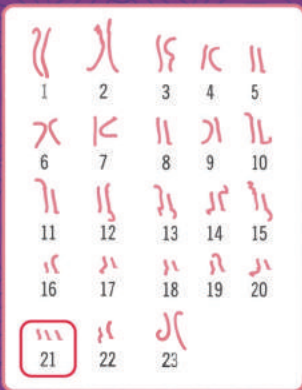


# Down Syndrome Factsheet

## What is Down Syndrome (DS)?

DS is a genetic condition caused due to an abnormality in chromosome 21. The most common form of DS is Trisomy 21, in which body cells acquire three instead of two copies of chromosome 21.



Scenario in **DS**  
Three copies of  
**Chromosome 21**

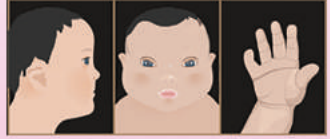


Typical scenario  
Two copies of  
**Chromosome 21**

# What are the signs of DS?

A person with DS typically has -

- a slightly small head that is flattened in the back
- up-slanted eyes
- extra skin folds at the inner corners of the eyes
- small ears, nose and mouth
- short stature
- floppiness due to reduced muscle tone
- small hands and feet
- some degree of intellectual disability.



# Are there different types of DS?

The presence of the extra chromosome 21 can occur in different ways.



**Trisomy 21** : In about 95% of DS cases, Trisomy 21 happens because two (instead of the usual one) copies of this chromosome from one parent joins another copy of the chromosome from the other parent at the time of conception. So, the child has three instead of the usual two copies of chromosome 21.



**Translocation**: In about 3-4% of the cases, DS occurs because a portion of chromosome 21 may break and get translocated to a different chromosome. This translocation or movement of the broken half of chromosome 21 may occur over chromosome 14,21,22.



**Mosaicism**: In 1% of the cases, few cells in the individual may carry three copies of chromosome 21 while other cells may carry the typical count of two chromosomes."

# Things to look out for in a child diagnosed with DS

Some health conditions and risks occur more frequently in children with DS than in typical children.



**Awareness and continuous monitoring of these conditions will help reduce adverse effects on your child's health:**

- Problems with vision
- Hearing difficulties
- Oro-motor issues
- Thyroid hormone production in the body
- Heart defects at birth
- Issues with the digestive system (Celiac disease)
- Foot arch challenges
- Recurrent infections (skin, bladder and respiratory)
- Low muscle tone
- Breathing difficulties while sleeping (apnea).
- Cervical spine instability

## Whom to approach when I spot health concerns in a child with DS?

If you spot signs that worry you about your child's health, then seek counsel from a certified

**Pediatrician**



## Why did my child develop DS?

**DS is genetic disorder. You are not in anyway responsible for your child's diagnosis**

The extra chromosome occurs by chance; neither the health nor the behaviour of parents, nor any aspects of pregnancy, birth or home environment is the cause for DS.



## How is DS diagnosed by a doctor?

It is usually a Pediatrician who makes an initial diagnosis of DS because of the way a baby looks.

The Pediatrician looks for certain physical characteristics in the child which can indicate a an initial diagnosis of DS

The diagnosis is confirmed by assessing the child's chromosomal profile (Karyotype).

Karyotyping can help determine whether DS is due to Trisomy 21, Translocation or Mosaicism.



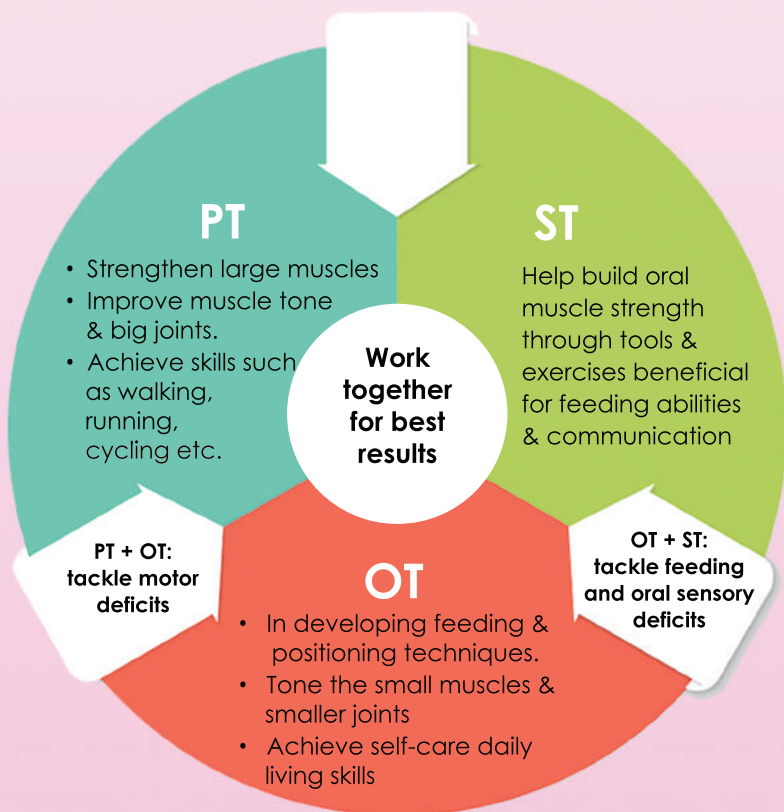
**DO NOT HESITATE TO ASK FOR A DIAGNOSIS**





## Evidence-based therapies for DS management

Therapy provided by **physical therapy (PT)**, **Occupational therapy (OT)** and **Speech therapy (ST)** often complement one another. Together, they serve to holistically tackle specific developmental challenges seen in children with DS.



# You are not alone – seek help and guidance



## Do what is best for your child

- ✓ Plan the management of your child's condition
- ✓ Involve the entire family
- ✓ Engage the child in fun activities
- ✓ Communication and interaction with the child as part of his/her daily routine is key to speech and language development.
- ✓ Using everyday activities at home (cooking, washing, dressing etc.) as contexts to engage the child in communication.



## REMEMBER, individuals with DS -

- ✓ Like structure & routine in their everyday life
- ✓ Gain from the use of visual aids, visual schedules or social stories.



## Remember to take care of yourself in the process

- ✓ Do not ignore your other children
- ✓ Engage in regular physical activities and relaxation for your well-being
- ✓ Do not forget to interact and spend time with your spouse and other family members.



## Help give back to your community

- ✓ Join a peer support group near you.
- ✓ Share your experience with other parents
- ✓ Educate your community and dispel myths about DS

# Is there a cure for DS? REMEMBER,



- DS is a genetic disease; there is no medical cure for DS.
- Children with DS have delayed development and slow physical growth
- Early intervention helps in achieving optimum progress, don't delay intervention
- Understand and monitor the medical problems that are more common in DS. Ensure your child has a health check-up regularly.
- Physiotherapy and occupational therapy can help improve movement and function.
- Speech therapy can help in improving communication. Don't hesitate in using signs and symbols to help the child communicate freely.

## October is DS awareness month

- With early intervention, support from family members and educators, individuals diagnosed with DS are thriving and leading successful lives.
- Do not let a diagnosis get in the way of happiness and well-being of that individual.



## QUACK WATCH

**REMEMBER,** *that there are a lot of people out there who are ready to take advantage and make money out of claims of having a cure for DS.*

*Please do not let your vulnerability & desperation get in the way of your child's health.*

*Informed and empowered parents provide effective care for their children.*



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