

# Assistive Technology & MND

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For us all, technology makes things easier.  
For people with a disability, technology makes  
things possible



# Overview

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- ▶ Role of ATSS Dept in CRC
- ▶ Assessment Process
- ▶ Role of technology in MND
- ▶ How to make technology accessible
- ▶ Types of technology:
  - ▶ Communication technology
  - ▶ Ways of controlling computer
  - ▶ Having control of technology at home
  - ▶ Mobility Technology
- ▶ Key things to think about





## Role of the ATSS Dept in supporting Assistive Technology

# ATSS Team in CRC

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National Specialist Assessment Team – 37 members

## CLINICAL TEAM

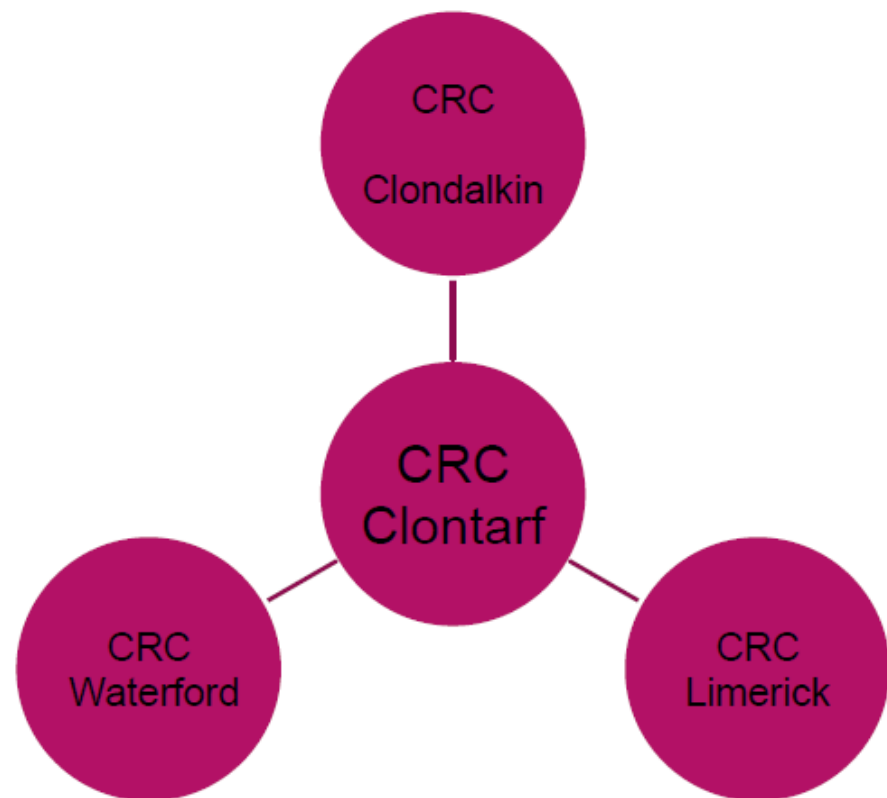
- Physiotherapy
- Speech & Language Therapy
- Occupational Therapy
- Clinical Engineering

