Health Education Wessex
Professional Support Unit
Research Project
into doctors with dyslexia
Practice Guidance: strategies for dyslexic doctors

Background

This guidance has been produced from original research commissioned by Health Education Wessex to explore strategies used by doctors to help overcome the challenges of dyslexia. Its Professional Support Unit provides support to trainees with dyslexia, often in the form of a diagnostic assessment, and wanted to extend the practical nature of its support. An initial review of existing literature found limited published information and this prompted further research.

A total of fourteen doctors, all at different stages in their careers, were interviewed via on-line surveys, telephone interviews and in the workplace; a number of key informants, including educators, were also involved.

The strategies are ones suggested by the doctors who use them. It is hoped to publish the research (when a link will be provided). In the interim, the Professional Support Unit is keen that trainees are able to access this resource which we hope will prove to be a valuable resource for other Trusts as well.

Health Education Wessex is grateful to those doctors who took the time to share their experiences for the benefit of others.
How to use this guidance

These strategies have been used by the interviewees to work around challenges they may face on the ward, in the clinic or when trying to get over exam hurdles. They offer a menu of suggestions for dyslexic doctors, supervisors and educators to select and try out.

Many are very simple but that does not mean that they are automatically acquired; others rely on recent assistive technologies.

It is important to remember that every individual will have a unique profile. Self-awareness and the adaptation of strategies is key for success in the workplace.

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I am delighted and proud to see this guidance published. Having supported numerous doctors with dyslexia through the Wessex PSU over the past decade I am confident that it will add significantly to the range of support we can offer and help us enable these doctors to thrive and succeed despite their dyslexia.

I am grateful to Richard Mann for initiating the research; to Rachel Locke, Sharon Kibble and Sam Scallan for conducting the project; to Gail Alexander for her expert guidance and to HEW for providing the funding.

Rosie Lusznat
Associate Dean for Professional Support and Medical Education Fellows
Revision and Exams

Doctors with dyslexia may experience difficulty with:

- Remembering information
- Reading and understanding multiple choice questions (MCQ) questions under time pressure
- Accuracy of spelling in written exams

It takes me longer, otherwise I misread things or my spelling is all over the place or my grammar falls apart... At medical school I had extra time during written exams.
Strategies for revision might include:

- Making mind maps or colourful posters which tap into visual channels of learning (often strong in people with dyslexia)
- Annotating diagrams
- Using colour-in books for learning anatomy

Colouring books for learning anatomy worked for me because I’m very visual. I could map out all the nerves.

All of my revision notes were mind maps and I used mind mapping software. I was able to upload lots of pictures which stuck with me.

- Using revision cards including on-line ones; some allow the user to formulate their own questions/answers and test themselves (see resources section at the end)
- Reducing information to one side of A4
- Employing visually presented resources such as on-line videos and DVDs; examples cited include DVDs of Acland’s Atlas of Human Anatomy

I can’t read volumes of text. What works for me is to summarise information on one side of A4. I draw spider diagrams and colour code them with different colours denoting different conditions.

I learn by doing rather than from studying a book.
- Linking to practice
- Going through past exams
- Devising memory techniques
- Having specific revision and exam coaching such as that provided by NHS Health Education Wessex’s Professional Support Unit
- Support from trainers who are aware of the specific learning issues

[At university] I used memory techniques and worked out what I was going to learn and what was useful for me.

My GP trainer was very in tune with education, and quickly realised I was a visual learner.

**Strategies for exams might include:**

- Requesting additional time for exams from examining boards (including CSAs); other accommodations might include a separate room, changing background colour contrasts on the computer screen and allowing a zoom facility. Evidence of dyslexia would be required to be submitted in advance
- Rereading exam questions

Additional time was very useful from the point of view of reading and checking and making sure I had understood the question.

I had to get into the habit of reading things twice, reading my answers, not panicking.
- Requesting different coloured scripts
- Having a break and a smaller room

I also had different colours, I think everyone else had black text on a white screen: I had blue and then yellow writing. So that was better for me, I could process better.

