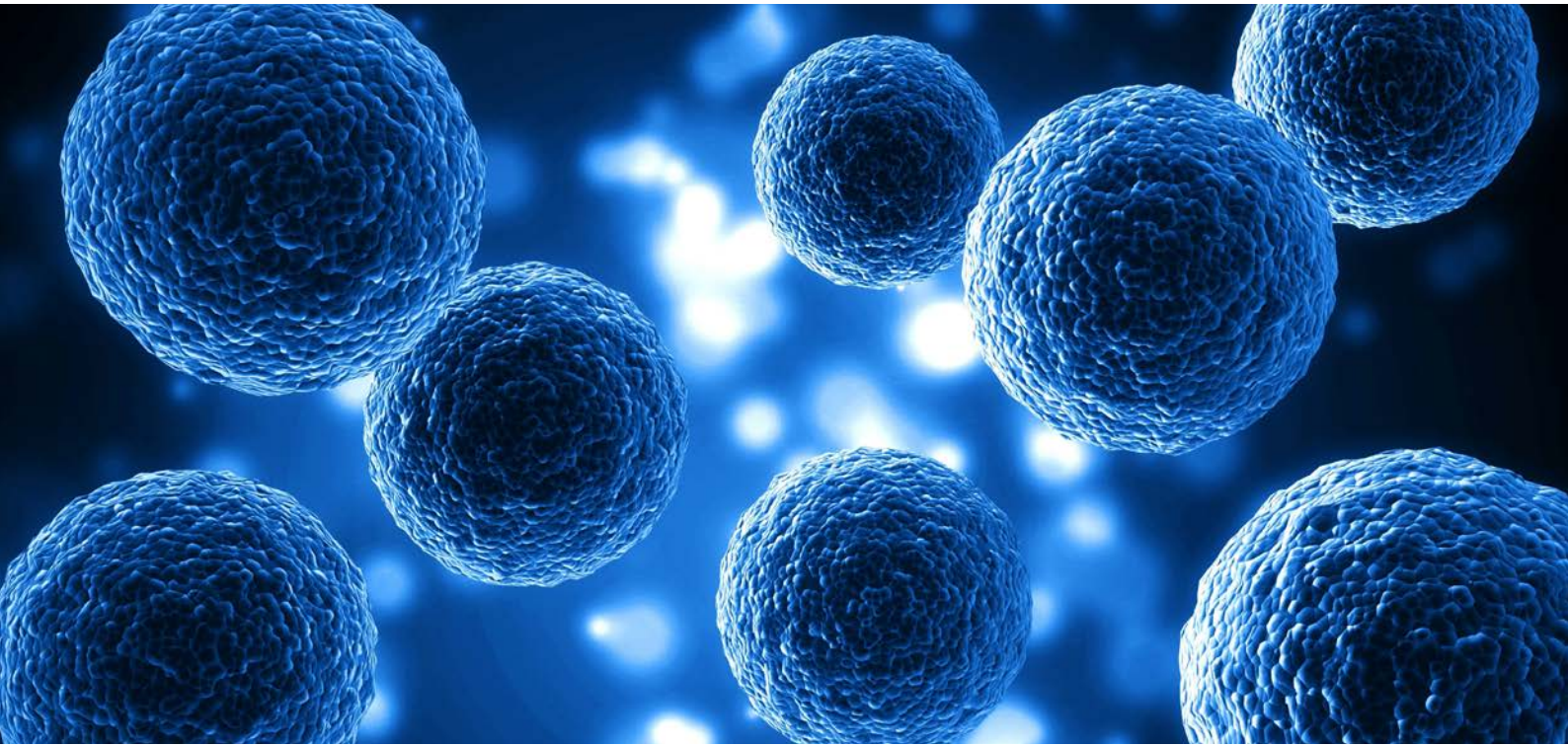




SWISS MEDICAL
NETWORK

SCIENTIFIC REPORT 2023

SWISS MEDICAL NETWORK



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FOREWORD – SCIENCE AND INNOVATION, OR HOW SWISS MEDICAL NETWORK IS PUSHING ITS BOUNDARIES TO NEW HORIZONS

As highlighted in previous annual reports, Swiss Medical Network is advancing its research initiatives under the «Science and Innovation» framework, which forms the core of its scientific strategy.

These initiatives focus primarily on two key areas: clinical and translational research.

At Swiss Medical Network, clinical research spans a range of medical specialties, including oncology, orthopedics, ophthalmology, interventional radiology, neurosurgery, regenerative medicine, and urology. Current clinical studies are exploring new pharmaceuticals and biologic treatments in fields like oncology and regenerative medicine, as well as cutting-edge medical technology in neurosurgery and ophthalmology. Of note, the partnership agreement established in 2023 between Swiss Medical Network and the European Institute of Oncology in Milan will significantly strengthen and expedite the clinical research conducted by our Group in its ongoing battle against cancer over the past three decades.

Translational research at Swiss Medical Network aims to bridge the gap between laboratory discoveries and clinical applications. This research emphasizes precision medicine, also known as personalized medicine, and the identification of predictive biomarkers. Key examples include using targeted next-generation sequencing (NGS) to enhance tumor treatment responses in patients with lung cancer, melanoma, or ovarian carcinoma, moving away from the traditional one-size-fits-all approach.

A major goal of Swiss Medical Network is to integrate the research efforts of the Genolier Innovation Hub with clinical teams to strengthen biomedical ecosystems in collaboration with national and international partners.

In 2023, the Network's research teams demonstrated their commitment to expanding the scope of biomolecular and technological innovations, thereby pushing the boundaries of scientific exploration.

Jacques Bernier, MD
Chief Science Officer
Swiss Medical Network

SCIENCE AND INNOVATION: KEY FIGURES

14/21

Clinics and Hospitals
with active research teams

16

Research
programs

5

Main research domains
Oncology - Ophthalmology
Orthopedics - Surgery - Genomics

139

Publications
(Including Swiss Medical
Network co-authorships)

4

8

On-going
clinical studies

>50

Scientific
communications

91

Publications in journals with
impact factor 2.0-10.0

29*

Publications in journals with
impact factor >10.0-50.0

* IF: 5 > 50.0

KEY MESSAGES

EMPHASIS ON INNOVATION

- Swiss Medical Network aligns its priorities with ongoing biomedical research initiatives in collaboration with Genolier Innovation Network and other scientific partners.
- Science and Innovation plays a pivotal role in expediting the transition of innovative solutions to clinical practice, particularly in precision medicine.
- Collaboration with external entities: Science and Innovation places a strong emphasis on collaboration, working closely with federal and international organizations like the Réseau Romand d'Oncologie, EPFL-Lausanne, ETHZ-Zurich, SAKK-Bern, EORTC-Brussels, IRCAD-Strasbourg, IEO-Milan, and more.

