



The National Healthy Sleep Project involves a partnership between the American Academy of Sleep Medicine (AASM), the Center for Disease Control (CDC) and Sleep Research Society (SRS). The long-term goal of the project is to promote improved sleep health in the U.S. The project will increase public awareness of the importance of healthy sleep. It also will promote the treatment and prevention of sleep disorders.

Diagnosis and Treatment of Restless Legs Syndrome (RLS) During Pregnancy

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Case: A 31-year-old healthy female, 28 weeks into her third pregnancy sees her doctor to discuss her sleep. She complains of difficulty falling asleep and waking up multiple times throughout the night. She says she “just can’t get comfortable” and is tossing and turning all night because her legs “won’t sit still.” Upon further questioning she confirms that her legs feel worse particularly at night, and feel better when she gets up and walks around. Her pregnancy is otherwise uncomplicated and her only daily medication is a prenatal vitamin, though she has started trying over the counter benadryl at night without improvement in her sleep. She never had this problem with her other pregnancies. Her physical exam, including a detailed exam of her lower extremities, is unremarkable.

Restless legs syndrome (RLS) is a common sleep disorder that increases in prevalence during pregnancy. It is estimated to affect

approximately 25% of all pregnancies with a peak in the third trimester^{1,2,3,4}. It is the third most common reason for insomnia during pregnancy⁵, and as seen in our patient, the risk of developing RLS increases with each pregnancy and may not have been present in prior pregnancies^{6,7}. It is a clinical diagnosis which is made if the following criteria are met: (1) An urge to move the legs, usually associated with an unpleasant sensation in the legs, (2) this urge is worse with rest or inactivity (i.e. lying down), (3) it is relieved at least partially with movement (e.g. walking or stretching), (4) and is worse in the evenings or at night. Additionally, symptoms cannot be explained by another condition (leg cramps or venous stasis, for example) and the symptoms must cause sleep disturbance, distress, or some impairment of function, whether mental, physical, social, or others⁸. This patient clearly meets criteria for the diagnosis of RLS. As she describes, the sleep disturbance

commonly observed in RLS is at sleep onset and may impact sleep maintenance as well ^{2,3,9-12}.

Although the pathophysiology of RLS in pregnancy is still under investigation, in the general population there is evidence that genetics, the central dopamine system, and iron all play roles ¹³⁻¹⁷. The role of iron is of particular interest during pregnancy, as many women develop iron deficiency during pregnancy ¹⁸. Specifically, iron is a known cofactor for the enzyme tyrosine hydroxylase, which is a rate-limiting reaction of dopamine production and has been hypothesized as a connection between low iron status and RLS ¹⁵. Therefore, it is not surprising the same population who is at a higher risk of iron deficiency is at a higher risk of developing RLS.

Recently, the International RLS Study Group (IRLSSG) published clinical guidelines for the diagnosis and treatment of RLS during pregnancy ¹⁹. The first step is to accurately diagnose RLS with the above criteria, and assess severity and possible comorbid depression ²⁰. Next, assessing iron status should be done by checking a serum ferritin, and this may also include a hemoglobin, iron, TIBC, and percent transferrin saturation as deemed appropriate. It is notable that ferritin is an acute phase reactant and may be elevated if there is a concurrent illness or chronic inflammation, making additional iron studies more useful. Ferritin levels below 75 mcg/L should be treated with oral iron supplementation of 65 mg elemental iron 1-2 times daily ²¹, and advising patients to take vitamin C together with iron can improve absorption ²². Repeat ferritin levels should be checked after 6-12 weeks to monitor a response. If there is a failure of response to oral iron and ferritin remains below 30 mcg/L, intravenous iron

can be considered ^{23,24} though is rarely needed.

Patients with RLS that is refractory to iron supplementation, or patients with an initial ferritin over 75 mcg/L may be considered for dopamine therapy specifically with carbidopa/levodopa. Low-dose clonazepam in the evening may also be considered ¹⁹. As with any medication considered during pregnancy, side effects, and the benefit to potential harm ratio must be discussed openly with each patient. However, even in patients with refractory RLS, reassurance can be given that most cases of pregnancy-related RLS will improve or resolve within one month after delivery ¹³.

Non-pharmacologic treatment considerations which have been proven to improve RLS include moderate-intensity exercise, yoga, massage, and pneumatic compression devices ²⁵⁻²⁷. Anecdotally, many patients describe relief with compression stockings during the day, warm bath/shower before bedtime, or wearing socks to sleep.

Lastly, care should be taken to avoid common RLS exacerbating factors, such as sedating antihistamines like our patient has tried.

Case conclusion: The patient and her physician decide to check her hemoglobin and ferritin. They find that her ferritin is only 8mcg/L and begin an additional iron supplement in addition to her prenatal vitamin. Within 3 weeks she has significant improvement in her leg restlessness and is now able to fall asleep more quickly and sleep through the night.

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