My doctor is trying to prevent me from another operation on the same hand – one for the finger and one for carpal tunnel syndrome. Cuprofen helped with the pain, movement and swelling but having tried arnica gel for other pain I tried it for this and found it excellent. My finger is now straight again and when I use the gel regularly, I have very little trouble with the finger. Also, arnica gel is splendid for my arthritic knee. The pain goes in no time. I had to cancel a holiday last year due to pain and stiffness. Had I used this, as it seems to be a minor miracle, it may have prevented the cancelling of my holiday. I was told that headaches seem to disappear if the temples are rubbed with the gel. Haven’t tried this yet but my health shop owner thinks it is excellent for this. Perhaps other people would like to share their views on this.

Another topic – insurance for arthritis sufferers (and anyone over 50). I tried many companies for holiday insurance and fell foul of one last year (see earlier). I then found, by accident, Age Concern. They use a reputable company based in Hampshire. No trouble with such things as arthritis, glaucoma or similar; just a short list of things like asthma, heart trouble and diabetes. I mentioned my trouble last year when I spoke with the company and it seems they have no bother with arthritis and similar things, only what is listed. Good prices for the insurance too. Hope this information proves useful to people.

**Geraldine Taylor, Sherborne, Dorset**

**Comfy shoes for arthritic feet?**

I suffer from osteoporosis and arthritis and have done for years. Can you give me an idea how I can buy good, comfortable fashionable shoes? Over the years I’ve wasted money on shoes that I never can wear. My feet swell up and I have severe pain. I have to wear slippers and would have some ideas from other readers.

**Linda Richardson, Newbiggin-by-the-Sea, Northumberland**

**Opening jars made easier**

I found out how to open jars by trial and error as I am unable to grip the jar with my left hand which is required with most gadgets. Wrap a thick towel around the jar, push it against the wall or something solid and then tap all round the lid with a small hammer or kitchen scissors. You will then find the lid comes off easily.

**Dorothy Odds, Chatham, Kent**

Wear a rubber glove (washing up type) to open a jar. I find it does help.

**Mary Hamilton, Sutton Coldfield, West Midlands**
**The Hints Box**

**Vikings connections to Dupuytren’s contracture**

With reference to Dupuytren’s contracture in the Questions & Answers on p. 26 of *Arthritis Today*, No. 144, I thought you and Dr. Helliwell would be interested to know the following.

I showed this letter to a friend, aged 90, who has this condition. When she was about 70+ she had successful surgery on the little finger on her right hand to straighten it. At the time she learnt that this condition was a characteristic occurring in the Vikings, and that anyone who had this would have Viking blood in them! Her maiden name was common in East Anglia where names like hers (including place names) of Viking origin can be found. (My friend developed the contracture of the little finger in her left hand, but the surgeon will not operate now. She has no pain from it, and does not find it inconvenient.)

**Miss Margaret E. Martin, Thame, Oxon**

**Celery seeds – smelly but effective**

I have osteoarthritis and have found that a “brew” of celery seeds to be very beneficial for the pain. Put a couple of dessert spoons in about a pint of water, simmer for a while and strain off into a (heated) jar. This will set slightly, then once or twice a day put a dessert spoon of this into a glass of water and drink. It tastes rather twice a day put a dessert spoon of this into

**Nora Jackson, Rhyl, Clwyd**

**Does the ‘flu jab trigger rheumatoid arthritis?**

In Questions and Answers, re Cherry Tugby’s letter, I have suffered the same relapse after ‘flu vaccinations and especially after I had the pneumonia one last year. I have still not recovered from that and the ‘flu jab in October. My consultant in fact agrees with me that the jabs could act as a trigger for a flare-up and I felt this news should be more available so that people can make an informed choice about having a jab. My RA started one month after a ‘flu jab five years ago, and developed within three weeks.

Dr Philip Helliwell writes: There is no evidence that ‘flu jabs cause or make rheumatoid arthritis worse, although many people get brief influenza like symptoms following vaccination. On the other hand if you develop influenza while on immunosuppressive drugs the illness could be far worse if you have not had the vaccination. It is possible that the immunological reaction caused by the vaccination serves to boost your own auto-immunity but at the moment this is not proven.

**Making hard mattresses softer**

I was interested to read a letter about hard mattresses in your winter issue. Some years ago we purchased two single beds with a wooden slatted base and rather firm mattresses that I found uncomfortable. I bought a two inch Dunlopillo overlay from Foam for Comfort Ltd in Leeds (0845 345 8100). A cheaper option is an “eggbox” foam overlay bought locally.

**Mrs S Broadbent, Gatley, Cheadle**

**I’m sticking to magnets for my arthritic pain**

I am a relatively healthy 72 years old but beginning to feel the oncoming of age in “certain departments.” I use glucosamine ointment to soothe joint pains in my lower back, and in my right knee. My physio deduced that I was beginning to suffer age-related “creeping arthritis”, requiring regular exercise, massage, ointments and the occasional painkilling tablet, until... wait for it....I discovered the power of magnets! I read up and bought myself a magnetic wrist bangle, which I now wear 24/7. Result — no more pain or discomfort. I am thrilled with the product and can highly recommend this to other joint-pain sufferers. There are several brands of magnetic bracelets available — try a search on Google. Some time ago I tried a copper wrist band but it did nothing for me. Magnets may not work for everyone but if 20, 30 or even 50 per cent of users benefit, then job well done!