FOCUS ON RESEARCH PROGRAMS

- Swiss Medical Network is actively involved in translational, clinical and technology-driven research.
- It also initiates outcome research programs through Science and Innovation to promote access to value-based medicine and integrated care.

STRUCTURES AND ORGANIZATION

- Science and Innovation creates «bench to bedside» ecosystems to ensure access to clinical studies at Clinique de Genolier and other Swiss Medical Network sites.
- It facilitates coordinated efforts among researchers within Swiss Medical Network, including the consolidation of databases.
- The organization forms partnerships with key Swiss institutions engaged in biomedical research, such as Biopôle in Lausanne and StartUp Club SITEM-Insel in Bern.

OPERATIONAL ASPECTS

- Science and Innovation actively participates in prospective clinical trials while adhering to strict quality assurance and bioethical standards.
- It broadens its scientific scope to encompass emerging areas like data science, digital health, and genomics.
- The organization proactively forecasts and monitors the scientific needs of researchers in real-time.
- It hosts events exclusively dedicated to innovation and Research & Development.
- Additionally, Science and Innovation promotes scientific educational and training programs to support the growth of knowledge and skills in the field.



STRATEGIZING RESEARCH FOR IMPACT

In biomedical medicine as in most research domains, scientific knowledge is gained and strengthened through systematic and careful observation of the pre-clinical and clinical endpoints defined by research teams. In general, to access knowledge requires the use of rigorous algorithms pertaining to sequential steps, ranging from the «from bench to bedside» approaches selected to address the relevant issue(s) to the methodologies applied to solve specific problems raised by complex clinical settings.

Nowadays health and healthcare are experiencing both increasing challenges (such as economic pressures) and growing reform opportunities (such as moves to value-based strategies). Both of them significantly impact our translational and clinical research strategies, whatever their types (academic or company-driven). At the same time, the fact that these strategies and policies are getting more and more complex exacerbates the necessity to make well focused choices, especially in private entities such as Swiss Medical Network.

Furthermore, strategizing biomedical research does have a significant impact on scientist's, doctor's and patient's options, organizational intricacies of combined investigational methods, and treatment outcomes. Last but not least, our choices are also to be defined in a way that our research pathways play important roles in enhancing sustainability imperatives and differentiation objectives.

In our 2022 scientific report, we pointed out how much the concept of «almost all development may be co-development» was one of the mottos we privilege along the «scalability» processes of our Science and Innovation community.

This is indeed an important part of the objectives that we are pursuing in framework of the research programs our teams are developing, with our efforts **put forth in 5 main directions**:

1. in regards to **clinical translational research**, to use evidence-based model systems;
2. regarding **med-tech research models**, to adopt and qualify innovative technologies;
3. with respect to **education**: to use and develop efficient, clinically relevant training tools;
4. in terms of **regulation**: to focus on patient centric requirements;
5. in regards to **interaction between translational research and patient engagement**: to involve active patients in the framework of studies with strong translational vocation.

Interdisciplinary, evidence-based models and accurate identification of clinical needs are among the main requirements to put in place if we want to move our innovative solutions discoveries more efficiently into the clinical setting, especially when we deal with new drugs.

RESEARCH

RESEARCH ORGANIZATION AND STRUCTURE

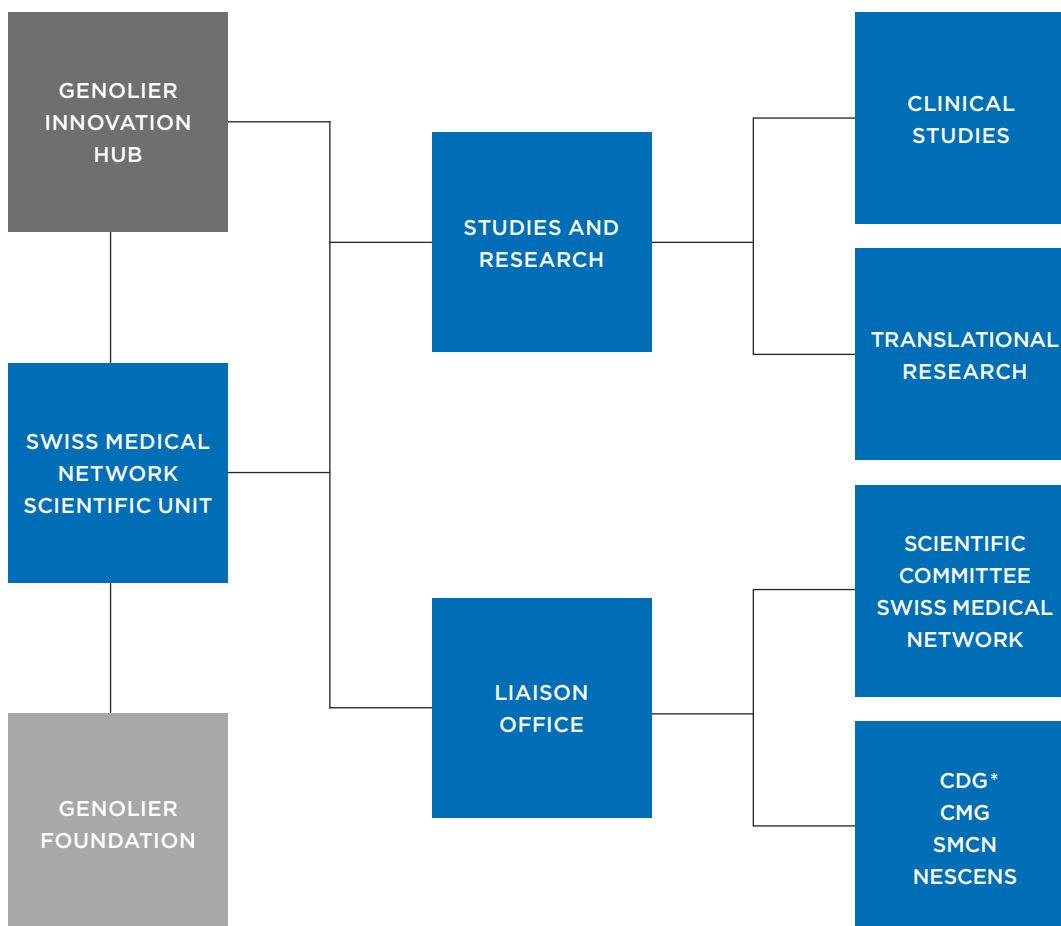
- The **Scientific Executive Committee** is a governing body with various advisory and supervisory functions, reporting directly to Swiss Medical Network's Board of Directors. Its role is to support and promote research at all sites.
- The **Swiss Medical Network – Scientific Committee** coordinates plans and policies between the two entities, with a view to take concerted actions, fosters and aligns cooperation and strategies regarding the development of research programs conducted within Swiss Medical Network and other related organizations. Its focus lies in:
 - Paving the way for high-quality research;
 - Incentivizing the creation and development of research units in specific areas;
 - Spotlighting interactions with internal and external research institutes;
 - Actively supporting fundraising activities (Genolier Foundation);
 - Allocating research budgets;
 - Advising on financing measures for submitted scientific projects.
- The **Project Steering Committee** is composed of physicians covering different specialties and being active in various sites of Swiss Medical Network. It includes experts from research domains such as Oncology (namely Medical Oncology, Radio-Oncology, and Oncological Surgery), Orthopedic Surgery, Ophthalmology, and Cardiology and pursues three main tasks:
 - Its multi-disciplinarity is aiming at strengthening Swiss Medical Network as a bio-medical research network;
 - Through the leadership of its members, this committee is bound to breed grounds for innovations through participative and interactive processes, both inside Swiss Medical Network and with other national and international research bodies;
 - The Project Steering Committee promotes research strategies aiming at a mutual integration of Genolier Innovation Hub and Swiss Medical Network's scientific platform.