## ENGINEERING TEAM

- Technology and Seating Engineering Staff

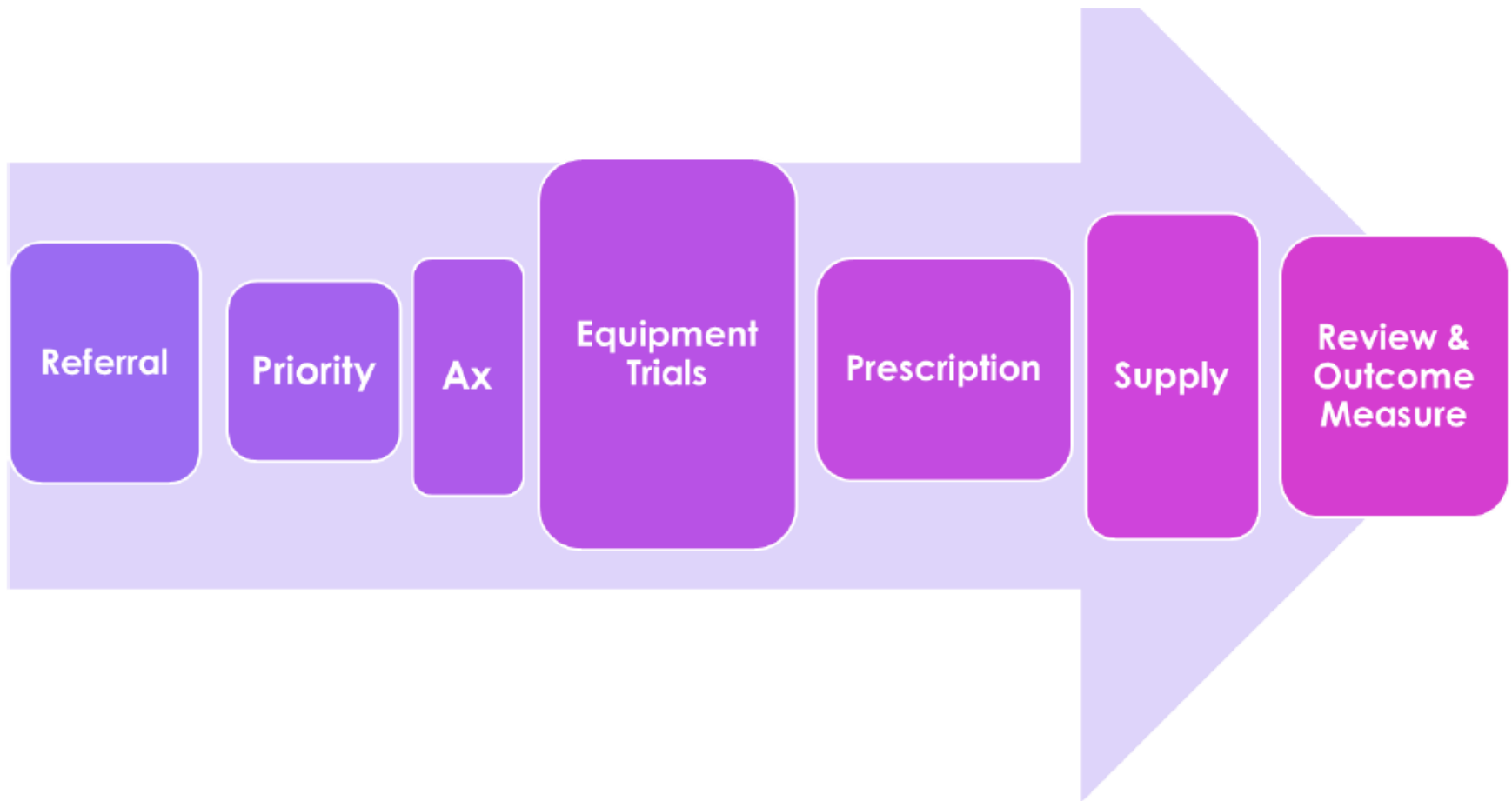
## ADMIN TEAM

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# Assessment Process

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# What happens at our assessments

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- ▶ Might be in our clinic or your home
  - ▶ Bring family or friends
  - ▶ Meet at least 2 people from the team
  - ▶ Interview
    - ▶ identify your needs and goals
  - ▶ Physical assessment
    - ▶ how might you use technology best physically
    - ▶ Hand function
    - ▶ Mobility
    - ▶ Speech & communication
    - ▶ Sensory issues
    - ▶ Changes you have experienced
    - ▶ Medication
    - ▶ Previous technology use
    - ▶ Where and when you might use technology
    - ▶ Support network and training needs
  - ▶ Discussion about options or trials of equipment
  - ▶ Future planning
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# Referring into the service

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- ▶ Usually via your therapists or the IMNDA Nurses
- ▶ As early as possible
- ▶ Helps to introduce the areas of technology
- ▶ Allows us to get to know your daily functional activities
- ▶ Opportunity for us to give advice about some 'time critical' activities that you might want to do
- ▶ Might be referred for one area of our service, but we will always discuss all of the areas
- ▶ Our referral form is long for this reason!