**Henry Carlton, Southgate, London, N14**

**Cosyfeet for seamless socks**

With reference to the enquiry about seamless socks from Cherry Tugby in The Hints Box, Cosy Feet sell some very comfy socks, including socks for sensitive feet: http://www.cosyfeet.com/socks-for-sensitive-feet-c-89_102.html Post: Cosyfeet, The Tanyard, Leigh Road, Street, Somerset BA16 0HR; tel: 01458 447 275, Mon to Fri 8.30am to 5.30pm, Sat 9am to 1pm, e-mail: comfort@cosyfeet.co.uk I buy their socks because they’re lovely and soft, and aren’t tight at the top – I get swollen ankles and legs.

**Margaret Nelson, Elmsett, Suffolk**

Wearing my socks inside out does at least minimise the effect of the seams on tender toes. They do look a bit odd if they are patterned socks, but hey, if it makes your feet more comfortable, who cares!

**Maureen Agnew, Didcot, Oxon**

Seam-free socks are in the Patra catalogue. Write to Patra Selections, 1-5 Nant Road, Child’s Hill, London, NW2 2PS or tel: 0208 209 9111. Patra will email out a catalogue for orders outside the UK. I find them efficient and order several items from them annually.

**Mary Smith, London, SW15.**

**Editor’s Note:** Thanks to the very many readers who wrote in to us suggesting Cosyfeet for seam-free socks.

**Send your hints to Jane Tadman, arc, St Mary’s Gate, Chesterfield, Derbyshire S41 7TD.**
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Allied Health Professional Training Fellowships

Mrs Rebecca Kearney, Clinical Sciences Research Institute, University of Warwick, Warwick Medical School, Coventry; analysis of different rehabilitation strategies to improve recovery after Achilles tendon rupture, £124,580, 48 months.

Mrs Michelle Hall, Division of Physiotherapy Education, University of Nottingham, Nottingham City Hospital, Nottingham; investigating the relationship between inflammation, knee pain and the development of osteoarthritis, £192,293, 36 months.

Clinical Research Fellowships

Miss Julie Colclough, Department of Trauma and Orthopaedics, Newcastle University, Freeman Hospital, Newcastle-upon-Tyne; a detailed investigation of the role of the GDF5 gene in the development of osteoarthritis, £170,334, 36 months.

Dr Clare Thornton, Rheumatology Unit, Hammersmith Hospital, London; investigating potential therapeutic targets for the prevention of blood vessel injury in lupus and rheumatoid arthritis, £217,170, 36 months.

Dr Tracey Toms, Department of Rheumatology, Russells Hall Hospital, Dudley; understanding the impact of inflammation and the new anti-inflammatory drugs on the risk of heart disease in patients with rheumatoid arthritis, 143,652, 24 months.

Dr Ben Parker, Epidemiology Unit, University of Manchester, School of Translational Medicine, Manchester; reducing the risk of heart disease in lupus, £201,991, 36 months.

Foundation Fellowship

Ms Helen Baldwin, Division of Immunology, Infection and Immunity, Glasgow University; the role of the inflammatory 'sensor' D6 in rheumatoid arthritis, £173,265, 36 months.

Project grants

Dr Gurtej Dhoot, Department of Veterinary Clinical Sciences, University of London, Royal Veterinary College, Hatfield; exploring new ways to improve fracture repair, £186,771, 36 months.

Professor Marie Johnston, School of Medicine & Dentistry, University of Aberdeen, Population Health, Division of Applied Health Sciences, Aberdeen; exploring variability in disease assessment techniques to improve targeting of osteoarthritis treatments, £122,442, 36 months.

Dr Damo Xu, Division of Immunology, Infection & Inflammation, University of Glasgow, Glasgow Biomedical Research Centre, Glasgow; exploring IL-33, a protein that may have an important role in rheumatoid arthritis, £199,954, 36 months.

Dr Steven Ley, Division of Immune Cell Biology, National Institute for Medical Research, Mill Hill, London; identifying proteins that control the production of TNF in rheumatoid arthritis, £168,725, 36 months.

Professor Charlie Archer, Connective Tissue Biology Laboratories, Cardiff University, School of Biosciences, Cardiff; understanding the importance of chondrocyte clusters in osteoarthritis, £179,953, 36 months.

Professor Stephan Gadola, Department of Rheumatology, Southampton General Hospital, Southampton; understanding why the immune system attacks the patient’s own tissues in rheumatoid arthritis, £175,701, 36 months.

Dr Rob Layfield, School of Biomedical Sciences, University of Nottingham, Medical School, Queens Medical Centre, Nottingham; is a faulty ‘waste disposal’ system the cause of some forms of Paget’s disease? £56,927, 12 months.

Dr Richie Gill, The Botnar Research Centre, Nuffield Department of Orthopaedics, Rheumatology & Musculoskeletal, Nuffield Orthopaedic Centre, University of Oxford, Oxford; how the forces experienced by the knee during normal activity may contribute to the development of osteoarthritis, £198,155, 36 months.

Professor William Ferrell, Centre for Rheumatic Diseases, University of Glasgow, Queen Elizabeth Building, Glasgow Royal Infirmary, Glasgow; targeting the PAR2 protein – a new treatment option for osteoarthritis? £176,048, 36 months.

Dr Simon Milling, Biomedical Research Centre, University of Glasgow, Glasgow; the role of dendritic cells in the cause and effects of ankylosing spondylitis, £153,996, 24 months.