Dedicated liaisons aim at facilitating the harmonization of plans and policies between these three entities – this with a view to achieving concerted actions, cooperation, and coordination of strategies along the development of research programs conducted within Swiss Medical Network and other related organizations.

Swiss Medical Network's research actions comply with the recommendations established by the Swiss Academy of Medical Sciences and bio-ethical cantonal authorities.

STRUCTURE, BODIES AND RESEARCH AXES GENOLIER HEALTHCARE CAMPUS

The figure provides an overview of the various structures, bodies, and research axes that compose the general organization of the Genolier Healthcare Campus and Swiss Medical Network's global research platform.



* CDG: Clinique de Genolier
 CMG: Centre Médical de Genolier
 SMCN: Swiss Multidisciplinary Cancer Network

RESEARCH GOVERNANCE

SCIENTIFIC EXECUTIVE COMMITTEE

(In alphabetical order)



Jacques Bernier
Chief Science Officer
Swiss Medical Network

Specialist in Radio-Oncology and Nuclear Medicine from the University of Liège in Belgium, Jacques Bernier is the Chief Science Officer of Genolier Innovation Network. From 2006 until 2019, he was Head of the Radiation Oncology Department at Clinique de Genolier and Medical Director of Centre d’Oncologie des Eaux-Vives. He is the author/co-author of more than 140 scientific publications in peer-reviewed journals and more than 200 communications in national and international meetings.



Antoine Hubert
Delegate of the Board
of Directors
Swiss Medical Network

Prior to acquiring a stake in Clinique de Genolier in 2002 and founding Swiss Medical Network in 2004, Antoine Hubert was mainly active in the property and real estate industry, has set up businesses and served as a director to several companies in various industries.



Stanley Hautdidier
Director
Clinique de Genolier

An engineer by training and holding a master’s degree in management, Stanley Hautdidier began his career with the world leader in endoscopy and operative integration as sales manager for integrated operating rooms on behalf of the Belgian, Luxembourg and Swiss subsidiaries. Subsequently, he was CEO of an orthopedic company in Switzerland, in parallel with a consultant activity in the health sector.



Dr. Michael Montemurro
Representative member
of the medical oncologists
Clinique de Genolier
(Swiss Multidisciplinary
Cancer Network)

Specialized in internal medicine, hematology and medical oncology, Dr Michael Montemurro held the position of Deputy Physician at CHUV Lausanne from 2016 to 2020 and is consultant medical oncologist at University College London Hospitals since 2021. He has a noteworthy academic and professional background. His expertise and research contributions, particularly in the field of gastrointestinal cancers and sarcomas, are internationally recognized.

SWISS MEDICAL NETWORK – SCIENTIFIC COMMITTEE

(In alphabetical order)



Dr. Matti Aapro
Clinique de Genolier



Dr. Philippe Glasson
President of the
Scientific Committee
Swiss Medical Network



Dr. Jacques Bernier
Swiss Medical Network



Dr. Oscar Matzinger
Clinique de Genolier



Dr. Daniel Christen
Privatklinik Bethanien



Dr. Christophe Cordier
Medisyn



Pr Guido Garavaglia
Clinica Ars Medica



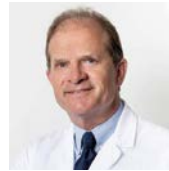
PROJECT STEERING COMMITTEE

(In alphabetical order)

COORDINATORS



Dr. Jacques Bernier
Chief Science Officer
Swiss Medical Network



Pr. Walter Weder
Thoracic Surgery
Privatklinik Bethanien

MEMBERS



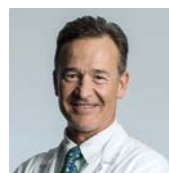
Pr. Guido Garavaglia
Orthopedic Surgery
Clinica Ars Medica



Dr. Oscar Matzinger
Radiation Oncology
Clinique de Genolier



Dr. Volker Kirchner
Medical Oncology
Clinique de Genolier



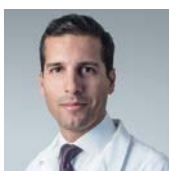
Dr. Gabor Sütsch
Cardiovascular Diseases
Privatklinik Bethanien



Dr. Antoine Leimgruber
Nuclear Medicine
Clinique de Genolier



Pr. Victor Valderrabano
Orthopedic Surgery
Schmerzlinik Basel



Pr. Kaweh Mansouri
Ophthalmology
Swiss Visio Network



Dr. Fabian Von Knoch
Orthopedic Surgery
Privatklinik Bethanien

RESEARCH STRATEGY

Science and Innovation covers various activities: among others, prevention, diagnosis, treatment, and post-therapeutic monitoring. By collecting evidence, its strategy is to determine the safety and efficacy of diagnostic procedures and treatment regimens along the paths to value-based medicine.

