



WHAT IS TURNER SYNDROME?

Turner Syndrome (TS) is a genetic condition that exclusively affects females & occurs when one of the two X chromosomes is missing or incomplete. This syndrome influences growth, development, and reproductive health, but with the right medical care and emotional support, individuals with TS can live fulfilling lives. While some girls are diagnosed at birth due to noticeable physical features, others may only discover it later when they face delayed puberty or growth concerns. Though Turner Syndrome presents unique challenges, it does not define a person's potential—it simply shapes their journey a little differently.



GROWTH AND PHYSICAL DEVELOPMENT

One of the most common characteristics of Turner Syndrome is short stature. Girls with TS grow more slowly than their peers and often do not experience a typical puberty-related growth spurt. Without medical intervention, the average adult height of a person with **Turner Syndrome is about 4 feet 8 inches (142 cm).**

Growth hormone therapy (GHT) is commonly prescribed to help increase height when started at an early age **(typically before puberty).**

Some physical features associated with TS include a **webbed neck**, a broad chest with **widely spaced nipples**, a **low hairline at the back of the neck**, and swelling of the hands and feet at birth.

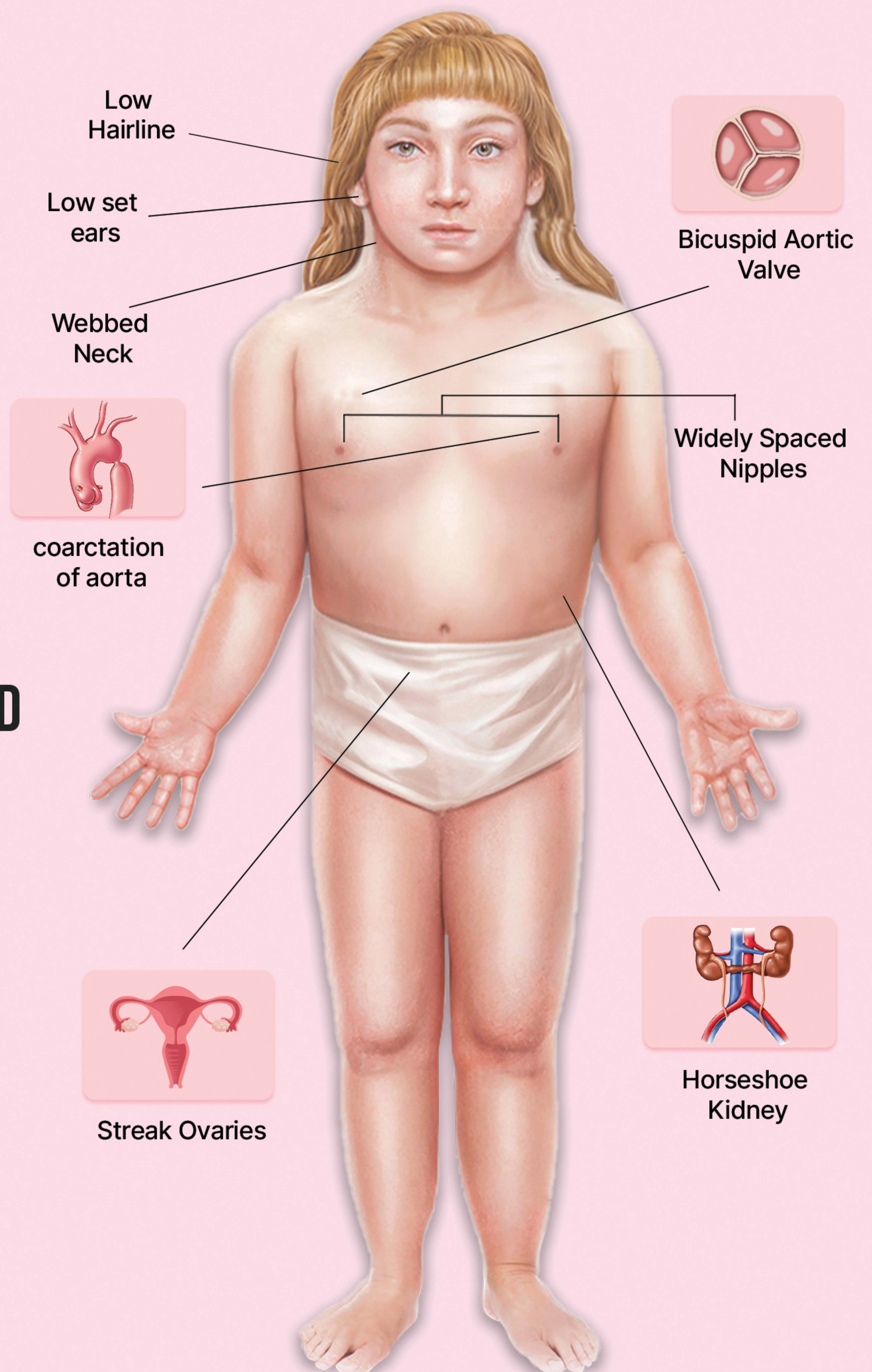


PUBERTY, FERTILITY, AND HORMONAL HEALTH

Turner Syndrome affects ovarian development, leading to **ovarian insufficiency or failure**, which results in a **lack of estrogen production.** This can cause delayed or absent puberty and infertility.

In most cases, girls with TS do not begin puberty naturally and require hormone replacement therapy (HRT) with estrogen and progesterone to develop secondary sexual characteristics **(breast development, menstruation, and body shape changes).**

While natural conception is rare, assisted reproductive technologies, **such as egg donation & in-vitro fertilization (IVF),** offer some women with TS the possibility of pregnancy.





HEART AND KIDNEY ABNORMALITIES

Up to 50% of individuals with Turner Syndrome have congenital heart defects, which can be life-threatening if not managed properly.

- The most common heart conditions include coarctation of the aorta (narrowing of the aorta) and bicuspid aortic valve defects (where the heart valve has two flaps instead of three).
- Kidney malformations, such as horseshoe kidney (fused kidneys) or missing kidneys, are also common and can lead to high blood pressure or recurrent urinary tract infections (UTIs).
- Regular cardiology and nephrology check-ups are necessary to monitor heart and kidney function.



COGNITIVE, LEARNING, AND SOCIAL DEVELOPMENT

Most individuals with Turner Syndrome have normal intelligence, but certain learning difficulties and social challenges can occur.

- Common cognitive challenges include difficulty with spatial reasoning, math, problem-solving, and coordination.
- Social interactions may be challenging due to difficulties in understanding non-verbal cues, facial expressions, and social situations.
- Early intervention with educational support, speech therapy, and occupational therapy can significantly improve learning and social skills.



DIAGNOSIS AND LIFELONG MEDICAL CARE

Turner Syndrome is usually diagnosed through a karyotype test, which analyzes chromosomes from a blood sample. Diagnosis can happen:

- Before birth (prenatal screening via amniocentesis or chorionic villus sampling).
- At birth or infancy, if physical signs such as swollen hands and feet or webbed neck are present.
- During childhood or adolescence, if growth delays, lack of puberty, or other symptoms become apparent.

LIVING WITH TURNER SYNDROME

With early diagnosis, proper medical management, and a strong support system, individuals with Turner Syndrome can lead independent, healthy, and fulfilling lives. Many women with TS pursue education, careers, and relationships just like anyone else. Awareness and understanding among healthcare providers and society can help break stigmas and provide better opportunities for those living with TS.