

8 Cranial Osteopathy: The Role of Birth Trauma in Autism

"If we wanted to stop this autism epidemic, we could stop it today. This does not mean cure all autism no matter what the etiology, but definitely stop the epidemic." These are the words of Lawrence Lavine, D.O., M.P.H., D.T.M.&H., whose medical roots are in neurology, neuroepidemiology, and cranial osteopathy. This statement is not high drama to him, but a reasoned assessment based on his clinical observation and research of autism.

According to Dr. Lavine, the epidemic could essentially be over if three practices were instituted: (1) eliminate the at-birth hepatitis B vaccine; (2) give the other standard vaccinations one at a time only (no multiple vaccines) and give them later ("elimination of mercury goes without saying"); and (3) change current standard childbirth practices.

"The epidemic appears to have begun with MMR and accelerated with hepatitis B," states Dr. Lavine, who practices in Tacoma, Washington. "There seems to be a synergistic effect between the two. Additionally, there is a third antecedent factor, and that is the cranial distortions that can be caused by the administration of an epidural and the drug Pitocin." An epidural block, or epidural for short, is a local anesthetic injected into the space around the lower spinal cord for pain relief during childbirth. Pitocin is the drug given to speed the contractions of labor and hurry the process along. The use of both is common in current obstetrical practice.

What Is Cranial Osteopathy?

Cranial osteopathy, developed by William G. Sutherland, D.O., is based on an anatomical and physiological understanding of the interrelationship between mechanisms in the skull (cranium) and the entire body.¹⁷⁶

The central component of this relationship is what Dr. Sutherland termed the *primary respiratory mechanism*, or PRM. This is "a palpable movement within the body that occurs in conjunction with the motion of the bones of the head."¹⁷⁷

The cranial bones move rhythmically, alternating between expansion and contraction, and this motion is reflected in every cell of the body. Palpable means that the PRM can be felt anywhere in a patient's body by someone who is trained to feel it; i.e., a person trained in cranial osteopathy. The PRM can be thought of as the intrinsic fluid drive in the system.

As treatment consists of restoring the full functioning of the PRM in the context of the whole body, it is not restricted to the sacrum, spinal cord, and cranium. Cranial osteopaths use gentle, hands-on manipulation and pressure to release areas of restricted motion.

In addition to structural or pain problems, cranial osteopathy can be beneficial for conditions in virtually any system or area of the body, including birth trauma, developmental problems, colic, chronic ear infection, learning disorders, behavior problems, ADD/ADHD, seizures, allergies, asthma, frequent colds or sore throats, and irritable bowel syndrome, among many others.¹⁷⁸

Cranial osteopathy is not the same as CranioSacral therapy and the terms should not be used interchangeably. For information about CranioSacral therapy, see chapter 9.

What Happens During Birth

While they may be convenient for those involved, these substances can result in the baby's skull being subjected to incredible non-physiologic pressures during birth. As Dr. Lavine explains it, under normal conditions, the woman's pelvis reshapes itself to accommodate birth. This process begins long before the first labor

contraction. When the baby drops in late pregnancy, that's already part of the pelvic reshaping.

The reshaping is not a passive process, but an active one involving continual communication via nerve messages passing back and forth between the pelvis, sacral plexus (a network of nerves in the pelvic region/area of the sacrum [lower portion of the spine]), and brain, traveling up and down the spinal cord, and ultimately producing a pituitary hormonal reaction and necessary hormonal secretions. Under normal conditions, the head drops into the pelvis. "The head reshapes and the pelvis reshapes in a kind of 'dance' creating a balance between the head molding and the pelvic molding," says Dr. Lavine. This reshaping continues throughout labor.

If you anesthetize the pelvis, as with an epidural injection, the reshaping that normally occurs is inhibited. When labor does not progress because the vital pelvic involvement has been turned off, Pitocin is introduced to force the uterus to contract artificially. Then, says Dr. Lavine, "It is as though we are using the child's head as a battering ram to force the pelvis to reshape to accommodate it."

Dr. Lavine describes what happens to the infant under these circumstances:

"When the head comes through the canal, it's pretty liquid. It's like dough, very malleable, very easy to shape. When it comes through, it takes on the form of the maternal pelvis. If you ram the head, you can end up locking a distortion into the head. Typically, when the head comes through, it has to rotate, to twist to get through. What happens [without the normal pelvic reshaping] is you twist and lock. Normally in labor, the head comes through, compresses, twists, then extends, and everything opens up. The mother puts the baby to her breast to nurse, the baby's head pumps itself loose [by the sucking motion], and you've got an internally free-floating head, just the way it's supposed to be. When Pitocin and/or an epidural are used, distortions tend to be locked in."

