

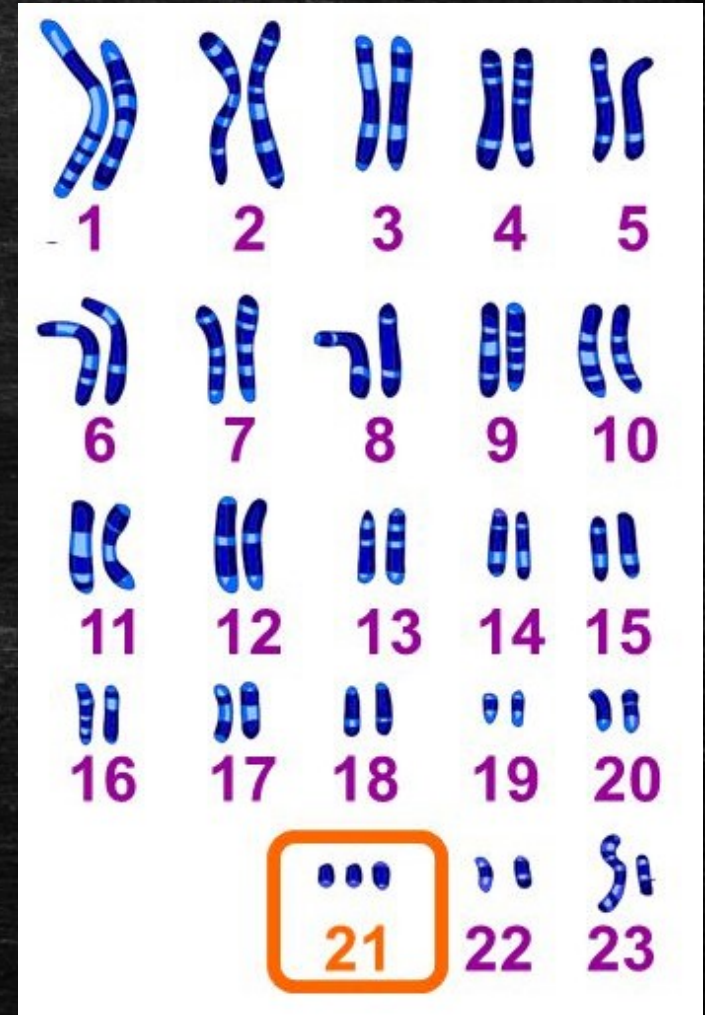


Down Syndrome

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What is Down Syndrome?

Down Syndrome is a genetic condition that occurs when there is an extra copy of a specific chromosome: **chromosome 21** resulting in a delay in development.



There's no known cause but...

Keep in mind that human cells normally contain 23 pairs of chromosomes for a total of 46 chromosomes – 23 from the mother and 23 from the father.

Down syndrome occurs when an individual has a full or partial extra copy of chromosome 21.

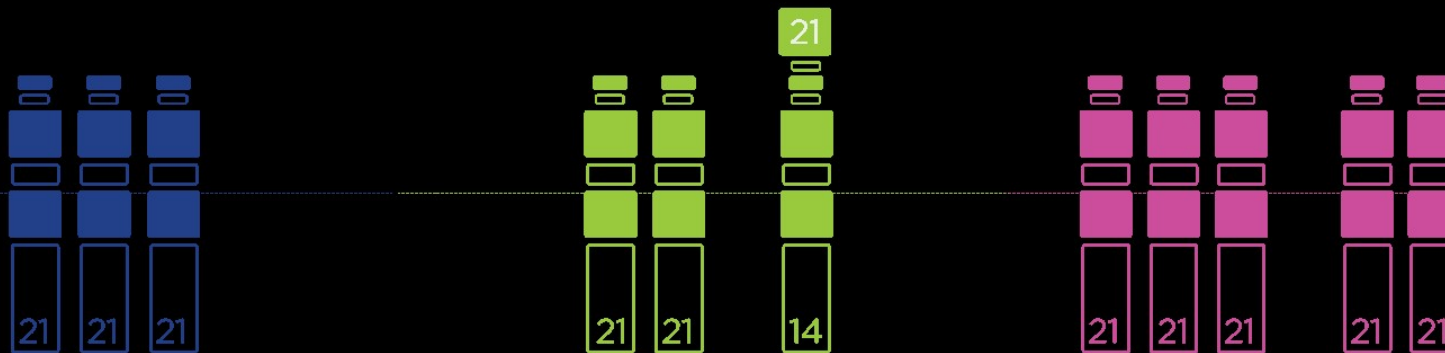
The extra genetic material is responsible for the distinctive features and developmental problems of Down Syndrome.

