

## THE POWER OF TECHNOLOGY AND KNOWLEDGE



### Early detection is key: combining imaging and IT solutions with expertise and education, Agfa HealthCare takes a stand in the fight against cancer

Finding cancer can be like looking for the proverbial “needle in a haystack”. But at the same time, early detection is critical: it’s clear that the sooner a cancer is diagnosed and treated, the better the opportunity for a positive outcome. With its expertise and experience in both imaging and IT, Agfa HealthCare seeks to help health care providers bridge this gap between the challenges of detecting cancer early and the critical need to do so. In fact, as Herman Raats, Global Marketing and Sales Director, Imaging Division, Agfa HealthCare, says, “The vast majority of cancer diagnoses come from imaging technology. By delivering the right tools, we can contribute to the fight against cancer.”

Agfa HealthCare has long been a supporter of INCTR. “We as a company have a responsibility in the fight against cancer. Not just to provide solutions and services, but to provide our knowledge and help as well,” comments Frans Dhaenens, Medical Consultant, Agfa HealthCare. “We also take the future of emerging countries seriously; they should – and will – have a chance to take part in health care technology developments!”

### High-Definition Optical Coherence Tomography shows promise in clinical settings

*“While we still see the highest incidence of skin cancers in Australia, we cannot neglect other parts of the world, notably India and Africa, which are becoming areas of concern, as well,”* - Frans Dhaenens, Agfa HealthCare.

There is growing evidence the Optical Coherence Technology (OCT) is a valuable investigative tool in many important clinical settings in dermatology (Alex et al., 2011). Recently, the *Economist* (6 October 2012) reported that OCT may prove valuable in the field of melanoma oncology (“Skin deep, a better way to diagnose skin cancers”) citing published research from the University of Vienna/Ludwig-Maximilians-University, Munich (Blatter et al, 2012).

Agfa HealthCare has developed SKINTELL™\*, a High-Definition Optical Coherence Tomography (HD-OCT) to make

reliable, high-resolution OCT technology commercially available to the research community.

With skin cancer incidence rising, early detection is increasingly important. SKINTELL allows 3D imaging of the epidermal and dermal skin layers, for non-invasive visualization of skin morphology and measurement of dimensions in the skin layers. SKINTELL can be used to perform in vivo biopsies of suspect tissue, and has the potential to provide guidance for optimizing biopsies of skin tumours.

Dermatologist/allergologist Dr Marc Boone, a recognized expert in early skin cancer detection, has been using SKINTELL in his Brussels, Belgium-based private practice. He is convinced that medical imaging technology will increasingly play a key role in dermatology diagnosis and treatment. “The SKINTELL technology is extremely attractive: it’s non-invasive and fast. Agfa HealthCare has continued to improve the axial and lateral resolution of the images in such a way that even individual cells can be detected... SKINTELL will help us increase our understanding of the human skin.”

Dr Véronique del Marmol of the Free University of Brussels, Erasmus Hospital, Lennik, Belgium uses SKINTELL: “HD OCT provides very rapid, clinically relevant information including the extent of lesions in basal cell carcinoma, actinic keratosis and squamous cell carcinoma, as well inflammatory disease where the Ackerman algorithm can be applied. HD-OCT is rapidly becoming an essential tool for an academic dermatology department.”

Dr Tanja Maier uses SKINTELL HD OCT at the Ludwig-Maximilians-University in Munich, Germany. She comments: “SKINTELL offers the possibility of immediate diagnosis of epithelial skin cancer and has potential in the non-invasive monitoring of skin tumours under topical treatment. It facilitates and accelerates the diagnostic process in daily practice.”

### Breast cancer screening: A global need with local challenges

*“Not only do our CR and needle-IP solutions offer excellent image quality, but Agfa HealthCare also offers the tools to have this quality standardized wherever they are used in the world. That’s an important advantage for emerging countries.”* - Herman Raats, Agfa HealthCare

Like skin cancer rates, breast cancer rates are rising around

\* Not available yet in Canada and the USA

the world, including in younger age groups. And while emerging countries have the same needs for cancer detection and treatment as economically developed countries, they face additional challenges – whether in infrastructure, patient education, user training or physical distance.

“Our digital solutions for mammography focus on addressing a ‘triangle’ of challenges for the care provider: finding the best resolution, enhancing the image readability with our MUSICA2 image processing software, and minimizing radiation doses for the patient,” Mr Raats comments. “Above all, we aim to offer a complete portfolio that always provides what we call ‘no compromises’ image quality but that still suits the specific situation of every facility.”

Agfa HealthCare’s technologies, such as its computed radiography (CR) mammography solutions and needle-IP detectors, are central to the company’s efforts to surmount that trio of challenges. Both improve resolution, and by decreasing and even eliminating the need for repeated images, play a role in reducing radiation dose. And this will continue into the future, explains Frans Dhaenens. “As we move from CR to needle-IP and through to digital radiography (DR), the technology is increasingly sensitive, which will allow further patient dose reduction even while improving image quality. Dose versus image quality: that is the constant balance, and through R&D we will continue to shift it.”

### Knowledge makes the difference: Training, education and programmes

“We are seeking a more holistic approach to mammography...The curriculum of the School of Modern Mammography in the Ukraine has been developed by Agfa HealthCare. It incorporates European guidelines for mammography diagnostics and screening.” - Dr Galina Mastruk, Gynecologist-Oncologist, Ukraine

“Every customer anywhere in the world should be able to get the most from their Agfa HealthCare solutions,” insists Frans Dhaenens. “The effectiveness of screening depends on training, knowledge and better organization.” For example, a CR solution may be capable of detecting micro-calcifications in the breast, but that is only half the battle: the physician has to be able to see it and recognize it. Agfa HealthCare provides screening courses for radiologists, both at a basic level and then at higher levels. Beyond the role of the radiologist, Agfa HealthCare offers devices and information on how to maintain the quality of the solutions themselves.

But awareness cannot focus only on the health care provider: the patient must be involved as well. “The knowledge women have on how to prevent breast cancer is astonishingly low,” says Dr Fabienne Liebens, Head of the Multidisciplinary Breast Clinic and Breast Screening Clinic ISALA, Saint-Pierre Hospital,

Brussels. “Agfa HealthCare partners with us in patient-focused programmes through support of a wide range of endeavours to increase breast health awareness among women and medical professionals.”

### IT: It takes a team to fight cancer

“For successful treatment, the right person needs the right information at the right time. Our IT solutions improve workflow and information flow.” - Herman Raats, Agfa HealthCare

Cancer treatment has become a real team effort, rather than the responsibility of a single doctor. The teams, however, can be spread far and wide. “Our IT solutions can create virtual interaction between tumour boards, for example,” explains Frans Dhaenens. “And they can overcome the long distances faced, particularly in emerging countries.” On a day-to-day level, the PACS-based workflow of Agfa HealthCare’s IMPAX solutions helps facilities, teams and individual doctors to lighten their heavy workflows, save time and improve information flows.

On a more global level, Agfa HealthCare’s IT solutions can be used to maximize the use of existing data: extracting knowledge to advance cancer protocols, collecting data helpful in determining the characteristics of certain cancers, and intelligently deducing knowledge.

“Our solutions, our portfolio and our whole ‘story’, show how we, like INCTR, are committed, to fighting and beating cancer,” concludes Frans Dhaenens. “It’s a continuing battle, it’s a global battle, it is a battle we must fight together. Agfa HealthCare will continue to do our part by developing tools, technology and knowledge that support the efforts of the medical community.”

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