More About a Baby's Head

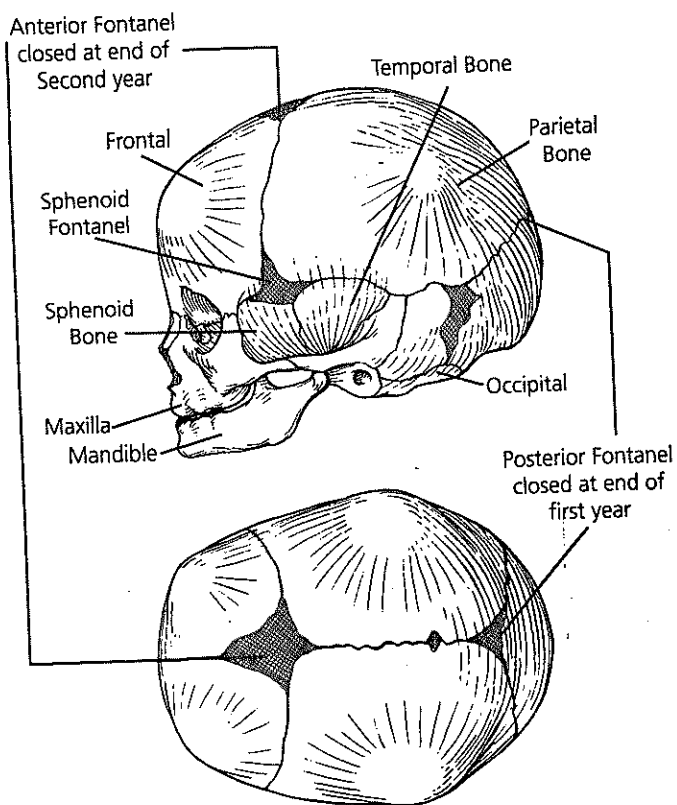
A newborn's head is made up of cartilage and membrane, except for two small areas of bone at the lower back of the head (occipital condyle). The cranium is not bone yet because the sections of the skull have to be able to overlap for the head to get through the birth canal. There are two fontanel, or openings, in the membranous areas: the anterior fontanel in the front and the posterior fontanel in the back. These openings and the malleable quality of cartilage and membrane allow for cranial molding as the infant moves through the birth canal, explains Dr. Lavine.

Normally, after the baby has passed through the canal, the fontanel open up. "Especially if you put the baby to the breast," says Dr. Lavine. "The force of sucking on the breast tissue puts force and stress, hydraulic pressure, up through the top of the mouth, and transmits the force into the cranial base. That opens up the whole head, which allows for normal cranial dynamics to take place."

The fontanel are there for the labor process and don't seem to serve much purpose after birth. "But if they're closed immediately after delivery, it tells you that things are not working correctly," says Dr. Lavine. Closed fontanel indicate a misalignment of the cranial base, which is the base of the entire skull, where all the structures of the skull attach. If the cranial base is out of alignment, nothing that attaches to it can be in alignment.

A head misshapen by a traumatic birth is not able to function optimally, he says, contrary to the more common view that it is not a matter of concern and the child will grow out of it. In addition to the direct effects of compression on the brain, there are compressions of cranial nerves as well as systemic effects resulting from disturbance in the primary respiratory mechanism (see sidebar, "What is Cranial Osteopathy?") of the body, the proper function of which depends upon the free contraction and expansion of the cranium.

When an epidural and Pitocin are required due to some obstetrical process, then the newborn would benefit immensely from cranial osteopathic treatment as soon as possible after delivery, says Dr. Lavine.



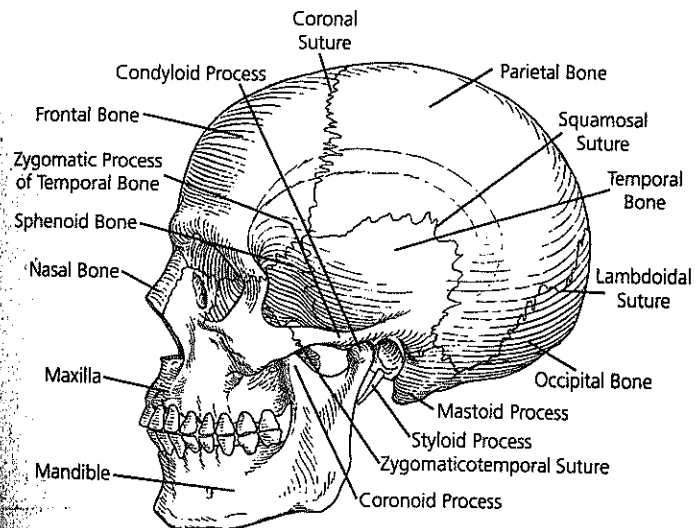
Fontanelles of Infant's Skull and the Main Bones of Skull

