

SpineVision® is teaming with Singapore's Bio*One Capital and Beyonics Technology Ltd. to make spine surgery safer.

Partnering for Medtech Advancement in Asia.

SpineVision®, which is focused on bringing innovative *motion preservation* and *fusion* devices to spine specialists around the world, has recently established a wholly owned direct sales subsidiary in Singapore: SpineVision Singapore. As a result, SpineVision announced that its patented product, *PediGuard*™, the world's first and only device for real-time electronic detection of penetration outside the vertebral cortex, is now being used in Asia/Pacific by Singapore surgeons. Dr. Hee-Kit Wong, Chief of Orthopaedic Surgery at National University Hospital (NUH) in Singapore, is leading a SpineVision-sponsored *PediGuard* training program at the National University of Singapore (NUS).



Dr. Hee-Kit Wong, is Professor of Orthopaedic Surgery and Head of the Department of Orthopaedic Surgery at National University Hospital of Singapore.

Destination Singapore

"We chose Singapore to be SpineVision's Asia Pacific headquarters because of its pro-business environment, its commitment to the biomedical sciences industry, a ready pool of engineers, and an array of business incentives that ultimately lowers the cost of business," says Julian Mackenzie, CEO of SpineVision. "SpineVision Singapore has ready access to preclinical and clinical research resources that are highly regarded by international regulatory authorities. Additionally, Singapore is ideally located for creating partnerships with international companies and has a well-organized, high-tech infrastructure with significant expertise,"



Dr. Seang Beng Tan is Head and Senior Consultant in Orthopaedic Surgery & Spine Service at Singapore General Hospital and a user of the *PediGuard* device.

"PediGuard is an example of technology innovation that greatly benefits medicine.

It offers us a solution to the challenges of accurate pedicle screw placement, thus making surgery safer."

"Perforation of the vertebral pedicle wall is a well-known complication related to pedicle screw insertion.

Very serious clinical consequences—for example paraplegia—may result."



Mackenzie added. "Furthermore, SpineVision Singapore now serves as the principal distributor for SpineVision's products in Asia Pacific, a high-growth market in

which SpineVision's sales efforts had not previously been emphasized."

SpineVision Singapore was established by an investor group led by Bio*One Capital, the biomedical sciences investment arm of the Singapore Economic Development Board.

"Bio*One Capital is pleased that SpineVision has established its Asia Pacific subsidiary in Singapore to support the company's international expansion plans," says Lawrence Chin, M.D., Director of Investments for Bio*One Capital. "We expect SpineVision's rich history of success to be replicated at SpineVision Singapore, which is fully dedicated to the manufacturing and marketing of implants and instruments for spinal surgery, a field that is expected to see high growth over the next decade. Locating the operations in Singapore allows SpineVision to leverage on the nation's well-established expertise in materials, precision engineering, and manufacturing. This investment underscores the role that Bio*One Capital plays in helping innovative, growth companies to achieve their corporate objectives, especially in expanding their Asia Pacific businesses, and our ambition to grow the medical device industry in Singapore," concludes Dr. Chin.

(more)

Innovative Medicine

Accuracy of screw placement is an important issue in spine surgery: published rates of intraoperatively 'misplaced' screws range from 10 to 40 percent, some of which result in pathological consequences such as spinal cord damage, including paraplegia or quadriplegia. Consequently, liability risks for spine surgeons are high. PediGuard is the first patented, wireless, handheld instrument capable of accurately detecting changes in tissue type, thus alerting surgeons to pedicular or vertebral breaches during pedicle screw site preparation. Real-time feedback is provided to surgeons via audio and visual signals, giving them new additional information. The use of PediGuard requires no change in surgical technique.

"Perforating the vertebral pedicle wall is a common complication related to pedicle screw insertion, and very serious clinical consequences may result," says SpineVision CEO Mackenzie. "On the other hand, clinical studies have demonstrated that PediGuard enables *real-time* detection of potential perforation. In short, the device offers spine surgeons a simple and reliable way to detect vertebral cortex perforation—*prior to insertion* of pedicle screws."

"Using PediGuard is very straightforward," adds Dr. Hee-Kit Wong. "With PediGuard, the spine surgeon remains in control at all times during drilling and, unlike conventional methods, there is no requirement for pre-op scans or navigational aids or continuous screening while advancing into the pedicle. Reducing the requisite number of X-rays is of course good for patients and OR staff as well."

Surgeon Training

"We are very pleased to report this significant milestone—the establishment of a SpineVision sales and marketing operation in Asia Pacific and the first PediGuard

"Locating the operations in Singapore allows SpineVision to leverage on the nation's well-established expertise in materials, precision engineering and manufacturing."



Lawrence Chin, MD
Director of Investments
Bio*One Capital
Singapore



Goh Chan Peng
Chief Executive Officer
Beyonics Technology Ltd.
Singapore

"Our SpineVision relationship is a great example of the strategic manufacturing partnerships we've established with other world-class companies. Our state-of-the-art Singapore facilities are ideally located for creating such international partnerships."

Beyonics Technology Ltd.

provides SpineVision

Singapore with the

highest level of quality

that the spine industry

requires from its

biomedicine partners.

spine surgeries in this region—as it underscores the dramatic progress we are making in establishing PediGuard as the standard of care for alerting surgeons to pedicular or vertebral breaches during pedicle screw site preparation," says Mr. Mackenzie. "We are also very pleased that Alvin Loh is managing our regional sales efforts in Southeast Asia, headquartered in Singapore. He is a very successful sales-and-marketing executive



Julian Mackenzie
Chief Executive Officer
SpineVision, Paris

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WHY SINGAPORE?

- Pro-business environment
- Commitment to biomedicine
- Ready pool of engineers
- Lower cost of business
- Gateway to Asia/Pacific



"With partners such as Bio*One Capital and Beyonics, we are ideally positioned for success in Asia."

Alvin Loh
Regional Sales Manager
SpineVision Singapore

with tremendous experience in the Southeast Asia device market in general and Singapore in particular," adds Mr. Mackenzie. "He is having an immediate positive impact in Singapore calling on orthopedic surgeons and neurosurgeons who treat spine disorders, as well as expanding SpineVision's presence throughout the Southeast Asia region, including the Philippines, Malaysia, Thailand and Indonesia. We believe that our PediGuard product, which has tremendous potential because it provides a compelling solution to one of the most difficult challenges in spine surgery, will continue to open a lot of doors right off for Alvin and his team."

"Technology innovation for the betterment of mankind is an attitude that is embraced by the government and business community of Singapore," explains Mr. Alvin Loh. "No doubt, Singapore represents a critical springboard to success throughout the Asia Pacific region. It's a great partnership for us."

"For example, Beyonics Technology is one of the leading providers of advanced manufacturing services in the Asia Pacific region," Loh says. "Beyonics Technology manages the entire supply chain and facilitates design work whenever necessary to ensure that a project is carried out smoothly for its customers. In our specific case, Beyonics Technology is playing a critically important role for SpineVision Singapore in regard to our PediGuard product, which requires state-of-the-art quality assurance controls."

"But what we enjoy most about our partnership with Beyonics is that they treat SpineVision Singapore as if we were their most important customer. This attitude is commendable, considering that Beyonics' annual revenue exceeds \$1 billion, and their customers include some of the most well-known multinational corporations in the world," says Loh. "Singapore is a great place to conduct business."