Note: The extra copy of chromosome 21



Three types of Down Syndrome

Trisomy 21	Translocation	Mosaicism
<ul style="list-style-type: none">• Most common type – 95%• Baby is born with an extra copy of chromosome 21.• There are three copies of chromosome 21 instead of two.	<ul style="list-style-type: none">• 4%• Part of chromosome 21 breaks off during cell division and attaches to another chromosome – it relocates to chromosome 14	<ul style="list-style-type: none">• Very rare – 1%• Mixture of two types of cells, some have 46 chromosomes (normal) and others have 47 (extra chromosome 21)



Effects of Down Syndrome

Some individuals with Down Syndrome lead normal lives – they live independently while others require assistance in performing everyday tasks.

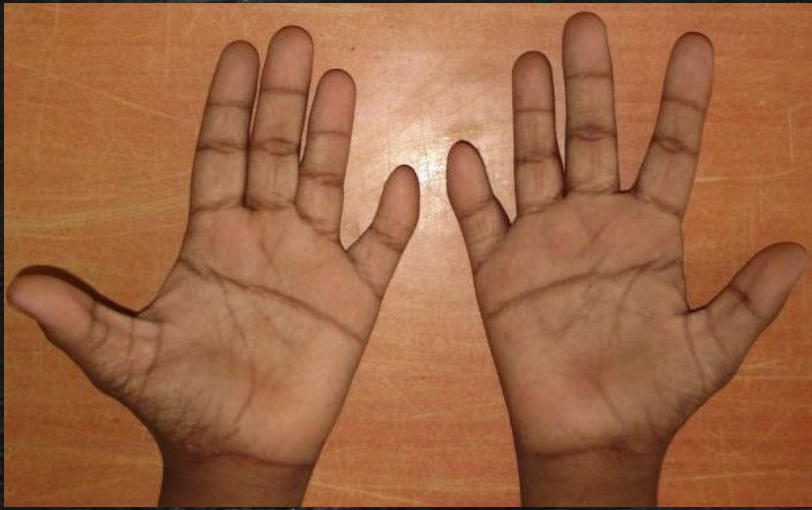
Mental abilities vary, there may be a delay in speech in children, learning disability and difficulty thinking and understanding.

As they go through life they learn new skills but it may take longer to reach important goals like walking, talking, and developing social skills.



Common features of individuals with Down Syndrome

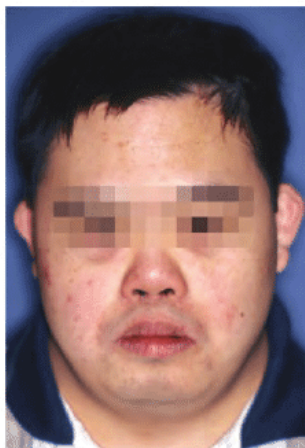
- Flattened face – Flat nasal bridge
- Small head
- Short neck
- Protruding tongue
- Upward slanting eye lids
- Unusually shaped or small ears
- Poor muscle tone
- Broad, short hands – single line on palm (Simian crease)
- Relatively short fingers and small hands and feet
- Excessive flexibility
- Tiny white spots on the iris of the eye – Brushfield's spots
- Short height
- Infants may be average size but they grow slowly and remain shorter than other children the same age.



Features related to dentistry

- Large tongues or small upper jaw that makes their tongue appear large
- Fissured tongue
- Malocclusion
- Malformed teeth or microdontia
- Teeth could appear in different sequence/ positions
- Congenitally missing teeth
- Crowding and/or impacted teeth
- Problems with the jaw and bite
- Complications with chewing
- Periodontal disease
- Cavities
- Gingival hyperplasia