Mr Brian Derbyshire, Centre for Hip Surgery, Wighton Hospital for Joint Disease, Wigan; development of a computerised method of measuring wear in plastic hip joints, £90,862, 24 months.

Professor Michael Ehrenstein, Centre for Rheumatology Research, University College London, Division of Medicine, Windley Building, London; understanding why regulatory T-cells, controllers of the immune system, fail to protect lupus patients from the harmful effects of B cells, £197,300, 36 months.

Dr Claire Hughes, Connective Tissue Biology Laboratories, Cardiff University, Biomedical Sciences Building, School of Biosciences, Cardiff; identifying the enzymes that destroy proteoglycan molecules in joint tissues, £186,044, 36 months.

Dr Susan Kimber, Faculty of Life Sciences, University of Manchester, Michael Smith Building, Manchester; improving the potential of stem cell therapy for cartilage repair, £195,452, 36 months.

Dr Ping Wang, Department of Gastroenterology, Barts & The London School of Medicine & Dentistry, Queen Mary, University of London, London; the Egr-2 molecule and its potential for use in the control of lupus-like diseases, £201,054, 36 months.

Professor Tim Chambers, Cellular Pathology, St George’s University of London, Tooting, London; the role of urocinin in the regulation of bone resorption, £181,684, 36 months.

Professor Mandy MacLean, Integrative & Systems Biology, University of Glasgow, Faculty of Biomedical & Life Sciences, Glasgow; high blood pressure in the lungs of patients with lupus – is serotonin the link? £58,086, 12 months.
Professor Deborah Symmons and Professor David Scott explain their work in an ongoing series of questions and answers with arc-funded researchers.

**Professor Deborah Symmons**

What does your work involve?
I have recently taken over as the medical director and head of the arc Epidemiology Unit. The unit has a staff of approximately 100 whose task is to investigate risk factors (both genetic and non-genetic) for the development and outcome of the whole spectrum of musculoskeletal conditions. In addition, I work as an honorary consultant rheumatologist at the East Cheshire NHS Trust.

How long has arc been funding you?
I was first funded by arc when I did a clinical research fellowship at the University of Birmingham in 1983–1985. I came to Manchester in 1989 and arc has been funding the research in which I have been involved ever since then.

What’s the most important thing you have found out in the past 12 months? And why?
The British Society for Rheumatology Biologics Register is run by the epidemiology unit. We have now recruited 4,000 patients on each of the anti-TNF drugs as well as a comparison group of almost 4,000 patients with rheumatoid arthritis not treated with the biologic drug. The researchers analysing these data have found some very important results. These concern the pattern of infection that is seen in patients treated with anti-TNF drugs – and, in particular, the pattern of TB infections. It has been interesting to see that the risk of infection in anti-TNF patients is increased in the first three months of treatment but then comes down to the background rate in those patients who continue on anti-TNF agents beyond three months.

What do you hope or expect to achieve as a result of your arc funding?
We are working towards being able to "personalise" the risk of developing musculoskeletal conditions and of knowing which patients are most likely to respond to or develop side-effects to which treatments. We can already do this to a modest degree – but we need a high degree of certainty for this sort of information to be useful to the individual patient.

What would you do if you weren’t a clinician/researcher?
If I had to give up practising medicine now, then I think I would opt to do something completely different. I would love to know and understand more about art and architecture so I think I would enrol on a course to do that.

**About Deborah**
I have season tickets for the Manchester Chamber Concert Society, the Hallé Orchestra and the Royal Exchange Theatre. I have a large collection of recipe books and enjoy cooking for friends and family (always sticking strictly to the recipe as I have no idea about the principles underlying cooking)! I am also very involved in my local church and spend much of my time at the weekend helping with its activities.

Professor Deborah Symmons is director of the arc Epidemiology Unit at Manchester University and a consultant rheumatologist in Macclesfield.
**What does your work involve?**

I am a clinical academic, a consultant rheumatologist who also undertakes research and teaching. My clinical activities drive my work and my research flows from my clinical practice. I undertake two types of clinical activity. Firstly, I provide opinions on new referrals – identifying what is wrong and what should be done. Secondly, I am engaged in the long-term care of people with inflammatory arthritis. From my perspective, a rheumatologist interested in the care of inflammatory arthritis, the crucial questions are: what is good care and how can current care be improved? The issues that interest me are quite separate from finding new treatments. I prefer to concentrate on practical questions about how to make the most of what is currently available. The research itself can be divided into three types – observational studies, clinical trials and analyses of existing publications. Clinical trials are essentially a way to sort out if one treatment is better than another. Analyses of existing publications — which are usually systematic reviews — involve evaluating all the work published on one form of treatment or another and combining the results in a systematic way, and observational studies involve trying to answer questions. One current question is whether ethnicity affects our assessment of arthritis. A second current question is the relationship between pain, fatigue and activity in arthritis.

**How long has arc been funding you?**

I started in academic rheumatology in 1979, working in a building part-funded by arc. Since then my research has received ongoing arc support. Our recent programme on quality care in arthritis has been funded for the last five years.

**What's the most important thing you have found out in the past 12 months? And why?**

Clinical research progresses slowly. There are usually no sudden steps forward. Our most important current theme is showing the extent to which intensive early treatment is effective with conventional disease modifying drugs and steroids. Changing specialist practice to adopt early intensive treatment over a policy of wait and see is likely to greatly improve the outcome of most people with arthritis.

