The Birthing Journey

Research by Viola Frymann, D.O., F.A.A.O., F.C.A., of the Osteopathic Center for Children in San Diego, California, conducted on over thousand infants, has shown that 80-90% of them suffer from the effects of trauma due to the birth process and its surrounding events. Approximately 10% of all newborns demonstrate significant distortions in the shape and mobility of the structures of the cranium (head), while another 80% demonstrate moderate distortion after birth, and only 10% have no significant structural problems. The symptoms in the infants varied, according to the degree of birth trauma and level of vitality in the infant (strength of the immune system).

Following symptoms, detectable shortly after birth, are indicative of trauma:

- Delay in sucking of more than 24-48 hrs.
- Impaired swallowing
- Irritability of the stomach and colon
- Frequent spitting up or vomiting after nursing
- Colics
- Sleeplessness
- Arched back or throwing head back when held or lying on the side
- Asymmetrical motion of arms or legs
- Spells of inconsolable crying

Rolling over, crawling flat on the floor, creeping on hand and knees, cruising around furniture, and walking at approximately one year are an example of the normal succession of developmental milestones in babies. Lack of sequence or missing stages in the motor development of the baby suggest that some areas of the central nervous system have been compromised (traumatized).

All further normal structural and functional development relies upon the baby meeting ALL developmental milestones.

Other signs and symptoms directly linked to birth trauma might show up later in childhood:

- Behavioral problems
- Learning disabilities
- Developmental Delays
- Asthma
- Allergies
- Chronic Upper Respiratory Infections
- Bronchitis
- Chronic ear infections
- Chronic Nose Bleeds
- Recurrent Urinary Tract Infections
- Bed Wetting
- Clumsiness
- Abnormal Muscle Tone
- Digestive Disturbances
- Eczema
- Seizures
- Cerebral Palsy

Now let's turn towards Mother Nature in order to understand the birthing process:

The way Mother Nature designed the mechanism of birth is quite ingenious and efficient, though when things don't go as planned, it's effects can be traumatic.

Before and during the navigation of the birth canal, considerable pressure (80 lbs/square inch !) will be placed on the infant's body, especially the head, tailbone, and spine. These forces are the result of normal uterine contractions and intended to "mold" the baby's body to befit the diameter of the birthing canal (10 cm.) The natural way for a human mother to give birth to her baby is squatting; by squatting during her contractions, the baby's weight assists in opening and dilating the cervix as well as moving the baby more comfortably out of the womb. When mothers are forced to lye on their back during labor and delivery, the muscular contractions have to lift the baby up the slope of the sacrum and coccyx and then also contract hard enough to dilate the cervix and push the baby out. This usually quickly exhausts the energy reserves a mother has at her disposition. To the unaware eye, this appears as mom's failure of performing a complete natural procedure on her

own, hence the need of medical intervention in form of pitocin, a drug that stimulates uterine contractions, vacuum or forceps extractions etc. The process of birth continues with the passage of the baby through the mother's bony pelvis. In order to easily navigate this area, the infant's head must move in just the right way. This involves forward bending of the head and neck to get in to the pelvis, rotation (to one side) to get through it, and then backward bending to finally exit the birth canal.

The bony skull, containing the brain within, is designed at the time of birth to accept the temporary compression of the birth canal and expand fully when the baby cries immediately after birth. The lower end of the Central Nervous System is located within the sacrum, the large bone forming the back of the pelvis. This, too, is designed to absorb the compressing forces of the contracting uterus, and then be restored by bodily movements after birth. The vertebral column protects the Spinal Cord connecting the head and the pelvis.

Not only the head, tail bone and spinal column but the baby's whole body is extremely resilient, able to withstand these tremendous pressures as it is squeezed through the birth canal, and then forced to take it's first breath.

The infant's back of the head (occiput) plays a significant role in opening the birth canal. The normal pressures of birth cause the cranial bones to fold/slide over one another. The membranes (meninges) and fluid (CSF) surrounding the brain act as a shock absorber. The nervous system, always attempting to maintain stability under duress, organizes around these forces. These protective mechanisms allow for maximum brain capacity and minimize brain trauma.

The squeezing of the baby initiates a cascade of events:

- Fluid is squeezed out of the lungs.
- Pressure is created for a powerful FIRST BREATH.
- The central nervous system is stimulated and begins to organize.
- Dramatic changes take place in the circulatory system.

This first breath infuses the baby's tissues with life and expands it's compressed body to ready itself for the new world. Intra-uterine life is very different than life outside the womb.

Following changes are taking place in the circulatory system:

- The ombilical cord begins to "dry out" from within; the umbilical vessels spasm shut; blood no longer comes from or goes to the placenta.
- The hole between the two atrial chambers in the heart (foramen ovale) closes.
- The lungs are infused with air and start oxygenating the blood (ductus arteriosus closes).
- The liver begins to metabolize (ductus venosum closes).
- The kidneys now filter the blood.
- The GI tract now absorbs all nutrients.

So what can go wrong?

