

Resource

Rheumatoid arthritis & computing

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What is rheumatoid arthritis?

Rheumatoid arthritis (RA) can occur at any age after the age of 16, and there are over 450,000 adults in the UK with the condition.

RA is an auto-immune disease and quite different from osteoarthritis, the 'wear-and-tear' form of arthritis which many people get to some degree, particularly as they get older.

Under the age of 16, children can get a form of arthritis known as juvenile idiopathic arthritis (JIA), an umbrella term for a number of types of childhood arthritis and would carry this diagnosis even if their condition continues into adulthood. Around 12,000 children in the UK have JIA.

Rheumatoid arthritis can affect organs as well as joints. Many people with RA and JIA experience disabling pain, stiffness and reduced joint function as well as severe fatigue, which can have a huge impact on quality of life for them and their families.

How does RA affect computer usage?

RA can affect people in many different ways which can have a direct effect on their ability to use a computer, tablet or smartphone.

The most common problems occur from restricted mobility in hands, wrists, elbows, shoulders and neck.

A typical example is pain and swelling in the wrist caused by long periods of keyboard and mouse use. A common complication of RA is carpal tunnel syndrome.

What sort of technology can help people with RA?

A person with RA may well be able to continue with some or all of their computer usage by using an alternative technique, while still following medical advice and continuing with treatment.

We call this getting round the problem, and we have found it to be a very useful and under-used approach. Among the alternatives that could be tried are:

- Alternatives to a mouse
- Small, light, standard-layout keyboards?
- Ergonomically designed keyboards?
- Word prediction?

- Voice input – now a reliable and highly developed technology?
- Alternative key input devices with radically different designs.?

For some time, most desktop computers used a traditional mouse, keyboard and screen. The

specialist options recommended often required additional hardware or software, much of which could be very expensive.?

The good news is that the options today are very different. Laptops, tablets and smartphones offer a very affordable range of very flexible options that are not tied to a specific location.

And powerful tools such as voice commands and dictation software are built into all mainstream systems.

Specialist solutions may be required, but they are often only needed as a supplement to the options that are already built-in.

One size does NOT fit all

AbilityNet supports thousands of people every year, and everybody's needs and preferences are different. Not everyone experiences the same level of pain or discomfort when using a computer, so there is not a ready-made solution available.

The solution may reflect the tasks being performed and the setting – from note-taking in lectures to sharing updates on social media or preparing reports in a busy open-plan office.

The following examples are based on real computer users affected by rheumatoid arthritis and some of the steps they have taken to alleviate their difficulties:?

Example 1: Wrists get very painful when using the keyboard and mouse

A keyboard Gel Pad has helped the person reduce the pain they feel when typing, although a mouse Gel Pad made matters worse because the pad lifts up the wrist too high, causing more pain.

A smaller laptop wireless mouse (Logitech M187) is helpful because the smaller size allows the base of the hand to rest on the mouse mat, which keeps the wrist straight.?

A separate Bluetooth keyboard has been added when using their laptop. It has allowed for a better angle for the wrist and enabled the screen to be placed at a more convenient distance.?

Example 2: Pain and swelling in the wrists when using the mouse for long periods

The person started using Microsoft keyboard shortcuts and now hardly uses the mouse at all. It's slower at first but much less painful, and for many people, it becomes much easier than reaching for a mouse.

They also use a navigator keyboard with pre-programmed buttons on it – email, internet, save, print etc. This helps to reduce the number of keystrokes.

Example 3: Swelling, pain and stiffness through keyboard and mouse use

The stiffness caused the user to consistently miss or hit the wrong keys. This was causing problems when preparing reports and using email at work, so a workplace assessment was carried out, and the recommendations included a 'keyguard'.

Keyguards have two main functions: they provide a platform which the user can rest their hands on without pressing keys down, and they make it difficult to accidentally hit more than one key at a time. However, before using a keyguard try the inbuilt settings for filter (mcmw.abilitynet.org.uk/windows-10-changing-keyboard-settings-using-filter-keys) and/or sticky keys (mcmw.abilitynet.org.uk/windows-10-using-your-keyboard-one-handed-0)

Different keyboards can make a significant difference from low profile to compact.

Example 4: Sore wrists from using a mouse

For some people, a wrist rest can significantly reduce pain. This is a simple solution that is attached to the mouse pad.