**What do you hope to achieve as a result of your arc funding?**

Delivering high quality care is a universal goal but it cannot happen by itself. I hope that our research on clinical quality will move forward the way clinical units manage people with arthritis.

**What do you do in a typical day?**

My weeks follow a pattern rather than my days. Clinical research and service merge together and both activities are dealing with the problem of how best to treat arthritis. My biggest challenge is to keep ahead of the deluge of electronic communications we all face from emails, telephones, electronic patient records and clinical research databases. On top of these activities I fit in teaching medical students, postgraduate students and specialist trainees.

**What is your greatest research achievement?**

Recently, showing intensive treatments are effective feels more rewarding than establishing the limits of conventional care.

**Why did you choose to do this work?**

Fate sent me to work with Professor Verna Wright, an inspirational academic rheumatologist, in the mid-seventies. I loved working in his unit and once started in rheumatology I just carried on. The same was true of my research field. I began with laboratory research but by degrees moved to quality and outcomes research because I was drawn to it.

**Do you ever think about how your work can help people with arthritis?**

Our research focuses on improving patient care. Sometimes individuals may not directly benefit – spending time filling in questionnaires or taking part in trials is not always an immediate advantage – but without such ongoing research care generally cannot improve.

**What would you do if you weren’t a clinician/researcher?**

I spend my time talking to people and writing in a public sector environment. These are infinitely transferable skills. Regrettably they do not lead to what might be called “exciting careers”. But I never think what else I might have done – it’s sufficiently challenging dealing with what I am currently doing.

**What do you think will move forward the way clinical units manage people with arthritis?**

Changing specialist practice to adopt early intensive treatment to disease modifying drugs and steroids.

**About David**

In some ways the digital age academic medicine is a full-on 24/7 commitment. It seems to take all my days, consume all my evenings and run away with most weekends. I am not concerned about this – academic medicine is addictive and like other addicts I enjoy the involvement. I would love to spend time on other pursuits, but unless the days are lengthened or I abandon sleeping it’s difficult to see how to fit them in. When you have found something you like it may be best to stop searching for something else.

**Professor David Scott**

Professor David Scott is Professor of Clinical Rheumatology at King’s College Hospital in Denmark Hill, south London, and holder of an arc programme grant.
Questions & Answers

Q I have been informed that positive changes to my scleroderma could be brought about by having a comprehensive metabolic profile test. This, I understand, would highlight where the deficiencies are in my body, locate the detoxification pathways and establish the root cause of my disease. Once these factors have been identified, drug-free remedies can be used to address the condition. Has such research ever been commissioned by arc, and if not, why not?

Sylvia Dale, Liverpool, Merseyside

A As I understand it a ‘comprehensive metabolic profile test’ looks at the way your major organs (kidney, blood and liver) are working. This helps to target problems for your doctor to follow up. I have not seen anything that suggests it can identify the cause of such a complex and rare disease as scleroderma. Although the exact cause of scleroderma is not known, we do know a lot about the processes involved in how the disease starts and progresses over time. Disease of the small blood vessels is instrumental in starting the process of thickening of the skin and internal organs. Many of the body’s chemicals involved in these processes are known and are currently being targeted by new drugs. There is therefore great promise for scleroderma treatments in the future. Scleroderma can affect any of the major organs and abnormalities on the ‘metabolic profile test’ are bound to turn up, but these reflect the impact of the disease rather than the cause.

Q I have discussed this question with physiotherapists and the consensus is that stair climbing is encouraged following the initial recovery period after total knee replacement. There may be exceptions to this when the situation is complicated by, for example, an infection in the knee after the operation, but in uncomplicated cases there is absolutely no reason for you to avoid such activities as they help ‘build up’ those vital quadriceps muscles in the thighs.

A I had a tibial osteotomy in my right knee in 1995, followed by my left knee in 1996. In 2002 I had a total knee replacement in my right knee, followed by my left knee in 2004. I was told that going up and down stairs was good exercise, which I have carried out diligently ever since. As I am feeling slight intermittent pain in my left knee I went on the internet to find any information as to the length of time these replacements may be expected to last. I did not find an answer, but what I did find was that climbing up and down stairs should be avoided. Could you comment please?

Sandra Barrett, Salisbury, Wiltshire

Q I was diagnosed with rheumatoid arthritis in 2003. In 2005 I was started on infliximab and now enjoy a near-normal life. I am only taking 10mg of methotrexate a week, folic acid, and celecoxib. The infliximab infusions are every eight weeks. Since starting methotrexate and prior to infliximab I have been suffering from a sore mouth with frequent ulcers and swellings which take about a fortnight to clear. I have been seen by various specialists but in the absence of any other diagnosis, methotrexate was cited as the culprit. Have you ever come across these side-effects before and if so, have you any suggestions on how I may prevent or at least lessen them? Of course I would prefer not to stop taking methotrexate as the alternative would be unthinkable!

Marilyn Masters, Southampton, Hampshire

A A sore mouth and mouth ulcers are sometimes a side-effect of methotrexate therapy. In my experience it is not uncommon to get these symptoms with this drug. You will see from my answer to the question below that taking folic acid on the non-methotrexate days will help to minimize the side-effects. Another way of reducing side-effects is to cut down the dose of methotrexate – you are only taking 10mg, which is a relatively small dose, but even a reduction to 7.5mg may help. Methotrexate is given along with the anti-TNF (infliximab) to enhance and prolong the effect of the infliximab but other traditional ‘disease modifying’ drugs may do the same thing, albeit not as effectively as methotrexate. This is something you may have to take up with your rheumatologist or the specialist nurse.

