









# Neurodiverse Patients

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# Aims and Objectives

-  To ensure that neurodiverse patients can access the same level of dental care as their neurotypical peers.
  -  Have an increased awareness and understanding of neurodiversity
  -  Recognise challenges and barriers that neurodiverse patients may face in a dental setting
  -  Have effective verbal and non-verbal communication techniques to create an inclusive environment
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# GDC Development Outcomes

A: Communication Skills;  
Safeguarding

D: Professional Behaviours,  
equality and diversity





# Agenda

- 🦷 What is neurodiversity?
- 🦷 Challenges and Barriers
- 🦷 Strategies to support
- 🦷 Questions?

# Neurodiversity

- Natural variations in brain function and behaviour, regarded as part of normal variation in human population.
- Not deficits to be 'fixed'.
- Includes autism, ADHD, sensory processing difficulties, dyslexia etc.
- Impacts on a significant amount of the population (15-20% of UK population, 2024).
- The impact of this can influence comfort, trust, and cooperation in dental care.



# Common Challenges/Barriers



**Sensory Sensitivities**



**Anxiety and Fear**



**Difficulty with change or new environments**



# Sensory Sensitivities

## Light:



- Overhead dental lights may feel unbearably bright
- The patient may shield their eyes or refuse to lie back in the chair

## Sound:



- High-pitched noises (drills, suction) can trigger distress or panic
- The patient may cover their ears, hum loudly, attempt to flee the room

## Texture and Taste:



- Dental paste, equipment, or impression material may cause a gagging reflex
- The patient pulls away mid-procedure or tries to get out of the chair

## Touch:



- Sensitivity to being touched around the face/mouth
- The patient flinches or withdraws whenever the dentist tries to adjust head position





# Anxiety and Fear

## Anticipation:



- This can be anticipation of pain or discomfort even before the appointment begins
- The patient may express worry days beforehand

## Previous negative experiences:



- These can reinforce avoidance behaviours
- A past dental injection causes long-term fear of needles so easier to avoid than confront

## Generalised medical anxiety:



- Fear in one medical setting can transfer to more
- The patient becomes visibly restless, asks repeated questions, or requires constant reassurance

## Behavioural response:



- Simply a response because of the context/situation
- The patient may cry, refuse to engage/listen, or 'shutdown' during procedures



# Diffs with change/new environments



Change of routine:

- Routine and predictability are crucial
- The patient may get upset if their regular hygienist is off



Delays/schedule changes:

- Unexpected changes can result in extreme distress
- Simply running behind schedule can result in a patient being unable to cope resulting in observable anxiety type behaviours



Change in materials/tools:

- Discomfort whenever new tools or new techniques are introduced
- The patient will refuse to allow the new method to be used with them



Completely new environment:

- Hasn't been to the practice before or has avoided dental practices for a period of time
- The patient can become stressed by unfamiliar noises, other people, smells etc.



# Impact on treatment compliance and oral health



**Reduced Co-operation**



**Avoidance**



**Delayed preventative care**



**Anxiety cycle**



**Caregiver stress**

# Strategies to support



- Sensory-friendly environments
- Building predictability and routine
- Supporting communication
- Managing anxiety and building trust



# Sensory friendly environments

## Light:



- Use dimmable lights or sunglasses to reduce brightness
- Explain before turning on overhead lamps

## Sound:



- Offer noise-cancelling headphones or allow patients to listen to music
- Schedule quieter times of day if possible

## Texture, Touch and Taste:



- Let patients handle instruments before use
- Offer choice – flavoured vs unflavoured paste, smaller instruments
- Fidget tools, weighted blankets available, which can help reduce anxiety during longer appointments



# Building predictability and routine



Consistency helps reduce stress and build trust



Try to keep the same dentist and hygienist for the patient when possible



Provide visual schedules or step-by-step explanations



Use social stories or short videos before appointments to show what will happen



# Supporting Communication



Communication differences can make it harder for patients to express discomfort or ask questions



Use clear, simple language: avoid jargon  
Check for understanding with short yes/no or visual prompts



Allow extra time for responses



Use non-verbal supports like picture cards or visual timers



# Managing anxiety and building trust



Trust is built slowly, through patience and reassurance



Offer desensitisation visits, short, non-treatment appointments to build familiarity



Give patients choice wherever possible, for example “would you like to sit now, or after a few minutes?”



Reinforce cooperation and small successes  
Allow small breaks if anxiety escalates



# Strategies to support



- Sensory-friendly environments
- Building predictability and routine
- Supporting communication
- Managing anxiety and building trust

# Graded Exposure

- A behaviour therapy technique often used to treat phobias and anxiety disorders
- Involves gradually exposing a person to a feared stimulus while simultaneously training them to relax
- Must be done gradually
- Work with the behaviours you observe
- Going too fast may result in failure
- If moving to the next step is too much, go back to the last successful step and move forward again
- Lots of research to show the effectiveness of this



# Other



- Offer longer appointments for those individuals who struggle
- Arrange appointments at quieter times (perhaps first appt of the morning or last one of the day)
- Turn off radios or streaming devices for those you know who are sensitive to noise
- [Visual communication Board](#)