Here we arrive at information that may help explain a piece of the mystery surrounding autism. We have already learned of the extent to which biochemistry plays a role in this condition still categorized by some as a psychiatric disorder. Now, we are presented with a purely structural component. A specific type of compression (of the left middle cranial fossa; explanation follows) and locking is often seen in children diagnosed with autism. Other, more common types of compression and cranial distortion are seen in cases of ADD or ADHD.

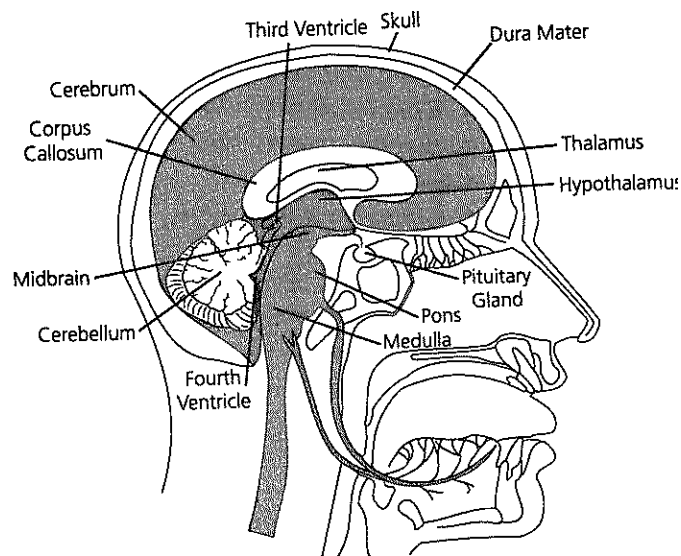
That the development of these disorders is potentially greater when vaccines are given on top of the cranial irritation that results

from the distortions and locks is of great concern to Dr. Lavine. Clearly, not all infants who suffer from this compression of the left middle cranial fossa during birth will develop autism, but the majority of children he has studied who do develop autism evidence this compression pattern, as can be seen in osteopathic examination and MRIs (magnetic resonance imaging, a scanning technique based on electromagnetic energy rather than the radiation used in X rays).

To test what he observed through years of osteopathic practice, Dr. Lavine reviewed the charts of twenty-five children who were consecutively brought to him for treatment and who fit the diagnostic category of autistic disorder as defined by the *DSM-IV*. He found that twenty-two of the twenty-five children had compression of the left middle cranial fossa, among other shared distortions.¹⁷⁹ This trend appears in MRIs of autistic children; Dr. Lavine notes that it was in looking at an MRI in a paper published by Dr. Eric Courchene from San Diego that brought this trend into focus for him.¹⁸⁰



Bones in the Human Skull



Cross-section of a Human Brain

What are the structural and developmental effects on the body of this twist and the other birth-induced cranial distortions? Dr. Lavine explains:

"With the compressions and locks, several things can happen. With autism, you wind up in primarily a flexion pattern. Flexion is defined osteopathically as when the sphenobasilar symphysis ascends. What this means is that the joint formed by the occiput and the sphenoid (a large bat-wing-shaped bone deep inside the head) lifts up; it is then said to be 'in flexion.' When this distortion is created, the falx (the big, thick band of tissue on top of the head that runs from front to back) gets pulled down tight, putting pressure on the corpus callosum, the thick area or band of brain tissue that connects one hemisphere to the other. The result of that is compromised communication from one side of the brain to the other.

"Additionally, the tentorium [the tentlike structure between the cerebrum and the cerebellum] is pulled down flat, resulting in compression on the cerebellum, the area of the brain that contributes to socialization, motor planning, motor movement, etc.

"Due to the complex restrictions, compression occurs in the left middle cranial fossa. In the cranium, there are three pairs of pans or depressions. The frontal lobe [of the brain, with right and left hemispheres] sits in the front pan, or fossa. The temporal lobe or speech center sits in the middle pan. The cerebellum sits in the back pan.

"At age 15 to 18 months, when speech starts to develop, there is tremendous growth in the middle cranial fossa. If there haven't been any external assaults, such as multiple vaccines given in close temporal proximity on [top of] an already low-grade brain irritability caused by the birth process, the brain can tolerate this compression because the vault responds to maintain a normal balance of brain to surrounding membranes. (Remember, the bones/cartilage sit inside of a membranous sack and change shape in response to the pressure and stress from those membranes.)