Q A friend recently sent me a cutting from the Irish Times which suggests a correlation between osteonecrosis of the jaw and the use of bisphosphonates taken to combat osteoporosis. I have been taking Fosamax for osteoporosis of the spine
for around three years.
Should I be concerned?
Michael Smith, London, N16

Yes, the Irish Times is correct. It is likely that the paper has picked this up as there has recently been a communication to dental practitioners indicating that this may be a problem and to be on the lookout for it. In our area it has resulted in a ‘flood’ of enquiries. Osteonecrosis of the jaw is an unpleasant condition where the jaw bone underneath a tooth dies, usually following extraction but sometimes after procedures such as root canal work. The association between osteonecrosis and bisphosphonates has been known for some time and was originally reported in patients who had been given high dose intravenous bisphosphonates, usually pamidronate, as part of their cancer treatment. Intravenous pamidronate is also sometimes used in rheumatology – for cases of ankylosing spondylitis, reflex sympathetic dystrophy (chronic regional pain syndrome) and vertebral crush fractures associated with osteoporosis. More recently a drug called zolendronate has been given as a once yearly intravenous treatment for osteoporosis in those patients who can’t take drugs, such as Fosamax, that you are taking. However, although the drugs belong to the same class (bisphosphonates), with the oral treatments the risk of osteonecrosis of the jaw is negligible. If your rheumatologist plans to give you bisphosphonates intravenously then they will now ask you about the state of your teeth and, if any major dental work is planned, will probably postpone the drug treatment until the teeth are sorted out. If you have not visited a dentist for some time then you will probably be advised to do this before treatment starts.

In the Spring 2009 Q & A I noted that on two occasions you mentioned “taking folic acid on non methotrexate days” and would like to know the reason for this specific note. I used to take 2.5mg of methotrexate for five days a week and folic acid once every day. Recently I saw a different member of the rheumatology team and he increased the methotrexate to six times a week, and reduced the folic acid to six – to be taken on the non-methotrexate days – but no explanation was given. Please enlighten me!
JM Denyer, Ingatestone, Essex

Methotrexate suppresses cells which are metabolically active. One of the ways it does this is to antagonise an enzyme involved in the metabolism of folic acid. The enzyme is essential for cells to go about their business, and methotrexate in effect stops them doing this. This is fine when you are hoping to control the action of cells involved in inflammation but an unwanted spin off is that it affects other active cells such as in the immune system, the stomach, the hair, and the ovaries. In fact the drug suppresses any tissue which is ‘active’, that is, has metabolically active cells in it. Now, because of its action on the enzyme involved in the metabolism of folic acid, giving relatively large doses of folic acid acts as an antidote to the drug. If you were to take the folic acid on the same day as the methotrexate it would undoubtedly reduce the effectiveness of the methotrexate. But giving the folic acid on the other days of the week avoids this reduction in effectiveness and also prevents some of the side-effects (these can be guessed from the other target tissues listed above). Traditionally folic acid has been given on each of the six non-methotrexate days but there are some rheumatology departments now using folic acid only three times a week, or even only once a week. Incidentally, I presume you meant to write that you took methotrexate five tablets on one day a week, and this was then increased to six tablets on one day a week – methotrexate is normally a one day a week treatment.

I was interested to read on the internet that there is a link between polymyalgia rheumatica (PMR) and giant cell arteritis (GCA). This led me to wonder if there might similarly be any link between PMR and restless leg syndrome, both of which I suffer from. I have equally met other people with both complaints and would be grateful to know whether it is commonly known that the two conditions are linked in some way?
Miss H Anderson, Crook, County Durham

Restless leg syndrome is an unpleasant condition in which the person complains of unpleasant burning sensation in the legs (and sometimes arms), especially at night, and an uncontrollable urge to move the legs to obtain some relief. Sometimes the legs are subject to involuntary jerks – anyone who sleeps with the sufferer will be well aware of this symptom! It is fairly common in my experience (and I worked as a GP for many years) but is said to be more frequent in pregnancy and in people with iron deficiency. Recently, a specific drug treatment for this condition has become available – ropinirole – but you can only get it on prescription. Some drugs are thought to be associated with this condition, as a side-effect of the drug and these include some anti-depressants, heart tablets and, you guessed, steroids. Steroids are the drug of choice for polymyalgia rheumatica (PMR) and it is not uncommon to find restless legs syndrome occurring for the first time in people treated for PMR. What should you do about it? Your doctor will be trying to give you the smallest possible dose of steroids to control your PMR and this will help. Taking regular exercise during the day is also said to help the (predominantly night time) symptoms. As a last resort your doctor may try ropinirole.

Send your questions to Dr Philip Helliwell, arc, St Mary’s Gate, Chesterfield, Derbyshire S41 7TD.
A ‘molecule to man’ approach is the exciting description given to the Arthritis Research Campaign’s new centre of excellence at Cardiff University, launched recently as a world leader in finding new engineering and biomechanical solutions to treating musculoskeletal disorders.

For its second, prestigious national centre of excellence, the Arthritis Research Campaign has chosen Cardiff University as the site of its new biomechanics and bioengineering centre. The centre is being funded to the tune of £2.5 million over five years by arc, with a further £7.5 million funding from the university itself, guaranteeing a whole decade of research support.

