

Immature Granulocyte (IG) count

On the **18th October 2021** Haematology will be reporting the Immature granulocytes (IG) on all full blood counts

What is an IG count?

With the exception of blood from neonates or pregnant women, the appearance of immature granulocytes in the peripheral blood indicates an early-stage response to infection, inflammation or other stimuli of the bone marrow. Being able to detect IG quickly and reliably opens doors to new diagnostic possibilities for related disorders.

Current areas of research regarding the diagnostic significance of circulating immature granulocytes focus on the early and rapid discrimination of bacterial from viral infections, particularly in children (e.g. recognising bacterial infection in neonates), and the early recognition of bacterial infection and sepsis in adults, which is of particular importance for intensive care patients.

Valuable information for immediate action – at no additional cost

IG counts are relevant especially for patients who are **highly susceptible to infections** because of a suppressed immune system and because the increased IG count indicates the severity of the early innate immune response. In addition to patients with general infections and inflammations, clinicians will pay particular attention to:

- Patients from the **intensive care unit**,
- Patients undergoing **chemotherapy**,
- Patients suffering from **HIV/AIDS**.

The high accuracy of our IG counting method provides a valuable tool for physicians for concluding diagnoses or requesting further patient investigation.

Using IG

The IG count alone does not let you predict sepsis or infection. However, it can **support diagnosis and prediction together with other parameters** such as cytokines, interleukins and CRP. It is more useful as a monitoring parameter when the patient has already been diagnosed correctly and is under treatment.

For blood samples of **unknown patients** with an increased IG count, blood smear preparation is still recommended. In **known patients**, an automated IG count can avoid the manual review while therapy monitoring infections or inflammation.

The IG count of paediatric patients, especially premature neonates or neonates younger than seven days, has to be taken with care due to their immature immune systems and the greater number of immature cells in the circulating blood.

Please see the example report below:

YORK TEACHING HOSPITAL NHSFT-Blood Sciences

EDITESTPATIENT NINE

DOB/Age :13.11.50

NHS No :999 999 9549

Spec No :Q,21.0987123.A

Report to **For EDI TESTING only**

Location :For EDI TESTING only

Requestor:Unknown HCP

Status :Authorised

Full Blood Count

Haemoglobin	130	g/L	(115-165)
Platelets	300	$\times 10^9/L$	(150-450)
RBC	- 3.60	$\times 10^{12}/L$	(3.90-5.40)
Haematocrit	0.400	L/L	(0.360-0.470)
MCV	90	fL	(79-101)
MCH	32.0	pg	(27.0-32.0)
WBC	+ 20.0	$\times 10^9/L$	(4.0-11.0)
Neutrophils	+ 20.0	$\times 10^9/L$	(2.0-8.0)
Lymphocytes	2.0	$\times 10^9/L$	(0.5-4.5)
Monocytes	1.0	$\times 10^9/L$	(0.2-1.2)
Eosinophils	0.1	$\times 10^9/L$	(0.1-0.7)
Basophils	0.1	$\times 10^9/L$	(0.0-0.2)
Immature granulocyte+	0.8	$\times 10^9/L$	(0.0-0.3)