"Speech may be delayed, or some speech problems may be evident, but the child can do well. Often you wouldn't even know there's a problem. But when you put any other type of stress on top of the compression, the scene is at least set for potential problems."

The cranial strain pattern makes the brain irritable, and this irritability makes the brain far more vulnerable to adverse environmental influences such as vaccines, mercury, and other toxins.¹⁸¹

Age 15 to 18 months is when children get the MMR vaccination. So, just at the time when they are experiencing maximum cranial growth and development, especially in the speech areas, they are given a vaccine, which is a potential trauma and a potential poison to the system. All of the components of the vaccine are foreign substances and can potentially cause problems, says Dr. Lavine. "The vaccine often causes a low-grade encephalitis, an actual brain irritation."

Under the influence of the combination of the left middle cranial fossa compression on the speech centers and low-grade brain irritability, these children stop talking, are no longer developmentally in synch with their peers, and may even regress. Dr. Lavine notes that if the child has not had the hepatitis B vaccination, the problems may be less severe, but MMR alone can push

a predisposed system toward autism when combined with the cranial distortions.

Autism, in most cases, is a multifactorial condition, says Dr. Lavine. "The system under any given circumstance has a tremendous amount of resiliency. But if you push it too far, it decompensates or goes out of balance, and when that happens any number of disorders can present."

The compression of the infant's head can also be caused by a distortion in the mother's pelvis. As noted before, during birth the baby's head molds to the shape of her pelvis. Cranial osteopathy can correct the mother's pelvic distortion before or even during labor, allowing the child to be born with a normal-shaped head, provided that an epidural and Pitocin are not used, since they can interfere with the process.

Dr. Lavine is not suggesting that women go through labor in agonizing pain. He is advocating the reclamation of natural practices that reduce the pain, such as the methods long known to midwives and osteopaths for assisting the pelvis in reshaping itself to accommodate the passage of the baby through the birth canal. Laboring in a hot water bath can also reduce the pain of contractions. "The labor pain can drop dramatically," notes Dr. Lavine. "Most women can handle the pain that remains without too much trouble." If an epidural and Pitocin are used, he urges parents to get osteopathic treatment for their infant immediately after birth, while the head is still liquid (easy to reshape).

Many parents have brought their babies to Dr. Lavine in the month or so after birth because they are concerned about the misshapen head. They have often been told by other doctors that the child will grow out of it. "Typically, they are not going to grow out of it," says Dr. Lavine, and given the previous discussion, it may be essential to correct the problem. Cranial osteopathy releases the locked state of the baby's skull and restores it to its natural fluidity. In the process, the soft spot (the anterior fontanel) that wasn't there reopens. As stated in the sidebar, "More About a Baby's Head," when the fontanel is closed after delivery, it is an indication of a misalignment.

As with the other therapies discussed in this book, the earlier

the intervention can take place, the better. However, cranial osteopathy can be implemented at any age, says Dr. Lavine. What is specifically accomplished therapeutically, he explains, is to get the child out of the locked flexion; to get the falx to release, thus taking the pressure off the connection between the two hemispheres; to get the pressure off the back of the brain so the socialization and motor functions of the cerebellum are free to develop; and to remove the compression in the left middle cranial fossa and thus take the pressure off the speech centers of the temporal lobe. All of this gives the brain the room to start to grow as it needs to for the proper development of all functions.

If cranial osteopathy was not done at birth and the child's development has been delayed by the compression on the brain, then some kind of intensive rehabilitation, such as speech therapy, occupational therapy, physical therapy, and/or sensory integration therapy, will be necessary, according to Dr. Lavine. "The idea is to turn those functions back on and get them back on track developmentally."

Family Experience

It was through a family member that Dr. Lavine made the connection among cranial distortions, vaccines, and autism. In 1994, after receiving the MMR at 15 months of age, Dr. Lavine's young relative stopped talking. Upon receiving the diagnosis of autism, the parents asked the specialty team, "What do we do?" The response was "There is nothing we can really tell you that works; call the Autism Society." That's the typical answer most parents got then, Dr. Lavine says. "Unfortunately, many parents are still not being made aware of the many therapies available. While there is no 'silver bullet,' and not every intervention will be effective with every child, there are now many more treatment options."

At that point, Dr. Lavine began to research the disorder. "I sat down, and in two weeks read seven hundred pages of journal articles, a flood of abstracts, and several books, and talked to numerous specialists." By then, Dr. Lavine had been practicing cranial