**RED CELL DISTRIBUTION WIDTH (RDW)**

**CLINICAL DEFINITION**

RDW is defined as the standard deviation (SD) of the distribution of red blood cell (RBC) volumes. It is a measure of the variation in cell size within the hematocrit.

**Use of RDW in Anemia Classification**

- **Normocytic** anemia: MCV normal, RDW normal.
- **Macrocytic** anemia: MCV increased, RDW normal.
- **Microcytic** anemia: MCV decreased, RDW normal.
- **Anisocytosis** (anisocytosis and poikilocytosis): MCV normal, RDW increased.

**Physiological Causes**

- Exercise: Increased RDW in response to increased demands on the cardiovascular system.

**Terminology**

- **HGB** (Hemoglobin)
- **Hct** (Hematocrit)
- **MCV** (Mean Corpuscular Volume)
- **Plt** (Platelets)
- **RDW** (Red Cell Distribution Width)

**Notes**

- The RDW is a measure of the heterogeneity of RBC size, with a normal value indicating that the RBCs are all similar in size.
- The RDW is sensitive to changes in RBC size, making it a useful tool for detecting anisocytosis.
- The RDW is not influenced by the plasma volume, making it a reliable measure of RBC size.

**DID YOU KNOW?**

- The RDW was first described by Janie Vu in 1946.

**HISTORY OF MEDICINE**

- The RDW has been used in medicine for over 70 years.

**Abbreviations**

- RDW
- MCV
- HGB
- Hct
- Plt
- CV

**Figure Caption**

- Figure 1: A histogram showing the distribution of RBC volumes, with the RDW calculated as the SD of the distribution.

**Table**

<table>
<thead>
<tr>
<th>MCV</th>
<th>RDW</th>
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<tbody>
<tr>
<td>108*</td>
<td>18.9*</td>
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<tr>
<td>30.1*</td>
<td>34.2*</td>
</tr>
<tr>
<td>57.1*</td>
<td>12.2*</td>
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<tr>
<td>14.6</td>
<td>13.8*</td>
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<td>32.0</td>
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**References**