Any of the following events or medically induced procedures during labor and delivery could be problematic:

- False labor before real labor began
- Premature rupture or leakage of membranes
- Induction or acceleration of labor by use of medication (e.g. pitocin)
- Presentation of baby in other position than face down
- Very long (>18 hours) or very rapid (<3 hours) labor
- Epidural anesthesia for pain control
- Failure of the mother's cervix to dilate
- Forceps or vacuum extraction
- Cord around the baby's neck
- Fetal distress (e.g. severe slowing of baby's heart etc.)
- Period of uterine inertia, i.e. contractions stopped or slowed
- Cesarean section delivery because of lack of progress
- Mother has preexisting structural problems in her sacrum, pelvis, uterine fibroids

The problems commonly experienced by most infants are often due to the forces of labor and delivery that may compromise the structural areas containing the nervous system (head, spine, sacrum), thus interfering with its physiological activity and development. If the compressive forces of birth are too great, the nervous system may become overwhelmed and the skull bones may not be able to fully re-expand to their normal ease after birth.

For example, one common cause of colics is trauma (during birth) to the occipital area (back of the head). The occipital bone is composed of four parts at birth and the nerves that pass between these parts may be compressed from the forces of labor on the head. In addition, there are also other important nerves and veins that

travel between these parts and the adjacent area (temporal bones). With the compression of the occipital area and the possible change in the shape and relationship of parts of the head, pressure may be placed on these structures, altering the way in which they work and causing further symptoms (as listed above). Remember, structure and function are interrelated and interdependent at all levels.

In the case of Cesarean Section, it seems that these pathological compressive forces could be eliminated. However, there are other factors to consider. Prior to the C-section, the child's head may have been compressed for many hours in the pelvis and the pressure from this can become "imprinted" on the structures in the child's head. Even without traumatic forces, a C-section involves a sudden change of environment from the inside of the uterus to the outside. This can be a shock, even for the full term infant. For a premature infant, the stresses are even greater as their body is not yet ready to handle life on its own. C-section may seem easier on the infant, however, the child needs the stimulus of being gently "squeezed" through the birth canal to properly stimulate their body to start life. Once a child is born, it takes the very important first breath. It is this first breath that initially re-expands all the structures of the body that were "pushed together" in the descent through the birth canal. Therefore a good, deep, unimpeded, full first breath seems to be crucial. This is difficult to achieve in a seemingly "normal" delivery without trauma, as the child is affected (respiratory depression) by the anesthesia or narcotic pain medication that the mother has been given. In a C-section a deep first breath rarely happens.

The changes from intrauterine environment to this world place huge demands upon the newborn and must occur in a systematic and orderly manner for the baby. When the transition to extra-uterine life is too quick, these changes in the vascular system may become disorganized. Osteopathic Physicians perceive this disturbance as a "shock" or irritability that establishes itself in the nervous system of the infant and represents the potential cause of many problems. Despite no apparent trauma, the infant may either be irritable, weak, or susceptible to infection.

How does Cranial Osteopathy help these conditions?

A comprehensive osteopathic approach with precise, gentle, restorative manual therapy can help these children immensely. The general level of well being, as well as neurological function, will significantly improve. With the understanding of normal anatomy and applying a trained sense of touch, the osteopathic physician can identify and treat the distortions in these affected children.

Osteopathic treatment is aimed at encouraging the affected areas to de-compress and unwind/untwist; it furthermore eases the shock, reestablishes fluid continuity

throughout the body and restores vitality, whereby allowing the nervous system to relax and heal, so that the normal maturation processes can follow unimpeded.

Osteopathic treatments address the structures of the entire body. Stresses are eased throughout the entire mechanism of connective tissue (fascia) from head to toe. The rib cage is allowed to expand more fully. Blood becomes more efficiently oxygenated. Cerebrospinal fluid circulates more efficiently, and the nervous system works much better. As a result, the body is more efficient, the general level of health increases, and children usually feel and function better in the world.

Not all problems can be resolved, but many can be eased.

Like adults, each infant is constitutionally unique. Some infants seem to tolerate significant trauma from birth without ill effect. Others are disrupted by even the slightest insults. Each of us is born with our individual sensitivities; we are all affected differently by life.

What kind of results can you expect?

Again, every child is different. Some children have a very rapid and complete resolution of their presenting complaints. Some children require many treatments and recover only partially. Children with developmental delays may not change immediately, but will begin to mature at a more normal rate of development. Each circumstance must be considered for its unique aspects. As a general rule, it is always best to receive treatment as close in time to the traumatic insult as possible. Infants may actually benefit from receiving treatment immediately after birth. The less time the traumatic forces have to establish themselves in the tissues, the easier it is to clear them. Surprisingly, even stresses that have been long imprinted into our nervous systems can still be cleared many years later.

Adjunct therapies, such as visual and auditory perceptual training, tutoring and a well-balanced diet of whole, natural foods, perhaps with carefully selected supplements, will contribute significantly to a successful healing journey.

As structural dysfunctions resulting from birth trauma are corrected early, they will ensure a satisfactory progression of normal child development. Restoring optimal anatomic-physiologic integrity will prevent future academic, behavioral and developmental problems.

When the next baby is on it's way, have an osteopathic physician evaluate and treat the mother during pregnancy, in order to reduce any possible complications during gestation and labor and then provide a thorough evaluation of your baby during the newborn period. This is the essence of prevention.