

## Histolog® Scanner

Cancer cells at your fingertips

Prostate brochure - April 2023





# **Clinical Nee**

Robot-assisted radical prostatectomy (RARP) allows surgeons to remove the prostate with precision, making conservative treatment possible. Nerve-bundles preservation is now often offered to patients to maximize their chance of remaining continent for urine and maintaining erectile function<sup>1-2</sup>.

positive margins<sup>1,3,4,5</sup>.

Neurovascular structure-adjacent frozen-section examination (NeuroSAFE) was introduced in 2005 to enable assessment of posterolateral margins adjacent to the neurovascular bundles. This technique enables a precise IOA, however, it is an elaborated procedure requiring trained resources and taking up to 1 hour. Only a few centers have set up this procedure as their clinical routine.

Unmet medical need :

- Real-time morphology information
- Easy-to-use technique •
- Remote accessibility •

<sup>1</sup>Morozov A, Barret E, Veneziano D, Grigoryan V, Salomon G, Fokin I, Taratkin M, Poddubskaya E, Gomez Rivas J, Puliatti S, Okhunov Z, Cacciamani GE, Checcucci E, Marenco Jiménez JL, Enikeev D; ESUT-YAUWP Group. A systematic review of nerve-sparing surgery for high-risk prostate cancer. Minerva Urol Nephrol. 2021 Jun;73(3):283-291. doi: 10.23736/S2724-6051.20.04178-8. Epub 2021 Jan 13. PMID: 33439578.

Urol. 2019;53(6):385-91.

<sup>3</sup>Jeong, H., Choo, M.S., Cho, M.C. et al. Prediction of surgical margin status and location after radical prostatectomy using positive biopsy sites on 12-core standard prostate biopsy. Sci Rep 12, 4066 (2022). https://doi.org/10.1038/s41598-022-08022-5

<sup>4</sup>Iczkowski KA, Lucia MS. Frequency of positive surgical margin at prostatectomy and its effect on patient outcome. Prostate Cancer. 2011;2011:673021. doi: 10.1155/2011/673021. Epub 2011 Jun 9. PMID: 22110996; PMCID: PMC3200270

333-338 (2015).

However, the absence of adequate intra-operative margin assessment (IOA) makes nerve-sparing surgeries prone to recurrences, with up to 40% of patients detected with

<sup>2</sup>Fossa SD, Beyer B, Dahl AA, Aas K, Eri LM, Kvan E, et al. Improved patient-reported functional outcomes after nerve-sparing radical prostatectomy by using NeuroSAFE technique. Scand J

<sup>5</sup>Izard, J. P. et al. Radical Prostatectomy Predicts Greater Likelihood of Recurrence. 38,

# S

Saman Tree Medical aims to be a game changer in the era of clinical workflow digitalization. We are committed to improving the journey of patients suffering from cancer by enabling fresh tissue analysis in real time to drastically reduce delays in establishing and executing the treatment plan.



Global mapping of the prostate immediately during surgery

The Histolog<sup>®</sup> Scanner is a breakthrough medical imaging modality based on a novel ultra-fast confocal microscopy technology invented in 2010.

Its innovative design makes it highly practical for quick assessment during surgery, bringing the clinician one touch-on-the-screen away from visualizing cancerous cells immediately on a surgical specimen.

In RARP, the Histolog Scanner can be used to scan the whole prostate, enabling clinicians to assess the nerve-adjacent structures as well as the apex in minutes.

6







2 Preparation Immerse the excision in Histolog Dip and rinse it.



Histolog Dip Histological stain

# QUICK & CLEAN

4-steps procedure for accurate margin assessment immediately in the OR

4 Evaluation With this additional information, return to patient in confidence.

> Excision is sent for standard postsurgical pathology assessment.



Imaging Map in minutes the whole excision surface.

3

Excision remains visible and accessible during the entire imaging procedure.

Histolog Dish ..... Single use receptacle

Touchscreen interface Instant access to special features such as reporting & annoting tools



#### **Clinical partners**

The Histolog Scanner is a game changing approach under evaluation by leading centers in Europe for its application in breast, pathology and prostate.

An initial feasibility study was performed with Canisius Wilhelmina Hospital (Netherlands), showing that the Histolog Scanner had similar performances as NeuroSAFE, however with drastic time savings (80%).