PRECISION MEDICINE

Through meticulous analysis of patient data and the integration of cutting-edge technologies, doctors within the network pioneer research on precision medicine approaches. Current and future studies should aim at demonstrating how tailoring medical treatments to individual patients' genetic and molecular profiles can lead to improved outcomes and personalized care.

INNOVATIONS IN DIAGNOSTIC IMAGING

Swiss Medical Network's research teams contribute to groundbreaking advancements in diagnostic imaging techniques. Their research objective is to reveal novel insights into non-invasive imaging modalities. Facilitating earlier and more accurate disease detection holds great promise for revolutionizing early diagnosis and intervention strategies.

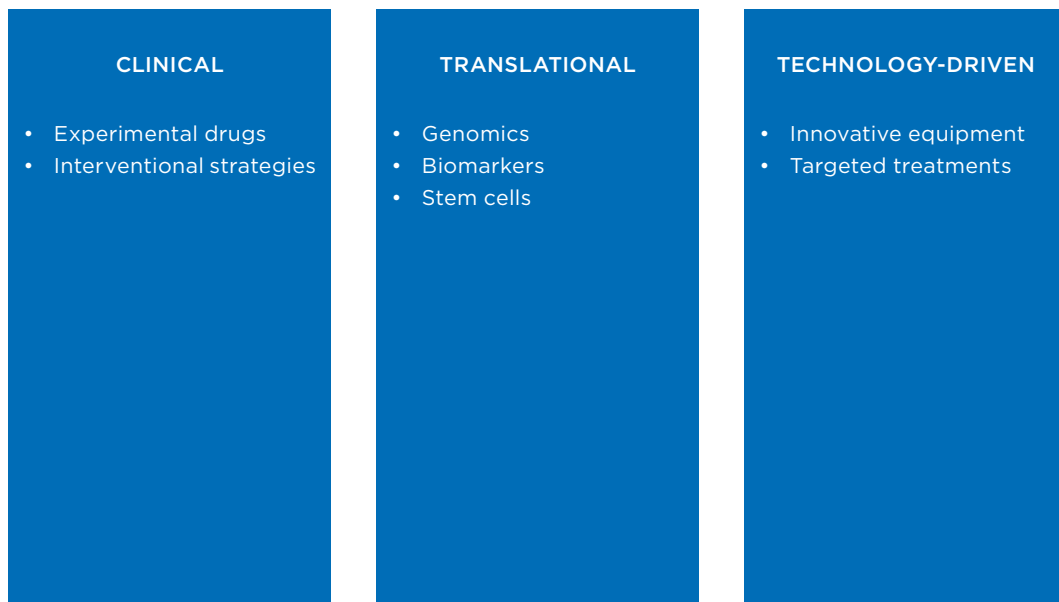
THERAPEUTIC INNOVATIONS

Thanks to collaborative efforts to develop novel therapeutic approaches and unravel the intricate mechanisms underlying various diseases, doctors within the network are laying the groundwork for innovative treatments, including outcome measurements and translational research that have the potential to transform patient care.

ADVANCING TELEMEDICINE AND DIGITAL HEALTH

The network's physicians embrace the digital era, exploring the integration of telemedicine and digital health solutions into clinical practice. Research in this area highlights the potential for improved patient accessibility, real-time monitoring, and enhanced health-care delivery through virtual platforms.

