The Five Common Neurological Complaints of Pregnancy

We will be covering the following topics...

– The five Neurological complaints of pregnancy
– Chiropractic Case management
– Palliative therapies and natural alternatives

Case management

• There are basically 5 neurological complaints of pregnancy that you may encounter in your practice.
  – Meralgia Paresthetica
  – Sciatica
  – Cervicogenic Headaches
  – Carpal Tunnel Syndrome
  – Bell’s Palsy
• In our office we see many more cases of Meralgia Paresthetica and Sciatic Neuralgia than any of the other conditions.
• Cervicogenic headache is the third most common condition we see with Carpal Tunnel Syndrome being almost as common.
• Bell's Palsy is seen only occasionally.

Meralgia Paresthetica

• What is it?
  • Compression of the lateral femoral cutaneous nerve as it passes beneath the inguinal ligament.
  • Pain and paresthesias are seen in the lateral aspect of the upper thigh.

Meralgia Paresthetica

• It’s important to note that many times patients will tell you they have sciatica because they have pain in their thigh when in fact they have Meralgia Paresthetica.
• For this reason, it’s extremely important to ask them to point out where their pain starts and ends since each condition is cared for very differently
Meralgia Paresthetica

- Meralgia Paresthetica is most likely due to the abdominal weight gain in pregnancy.
- The added weight compresses the inguinal ligament.
- When this happens, in our experience L3 is almost always involved.

The medical approach is often advising the mother-to-be to wait until after delivery since it often resolves.
- or
- A popular treatment is to inject Cortisone around the inflamed nerve
- or
- Surgery is another popular treatment if the symptoms don’t resolve after child birth.

Objective Findings Include:
- Trochanters almost always rotate anteriorly on side of symptomatology.
- Tight belts and waistbands will exacerbate and even cause symptoms.
Meralgia Paresthetica

• Advising patients to forego tight clothing often helps to alleviate some discomfort.

• If she has anterior trochanter(s), adjusting is paramount.

Analyzing & Adjusting the trochanters

• With the patient still in the prone position have her bend a knee and do a muscle test for the hamstring muscles.

• Have her flex her knee to approximately 80º. Ask her to maintain that position as you try to push her leg into extension.

With her leg still flexed, externally rotate it then retest the hamstring muscle. If her hamstrings are week, she has an anterior trochanter on this side. If it stays strong, you will need to check for a posterior trochanter.
Again, with the leg still flexed, internally rotate then retest the hamstring muscle. If it's weak, then the trochanter has rotated posteriorly on that side.

Repeat both tests bilaterally.

**Adjusting the Anterior trochanters**

- Locate the trochanter through palpation
- Contact the anterior portion and correct with an anterior to posterior line of drive.
- Can be done using many techniques, we prefer to use an instrument so our patients don't have to go from prone to supine repeatedly.

**Adjusting the Posterior trochanters**

- Contact the posterior portion of the trochanter and correct with a posterior to anterior line of drive.
Sciatic neuralgia

- Vertebrogenic Sciatica
  - Can be caused by
    - Lumbar subluxation, including severe malposition,
    - facet syndrome
    - canal stenosis, etc.

Facet Syndrome

- The pain is caused by inflammation of the synovial lining of the facet joints.
- Remember that these are the joints that connect the posterior elements of one vertebral level to the next
- and they allow the spinal column to bend forward and backward.

