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What is rdw cv in blood test

RDW stands for Red Blood Cell Distribution Width, a measure that reflects how similar or different-sized red blood cells (RBCs) are in your blood. A higher RDW value shows bigger variations in RBC size and can indicate health problems. The normal range of RDW is between 12% and 15%. There are two types of measurements: RDW-CV, which reflects the variation in RBC size compared to its average size, expressed as a percentage. RDW-SD, which measures the actual difference in RBC sizes in femtoliters (fL). Significantly high RDW values need further investigation. High RDW may be caused by: Iron deficiency anemia Vitamin B12 deficiency Folate deficiency Hemoglobinopathies like Sickle Cell disease or Beta-Thalassemia Hemolytic anemias where RBCs break down Post-hemorrhagic anemias where premature RBCs are released Chronic liver disease affecting protein production in the liver Elevated Red Blood Cell Distribution Width (RDW): A Marker of Underlying Health Issues Chronic diseases such as cardiovascular disease and diabetes can lead to elevated RDW levels due to chronic inflammation and oxidative stress. Inflammatory and autoimmune disorders, bone marrow disorders, and certain types of cancer can also cause high RDW. RDW is often accompanied by symptoms such as fatigue, weakness, pallor, and dizziness. RDW can indicate underlying health issues that require further investigation. Practitioners should consider RDW with other CBC parameters for a comprehensive health assessment. Lab tests and additional testing, such as a RBC count and hemoglobin/hematocrit levels, are necessary to determine the underlying cause of high RDW. A high RDW with low hemoglobin or hematocrit may suggest anemia, while a high RDW with high hemoglobin/hematocrit may indicate polycythemia. The combination of RDW and MCV (Mean Corpuscular Volume) helps explore specific types of anemia. Biomarkers such as reticulocyte count, iron studies, and vitamin B12/folate levels are also important in determining the underlying cause of high RDW. They present with similar patterns will aid in differentiating one deficiency from another, potentially uncovering an absorption disorder like Pernicious anemia, which is characterized by low levels of Vitamin B12 & Folate (Cloyd, 2023; Pagana & Pagana, 2010, p. 455-462). Liver Function tests are crucial to determine if the issue lies with production or protein synthesis, as all proteins are produced by the liver (Fischbach & Dunning, 2009). If testing is inconclusive, a referral to a hematologist is vital, allowing for further evaluation, such as a bone marrow biopsy or cancer testing (Percival, 2017). High RDW Value: What Does it Indicate and What Should You Do? RDW stands for Red Cell Distribution Width, which is a blood test used to measure the variation in size of red blood cells. Elevated levels of RDW can be indicative of various underlying health conditions, including anemia, chronic diseases, nutritional deficiencies, inflammatory disorders, bone marrow disorders, or even cancer. Symptoms that often accompany high RDW values include shortness of breath, balance issues, pale skin, and general weakness. If left unchecked, these symptoms may worsen over time. Consulting with healthcare providers is essential to determine the cause of an elevated RDW value and develop a personalized treatment plan. It's recommended to explore various types of anemia before pursuing further testing, such as SIBO (Small Intestine Bacterial Overgrowth) if nutritional deficiencies are suspected. Regular check-ups can help maintain overall well-being and prevent the onset of more serious health issues. Early detection is key in managing these conditions effectively. **Lab Tests for Various Medical Conditions** Several online resources have been consulted to provide information on various lab tests, including those for iron deficiency anemia, oxidative stress, and other medical conditions. * **Iron Deficiency Anemia**: Rupa Health's article "Top Causes of Iron Deficiency Anemia in Adults: How To Test and Diagnose" provides information on the causes and diagnosis of this condition. * **Oxidative Stress**: Genova Diagnostics' Oxidative Stress 2.0 Urine test measures the levels of oxidative stress markers in urine. * **Nutritional Deficiencies**: The NutrEval FMV by Genova Diagnostics is a comprehensive nutritional analysis test that assesses nutrient deficiencies and imbalances. **Lab Tests by Rupa Health** Rupa Health offers ordering services for lab tests from various labs, including: * Access Labcorp Draw * Access Medical Labs * Commonwealth Diagnostics International, Inc. * Genova Diagnostics **Medical Articles** Several medical articles have been consulted to provide information on various medical conditions, including: * Posthemorrhagic anemia and shock in newborns (American Academy of Pediatrics) * Bone marrow evaluation for acute myeloid leukemia (NCBI) **Lab Markers** The red cell distribution width (RDW) may be expressed as a percentage (RDW-CV) or in femtoliters (RDW-SD). The Red Blood Cell Distribution Width (RDW) measures the variability between red blood cells in circulation. It's calculated from RBC and Mean Corpuscular Volume (MCV) values, represented in the Complete Blood Count (CBC). Normally, red blood cells are uniform in size with little variation. However, when some cells are small or large, RDW reflects the degree of difference in size. An increased RDW is associated with various anemias, including those caused by iron, folate, or B12 deficiency, hemolytic anemia, and hemoglobinopathies like sickle cell anemia. It's also linked to a higher risk of diabetes, hypertension, cardiovascular disease, and inflammation. The RDW-CV is expressed as a percentage: 1 SD (femtoliters) / MCV (fL) × 100. The RDW-SD is measured in femtoliters and represents the width of RBC volume distribution curve at 20% above baseline. The standard lab reference range for RDW-CV is 11-15%, while for RDW-SD it's 38-49 fL. The numbers are not interchangeable, as the software uses RDW-CV (shortened to RDW) and reports results as a percentage. An optimal range between 11 and 12.6% can help identify early risk of anemia and metabolic disease. The test is part of the complete blood count testing, measuring the variation of red blood cell volume. It's performed with venipuncture-collected blood and often used to determine premature death risk in patients with heart conditions or cancer. Elevated RDW levels are associated with more health risks than low or normal levels. Aplastic anemia and thalassemia minor are conditions that affect red blood cell production, while RDW levels may vary depending on the underlying cause. In some patients, RDW is useful in differentiating iron deficiency anemia (high RDW with normal MCV) from thalassemia (normal RDW with reduced MCV). However, further investigations are needed to confirm the diagnosis. Low RDW is seen in conditions like anemia of chronic disease, heterozygous thalassemia, and hemoglobin E trait. Some patients may present normal RDW levels despite these conditions. Microcytic anemia can also cause low RDW due to uniform small blood cells. High RDW is often seen in various forms of anemia, particularly when there's significant variation in red blood cell size. RDW is usually elevated in macrocytic and iron deficiency anemia. Analysis of red blood cells reveals some are larger than others, leading to elevated RDW levels due to anisocytosis. In patients with iron deficiency anemia, RDW is high while MCV is reduced. Vitamin B12 and folate deficiency can cause both elevated RDW and MCV. Acute blood loss or recent hemorrhage may result in high RDW with normal MCV. Other conditions causing elevated RDW include sickle cell anemia, chronic liver disease, chemotherapy, prolonged antiviral medication use, and chronic alcohol consumption. RDW calculation involves a mathematical formula, although clinical judgment is also essential for interpretation. RDW value calculated by dividing standard deviation of MCV by mean MCV and then multiplying by 100. It measures volume of red blood cells, used to diagnose anemia causes and differentiate types. RDW levels indicate medical issues: increased or decreased values, normal range signifies different problems.