# Funding of Equipment

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- ▶ Majority of funding is provided via IMNDA
- ▶ Most AT equipment is eligible for funding under the HSE Aids and Appliances Scheme and we actively encourage therapists to consider that funding route
- ▶ Certain pieces of equipment have long manufacturing times and therefore need to be considered and ordered well in advance of you needing to use them
- ▶ Working to explore how we can make the process more responsive to clients needs



# The role of Assistive Technology (AT) for people with MND

# Goals of Technology Use

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- ▶ Key goal is maintenance of function via provision of equipment

Goals typically include:

- ▶ Continuation of employment
- ▶ Preparing for, or dealing with, communication difficulties
- ▶ Maintaining access to leisure and computer-based activities
- ▶ Independent powered mobility
- ▶ Continuing to do the activities you want to do, using new equipment to do it differently.



How do we make technology easy to use for  
people with difficulties with hand  
movement?

# Considerations

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- ▶ Various sub-types of the condition typically have different patterns in how you use equipment over time
- ▶ The rate of change that you might be experiencing
- ▶ If you are experiencing any cognitive issues
- ▶ How ready or interested you are to look at equipment
  
- ▶ Aim is to introduce you to equipment that you can see will have an impact for you
- ▶ Want to reduce the learning load for you, your family and the team
- ▶ Help you identify the equipment you might want to use at an early stage Early identification of equipment that can change as the client changes is helpful

# Accessing Standard Technology

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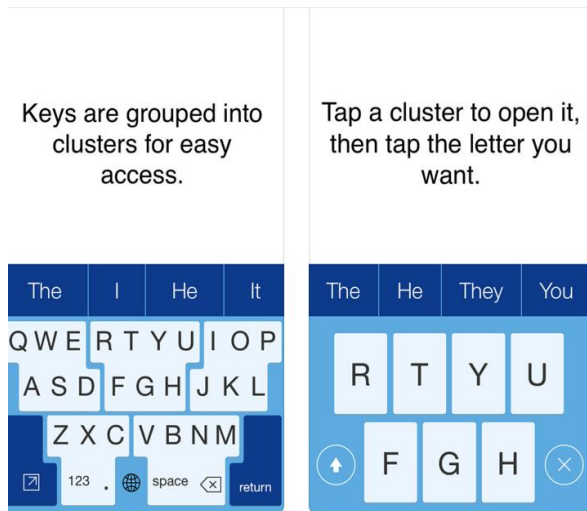
- ▶ We want continue to use your own equipment for as long as possible
- ▶ Many in-built accessibility options however these vary across platforms
- ▶ Typical examples include:
  - ▶ Changing screen sensitivity options
  - ▶ Altering repeat rate on keys
  - ▶ Creating 'custom' gestures
- ▶ Where and how you use your own technology can have an impact, e.g. on a table top



# If you need more help...

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- ▶ App' options to provide larger keys on screen



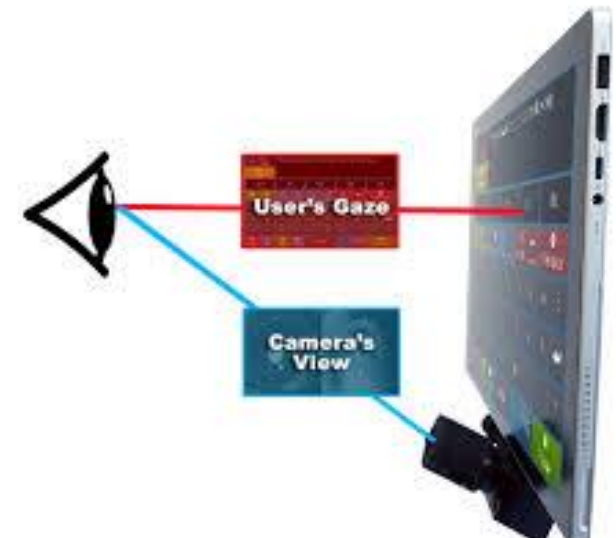
- ▶ Word and phrase prediction software
  - ▶ Custom keyguards
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# Mouse Control Options

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- ▶ Very popular as they offer good speed of control
- ▶ Three main options:
  - ▶ Joystick/mouse alternatives
  - ▶ Eye gaze technology
  - ▶ Head mouse technology







## Switch access



- ▶ Gives central control point fine motor control skills can be managed
- ▶ Movement needs to be repeatable, accurate and sustainable
- ▶ Often used with other methods for speed





AT Areas

# Areas

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- ▶ 4 main areas
  - ▶ Communication technology
  - ▶ Control of technology within your environment
  - ▶ Using a computer for leisure activities
  - ▶ Controlling a power wheelchair
  