Myogenic Sciatica

- Myogenic Sciatica
  - Sciatica can be caused by a spastic or flaccid piriformis muscle a.k.a. Piriformis Syndrome.
Because the sciatic nerve passes over, under or through the piriformis muscle, instability of the sacroiliac joint can cause sciatic neuralgia. Remember that being pregnant invariably causes this instability because of the hormone Relaxin and other hormones like estrogen. Therefore, this type of sciatica can be caused by either a spastic or flaccid piriformis muscle. Sometimes know as Piriformis syndrome. Perform SOTO or COTI according to S.O.T. (Sacro Occipital Technique)

If the piriformis muscle is lax it can drop onto the sciatic nerve causing irritation and compression. If this is the cause of the sciatica performing SOTO (Step Out Turn Out) will alleviate the pain. Abduct the involved thigh about 45° (Step Out) Externally rotate the thigh (Turn Out)
Hold this for 20-30 seconds.
Do this procedure three times
If the pain is aggravated STOP.
If the pain is alleviated, continue until there is no more improvement noted - plateau
When SOTO doesn't work, use COTI
• When the piriformis becomes spasmed it can irritate the Sciatic nerve.
• When this occurs you will need to use COTI (Cross Over Turn In)
• Adduct the involved thigh about 30-45º (Cross Over)
• Internally rotate the thigh (Turn In)
• Continue until there is no more improvement noted - plateau
With SOTO, it's not unusual to have increased pain on the first try. This is due to re-polarization of the sciatic nerve. Usually, SOTO will do the trick in a myogenic sciatica and there will be no need for COTI.

Discogenic Sciatica

Discogenic Sciatica
- Sciatica neuralgia can also be caused by prolapsed or protruding disc.
- If this is the case, one would adjust in the same manner as for a non-pregnant patient with minor table and technique modifications.
  - i.e. Accommodate for growing abdomen
  - Lighter force adjusting due to the hormones of pregnancy.

Additionally, sciatica neuralgia can be caused by positioning of the fetus itself.
Sciatica

• The medical idea of sciatica
  – The cause of sciatic nerve pain is thought to be associated with pressure on the nerve caused by the developing baby.
  – The simplest remedy is to lie on your side, opposite of the pain.
  – Avoid heavy lifting and minimize standing for long periods of time. If you experience pressure while standing, try elevating one foot and resting it on something.

• The medical idea of sciatica (continued)
  – Swimming may also ease discomfort.
  – The Patient may experience relief by applying heat or cold to the troubled area.
  – Acetaminophen may be recommended to relieve the pain.
    • It is a FDA Class B drug which means that no controlled studies have been done in pregnant women but no evidence of fetal risk appears to be present.

Caring for sciatica

• The best way to address sciatica is to first determine which of the causes you are dealing with.
  • There are many excellent techniques that effectively address sciatic neuralgia.
  • Minor modifications to force and patient placement are usually the only changes necessary to implement these methods.
Techniques for sciatica

• Side posture – not recommended during later stages of pregnancy because “twisting” can cause damage to placenta in high risk individuals. (more on this in another course)

Cervicogenic Headache

• The cause of many headaches, including tension, sinus, and some types of migraines, can be traced to subluxations in the cervical vertebrae.

Headaches

• Very common especially in the first trimester also due to hormonal changes.
• High surge of estrogen causes migraine type headaches.
Headaches

• Other causes of headaches can include
  – Lack of sleep
  – Low blood sugar
  – Dehydration
  – Caffeine withdrawal
  – Stress (too many changes)

• Women who have regular migraine headaches may discover that they experience fewer migraines during pregnancy; however, some women may encounter the same number or even more migraine headaches.

• If a woman has never experienced headaches on a regular basis before pregnancy, expect them to be related to hormones.
  • It is important to check L3/L4 and sacrum and most importantly, coccyx when hormone headaches are suspected.
Migraine Headaches

- To reduce the likelihood of migraine headaches, avoid common triggers.
  - Chocolate
  - Alcohol
  - Yogurt
  - Aged cheese
  - Peanuts
  - Breads with fresh yeast
  - Preserved meats
  - Sour cream

Tension Headaches

- Besides adjusting what can be done?
  - Massage
  - Moist heat
  - Chamomile tea
  - Lavender essential oils (in moderation)
  - Byronia alba (homeopathy)
  - Meditation

Sinus Headaches

- Check C2
- Massage sinuses
- Neti Pot
Sinus headaches

- Ice or heat applied to face (depends on individual)