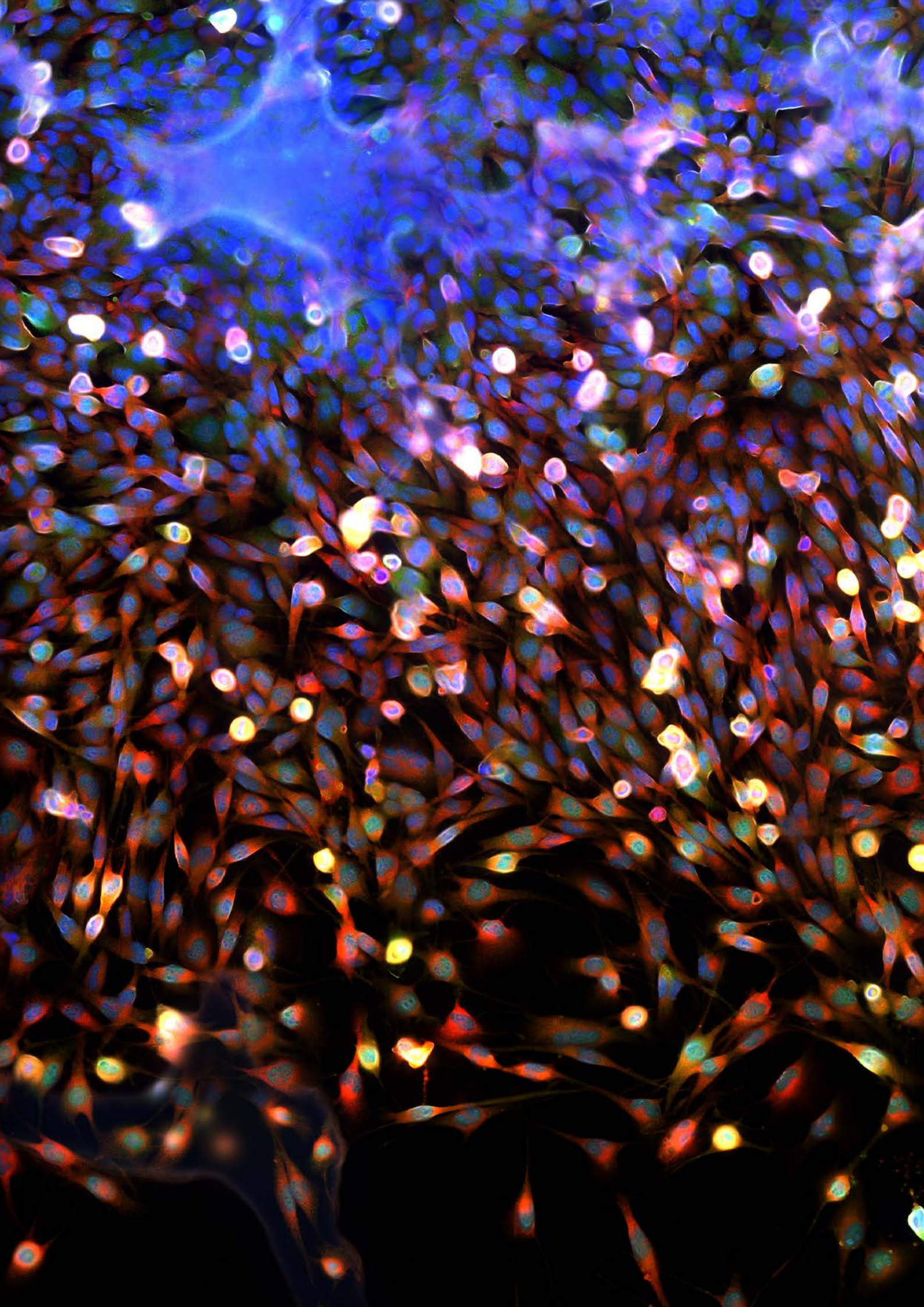
SCIENCE AND INNOVATION: MAIN RESEARCH AXES



A large number of scientific programs are currently conducted by the Swiss Medical network's research teams along 3 main axes, namely clinical research, translational research, and technology-driven research. All of them are developed in accordance with applicable national and international regulations and directives (Quality Assurance, audits, GCP, GMP, etc.).

As a general policy, Science and Innovation adheres to the roadmap proposed by the Swiss Academy of Medical Sciences in their recent «White Paper» (Tapernoux M, Bassetti CLA. Bulletin des Médecins Suisses 2022; 103: 179-18; <https://doi.org/10.4414/bms.2022.20455>), which sets out an action plan with seven objectives, in patient-centered clinical research:

1. Create a national platform for the coordination of public actors in clinical research;
2. Build strong partnerships with society, citizens and patients;
3. Promote a system of care that systematically integrates clinical research: Good care comes with – and from – good science;
4. Invest in the development of innovative approaches, methods and technologies in clinical research, made possible by digital technology;
5. Strengthen translational, multidisciplinary and integrated clinical research teams;
6. Ensure an attractive environment for clinical and care researchers that supports them at all career levels;
7. Reduce the complexity of regulatory and data-related processes to increase efficiency and accelerate the translation of clinical research.



ONGOING RESEARCH DOMAINS

(In alphabetical order)

CELL THERAPIES

Gianni Soldatil (Summary of Swiss Stem Cell Foundation activities - SSCF, Lugano)

SSCF is a nonprofit foundation created in 2006 and part of Swiss Medical Network since March 2022. After a period of dormancy due to the pandemic the research activity was restarted with a small research group and is gradually increasing after activation of contacts established during the last 10 years in Switzerland and abroad. This has led SSCF to reactivate stand-by projects but also to push forward new projects. In the table below we illustrate the on-going projects.

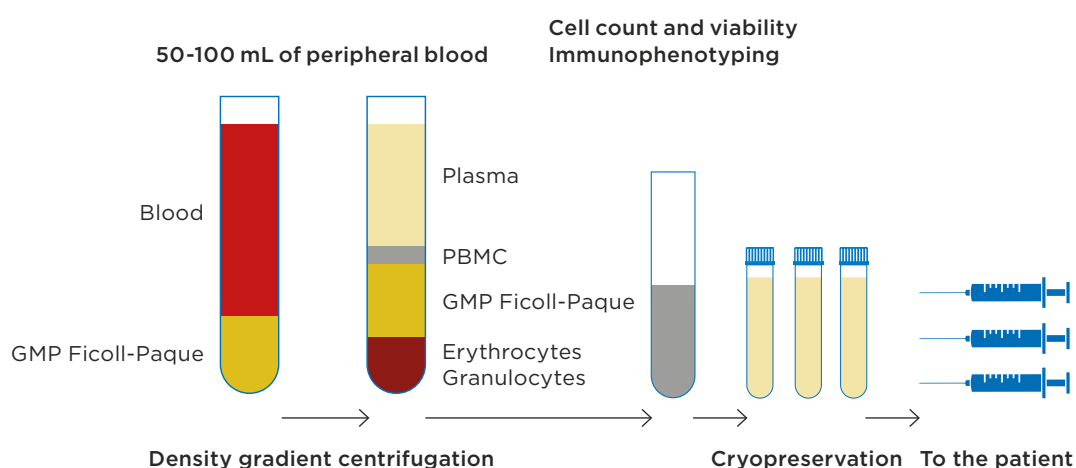
RUNNING PROJECTS

	2023	2023	2024	2025
1 Adipobanking	Technology transferred to SSCB			
2	Monocytes pre-clinical		Clinical trial in collaboration with SSCB	
3	Cosmetics pre-clinical and clinical trial		Start of production	
4	Allogenic use of MSCs (CHUV)/LAM		GMP production in collaboration with SSCB	
5	Characterization of SVF populations in collaboration with EPFL			
6	MSCs expansion pre-clinical		GMP production in collaboration with SSCB	
7	Orthopedics: biobanking of native adipose tissue		GMP production in collaboration with SSCB	
8	Technology transfer to Dubai			