I do need a bit of a break as I found it quite difficult concentrating in an enormous exam room with 300 other people all doing an exam. Measures were put in place to allow me to work in a smaller physical area, with fewer distractions, and to allow me to have the opportunity to have a break.
Doctors with dyslexia may experience difficulty with:

- Wording referral letters
- Taking patient histories
- Spelling
- Writing under time pressure
- Trying to identify their own mistakes
- Filling in forms
- Structuring written work, such as essays
- Reflective writing e.g. ePortfolios
- Getting numbers and letters in the right order
- Writing legibly; writing fast, especially when under time pressure!

The deterioration in spelling and writing was partly to do with time pressure and trying to write fast and my head, as usual, was always a couple of steps ahead of what I was writing.
Strategies for writing and spelling might include:

- Using templates to create structure

I tend to write on a crib sheet (A4 sheet of paper) during consultations to jot down key bits of information that I need to hold on to like blood pressure, heart rate, temperature etc.

I use the Wessex consultation structure mnemonic *InSPIRE DOCS. This has worked well for me as a guide when asking questions. Having got this into my head I can focus on the [patient’s] answers. Not every part is relevant for all consultations but for assessment purposes we need to cover all of it.

- Using a checklist based on a mnemonic as a memory prompt or crib sheet
- Checking spelling electronically

There’s a template for GP notes which includes: problem, history, examination, diagnosis, comment … I love that.

If I’m writing patient’s notes, I always have the internet open, because if I can’t spell a word, then I just look on Google straight away.

The advent of spell checkers and predictive text is a huge help. I never send anything out without it being spell checked.

I rely on the BNF definition app on IPAD for the right spelling of drugs.

*InSPIRE DOCS
Introduct yourself > Starter question > Psycho social > Put problem in context > Ideas Concerns Expectations > Red flags >
Examination Diagnosis > Options for treatment > Check understanding > Safety net
Devising shortcuts for note-taking (see section on memory)

Using recording devices to record notes

I use a Dictaphone at work all the time to do referral letters.

Because it was rolled out across the trust I used speech-to-text software.

Managing time when writing can be assisted either by taking additional time at the end of the day or writing up notes immediately

I find I really have to put aside time for writing letters.

I do them [referrals] at the end of a clinic because I haven’t got the same time pressure of the clinic. Because it takes me a long time to do the referrals I prefer to do them in smaller chunks ... it may take me half an hour but I think that is more acceptable than three hours at the end of the week.

I write up the notes as soon as I have seen a patient.

[Before retirement], although I hated dictating letters, I made it a rule that I couldn’t go home until I had dictated the letters.
Completing prescriptions after home visits using BNF

I don’t hand write scripts on home visits because of my spelling difficulties and I want to ensure absolute accuracy. I don’t even carry scripts with me. I come back to the surgery so I can refer to the BNF.

If this is questioned by a patient during the consultation I say the drugs are changing all the time and I want to check. This is so the patient doesn’t lose confidence that I don’t know off the top of my head.

Completing ePortfolio entries in Word then cutting and pasting them into the ePortfolio. This avoids the problem encountered by one trainee of the ePortfolio timing out

Making a rough draft of forms (such as death certificates)

Writing death certificates can be challenging. The need for accuracy and demands of form filling - which need to be hand written - can make me feel a little stressed. Being tired makes the task more challenging. I make notes on a pro-forma copy, before turning to the real form.

Drug calculations

I always get somebody to double check my calculations, because we all make mistakes.
Doctors with dyslexia may experience difficulty with:

- Taking longer to read
- Misreading words
- Needing to re-read several times to understand text
- Feeling embarrassed about reading aloud
- Experiencing distortion of text
- Reading information on charts
- Needing longer to read exam papers including multiple-choice questions

It’s having awareness. I don’t put myself in situations where I have to do reams of reading.

It takes time to read through all the letters and getting the information from them.

