

Learning about Spina Bifida

Spina bifida is the most common neural tube defect in the U.S.

1 Introduction

The human nervous system develops from a small, specialized plate of cells called the neural plate. Early in fetal development, the edges of this plate begin to curl up toward each other, forming the neural tube, which closes to form the brain and spinal cord. If problems occur during this process, it can result in neural tube defects, including spina bifida. Taking 400 mcg of folic acid every day can help prevent the development of spina bifida during pregnancy.

2 Overview

Spina bifida is an incomplete development of the brain, spinal cord, and/or meninges. It can happen anywhere along the spine and can cause physical and intellectual disabilities.

There are three main types of spina bifida:

- **Occulta** – mildest type that causes a small gap in the spine, but no opening or sac on the patient's back.
- **Meningocele** – a sac of fluid comes through an opening in the back, but the spinal cord is not exposed, which

reduces the severity of potential nerve damage.

- **Myelomeningocele** – the most serious form of spina bifida, where the spinal cord/neural elements are exposed through an opening in the back, resulting in severe symptoms, including paralysis.

3 Diagnosis & Treatment

Spina bifida can be diagnosed during pregnancy by means of Alpha Fetoprotein (AFP) test, ultrasound or amniocentesis. If not found during pregnancy, it may be discovered immediately after birth. Spina Bifida Occulta, the mildest form, may not be diagnosed until late childhood or adulthood, and in some cases, it is never diagnosed.

Treatment will vary depending on the severity of the patient's case:

- Fetal surgery to repair myelomeningocele.
- Neonatal surgery to repair the opening of the back after the baby is born.
- Shunt insertion for hydrocephalus caused by spina bifida.
- Physical therapy to increase strength and mobility.

Did you know?

1 out of 2,500 babies born in the U.S. will be affected by spina bifida.

For more information on spina bifida, please click [here](#).

References:

<https://www.spinabifidaassociation.org/>

<https://www.cdc.gov/ncbddd/spinabifida/facts.html>

<https://www.ninds.nih.gov/Disorders/Patient-Caregiver-Education/Fact-Sheets/Spina-Bifida-Fact-Sheet>

<https://venngage.net/p/171373/spina-bifida>