Sinus Headaches

- Saline nose spray (careful with those HBP)
- Homeopathic sinus remedies
- Steam inhalation
- Menthol (inhale menthol)

Headaches

- A loss of cervical curve (as a result of lumbar Hyperlordosis) is a major component as well.
- Look closely to C5
- By using posture pump and cervical pillows etc in between adjustments often bring great relief to these types of headaches.
Dangerous headaches

- Headaches during the third trimester tend to be related more to poor posture and tension from carrying extra weight.
- Headaches after **28 weeks** may also be caused by pre-eclampsia.
- Check blood pressure and swollen ankles.

Pre-eclampsia

- Pre-eclampsia is a condition of high blood pressure during pregnancy.
- Blood pressure goes up.
- Excess water retention
- **Proteinuria**
  - It is also called **toxemia** or pregnancy induced hypertension (PIH).
  - The exact medical cause of pre-eclampsia is unknown.
Dangerous headaches

- If these are present adjust her and recommend she see her midwife or Dr. immediately.

Pre-Eclampsia

- Who is at risk for pre-eclampsia?
  - A first-time mom
  - Women whose sisters and mother had pre-eclampsia
  - Women carrying multiple babies; teenage mothers; and women older than age 40
  - Women who had high blood pressure or kidney disease prior to pregnancy

Pre-Eclampsia

- What are the symptoms of pre-eclampsia?
  - Mild pre-eclampsia:
    - high blood pressure
    - water retention,
    - protein in the urine
**Pre-Eclampsia**

- **Severe pre-eclampsia:**
  - headaches
  - **blurred** vision
  - inability to tolerate bright light
  - fatigue,
  - nausea/vomiting
  - urinating **small** amounts
  - shortness of breath
  - tendency to bruise easily

**How is pre-eclampsia treated?**

- Depends on how close to **due date**
  - Close to due date usually means induction as long as baby has developed enough (after 30 weeks – generally)

**For mild pre-eclampsia and baby has not reached full development**

- Rest
- lying on **left** side (takes the weight of the baby off major blood vessels)
- Increase prenatal checkups.
- Consume less **salt**.
- Drink 8 glasses of water a day.
Pre-Eclampsia

For severe pre-eclampsia
– Usual medical treatment is with Blood pressure Meds
  • angiotensin-converting enzyme (ACE) inhibitors and angiotensin receptor blockers—can harm the fetus
  • When taken in the first **12 weeks** of pregnancy there is a 300 percent increase in birth defects.
  

High Blood pressure

• There are four main forms of high blood pressure in pregnancy:
  • **Pre-eclampsia**
  • Gestational hypertension
  • Chronic hypertension
  • Chronic hypertension with pre-eclampsia

High Blood pressure

• **Pre-eclampsia**: This potentially serious disorder is characterized by high blood pressure and **protein in the urine**. It usually develops **after** the 20th week of pregnancy and goes away after delivery.
• **Gestational hypertension:** This form of high blood pressure develops after the 20th week of pregnancy and goes away after delivery. Affected women do not have protein in the urine. However, some women with gestational hypertension develop pre-eclampsia later in pregnancy.

• **Chronic hypertension:** This is high blood pressure that is diagnosed before pregnancy or before the 20th week of pregnancy. It does not go away after delivery.

• **Chronic hypertension with pre-eclampsia:** About 25 percent of women with chronic hypertension also develop pre-eclampsia.
Pre-Eclampsia

- **How does pre-eclampsia affect the baby?**
  - Pre-eclampsia can prevent the **placenta** from getting enough blood.
  - If the **placenta** doesn't get enough blood, the baby gets less oxygen and food. This can result in low birth weight.

Pre-Eclampsia

- **Can a woman with pre-eclampsia have a vaginal delivery?**
  - A vaginal delivery is preferable to a **cesarean** for a woman with pre-eclampsia because it avoids the added stresses of surgery. It is common for women with pre-eclampsia to have epidural anesthesia for pain relief during labor and delivery.