I can’t learn from books. I learn by doing rather than from studying a book.
Strategies for reading might include:

- Breaking text into chunks
- Making notes or highlight to capture key ideas
- On screen: Using a font which is easier to read
- Using coloured acetate overlays or a tracking device
- Using online resources which gives information in chunks or through visual and auditory channels
- Focusing on more visual information where information is provided by diagrams and illustrations e.g. Acland's Atlas of Human Anatomy
- Using GPnotebook to find information

Two things help: not being worried about the fact that I can't get through huge quantities of text at any one time, and realising that I need to break things down. I find it quite useful to make notes, to park ideas.

I can't read volumes of text and find it more suitable to summarise information on one side of A4.

Writing on text, highlighting areas of text, marking areas of text, means that I have reference.

What was more helpful to me was when I was a on a busy ward and focusing to concentrate, was using my finger and reading following that. It meant the information went in and I retained it.

The internet has been a great boon for me, because I can find bite-sized chunks of information quite quickly and easily. I use GPnotebook to narrow down educational needs that I feel that I need. I don't go to a book.
Memory difficulties, time management and organisation

Doctors with dyslexia may experience difficulty with:

- Prioritising and sequencing the order of tasks
- Remembering information to pass on to colleagues
- Recall of procedures, instructions or observations taken
- Handovers
- Multi-tasking
- Managing and completing tasks on time
- Allocating a realistic time frame to tasks
- Managing administrative work

The particular case [in which] I was involved...

X showed up fairly early on as having difficulties with time management, prioritisation of tasks, sorting out the wood from the trees really. He paid over attention to detail so much so that it was impacting on his ability to do his job, being able to garner information without paying too much attention to things that aren’t important.

Remembering the names of medicines and diseases is easy simply because of the ways the words are structured and spelt.
Strategies for memory, time management and organisation might include:

- Doing straight away
  
  Do everything to complete a task unless there is an emergency, otherwise you end up with a lot of unfinished tasks.
  
  If I don’t do tasks as they come up, I can find that they can build up.
  
  I need to do things straight away and that’s my strategy - getting the job done so you don’t forget it. This means I’m quick to answer emails, quick to make phone calls - keeping on top of stuff but if I park stuff it can get left and left.

- …or leaving until later
  
  We have a lot of letters that we have to read, and I find I really have to put aside time for doing that as it takes time to read through all the letters and get the information.

- Using an on-screen timer from Google (discretely positioned) during patient consultations
  
  I prefer on-screen timers to count up rather than down as it seems too much of a deadline otherwise. At 7 ½ to 8 minutes I like to be wrapping things up.
Colour coding/prioritising system

I use a traffic light system and use a highlighter - so pink = urgent, green = can wait and yellow = in between.

Colour coding notes doesn’t work for me.

When on on-call work I would make sure I ask the right questions over the phone and jot down a list of the main actions indicating whether urgent or otherwise.

As a foundation doctor I was shown a system which is quite widely used. You would write different headings: bloods, x rays, other investigations and then write the patients’ names (under the heading) and draw a box next to the name. You half shaded the box when you requested the test and when you got the full result you completely shaded it in. You knew where you were using that process...

Using diaries and notebooks

Electronic diaries that beep at you when you are meant to be doing something are really helpful.

I have a note book, to jot down things that I think of. I use it every day.

I use a work diary and put in chaser notes that consist of a printed out sticker with the patient’s name on to act as a prompt to follow up that patient on a particular day for a particular medical matter.
Remembering names and information

Photos of ward staff on the wall of wards are helpful. Repeating the name is another technique.

You try to associate something with them, or they've got their names up by their bed.

My way was to visualise where they were on the ward.

Asking seniors to repeat information.

...or asking seniors to write it down for me, then I can take it away.