The centre will bring together leading experts in a variety of research fields, creating close collaboration between engineers, biomedical scientists, physiotherapists and clinicians such as orthopaedic surgeons and rheumatologists, which will lead to the rapid translation of research to patient benefit in the clinic.

**A joint venture**

Biomechanics and bioengineering help us understand how the body maintains healthy joint movement, how disease or injury affect this movement, and how damage can be prevented or repaired. Measuring and treating joint movement problems is already an area of expertise at Cardiff. The team holds an outstanding reputation for its research and clinical achievements and has pioneered internationally adopted imaging systems, diagnostic and therapeutic strategies, and surgical and repair techniques. The biomechanics and bioengineering centre will advance joint research by harnessing technologies and expertise across several research areas to ensure an integrated approach. Six university schools (Biosciences, Engineering, Medicine, Pharmacy, Dentistry, and Healthcare Studies) are driving this project forwards committing six new lectureships and 11 PhD studentships – the first time that such a distinct range of disciplines have joined forces to address the arthritis challenge. The centre’s activities will be organised into three research teams led by Dr Debbie Mason (biomechanics, inflammation and pain), Dr Cathy Holt (biomechanics, motion analysis and rehabilitation) and Dr Sam Evans (mechanical loading of tissue cells and materials).

The director of the new centre, Professor Vic Duance, explains: “Take osteoarthritis, for example, in the earlier stages, non-steroidal anti-inflammatory drugs are prescribed, but 15 to 20 years later the patient may be at the stage of joint replacement. What about the period in between? We aim to fill this gap by carrying out research to find out how this disease develops, and find new and earlier treatments to slow its progression and ultimately, halt it altogether.”
Movement and molecules

Joints need to be physically worked to stay healthy but repetitive, prolonged or excessive abnormal strain on joints is linked to the development of joint disease. By measuring how the cells and molecules in the joint tissue respond to the different stresses and strains caused by age, disease, injury and exercise, the team aims to build up a comprehensive picture of what happens during normal function and when joints go wrong. Measurements of the molecules involved combined with joint movement, pain and inflammation studies will allow researchers and clinicians to understand joint degeneration better and assess patients much more thoroughly.

“Investigating molecular mechanisms that cause joint degradation underlie our ‘molecule to man’ approach,” says Professor Duance.

Signalling molecules control disease

Signalling molecules pass biochemical signals between cells to ‘tell’ them what to do. In disease, parts of this communication network go wrong, and the research aim is to map out the molecular pathways and manipulate any faulty parts of it so that the correct signals are sent and received and cells can function healthily.

Dr Debbie Mason, and Dr Daniella Riccardi, from the School of Biosciences, and Professor Simon Jones, Dr Bronwen Evans and Dr Anwen Williams from the School of Medicine are studying how mechanical force activates specific signalling molecules that influence joint health, but are also important in the control of pain and inflammation. “Some of these signalling molecules are present in rheumatoid arthritis and osteoarthritis joints at very high levels – 50 times higher than healthy joints,” says Dr Mason. “The latest imaging techniques can assess concentrations of these molecules in patients, and we’ve already found that these molecules cause the release of inflammatory chemicals in the joint. If we can find out how the system goes wrong in disease, we may be able to develop therapies to reduce pain and inflammation as well as prevent joint destruction.”

Imaging pain and movement

Pain is the major burden for patients with arthritis and understanding how it relates to joint function and degeneration is important for clinical assessment. “Patient scoring of pain is subjective and often very variable,” says Professor Duance, “and we need to have a better system of measuring it.”

Dr Sam Evans and Dr Cathy Holt, from the School of Engineering, explain how links between pain and joint function will be assessed with Dr Richard Wise, Director of fMRI, Cardiff University Brain Research Imaging Centre: “Functional MRI scanning allows us to see pain centre activity in the patient’s brain,” says Dr Holt. “We can place motion cameras in the MRI suite and measure knee joint movement and pain perception at the same time. We can then develop improved patient assessments that will help us to tailor treatment and monitor follow-up. Post-operatively, it’s common for there to be a lack of agreement between patient pain reporting and joint function. Pain relief is seen as the desirable outcome but functionality – the ability to carry out everyday tasks – is the key aim and we need to be sure that this is achieved.”

These studies will provide a better understanding of how joint function and pain interact, which could enhance surgical and physiotherapy treatments.

New physiotherapy parameters

Physiotherapy is one discipline where studies have tended to be carried out in isolation, therefore research will benefit from the input of the other research disciplines in the centre. Dr Robert van Duersen, Director of Physiotherapy and Dr Valerie Sparkes, lecturer, aim to study patients with knee injuries including anterior cruciate ligament rupture and those with non specific low back pain by combining physical functional and biomechanical measures, patient reported symptoms and biomarkers to get more detailed information regarding their conditions. “We’ll be looking at these conditions in more detail, much earlier in their development, and then tracking outcomes. We want to find out why some patients improve and others don’t and this will allow us to develop prognostic measures to help guide therapy more effectively and improve clinical outcomes.”

Biomarkers to track disease

Biomarkers are produced by the arthritic joint as structural and functional damage develops. Healthy individuals only produce these molecules at very low levels or not at all, but in joint disease they are produced at increased levels that can be measured in blood samples. Tests to measure the levels of these molecules...
can then be developed to diagnose disease, monitor its progression and assess recovery after surgery or physiotherapy. This would be particularly useful in osteoarthritis for which there are currently no tests available.

