



HemoCue® WBC DIFF System

Husläkarna Varmbadhuset, Varberg

Husläkarna Varmbadhuset is a private primary care center in the southern part of Sweden. It offers a broad range of high quality medical healthcare services. Johanna Hilmersson, General Practitioner, works as the Operational Manager at the center.

Experience from using HemoCue® WBC DIFF System

During the last years, HemoCue® WBC DIFF System has been used as a tool for infection management to distinguish between bacterial and viral infections. As the white blood cell count increases rapidly, it gives a clear indication even in early phases of an infection when other markers e.g. CRP (C-reactive protein) might not be as indicative. Especially in pediatric patients, CRP often gives results that do not enable physicians to make conclusive decisions.¹ Therefore, having a white blood cell count from a capillary sample is very useful in this patient group.

In addition to infection management, the HemoCue® WBC DIFF System is also used as a tool to obtain a general status of a patient's bone marrow where the results can support in ruling out serious conditions.

“The HemoCue® WBC DIFF System is a ready-to-use POC system which saves manpower and time.”

During the outbreak of COVID-19, what were the main challenges with running a primary care center?

The COVID-19 outbreak put a lot of pressure on the healthcare system. During the pandemic, there was still a need for treatment of patients with common diseases such as e.g. upper respiratory infection, common cold or flu and otitis. At the same time, the primary care centers needed to provide healthcare to patients with COVID-19, without risking the spread of the infection to other patients.

In order to meet these needs, a special temporary unit was created for patients with suspicious COVID-19. This temporary unit was equipped with basic point-of-care tests including Hb, glucose and blood pressure. Early on, it was also clear that the HemoCue® WBC DIFF System would be useful in this unit.

As mentioned above, Husläkarna Varmbadhuset had used the white blood cell count as a tool to help distinguish between bacterial and viral infections. Interestingly for the COVID-19 situation, studies showed that patients with more severe cases of COVID-19 have decreased number of lymphocytes, referred to as lymphocytopenia ($<1.5 \times 10^9/L$).² Studies have also concluded that

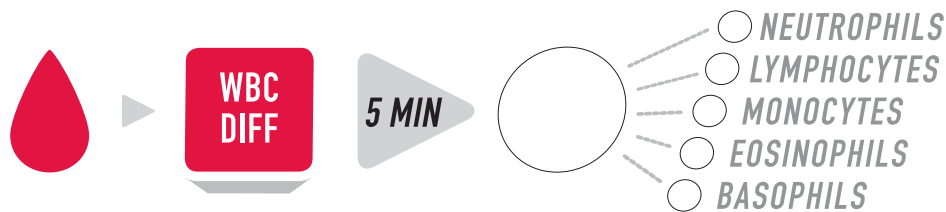
surveillance of the ratio between neutrophils and lymphocytes could be helpful in the early screening of the critical illness COVID-19.³

Overall, the HemoCue® WBC DIFF System is really helpful for infection management

In many cases, symptoms of bacterial and viral infections may be very similar. This can make it difficult for the physician to know whether prescription of antibiotics is efficient or not. In these cases, results from the HemoCue® WBC DIFF System in combination with other clinical symptoms may enable a more correct and judicious prescription of antibiotics. This

is beneficial, not only for the patients, but also for society overall. Antibiotic resistance has increasingly become a problem during the last decades due to overuse of antibiotics.⁴ Global reports estimate that the burden of deaths related to antimicrobial resistance could increase to 10 million each year by 2050 if no further actions are taken.

Rapid point-of-care diagnostic tests are a central part of the solution to this problem. POCT would be able to reduce use of antibiotics by letting doctors know if a patient has an infection and if this infection is viral or bacterial, meaning that antibiotics will only be prescribed to patients who need them.⁴



Facts about HemoCue WBC DIFF

The advanced technology of the HemoCue WBC DIFF can speed up the process from assessment to treatment. HemoCue® WBC DIFF System provides lab-accurate total white blood cell count as well as a five part differential within just five minutes. Immediate access to a white blood cell differential count may help you:

- Produce timely and accurate treatment indications
- Reduce waiting time for both you and your patients
- Reduce your number of consultations

1) Peltola et al. Discrepancy between total white blood cell counts and serum C-reactive protein levels in febrile children. Scand J Infect Dis. 2007; 39:560-565.
 2) W. Guan et al., Clinical Characteristics of Coronavirus Disease 2019 in China. The New England Journal of Medicine 2020, Feb 28.
 3) Qin C. et al., Dysregulation of immune response in patients with COVID-19 in Wuhan, China. Clinical Infectious Disease 2020, Mar 12.
 4) Tackling drug-resistant infections globally: final report and recommendations. Review on antimicrobial resistance, Chaired by Jim O'Neill May 2016.