Strategies for trainers/supervisors

My supervisor gave me some useful advice: do everything to complete a task unless there is an emergency otherwise you end up with a lot of unfinished tasks.
- Be prepared to repeat information or write it down
- Demonstrate how you do things rather than only talking them through; use visual methods

If you can get them [seniors] to explain why they are requesting that information… what does this investigation result mean - or even better draw a diagram - then that saves a lot of time reading where you may or may not have a grasp of it.

- Ask trainees to repeat procedures back to you
- Where possible provide templates; checklists and structured examples for written work
- Encourage trainees to keep a task list to use as a basis for working out prioritising with seniors
- Ask the trainee what works for them
- Allow trainees to practise skills

We got him (a trainee with dyslexia/dyspraxia) extra support in the workplace. One of his clinical supervisors spent time teaching him how to pick out salient points, going through handover skills and gave him a lot of handover practise and other doctors that supervised him were made aware that he had difficulties with time management.
♦ Consider what reasonable adjustments might be possible: a quiet space for working; allowing more time, for example, to let the trainee write things down

♦ Consider a mentor or buddy system and encourage others in the team to share good practice

As a foundation doctor FY1, the FY2s and the more senior SHOs would share techniques.

The biggest difficulty for a junior doctor is working out where things are and how to request things and so if you get an opportunity to shadow and work that out beforehand that saves so much time.

♦ Allow additional time for shadowing and sharing techniques

♦ Ask a dyslexia specialist for advice

[My GP trainer]...felt very frustrated actually, because she didn't know how to help me, so she had a chat with my dyslexia tutor, and she also wrote to the Royal College. Your GP trainer is your mentor, so they're there for your three years. I was very lucky with mine, she was great with my tutorials, and adapting them for me.
This section lists some of the programs and apps mentioned by the interviewees as well as a few additional ones.

Listing here does not imply any particular endorsement. Most software programs are available in a trial version. There is also a range of free or open source resources which are usually a more basic format than those commercially available.

Because it was rolled out across the trust I used speech to text software.

All of my revision notes were mind maps; I used Inspiration software. That was fantastic.
1) Changing computer fonts and colours, using a coloured overlay or reading ruler

The Web Accessibility Toolbar for Internet Explorer
www.paciellogroup.com/resources/wat-ie-about.html

Screen Tinter Light (Windows PC) is a simple page colour software
www.bltt.org/software/screentinterlite/index.htm

Screen Shades (MAC OSX) - simple page colour software
www.macupdate.com/app/mac/29478/screen-shades

Crossbow Educational provide coloured overlays, reading rulers and overlay screens for computers
www.crossboweducation.co.uk

2) Speech recognition

Dragon Naturally Speaking
www.nuance.com

It is possible to get add-ons which recognise medical and pharmaceutical terms, for example, Spellex Dictation, Medical edition enhances Dragon™ NaturallySpeaking, Dragon Dictate for Mac and Microsoft™ Speech Recognition.
www.spellex.com/estore/medical-dictation

Some NHS Trusts may have speech recognition software installed on hospital/clinic systems.
3) Text to speech

Read and Write Gold
www.texthelp.com/UK/our-products/readwrite

ClaroRead and Write
www.clarosoft.com

Balabolka and Browsealoud are free versions
(cloud versions available)
http://balabolka.en.softonic.com
www.browsealoud.com/downloads

4) Dictaphones/audio note takers

www.olympus.co.uk
www.sonocent.com/en/the_software/audio_notetaker

5) Specialised medical apps

www.realfirstaid.co.uk/apps

GPnotebook is an online encyclopaedia of medicine
www.gpnotebook.co.uk/homepage.cfm
6) Mind mapping software

www.inspiration.com
www.mindgenius.com
www.mindmeister.com/content/product (free product)

7) Spelling support

Free medical (US) check and palm-held medical spell checker
www.spellex.com

8) On line flash cards

AnkiDroid Flashcards
www.play.google.com
www.cram.com

The GMC lists information about assistive technologies
www.gmc-uk.org/accessibility/assistive_technologies.asp

Specialist suppliers who can offer advice
www.iansyst.co.uk
www.microlinkpc.com