Daniel Aeschlimann, Professor of Biological Sciences, School of Dentistry, explains: “We’ve analysed osteoarthritis and rheumatoid arthritis joint tissue and already identified several candidate marker molecules that look promising for clinical use. Once the tests are developed, we’ll use them to confirm that disease is present, and monitor disease progression and response to therapy. They could also be useful for predicting disease – could we screen populations and identify molecular changes that develop before active degredation of joints? This exciting approach could allow patients to be treated earlier during disease development before irreversible joint damage occurs.”

**Toughening up implants**

Although the centre’s focus is to devise strategies to delay the requirement for joint replacement, artificial hips and knees have transformed the lives of millions of sufferers and the centre also aims to improve the lifespan and quality of existing prostheses. Combined engineering (Dr Sam Evans) and pharmaceutical (Professor Stephen Denyer) expertise is finding ways of improving implant materials. Traditionally, cement is made of a plastic compound that is prone to cracking and brittleness. New ways of toughening it, such as the addition of rubber particles, and the introduction of novel medical polymers will provide the strength and resilience needed for superior implant materials.

Drugs that stimulate bone growth and reduce infection can be linked to the implant surface ready for release after surgery. This exciting development could lead to bioresponsive systems where surface coatings respond to infection or damage, releasing the appropriate drugs and repairing fractures in a self-healing way.

**Patient involvement**

None of this research would be possible without the input of patients, and over the time frame of the centre, the team aims to recruit several hundred patients into a number of co-ordinated clinical studies. This will contribute to a large database defining joint function in various disease states in the knee, hip, ankle, shoulder, elbow, wrist and the spine.

One major study will focus on patients who have undergone knee replacement surgery, and high tibial osteotomy (a surgical procedure used to delay the need for knee replacement in which the shin bone is re-aligned below the knee to reduce pain in younger people with osteoarthritis whose legs have become bowed).

Thirty patients and 30 healthy volunteers will be recruited over five years, and engineers will measure changes in joint function before surgery, and three and 12 months after surgery. Blood and synovial fluid samples will also be collected when joint function is being assessed, providing a unique snapshot into disease activity, joint function and pain perception at any given time.

“Our centre status will also enable us to widen our patient base to include a broad range of conditions such as osteoarthritis, rheumatoid arthritis, juvenile idiopathic arthritis, psoriatic arthritis, ankylosing spondylitis, osteoporosis and chronic spinal pain,” says Dr Anwen Williams, from the School of Medicine. “In addition, surgical patients with anterior cruciate ligament deficiency and reconstruction, rotator cuff, meniscal tears, sub-acromial impingement of the shoulder and spinal dysfunction will be assessed.”

Patients will be recruited during clinic visits. Recruitment will be made easier by the team’s support from clinical colleagues across Wales; the Wales Arthritis Research Network – a network of rheumatologists across Wales and orthopaedic surgeons and physiotherapists at the University Hospital of Wales and the Llandough, Royal Glamorgan and Royal Gwent Hospitals, together serving a population of more than a million people.

Chris Wilson, consultant trauma and orthopaedic surgeon at University Hospital of Wales, Cardiff and Dr Rhian Goodfellow, consultant rheumatologist at the Royal Glamorgan Hospital, are directly involved in the research and management of the centre. “Arthritis and joint conditions are very common and affect most members of the population – from a young footballer with a bad knee injury to an elderly person with degenerative joints – and everything in between,” said Dr Goodfellow. “In clinic, it’s hard to tell patients that there’s nothing I can give them to modify their condition, and that I can only help them to help themselves. The opening of the centre offers those people some much-needed hope.”
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**FUNDRAISING**

**Anti-TNF triumph for grateful walker Crispin**

How can anyone go from needing walking sticks and ascending stairs on their posterior to walking 226 miles in 16 days? The answer is the anti-TNF drug etanercept. Crispin Morton, pictured far right, contracted psoriatic arthritis in the early 1990s while serving in the Navy, and went from over 50 pills a week to a single injection which totally transformed his life. Well aware that he is fortunate to receive this treatment, and that it was developed by arc, Crispin raised funds by walking from Salisbury Cathedral, in his home town, to Dover and finishing at Canterbury Cathedral. He was overwhelmed by the generosity of his supporters who raised over £7,000 and more is still coming in.

**Easter Fair**

An Easter Fair at the Inkpen village hall by the local branch raised £1,050 for arc.

**Abseiling Andy**

Andy Ridley of Consett in County Durham is pictured abseiling at the Sedgedunum Roman Fort at Wallsend, as part of his fundraising campaign for the Great North Run 2009, which he has completed for the charity for the last six years. Andy’s mother has rheumatoid arthritis.

**These boots are made for walking**

Butcombe Brewery once again sponsored the nine and a half mile pub-to-pub walk in Somerset on Good Friday. The groups of walkers were led by volunteer Mendip Wardens who gave up their time and expertise in support of the event, which raised over £4,000 for arc. The wardens are pictured with the landlord of the Queen Victoria where the walk started.

**Running success**

Beth Hawkins raised almost £700 after running in the Bath Half Marathon in two-and-a-half hours in support of her mother, who suffers from rheumatoid arthritis.

**Dare devils take on Gorge**

15 year-old John Cadd of Prestatyn (pictured) suffers from hypermobility and ME and is keen to support the work of arc. For the second time in three years he has abseiled 120 feet down Devil’s Gorge in Loggerheads Country Park, North Wales.

