



Spina Bifida & Hydrocephalus Association of Canada
Association de Spina-bifida et d'hydrocéphalie du Canada

SPINA BIFIDA

What is Spina Bifida?

Spina bifida is a Latin term meaning 'open spine'. Medically it refers to a birth defect where the spine does not form completely. The spina bifida defect may leave several vertebrae deformed in such a way as to expose the spinal cord.

The exposure of spinal cord usually results in some damage to it at the point of exposure. Damage at some point along the spinal cord results in limited brain signals to and from muscles and body organs below where the damage has occurred.

Limited communication to and from the brain to muscles and body organs frequently results in reduced development of normal body function. Although spina bifida is originally a skeletal defect, there are a significant number of directly related conditions which precipitate from the defect in the spine. People who are born with spina bifida frequently have one or more related defects.

Neural Tube Defects

Spina bifida is considered a defect in the Neural Tube (NTD). This Neural Tube Defect occurs during the first four weeks of pregnancy, before a woman will be tested to confirm pregnancy. It is the early development of the defect which makes it both hard to treat and hard to detect prior to ultra-sound tests.

By the time the 1st ultra-sound is done at about 18 weeks. By this time, permanent damage is already done if a child has a major spina bifida type. Although spina bifida can be detected at the first ultra-sound, the extent of the damage cannot be determined until the child is born.

In most cases, the doctor will give the most severe diagnosis attempting to prepare the family for the worst possible case because if the spina bifida is detected at the ultra-sound stage, the effects on a child will usually be significant.

It is important to note that the effects from spina bifida are extremely varied. They range from severe physical deformation and developmental problems to minor bladder problems usually correctable by surgery. The most common effects are limited use of lower limbs, bowel and bladder limitations, and average mental capability. Spina bifida is usually accompanied by one or more other conditions.

Myelomeningocele

Myelomeningocele (or Meningomyelocele) is the most severe of all forms of Spina Bifida.

The spinal cord and dura mater protrudes from the opening in the spine. Because the spinal cord leaves the protective bone tube of the spine and grows in the sack, damage to the nerves occur at this point. In some cases, the skin covering the area will be absent requiring surgical closure.

Urgent treatment is necessary to minimize further neurological damage and infection at the point of the opening. Below the nerve damage at the opening is where development of muscles and limbs can be affected. Bowel and Bladder function are frequently affected as well.

Myelomeningocele is the most common form of spina bifida.

For more information contact:
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Meningocele

Meningocele is considered less severe than myelomeningocele because the spinal cord doesn't leave the protective bone tube.

There is still a sack on the back, but the nerves of the spinal cord are not in it. The nerves remain protected and therefore are not as badly damaged.

A person with Meningocele will usually have better physical development and bowel and bladder control.

Lipomyelomeningocele

Lipomyelomeningocele is an abnormal fat accumulation that starts below the skin and extends through an opening in the spine to the spinal cord.

The skin covered lesion created is found in the buttock and lower spine area. It is not usually painful.

Symptoms, such as muscle weakness or loss of sensation of the lower legs and feet, and bowel or bladder incontinence due to compression on the nerves by the fatty mass during periods of rapid weight loss or gain.

The attachment of the fat to the spinal cord (tethering) may require surgery to release the tethering to the fatty mass especially during growth spurts will reduce the fatty mass.

Occulta

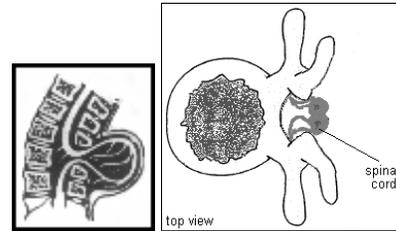
Spina Bifida Occulta (which means hidden) indicates that the defect where one or more vertebrae are malformed is covered in a layer of skin.

An opening in the bone of the spine exists but here is no sack or protruding of the spinal cord. The results of this form of may include a sensitive depression or dimple somewhere along the spine which often has long dark hairs growing out of it.

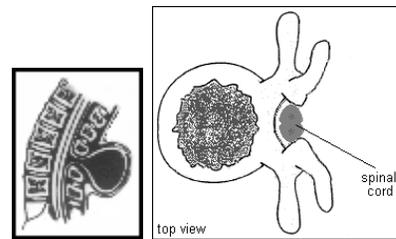
Bed wetting can be a problem with this form as a result of tethering.

Occulta is the mildest form of Spina Bifida.

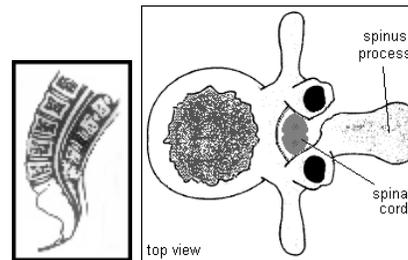
Diagrams



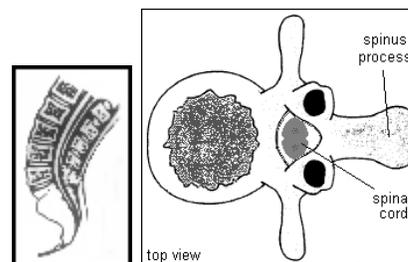
Myelomeningocele side and front view



Meningocele side and front view



Occulta side and front view



Normal Spine side and front view

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