These promising data raised the possibility to having a cost-efficient technique for IOA in nerve-sparing surgery. The Histolog® Scanner is currently under evaluation in the course of the NeuroSAFE PROOF clinical trial initiated by the medical team of University College London (UCL) led by Mr Greg Shaw.

#### Reference centers

Canisius Wilhelmina Hospital, Netherlands University College London, United-Kingdom





St. Vincenz Hospital

1 and the second

Heidelberg University Hospital

University Hospital rechts der Isar

Brust Centrum Zürich

### **Clinical evidences**

#### Confocal laser microscopy for assessment of surgical margins during radical prostatectomy

Diederik J.H. Baas, Willem Vreuls, J.P. Michiel Sedelaar, Henricus J.E.J. Vrijhof, Robert J. Hoekstra, Saskia F. Zomer, Geert J.L.H. van Leenders, Jean-Paul A. van Basten, Diederik M. Somford



BJUI 2022

#### **Similar performance** as NeuroSAFE

- Sensitivity = 86% •
- Specificity = 96%
- PPV = 80%
- NPV = 98% •

#### **Drastic time saving**

80% time-reduction •

- Histolog Scanner average time: 8 min
- NeuroSAFE aver-• agem time: 50 min

#### Low resources required

- Used in autonomy by pathologist
- Easy preparation without the need for multiple resources leading to cost reduction

#### **ONGOING EVALUATIONS**

Minimising positive surgical margins in genitourinary cancer surgery using fluorescent confocal microscopy

R. Almeida-Magana, G. Shaw University College Londong Hospital

Increasing nerve-sparing indications with fluorescent confocal microscopy

V. Berges **Oslo University** 



University Hospital

# listolog time Je T ÔC **C** S 2. Learn to images

### Histolog Image Training program (HIT)

Short. Flexible. Simple. A learning program designed for clinicians.

The Histolog Image Training (HIT) was developed with our community of pathologists and experts to provide a simple and efficient way of getting familiar with Histolog images. Designed for both beginners and experienced morphology content readers, the HIT is accessible to all and allows for flexible learning. In and out of the operating theatre, you set the pace and we keep it.





scular bundles to neuro Examples of peripheral area images close

Prostate cancer at the periphery



5% Zoom level (Full Field of View) of Histolog Scanner

Large normal glands can be identified at this magnification. A large vessel is seen within the annotation. The black frame indicates the area that is shown at the highest magnification on the right.

Small suspicious glandular structures are seen on the border of the specimen (artefact of organ dissection exposing inner structures on the surface of the specimen that should not be considered as positive margin implying intraoperative actions).

25% Zoom level (Full Field of View) of Histolog Scanner



Peripheral area close to neurovascular bundles. Large normal glands on the left, large vessel in the center and muscular fibers with connective tissue on the right.

100% Zoom level (Full Field of View) of Histolog Scanner



Large normal glands on the left (G) Large vessel in the center  $(\mathbf{V})$  and Muscular fibers (M).



Cancerous glands are seen in the image. They are small roundish histological structures presenting an epithelial texture surrounded by stroma.

Saman Tree Medical was born out of a novel ultra-fast confocal microscopy technology invented at EPFL (Switzerland) in 2010. Our Histolog Scanner allows medical professionals to identify and remove cancerous tissue with unmatched accuracy and speed; it employs massive parallel confocal microscopy that expands the imaging field by up to 40,000 times larger than standard confocal microscopy. With this capability, clinicians can now visualize large fresh tissue samples in real-time with remarkable resolution and accuracy.

At SamanTree Medical, we believe that collaboration with healthcare professionals is key to creating impactful medical technologies. We work closely with clinicians to understand their needs and develop solutions that truly make a difference in the lives of patients. By combining our partnerships with innovative thinking, we remain at the forefront of the medical imaging industry, supplying cutting-edge solutions that enable clinicians to provide the best possible care for their patients.

Our ultimate objective is to enhance the quality of life for cancer patients. We always keep in mind the significance of prioritizing patients and carrying out our work with empathy and compassion. With a laser focus on growth and expansion, we're committed to making a real difference in the lives of people around the globe.



![](_page_10_Picture_0.jpeg)

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