- ▶ As technology has progressed these are no longer discrete areas, but overlap significantly





# Alternative & Augmentative Communication Supports (AAC)

- ▶ Your hospital and community SLT's might suggest strategies and techniques to help your speech
- ▶ If volume is an issue, amplifiers can help
- ▶ Over time, you may need to use a keyboard or app to clarify what you are saying, particularly if tired, or in a noisy place
- ▶ Look at using pre-stored phrases to assist with your fatigue pattern, or for use at key times in daily routine
- ▶ Some people will use communication technology on a full-time basis as their main way of communicating



# Text-Based or Symbol Based Systems



# Software & Hardware Decisions

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## iOS and Android Options

- ▶ Widely available
- ▶ Cheap
- ▶ Aesthetically appropriate
- ▶ Great platform to introduce options
- ▶ Increasing variety of app options
- ▶ Features are very app specific
- ▶ Into the longer term limited options for access
- ▶ Wider AT functions not always available

## Custom Designed Options

- ▶ Typically specifically designed platforms
- ▶ Full range of AT options can be facilitated
- ▶ High cost
- ▶ Potential to grow with the user



# Voice & Message Banking



- S&LT intervention aimed at preparing for future communication technology use and preserving voice identity
- Time-critical

## MESSAGE BANKING

- ▶ User records themselves speaking phrases that are personally meaningful or highly relevant for later use on an AAC system
- ▶ Can be done easily using digital dictaphone
- ▶ Can be quick process or more extensive depending on client interest

## VOICE BANKING

- ▶ User speaks wide range of sentences into computer programme, that translates their speech pattern into a customised speech engine
- ▶ Results can vary
- ▶ Provides a system-wide customised solution
- ▶ Can take number of weeks to complete process

# Power Mobility

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- ▶ For users, a power chair is very important as it is the main base for activities across the day
- ▶ Your comfort and your ability to change your position and move freely are the key goals
- ▶ Range of specialised controls
- ▶ We want it to be as easy to use as possible
- ▶ Standard joysticks give some options for customising
- ▶ Other more specialised option :
  - ▶ Head array/switch driving
  - ▶ Chin control





# Key points

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- ▶ The choice of a power chair is important
- ▶ Particularly the type of joystick module
- ▶ We want to plan for longer term use
- ▶ Funding can be difficult to access, so accessing it twice is unlikely
- ▶ Want to look at how other equipment can be mounted from it



# Computer for Social & Leisure Activities

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- ▶ Often overlooked in importance but is a key quality of life feature
  - ▶ Social media access is increasingly important, regardless of client age!
  - ▶ Online banking, shopping and reading are key tasks
  - ▶ Easily inbuilt to either communication systems and/or power chair systems, so should be considered at the time of selecting those devices
  - ▶ Wide range of software options can be set up to increase speed of use, make use more efficient, or simplify it if needed
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# Controlling your environment

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- ▶ Looking at how technology can help you be independent
- ▶ Covers control of items such as
  - ▶ TV, music etc
  - ▶ Lights
  - ▶ Plugs
  - ▶ Windows
  - ▶ Curtains
  - ▶ Doors
  - ▶ Emergency call systems



- ▶ Systems can be standalone, integrated into AAC systems or power chairs, so again we need think more broadly at times of ordering these systems.
- ▶ Funding for larger items is via Housing Adaptation Grant. Needs to be included at the time of application





Technology hints and tips....

- ▶ Technology can make things easier – don't be afraid of it!
  - ▶ Give yourself time to look at the options out there, so you can make an informed choice about what suits you best
  - ▶ Get hands on and try equipment if you aren't sure whether it will suit you
  - ▶ Consider whether you would like to make recordings of your speech. Link with you SLT for advice around it.
  - ▶ Involve your whole team, including you family/friends in the process to help you pick the equipment that is right for you
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- ▶

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- ▶ Being able to text friends and family, and use social media are important ways that we all stay in touch
  - ▶ Funding is something that needs to be planned for
  - ▶ Your power chair and your communication system are two key pieces of equipment – they are often the link to all your other technology needs, and so they need to be planned for carefully
  - ▶ Be open to trying to use technology in different ways



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[www.crc.ie](http://www.crc.ie)