Comprehensive CBC testing consists of 2 components:
a quantitative CBC and a qualitative blood smear

Automated CBC: Quantitative evaluation
- Numerical data and indices
- Graphical representations

Blood smear: Qualitative evaluation
- Estimated counts for quality assurance
- Cellular morphology

Comprehensive CBC

Ideally, a blood smear evaluation should always be performed as a part of every CBC

But it is vital that blood smears are performed in every:
- Patient who is sick
- Instance of abnormal counts or automated cell count flags

<table>
<thead>
<tr>
<th>Automated cell count flag</th>
<th>Abnormality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red blood cells (RBCs)</td>
<td>Anemia²,³</td>
</tr>
<tr>
<td>White blood cells (WBCs)</td>
<td>Cancer; infection; inflammation²,³</td>
</tr>
<tr>
<td>Platelets (PLTs)</td>
<td>Disease; clumping¹</td>
</tr>
</tbody>
</table>

Why aren’t blood smears performed very often?
- Lack of experience preparing blood smears
- Time- and labor-intensive process
- Lack of confidence and experience with interpretation
- Assumption that automated counts are correct every time

VETSCAN IMAGYST™ uses the accuracy of artificial intelligence (AI) to deliver critical data that supplements automated CBC results
- Provides an estimated PLT count and identifies presence of PLT clumps, which may impact PLT counts
- Estimates total WBC count
- Verifies WBC differential (%)
- Identifies and counts polychromatophils (immature red blood cells—an indicator of a potential regenerative process) and nucleated RBCs
- Access to expert review by a Zoetis clinical pathologist for further evaluation via digital image transfer is available when needed

A blood smear evaluation should not be utilized as a replacement for an automated cell count
If properly maintained, automated analyzers are more precise and accurate than manual counting of cells

*Additional costs may apply.
Case Study: Belle
8-year-old FS DLH

**History and clinical presentation**
- Presents for dental cleaning with anticipated extractions
- No recent lab work

**Physical examination abnormalities**
None observed

**Diagnostic testing abnormalities**
Mild thrombocytopenia (105 x 10⁹ cells/L; normal=160-500 x 10⁹ cells/L)

**Next steps**
Blood smear with VETSCAN IMAGYST™ to confirm thrombocytopenia

**DLH=domestic long hair; FS=female spayed.**

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**VETSCAN IMAGYST delivers blood smear results in minutes vs sending to a reference lab, which could take days**

Prepare blood smear using traditional methods

Get accurate results in minutes with VETSCAN IMAGYST™
- Confirmed clumped PLTs with confidence
- Confirmed WBC counts due to PLT clumping

**Outcome**
Belle was cleared for her dental procedure in minutes

*Select VETSCAN IMAGYST images for Belle. Note that images for all cell types (neutrophil, lymphocyte, monocyte, eosinophil, polychromatophil and platelets) are provided with each VETSCAN IMAGYST AI blood smear report.
Case Study: Lucy
3-year-old FS Labrador retriever

**History and clinical presentation**
Acute, progressively worsening lethargy and weakness

**Physical examination abnormalities**
- Depressed but responsive upon presentation
- Bounding pulses
- Pale, slightly icteric mucous membranes
- Thoracic auscultation
  - Heart rate: 160 BPM; respiration rate: panting
  - Grade 2/6 heart murmur
- Possible splenomegaly on abdominal palpation

**Diagnostic testing abnormalities**
- Severe anemia (HCT=16.0%; normal=37.0-55.0%)
- Thrombocytopenia (103 x 10^9 cells/L; normal=165-500 x 10^9 cells/L)
- Leukocytosis (WBC=48.69 x 10^9 cells/L; normal=6.0-17.0 x 10^9 cells/L)
- Bilirubinemia
- Increased liver enzymes (ALP, ALT)

**Next steps**
Blood smear with VETSCAN IMAGYST™ to further investigate anemia and thrombocytopenia

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**Prepare blood smear using traditional methods**

**Get accurate results in minutes with VETSCAN IMAGYST™**
IMAGYST provides a polychromatophil count that can serve as a proxy for a reticulocyte count.

**Add on optional expert review**
Pathologist examines for morphological changes to narrow differential diagnoses

**Expert findings**
- Spherocytosis
- Ghost cells
- Polychromasia
- Anisocytosis

**Outcome**
- Diagnosis of immune-mediated hemolytic anemia was made within hours of presentation—which would have been unlikely without VETSCAN IMAGYST
- Lucy immediately started treatment

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*Additional costs may apply.
†Select VETSCAN IMAGYST images for Lucy. Note that images for all cell types (neutrophil, lymphocyte, monocyte, eosinophil, polychromatophil and platelets) are provided with each VETSCAN IMAGYST AI blood smear report.

ALP=alkaline phosphatase; ALT=alanine aminotransferase; BPM=beats per minute.
VETSCAN IMAGYST™ conveniently delivers AI-driven blood smear analysis, providing critical data to supplement CBC results and help inform diagnosis and treatment

**RESULTS IN MINUTES:** VETSCAN IMAGYST uses the accuracy of AI to efficiently read blood smears in minutes, so your staff doesn’t have to¹

**SIMPLIFIED WORKFLOW:** VETSCAN IMAGYST provides AI-driven analysis of blood smears, so staff can focus on other tasks

**MAY IDENTIFY ABNORMALITIES SUCH AS:** abnormal WBC count, low platelet count, platelet clumping and RBC changes associated with anemia

Integrating VETSCAN IMAGYST into a complete, in-hospital hematology solution

**Use any point-of-care hematology analyzer**

VETSCAN® HM5 is an easy-to-use option that reports a full, 5-part CBC differential with 22 parameters in <4 minutes

**Get additional insights with VETSCAN IMAGYST AI Blood Smear**

- Follow up on abnormal automated CBC results
- If abnormalities are observed, expert review via digital image transfer is available*¹
- Confirm automated cell counts

**Access expert review by a Zoetis clinical pathologist when needed**¹²

Digitally submit images for further evaluation not reported by AI review, including:
- WBCs—left shifts, toxic changes, malignancy
- RBCs—morphology, inclusions
- PLTs—macroplatelets

**Optional complimentary consult**

Get free consultations from veterinary specialists with the Zoetis Global Consultation Service, as needed

With VETSCAN IMAGYST, expert-level WBC differential and blood smear review can be performed in any hospital

*Additional costs may apply.
¹Option to send physical slide to our network of clinical pathologists as needed.


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Request a demo today!