# HOSPITAL PUERTO MONTT, CHILE

**A pioneering hospital in Chile uses Proscia to easily share whole slide images with colleagues around the world, but discovers an even greater value.**

## PROBLEM
*IT restrictions make it impossible to conduct timely pathology consultations for patients.*

## KEYWORDS
*Clinical Environment, Global Sharing, Algorithms and Analysis, Latin America*

## SITUATION

Puerto Montt is a port city located 1,000 kilometers to the south of Santiago, Chile. Hospital Puerto Montt is the city's primary hospital, providing healthcare for a million people. The pathology department employs six pathologists and handles 14,000 cases per year.

In 2016, Hospital Puerto Montt became the first public hospital in Chile to install a whole slide imaging (WSI) scanner. While there are other WSI scanners in Chile located in universities, Hospital Puerto Montt was the first in Chile to use WSI in an entirely clinical setting.

Dr. Gonzalo De Toro, head pathologist at Hospital Puerto Montt and president of Chile's national association of anatomical pathologists, is an enthusiastic supporter of digital pathology. "Digital pathology is the future of pathology," he said. "In a few years, all pathology departments will be working with digital images, much like radiology departments today. Digital pathology will change the way we do things in pathology."

According to De Toro, one of the most powerful applications for digital pathology is the sharing of cases with colleagues. Hospital Puerto Montt uses the WSI scanner for sharing its most interesting and difficult cases, getting consulting opinions from pathologists in Santiago, the United States and throughout Latin America.

But there was one problem. The hospital's Huron scanner and server were hidden behind the hospital's network firewall, making it impossible to share slide images with anyone outside the hospital. "This was difficult," explained De Toro. "Before we had a slide scanner, I used to take photos from the microscope using my mobile phone so that I could share it with someone. I didn't want to go back to that. We knew we needed a way to share slide images with anyone, anywhere in the world."

## SOLUTION

Dr. De Toro began to research his options. "I explored the providers in the cloud, and the more I read about Proscia the more it made sense." Once an image was in the Proscia Pathology Cloud, it could be shared anywhere. De Toro was impressed with the ease of use and user friendliness of Proscia's software, commenting that it seemed similar to using the image capabilities of social media sites like Facebook. "You don't have to be an engineer to use it. Just click."

"Proscia is also very fast," commented De Toro. "The digital slides are tremendously large, yet moving the image around on the slide is quick, like it would be under a microscope." De Toro pointed to a time he was sharing a case with eight colleagues from all across Latin America, each accessing and discussing the slide at the same time. "I was moving the image, and they didn't have any problem keeping up with me. The resolution of the image was also really good for everybody."

The pricing of Proscia was another plus for De Toro. "Budget is always important in countries like Chile. Proscia's subscription model pricing worked for us, based both on the cost of the storage on the cloud and the cost of each seat. It allows us to grow."  Proscia, being a SaaS model, has inherent upfront and ongoing cost benefits.

What impressed De Toro the most was Proscia's vision for digital pathology aligned with his own. "You want a company to be improving its tool over time."

## BENEFITS

Hospital Puerto Montt saw immediate benefits in its ability to share slide images with colleagues around the world. "Before we had Proscia, when I needed to send slides to the U.S., it would take two or three weeks for them to get to Houston. It was expensive, and it was time-consuming. Because it was biological material, every slide needed to have paperwork confirming that it was not a biological threat for the people transporting it."

Now, the hospital can easily share slide images, with no delay or paperwork, quickly getting expert consultation on the tough cases and speeding patient care. De Toro even recently shared slide images with pathologists in Mozambique.

The big win, however, was when De Toro discovered the built-in image analysis functions of Proscia. "When we first bought the scanner, we planned to contract with a software engineer from the universities in Santiago to write software that could quantify the characteristics of

the image – what percentage of the sample is stained positive, for example. I discovered that Proscia had the algorithms for that already in the cloud, saving us the time and money of doing it ourselves." *(Proscia's quantification algorithms are intended for research purposes only.)*

Quantification is important in pathology, yet De Toro holds it out as one fraught with subjectivity. "If you have ten pathologists looking at a sample by eye, you are going to have ten different estimates. When I say that digital pathology is going to change how we work, quantification is one area where there is a big potential benefit. If we use two or three stains on the same slide, algorithms will make it easier to separate the percentage of every color, and do it consistently, a task that is just too complex for the human eye."

For the future, De Toro says that pathology departments must prepare to transform from the glass to the digital world. "The standard is going to be digital, where we move from the eye of the pathologist to the algorithms in the computer. This will not only involve quantification of the images, but it may integrate other tests, such as molecular pathology analysis. It's going to be better for patients because we are going to be able to stratify the patients in a more refined way."

### *"If you have a digital scanner, you definitely want to have Proscia."*

DR. GONZALO DE TORO, HOSPITAL PUERTO MONTT

As head of the Sociedad Chilena Anatomia Patologica, De Toro is looking to introduce the benefits of digital pathology to the 150 other pathologists in Chile. Hospitals in Chile are interested in working with digital pathology, but they don't have the equipment yet. Using Proscia for the Society helps introduce the members to using digital pathology, so they can see how easy it is to use and understand the possibilities it presents. As the price of scanners comes in line with the price of microscopes, De Toro predicts that more hospitals will adopt digital methods.

De Toro's advice to other pathologists who are looking either into digital pathology or into Proscia: The real value is not just the storage or the sharing, but in the algorithms. "If you have a digital scanner," concluded De Toro, "you definitely want to have Proscia."