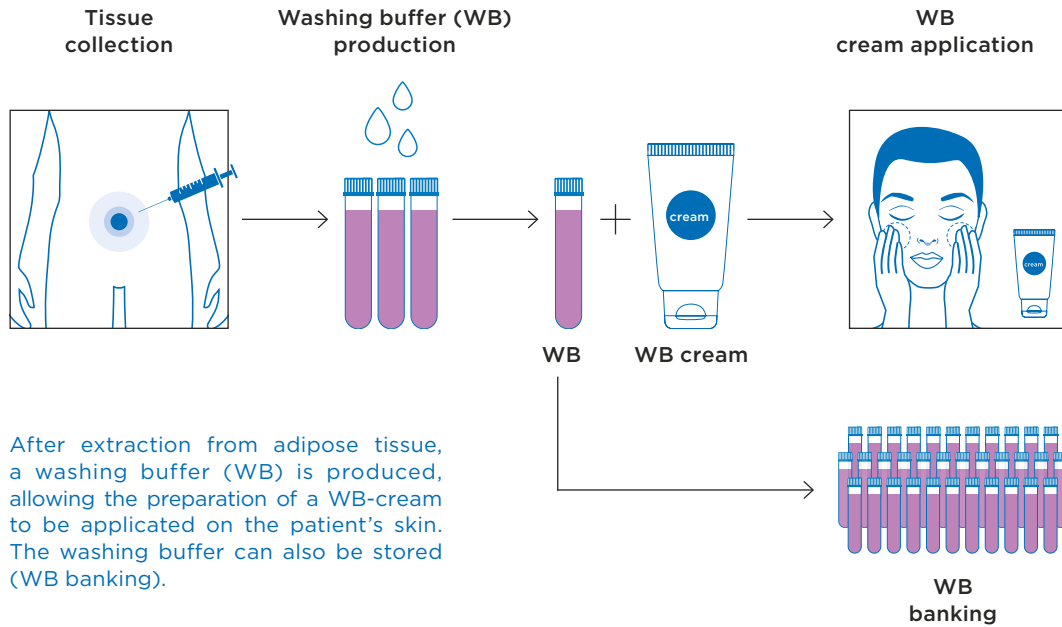
We describe here below, project by project, the **research activity** of SSCF in the past year.

1. SSCF developed since 2012 the biobanking of adipose tissue cells, called stromal vascular fraction (SVF), which is the entire cellular fraction contained in the adipose tissue after enzymatic digestion. This project was put on the market in 2014 at the Technopark Zurich and the technology transferred in 2020 to the Swiss Stem Cells Biotech in Vacallo, Switzerland. This company is actually selling the isolation and biobanking of SVF under the license of SSCF who owns the patent for the process and is waiting from the authorities to get a market authorization for this product.
2. The monocyte project, aiming at the GMP production of hypoxic monocytes for critical limb ischemia has been upgraded in the GMP facility of SSCB, a private company with whom SSCF works for cell therapies and a publication appeared in September on International Journal of Molecular Medicine. This project has now become the attention of a private company who would like to commercialize the monocyte product for critical limb ischemia. Here we show the preparation of monocytes starting from peripheral blood.

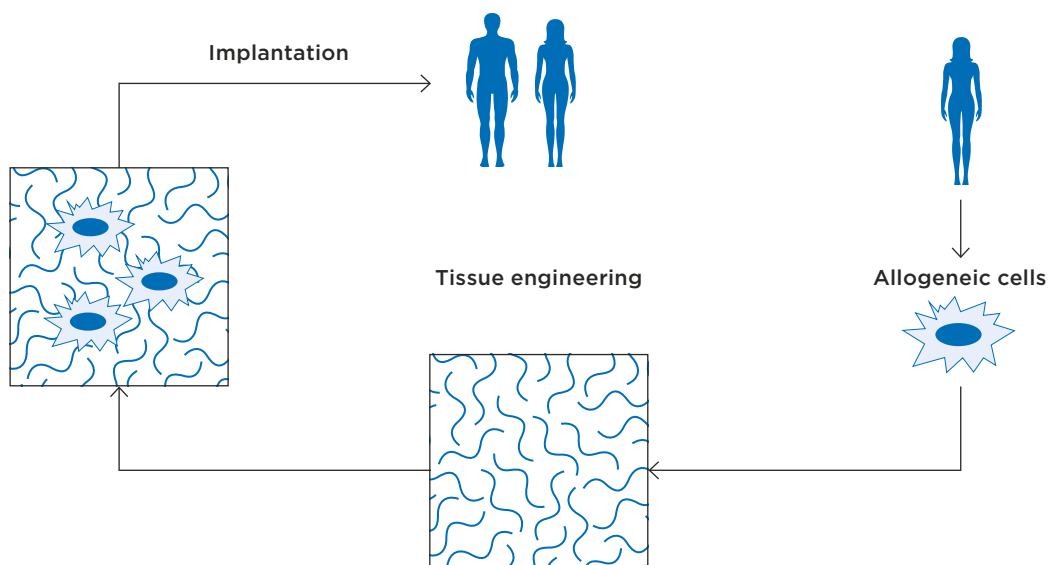
18



3. We realized in 2019 that stromal vascular fraction (SVF) coming from adipose tissue extraction could contain exosomes, meaning very small extra-cellular vesicles budding from mesenchymal stem cells present in the cell suspension. This led us start a project aiming at the production of a «washing buffer» containing exosomes for skin rejuvenation. The project was started in collaboration with Dr. Sophie Menkes, at the Clinique de Genolier. The project idea is summarized in the following figure.

