



IH-500 Experience Report Hospital in Nyon, Switzerland

BIO-RAD

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Nyon Hospital Breaks New Ground in Blood Testing

It's a big box that looks like a giant photocopier. But that's where the comparison ends. On the inside, this highly sophisticated instrument conceals a robotic arm that allows the entire spectrum of immunohematological tests to be carried out as part of one single procedure.

Launched this summer in London by the American biomedical company Bio-Rad, this tool is completely new to the market. The IH-500 device, installed last August in Nyon hospital, is the first to go into operation in Switzerland, and indeed worldwide, as mass production is only just beginning.

This device is primarily used in the determination and analysis of blood groups. It also used to accurately monitor the blood bags given to patients during blood transfusions.

Up until now, laboratory assistants used four different devices to proceed from pipetting to incubation, centrifugation and ultimately to the scanning of results.



IH-500 System



The laboratory manager, Dr Mathias Maitrejean, has trained his entire team in the use of this new automated instrument. Image: Odile Meylan.

"Based on the principles of quality of care, proximity and effectiveness, we took the risk of maintaining and even developing the laboratory"

All of these steps are integrated within the new instrument via the use of a six-axis robot. "It enables us to reduce the number of steps required during handling and offers excellent reliability while ensuring security throughout the entire blood transfusion process", explains Dr Mathias Maitrejean, laboratory manager.

The agglutination technique, a test which has become the international standard, is carried out using a gel launched by DiaMed (Cressier, Switzerland) in 1988, a company acquired by Bio-Rad in 2007.

"With this machine, the technique has been developed into automation, providing standardization and excellent data traceability", explains Renata Carissimi, sales manager in Switzerland.

In Figures

- 44,943** The number of test requests fulfilled by the GHOL laboratory in 2014, some 12.5% more than in 2013.
- 12,434** The number of tests completed in 2014 where permission was granted to determine the patients' blood groups in the same laboratory.
- 857** The number of transfusions handled by the GHOL hospital group during testing of labile blood products.
- 100,000** The cost in Swiss francs of the new device, financed by the GHOL investment budget.

Consolidating in Nyon

Will this robot replace employees? "No, because the presence of a human will always be necessary in order to operate the device and to determine whether the result of the test is valid", adds the laboratory manager.

In fact employee numbers are likely to grow, because the team not only manages the needs of the two hospitals in Rolle and Nyon, but also those of the hospital in Prangins, of the La Lignière clinic in Gland and of the La Métairie and Bois-Bougy clinics in Nyon, not to mention the doctors and medical centers in the region.

"It was a deliberate choice on our part. Instead of sub-contracting the tests to private laboratories like certain other hospitals and clinics, we took the risk of maintaining and even developing this service based on the principles of quality of care, proximity and effectiveness", explains the director of the GHOL hospital group, Daniel Walch.

Proximity that enables delivery of an urgently requested test within an average of 42 minutes.

The current laboratories will even be expanded from the end of year through the installation of modular structures in order to accommodate the planned extension over the next few years of the Lausanne side of the hospital.

Such a move is required to respond to sub-contracting that currently represents 50% of the laboratory's activities and also to prepare for the arrival of the five employees from the microbiology laboratory at Rolle hospital, which is set to close on January 1st.

"This service had been outsourced and we decided to fully consolidate activities in Nyon by rehiring these employees", explains Daniel Walch (24 hours).



ID-Diluent Piercing

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