# Video modelling

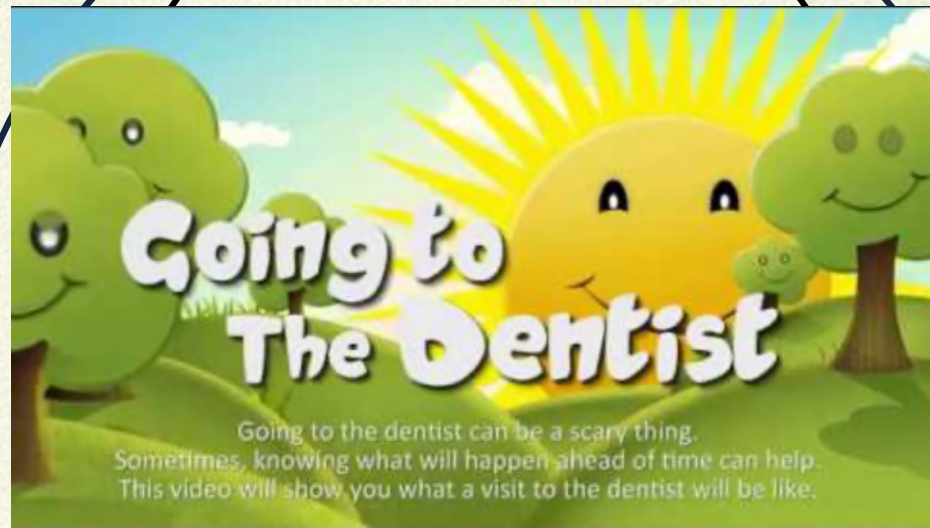
## What it is?

- It is a type of instruction that involves recording a model demonstrating a skill or behaviour with increasing independence
- Frequently paired with other evidence-based practices such as task analysis, shaping, and reinforcement
- Effective for teaching many different skills/behaviours

## How?

- Record point of view videos that are made available on the website of your practice
- Film all elements of the dental practice
- Can have a model acting out the steps involved
- Can be tailored for children or adults
- Can be presented in short snippets or one long video
- Patient watches in safe environment (home)

# Video models



Some examples...

# Social Stories

- These are personalised, descriptive narratives for neurodivergent individuals of all ages, including adults, that explain:
  - Social situations
  - Expectations
  - Other perspectives
- Aim is to improve understanding and reduce anxiety
- They are a bridge for connecting neurodiverse individuals to the social world by offering a structured and supportive guide that empowers them to engage with confidence and understanding



# Social Stories

- These can be made by using actual photographs to make it more specific to your practice - [Dentist specific](#)
- Can be made available at reception for patients to pick up
- Can also be made available online for reading and printing prior to appointment
- Can be tailored based on needs of individual – [more pictures](#), [more text](#), [visuals](#) etc.

## Autistic Child Visiting the Dentist



I go inside with my mom



I sit and wait with my toy



The dentist counts and inspects my teeth



There is a bright light so the dentist can see my teeth



The dentist gives me a sticker



I am ready to go home

# Questions?



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# References



Aldi, C., Crigler, A., Kates-McElrath, K., Long, B., Smith, H., Rehak, K. and Wilkinson, L. (2016). Examining the Effects of Video Modeling and Prompts to Teach Activities of Daily Living Skills. *Behavior Analysis in Practice*, 9(4), pp.384–388. doi:<https://doi.org/10.1007/s40617-016-0127-y>.

Johnson, C. (2015). *JMU Scholarly Commons The effectiveness of social stories on children with autism spectrum disorder: A literature review Recommended CitationThe effectiveness of social stories on children with autism spectrum disorder: A literature review* (. [online] Available at: <https://commons.lib.jmu.edu/cgi/viewcontent.cgi?article=1110&context=honors201019>.

Langdon, P.E., Apanasionok, M.M., Scripps, E., Bunning, K., Malwina Filipczuk, Gillespie, D., Hastings, R.P., Jahoda, A., McNamara, R., Rai, D. and Gray, K.M. (2024). *Intervention description*. [online] Nih.gov. Available at: <https://www.ncbi.nlm.nih.gov/books/NBK608973/> [Accessed 4 Jun. 2025].

Moustaka, M., Kossyvaki, L. and Emmanouela Terlektsi (2025). Using point-of-view video modelling with young autistic students: a systematic literature review. *International Journal of Developmental Disabilities*, pp.1–14. doi:<https://doi.org/10.1080/20473869.2025.2533936>.

NHS England Digital. (2023). *Autism Statistics, Autism Statistics, July 2023 to June 2024*. [online] Available at: <https://digital.nhs.uk/data-and-information/publications/statistical/autism-statistics/july-2023-to-june-2024>.

Smith, E., Toms, P., Constantin, A., Johnson, H., Harding, E. and Brosnan, M. (2020). Piloting a digitally-mediated social story intervention for autistic children led by teachers within naturalistic school settings. *Research in Autism Spectrum Disorders*, 75, p.101533. doi:<https://doi.org/10.1016/j.rasd.2020.101533>.

Stenning, A. and Rosqvist, H.B. (2021). Neurodiversity studies: mapping out possibilities of a new critical paradigm. *Disability & Society*, 36(9), pp.1–6. doi:<https://doi.org/10.1080/09687599.2021.1919503>.

Teunisse, A.K., Pembroke, L., O’Grady-Lee, M., Sy, M., Rapee, R.M., Wuthrich, V.M., Creswell, C. and Hudson, J.L. (2022). A scoping review investigating the use of exposure for the treatment and targeted prevention of anxiety and related disorders in young people. *JCPP Advances*, [online] 2(2). doi:<https://doi.org/10.1002/jcv2.12080>.

**Thank you for  
listening!**

