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Evaluation and management of Leg Cramps

1. Definition or Key Clinical Information: *Leg Cramps are common during pregnancy, impacting 25-30% of pregnant people during the third trimester. Classified as a sleep-related movement disorder by the American Academy of Sleep Medicine, leg cramps are defined as intensely painful muscle contractions occurring in the foot, calf, or sometimes both.*

2. Assessment

i. Risk Factors:

Leg Cramps are usually considered idiopathic but may be the result of:

- *Excessive or lack of exercise*
- *Structural issues (such as Pes Planus)*
- *Natural relaxation of joints due to pregnancy*
- *Dehydration*
- *Electrolyte imbalance*
- *Deep Vein Thrombosis*
- *Prior back injury*
- *Pre Existing thyroid disease or diabetes (type 1 and type 2)*
- *Polycystic kidneys*
- *Consumption of NSAIDs and antibiotics*
- *Amyotrophic lateral sclerosis*
- *Multiple sclerosis.*

ii. Subjective Symptoms:

- *Unilateral and severe muscle contractions in the foot or calf. Usually occurring at night while sleeping.*
- *Sleep disturbances*
- *Excessive day-time sleepiness*

iii. Objective Signs

- *Arch of the foot should be examined for pes planus. An indicator of pes planus would be when the arch of the foot partially or completely touches the ground when standing barefoot.*
- *Calf circumference should be checked; edema may be present. Calf sizes ranging from 31 cm to 66 cm can be normal however, circumference varies depending on the length and build of the calf.*

iv. Clinical Test Considerations

- *Neuromuscular tests should be performed; results should be normal for clients experiencing leg cramps. Abnormal results may lead to a more serious diagnosis and client should be referred to the right provider.*
- *If the physical examination appears abnormal, sonograms of the femoral and popliteal areas may be helpful.*
- *Other diagnoses may be restless leg syndrome, multiple sclerosis, neuropathy, deep vein thrombosis, etc.*

3. Management plan

i. Therapeutic measures to consider

- *Stretching; Specifically dorsiflexion of the foot*
- *Electrolytes (Gatorade or Pedialyte)*
- *Hydration*
- *Increasing potassium, magnesium, and calcium rich foods in diet*
- *Change in actively level*
- *Magnesium supplement regimen before bed; 350 mg*

ii. Complementary measures to consider

- *Massage therapy; refer to a licensed and trained Prenatal Massage Therapist*
- *Warm epsom salt baths*
- *Chamomile tea*

iii. Considerations for pregnancy, delivery and breastfeeding

Observational studies have found evidence to suggest that less sleep during pregnancy may result in longer labors and increased risk for a cesarean delivery. During the postpartum period one may continue to experience leg cramps and can continue to utilize the above therapeutic and complementary measures as needed. If there is pain accompanied with heat and swelling, the client should notify their care provider right away to rule out blood clots or deep vein thrombosis.

iv. Client and family education

When more serious conditions are ruled out, the client and their family may feel relieved. With continued stretching, proper hydration, and potential supplementation, the client can continue to treat the leg cramps safely for the remainder of their pregnancy.

v. Follow-up

During their next prenatal visit, perform a physical examination of the legs and feet. Examinations should remain normal for a leg cramp diagnosis. Communicate with the client to clarify what progress has been made if any; has there been an increase of leg cramping occurrences or in the level of pain? Discuss diet, activity level, and answer any questions they may have.

4. Indications for Consult, Collaboration or Referral

- *If client's arch appears to be flat they may benefit from a referral to a podiatrist*
- *Appearance of Deep Vein Thrombosis*
- *Abnormal skin tone and pulse in the calves*
- *Muscle weakness*
- *Numbness*
- *Tingling in the extremities*
- *Loss of coordination*
- *Involuntary movements of the digits, arms, or legs*
- *Involuntary "dance like" motions of extremities*

5. References

Hensley, J (2009). Leg cramps and restless leg syndrome during pregnancy. *Journal of Midwifery and Women's Health*, 54(3), 211-218. <https://doi.org/10.1016/j.jmwh.2009.01.003>.