The person who used this solution also started to use a footrest and lumbar support to provide better posture when seated at the computer.

Example 5: Pain to the wrists from using a mouse.

The handshoe mouse is often recommended to support the hand, wrist and thumb preventing gripping and pinching, the arm is supported at a relaxed 25-30 degree angle. The Corsair range of gaming mice (see Corsair M65) also provide a thumb rest if pain is concentrated in the base of the thumb and less so elsewhere. These are comparatively low cost but are mainstream mice rather than specialist ergonomic mice.

Example 6: Touchpad and dictation options

A person based in a law firm had tried several types of trackball mice but eventually found that their laptop touchpad was the best solution.

Typing on a keyboard was also difficult, and so they switched to dictation software. Having tried the built-in options, they chose Dragon Professional because of its specialist dictionaries which include a legal edition.

The only discomfort now experienced is from wearing a headset for any lengthy period, so they switch to keyboard use for short periods. Blue tooth headsets can offer an alternative, and increasingly it is worth trying onboard microphones. It is worth noting that Dragon is no longer supported on the Apple platform. It is now possible to get different vocabulary plugins without major cost (see: Spellex or Medinle)

Example 7: Using a non-standard mouse.

One person, we supported recently purchased a roller ball mouse to use with one hand, while they work with the other. They also manage to cope with a standard keyboard by typing with just two fingers.

How can AbilityNet help you?

[AbilityNet](#) is a leading authority on accessibility and assistive technologies. They can assist individuals, charities and employers by providing:

- Advice and Information
- Workplace assessments
- Disabled Student Allowance (DSA) assessments?
- Consultancy services?
- Volunteer Network to support individuals not at work or in education needing support with accessing their technology?

My Computer My Way

My Computer My Way is an AbilityNet run website packed with articles explaining how to use the accessibility features built into your computer, tablet or smartphone. The site is routinely updated as new features, and changes are made to the Windows, MacOS, iOS, Chrome OS and Android operating systems. The site is broken down into the following sections:

Vision?– computer adjustments to do with vision and colour

Hearing?– computer adjustments to do with hearing, communication and speech

Motor?– computer adjustments to do mobility, stamina and dexterity

Cognitive?– computer adjustments to do with attention, learning and memory

Use it for free at? <https://mcmw.abilitynet.org.uk/>

For copyright information on this article relating to AbilityNet, please see their website:?

www.abilitynet.org.uk

AbilityNet factsheets

AbilityNet's factsheets provide an extensive range of practical advice about specific conditions and the hardware and software adaptations that can help people of any age use computers to fulfil their potential.

All these resources are free to download from? www.abilitynet.org.uk/factsheets

Workplace Assessment Service

When it comes to computing solutions, one size does not fit all. AbilityNet believes that each case is unique and that individual attention is vital. Their Workplace Assessment Service integrates personal, technical and organisational considerations to arrive at sound and realistic suggestions, documented in a report.

To find out more about AbilityNet's Workplace Assessment Service, please visit?

www.abilitynet.org.uk/workplace? or call 01926 465 247.

DSA / Student assessments

If you have a disability and are in higher or further education, you may qualify for a Disabled Students Allowance (DSA). If you are eligible, you will receive a free assessment and may qualify for a grant towards any adjustments that you might require. This could help with the costs of buying a new

computer or any other specialist equipment you might need.

For information, please visit? www.abilitynet.org.uk/dsa? or call 01926 464 095.

Consultancy services

AbilityNet's expert consultants are also available to assist employers who wish to take a broad, longer-term view in designing computer systems and associated work processes. Their experience and expertise can help you to achieve safe, healthy and productive working procedures.

To find out more about AbilityNet's consultancy services, call 01962 465 247 or email? sales@abilitynet.org.uk

Volunteer Network

AbilityNet has a large network of volunteers who use their IT skills to help charities and disabled people based at home, who are not employed.

If you would like to request help from one of their volunteers to help you at home or within your charity, visit their "Find a volunteer page"? <https://www.abilitynet.org.uk/volunteering/finding-an-AbilityNet-IT-volunteer>

About AbilityNet

AbilityNet is the national charity that supports people with any disability, of any age. Their specialist services help disabled people to use computers and the internet to improve their lives, whether at work, at home or in education. They offer:

- free advice and information?
- accessibility services?
- DSA/student assessments?
- workplace assessments?
- IT help at home?
- IT volunteers

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