He raised £375 whilst a team of staff from Montgomery Medical Practice raised £615 between them to bring total sponsorship to more than £2,500 from the 17 abseilers taking part in the event.

**End of an era for Agnes**

Founder member of the Penrith arc branch, Agnes Blenkinship, has retired as chairman of the group after almost 38 years in the post. More than £100,000 has been raised by Mrs Blenkinship and her committee since 1971: a remarkable achievement. She is pictured (right) with Pat Newsham, the new branch chairman.

**The 10-mile Bupa Great South Run 2009** will be on Sunday October 25 in Southsea over a fast, flat course. With 21,000 runners, demand for places is always high. If you have your own place we’d be delighted to hear from you; and if you don’t have a place we can offer you one for a registration fee of £34 and a pledge to raise at least £200 for arc. Whether you’re an independent runner or would like to have a charity place we can provide you with a sponsorship pack and an arc T-shirt or running vest. The deadline for charity places is August 30. Contact Glenys on 01246 541103 or email g.schofield@arc.org.uk

The adidas Women’s 5k Challenge will take place on Sunday September 6 2009 in Hyde Park, London. The race is for women of all ages and abilities and whether you run, walk or jog this is a great opportunity to get together with a group of friends and enjoy taking part in this fantastic event. To register please visit www.womenschallenge.co.uk If you already have a place and would like to raise money for arc please contact Lyndsey on events@arc.org.uk or telephone 01246 541108 for your official sponsorship pack.
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A WET WEEKEND IN WALES

A weekend of adventurous activities in Wales was dampened by wet wintry weather in June but it didn’t dampen the spirits of more than 30 arc supporters. The weekend got off to an exciting start with 17 adventurers completing their Tree Top Adventure with a 100 foot leap off the amazing Powerfan™. As Jeff Riddle of Cheshire put it: “Excellent! Fantastic! Absolutely brilliant! I’ve been wanting years to do that!” This will definitely be a repeated event so anyone interested should contact Ruth Owen on 01492 518760. Despite 50mph winds and a hail storm, 17 people reached the summit of England and Wales’ highest mountain, Snowdon, the following day. Both events required strength of body and will by all involved and all rose to the challenge and raised over £5,400 for arc.

Tee time

Teeing up from the first tee at Cottrell Park golf club in the Vale of Glamorgan in preparation for their charity golf day is Mark Burman, club captain, and Margaret Thomas, lady captain, with arc area appeals manager Fred Johnson. Last year the golf day raised around £6,000 and this year the Vale of Glamorgan branch are hoping to do even better. More than 100 players will be taking part in this year’s competition in June.

Scaling the heights

Two researchers from Durham who are funded by arc decided to give something back to the charity by taking part in the popular Three Peaks Challenge in the Yorkshire Dales. Senior lecturer Adam Benham (left) and postgraduate student Andrew Lemin, pictured with arc area appeals manager Kathryn Leverett, raised more than £1,200. Twenty-eight walkers raised £8,000 in total.

Ready steady jump

St Mawes branch held a frog racing evening which raised £1,500 for arc. Frogs were sponsored by local businesses and benefactors, and betting on the night was brisk. With a great deal of encouraging croaking a good time was had by all.

Bloomin’ lovely

The Ashtead Flower Arrangement Group nominated arc as their charity of the year and held a blue jeans & bobbysocks evening on our behalf. Pictured is one of the stunning displays arranged by Sandy Bailey. The group has now raised a magnificent £1,977 for the branch.

Porky pub landlord sheds pounds for arc

Overweight pub landlord Keith Wylam shed three stone in five months after doctors warned him he might not see his 60th birthday unless he lost weight. Keith, who suffers badly from osteoarthritis, and is now a trim 15 stone, raised £600 after regulars at his pub, the Bull’s Head in Manchester city centre, chipped in to support his efforts. Keith, 58, is pictured handing over the cheque to his rheumatologist Dr Marwan Bukhari, who accepted it on behalf of arc.

Land’s End to John O’Groats in the driving rain

Luke Woollen from Chesterfield and Tom O’Donnell from Leeds notched up just under 900 miles cycling all the way to John O’Groats, most of it undertaken in the driving rain. Accompanied by support crew Kevin Scott and Jim Twelves from Chesterfield, they raised a staggering £1,200 for arc. Seen here from left to right at the finish line are Tom O’Donnell, Kevin Scott, Jim Twelves and Luke Woollen.

Triathlon success is sweet for Chestnutters

The “Chestnutters”, a team of osteopaths from the Chestnut Osteopathic Practice in Middleton Cheney took part in the Stratford 220 Triathlon, and raised £1,000 for arc. Practice owner Rukmani Day and associates, Liz Simmons and John Atyeo supported the charity because of the large number of people they treat with arthritis and musculoskeletal conditions.

Charity shop staff branch out

For one day only, staff from arc’s Chester-le-Street and Newcastle charity shops moved out of their usual venues and into the Galleries shopping centre in Washington, Tyne and Wear – with successful results. The small team of volunteers raised £2,500 from selling gift-wrapped soft toys and gift sets.
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Age Concern England and Help the Aged merged on the 1st April 2009. Together they have formed Age UK (charity No. 1128267), a single charity dedicated to improving the lives of older people. 50% of all stairlift profits go directly to the charity. Help the Aged working in partnership with Minivator Group.
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