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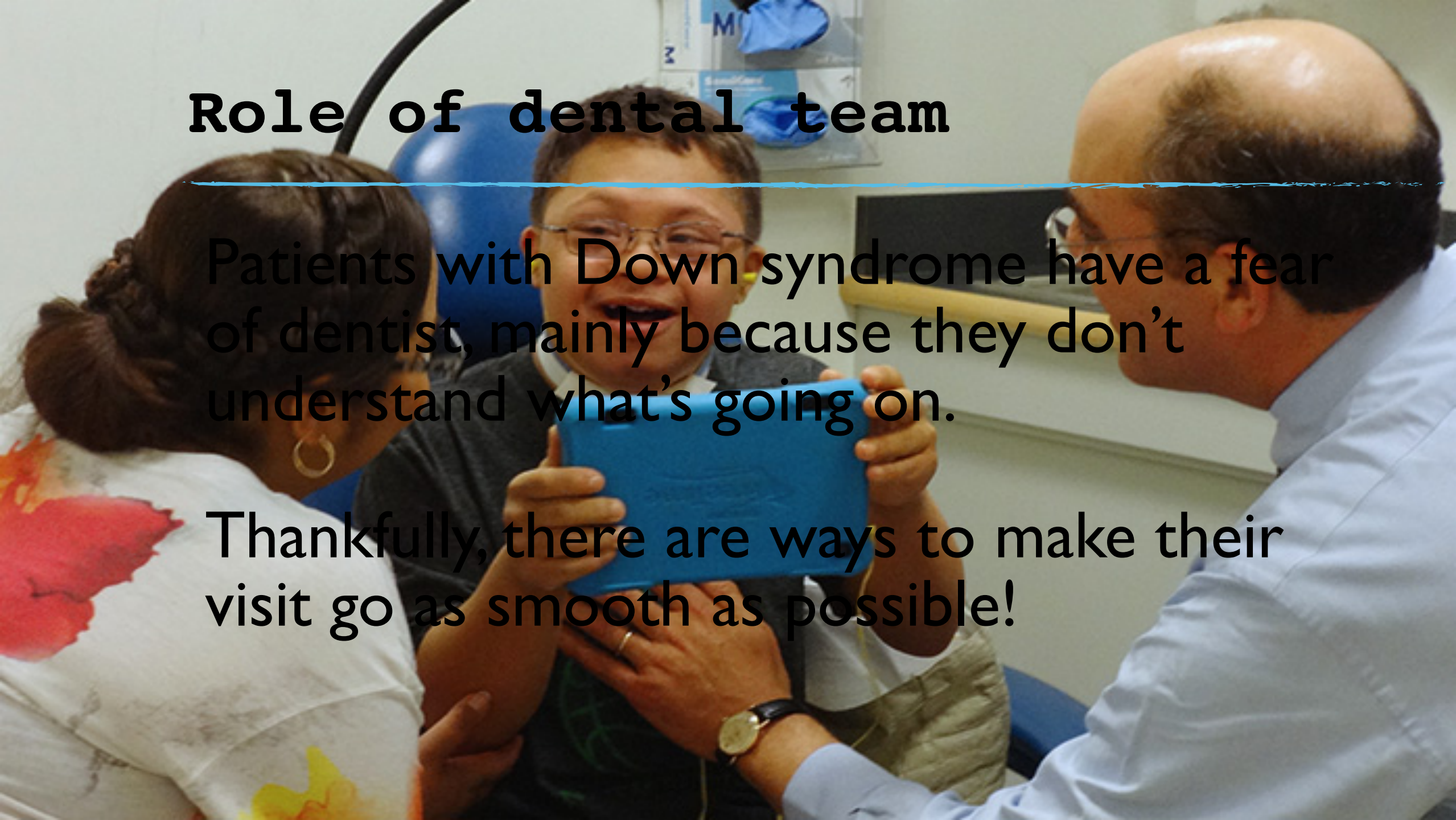
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Role of dental team

Patients with Down syndrome have a fear of dentist, mainly because they don't understand what's going on.

Thankfully, there are ways to make their visit go as smooth as possible!



- Allow extra time to discuss oral care plan with patient and caregiver – you will have to explain procedures at a level the patient can understand. Be prepared to repeat to compensate for those with short term memory.
- Schedule appointments earlier in the day to reduce waiting time- reduces the chance for anxiety.
- The environment needs to be relaxing not distracting – playing some music should keep the patient calm during treatment.
- Be consistent! You're building trust here so try to keep everything the same for familiarity. That means using the same operator, staff, and keeping the same appointment time.
- For patients that need a lot of work split treatment appointments to ease stress and anxiety.
- Sedation is sometimes necessary if they must have dental work done because their health is at risk and they do not want to cooperate with the dentist.

Although visiting the dentist is important, caregivers should practice proper oral care at home.