Eclampsia

- **Life threatening complication of pregnancy**
- When a pregnant woman previously diagnosed with pre-eclampsia develops **seizures** or coma.
• In some cases, seizures or coma may be the first recognizable sign.
• Key warning signs of eclampsia in a woman diagnosed with pre-eclampsia may be severe headaches, blurred or double vision, or seeing spots.
• **Toxemia** is a common name used to describe pre-eclampsia and eclampsia.

• There has never been any evidence suggesting an orderly progression of disease beginning with mild pre-eclampsia progressing to severe pre-eclampsia and then on to eclampsia.

• Less than one in **100** women with pre-eclampsia will develop eclampsia or (convulsions or seizures) or coma.
• Up to 20% of all pregnancies are complicated by **high blood pressure**.
• Complications resulting from high blood pressure, pre-eclampsia, and eclampsia may account for up to 20% of all deaths that occur in pregnant women.

• 25% of eclampsia cases occur before labor
• 50% of eclampsia cases occur during labor
• 25% of eclampsia cases occur after delivery.

• 25% of patients with eclampsia have only mild pre-eclampsia prior to the seizures.
• Many women will experience symptoms of carpal tunnel syndrome as their pregnancies progress.
• It is not uncommon for the extra retention of water to cause these symptoms.
• Of course, lower cervical subluxation must always be addressed with this complaint.

• Keep in mind that if CTS is being caused by water retention, it should dissipate after childbirth.
• If it gets worse after childbirth it most probably because of something I call, Nursing Mother’s Neck.

• In several research studies, vitamin B6 deficiency has been associated with carpal tunnel syndrome.
• A study by the Portland Hand Surgery and Rehabilitation Center in Oregon examined 441 people and found that higher levels of vitamin B6 were associated with fewer carpal tunnel syndrome symptoms.
Carpal Tunnel Syndrome

Food Sources of vitamin B6 include

- sweet potatoes
- avocados
- brown rice
- sunflower seeds
- chick peas
- salmon
- pork
- chicken
- turkey
- potatoes
- dock choy
- barley
- bananas
- mangoes

Risk factors for vitamin B6 deficiency:
- diet lacking in vitamin B6
- use of oral contraceptives or HRT
- consumption of foods containing yellow dye #5, such as some types of macaroni and cheese and pickles
- Stress

A typical dose of vitamin B6 for carpal tunnel syndrome is 50 mg 2 to 3 times a day.
- Side effects may include increased urination.
- It can take up to 6 weeks to notice an improvement.
- The maximum intake from all sources should be less than 200 mg a day
Enzyme supplements such as **bromelain** may help to reduce tissue swelling associated with carpal tunnel syndrome.
- It can take several weeks to notice results.
- The main food source of bromelain is in the stem of a pineapple.

**Bells Palsy**

- An idiopathic unilateral facial paralysis of **sudden** onset.
- The following are presumed mechanisms that may cause Bell’s palsy.
  - Swelling of the facial nerve due to **hormonal** changes and increased fluid retention in a pregnant woman.

- Subluxation especially in the **atlanto-occipital** region.
- Compression of the facial nerve as it passes through the **temporal bone**.
Bells Palsy

- Most often Bell's palsy occurs in the 3rd trimester or almost immediately post partum (more common in my experience) and responds VERY favorably to chiropractic adjustments.
- Be sure to check atlas, occiput and sacrum.

Bells Palsy

- Some sources state that women with Bell's palsy during pregnancy are at an increased risk of pre-eclampsia.

Resources

- Eclampsia - October 5, 2005 ; Author: Stephanie R Fugate, DO, Consulting Staff, Department of Obstetrics and Gynecology, Woodbridge Family Health Clinic
Resources

- Bell's Palsy During Pregnancy - by Arthur Schoenstadt, MD

Resources