

**Examples of some common errors in automated cell counting, requiring detection and corrective actions.**

Spurious Results	Corrective Action
Over range WBC, RBC, Hgb or Plt	<ol style="list-style-type: none"> <li>1. Check for clots</li> <li>2. Dilute with normal saline, re-run diluted mixture, multiply by dilution factor</li> <li>3. Correct derived parameters with new value</li> <li>4. Check for carryover</li> </ol>
MCV <50 or >130	<ol style="list-style-type: none"> <li>1. Verify results by alternative methods such as a blood film review or spun Hct</li> <li>2. Check for RBC agglutination</li> <li>3. Hyperglycemia may cause elevated MCV</li> </ol>
Low WBC count	<ol style="list-style-type: none"> <li>1. Check for clots</li> <li>2. RBCs not lysed, check lysing reagent</li> <li>3. Prepare manual slide for WBC estimation</li> <li>4. Check for platelet aggregation, large platelets</li> </ol>
Abnormal Hemoglobin or RBC count	<ol style="list-style-type: none"> <li>1. Check for elevated WBC, agglutinins, lipids, clots</li> </ol>
Decreased RBC	<ol style="list-style-type: none"> <li>1. Small RBC counted as platelets</li> <li>2. Autoagglutination or cryoglobulins check for RBC clumping</li> <li>3. Rouleaux , check smear</li> <li>4. Microcytes</li> </ol>
Elevated HCT	<ol style="list-style-type: none"> <li>1. Check for macrocytes, spherocytosis, hypochromic anemia, RBC fragments</li> <li>2. Mix the blood well and re-run</li> </ol>
Decreased MCHC	Check for microcytes, spherocytes, sickle cells
Abnormal differential	Review manually
Decreased platelet count	<ol style="list-style-type: none"> <li>1. Check smear for platelet clumping</li> <li>2. Manually estimate platelet count from smear</li> <li>3. EDTA activation</li> </ol>
Increased platelet count	<ol style="list-style-type: none"> <li>1. Review smear for RBC fragments</li> <li>2. Microcytes</li> </ol>
Increased RBC	<ol style="list-style-type: none"> <li>1. Check for Giant platelets</li> <li>2. Elevated WBC</li> </ol>
Elevated RDW	<ol style="list-style-type: none"> <li>1. Microcytosis</li> <li>2. Hypocromasia</li> </ol>