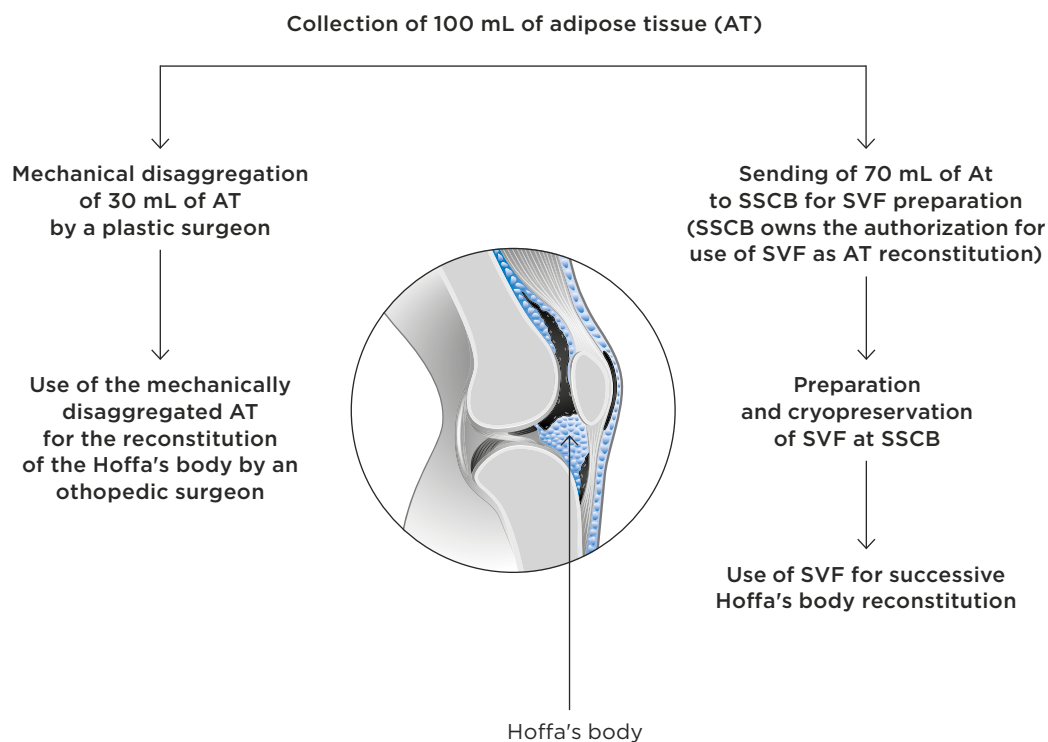


4. A tissue engineering project, aiming at the treatment of patients with expanded allogeneic cells seeded onto a synthetic scaffold, has been initiated in July 2022 in collaboration with a private company established in EPFL campus and in collaboration with Prof. Ann-Lee Applegate of CHUV. The idea here is to allow allogeneic cells from a donor to colonize a rope-like synthetic scaffold and transplant the resulting tissue engineered product in a hand of a patient.



5. The collaboration with EPFL in particular with the group of Prof. Bart Deplancke has been in stand-by in the years of the pandemic but is going to be re-activated in 2024 by expanding the collaboration with this worldwide known institute.
6. The use of stem cells in cell therapies are going to revolutionize the medical field of therapies and in this regard, banking of SVF cells or adipose-derived mesenchymal stem cells (MSCs) will be probably the future of cell therapies. SSCF has already published a paper concerning cell expansion (see literature below) and is actually upgrading cell expansion in a GMP facility in collaboration with SSCB in Vacallo. Results of the pre-clinical tests are already available and the first cell expansion in an isolator under GMP conditions will be performed starting 2024.
7. SSCF is also evaluating a new biobank product based on adipose tissue that could be useful for patients in orthopedics applications. Following the new Swiss legislature, orthopedic applications using mechanically dissociated adipose tissue or adipose-derived stromal vascular fraction could be considered as homologous transplants in knees, opening the way to this application that has been referred in literature as beneficial for patients suffering of osteoarthritis of the knee. The following figure shows the approach to this pathology by single intra-operative intervention and parallel banking of cells.

20



8. The request for this kind of technology is now evident worldwide and many contacts have been established to transfer our SVF-producing technology to other countries. The more concrete contact we had beginning 2023 has been with a group of investors aiming at the promotion of this technology in Arabic countries. SSCF is working actively to materialize the project.

Giulio Rusconi and colleagues published an article entitled «GMP-compliant cryopreserved and thawed native adipose tissue ready for fat grafting» in Plastic and Reconstructive Surgery (<https://pubmed.ncbi.nlm.nih.gov/37760974/>).

SSCF organized the «8th International Congress on Adipose Stem cell Treatments (iCAST)». In 2023 we repeated the meeting with a more practical approach in the technology of SVF production through mechanical devices. The program of the meeting together with the past meetings can be downloaded from the SSCF website.

Luca Mariotta (Summary of Swiss Stem Cells Biotech - SSCB activities, Zurich)

SSCB Swiss Stem Cells Biotech was founded in 2005 by a group of visionary researchers and doctors operating at the Cardiocentro Ticino in Lugano (Switzerland) and is today one of the leading cell biobanks in Europe. As the first private umbilical cord blood bank in Switzerland and a pioneer in cell banking, the company has since then been a complete provider of cryopreservation services for the collection, processing and storage of stem cells from umbilical cord blood and umbilical cord tissue, and now adipose tissue.

Some research projects were carried out in collaboration with the Swiss Stem Cell Foundation, in particular SSCB was supporting with its GMP certified environments, isolators and clean room technologies in the publication «Processing Adipose Tissue Samples in a GMP Environment Standardizes the Use of SVF in Cell Therapy Treatments: Data on 302 Patients».

(Cremona et. al., 2023; <https://pubmed.ncbi.nlm.nih.gov/37760974/>).

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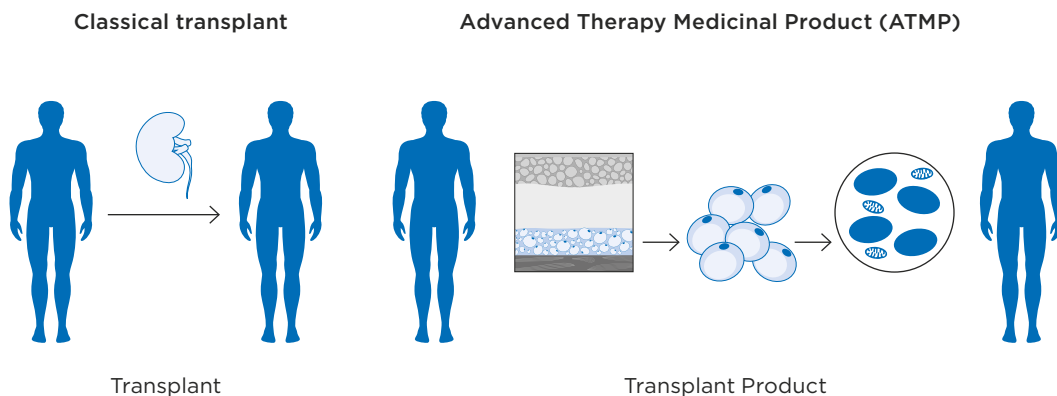
Other R&D activities were carried out, on the following topics:

1. Project cryopreservation of native unprocessed adipose tissue in a GMP standardized environment ready for fat autograft for aesthetic and orthopedic applications. Currently autologous fat grafting is performed in one single operation step, starting with a liposuction. With this project the aim was to define an effective protocol to freeze part of the lipoaspirate in order to provide a quick access in case of need avoiding additional liposuctions and operating times. This project was carried out in collaboration with the Swiss Stem Cell Foundation and a manuscript summarizing the results has recently been submitted for peer review. The process was standardized and validated by SSCB in order to be GMP compliant to GMP guidelines and the product has been already successfully used in several clinical cases in Switzerland.
2. Project storage of adult peripheral blood and cellular reprogramming offers a concept that revolutionizes the way aging and cellular therapeutical applications are approached. Through a meticulous process, the potential of own blood cells is preserved for future clinical applications. The process begins by obtaining a sample of the customer's own peripheral blood, followed by the purification of the mononucleated cells contained within. These cells are then cryopreserved at a low temperature of $\leq 150^{\circ}\text{C}$, effectively locking them in time without undergoing any aging processes. This state-of-the-art cryopreservation ensures that the cells remain viable and available for clinical use for decades to come. The entire procedure adheres to stringent GMP compliant manufacturing standards, ensuring the cells' suitability for a wide range of future advanced therapy clinical applications. Next steps are the reprogramming and differentiation of the cells for different clinical applications such as the treatment of neurodegenerative diseases, among a big potential on other fields.

3. In the project CAR-T, a feasibility study was conducted and presented to Swissmedic in order to assess if the GMP accredited facility operated by SSCB could also be used for manufacturing of antitumoral CAR-T cell therapies for clinical trials. The goal for SSCB is to act as a contract development and manufacturing organization (CDMO) by exploiting the acquired expertise and state of the art cleanrooms equipped with independent isolators. The study revealed which necessary actions are required to obtain Swissmedic license approval. Therefore, SSCB committed to undertake all the necessary steps and the facility will be probably able to offer such service starting in mid 2024.

4. Elementary Units of Human Amniotic Membrane (HAMT-EU). The amniotic membrane represents the innermost layer of the fetal membranes, lining the cavity within which the fetus develops during pregnancy. The defrosted cryopreserved patch of human amniotic membrane is currently (for about 100 years) used in ophthalmology for the treatment of persistent epithelial defects, chronic corneal ulcers, partial corneal limbus deficiency, bullous keratopathy and other diseases of the ocular surface. The innovative use consists in overcoming the surgical method of suturing the tissue on the diseased part by applying the transplant in a non-surgical form. The patient may not go to the operating room but receive the transplant on an outpatient basis or in a «protected clinic». SSCB is in the process of finalization of the validation and standardization of the protocol in order to offer this new product.

REGULATORY FRAMEWORK



Compared to classical transplantation, Advanced Therapy Medicinal Products (ATMPs) include gene therapies, somatic cell therapies, and tissue-engineered products that are based on genes, cells, or tissues. Often manufactured to work at the cellular or molecular level for regenerative purposes, they offer targeted and personalized treatment options.

DIGITAL HEALTH AND DATA SCIENCE IN HEALTHCARE

Patrick Bizeau (Swiss Medical Network IT Team)

The IT team is setting up the Swiss Medical Network data lake, which will be the foundation of data science for the Group.

GENOMICS

Kathrin Aprile von Hohenstaufen Puoti (Clinique de Genolier)

Kathrin Aprile von Hohenstaufen Puoti co-authored an article published in Nature, which showed that whole-genome sequencing reveals host factors underlying critical COVID-19.

INTERNAL MEDICINE

Pierre-Olivier Lang (Clinique de Genolier)

Pierre-Olivier Lang co-authored a scientific contribution on the impact of an early geriatric rehabilitation program in acutely hospitalized vulnerable patients, based on a real-life study in Switzerland. He also published three detailed reviews on the natural history and management of herpes zoster, and a contribution regarding its plan of vaccination.

INTERVENTIONAL RADIOLOGY

Pierre Bize (Clinique de Genolier)

In the field of interventional radiology, Pierre Bize continued to investigate the role of cryoablation in the management of various pathologies.

Pierre Bize also continued to participate to the clinical study entitled: «NICOLE: Neovessels embolization In Chronic Lateral Epicondylitis: a prospective, randomized, double blinded and controlled study.»

This prospective, single-center, randomized, controlled, double-blind, interventional study, the principal investigator of which is Frédéric Vauclair (CHUV), evaluates the efficacy of epicondylar vessel embolization in the management of acute epicondylitis.

Studies have indeed shown neovascularization accompanied by nerves in patients with lateral epicondylitis. It has been hypothesized that this phenomenon is the source of chronic pain in these patients. And that embolization could improve pain.

The aim of the study is to evaluate the effect on pain of such a procedure as well as its impact on patients' quality of life. The protocol has just been finalized and submitted to the ethics committee for approval.

Pierre Bize was also one of the co-authors of an article reporting on the post-mortem changes of the vascular system – a thanatological study using multidetector computed tomography.

NEUROSURGERY

In 2023, the articles co-authored by **Rodolfo Maduri (Clinique de Genolier)** reported on successful weaning versus permanent cerebrospinal fluid diversion after aneurysmal subarachnoid hemorrhage; on impact of very small aneurysm size and anterior communicating segment location on outcome after aneurysmal subarachnoid hemorrhage; on quality of life after poor-grade aneurysmal subarachnoid hemorrhage; and on lateral approach to the cervical spine to manage degenerative cervical myelopathy and radiculopathy.

At the **Clinique Générale-Beaulieu, Frédéric Schils** organized on November 09, 2023, the «Première journée du rachis» in Geneva. He is also conducting the «Spineart Juliet Titane» study, a prospective study aimed at studying early fusion of intervertebral implants using the SPECT-CT technique (study conducted in collaboration with the Neurosurgery Department of HUG). Frédéric Schils is also starting a study on the use of TLIF (transforaminal lumbar interbody fusion) Spine Vision implants. He was awarded as one of the first users in Switzerland of the lateral approach to the spine with more than 10 years of extensive practice, Nuvasive, in September 2023. Finally, he co-authored a report on the rapid (enhanced) recovery for fusion surgery in the degenerative spine, in a cohort of 100 consecutive patients with a minimum 1-year follow-up, report to be published in 2024.

Beyond his educational activities, **Philippe Otten (Clinique Générale Ste-Anne)** co-authored a scientific contribution on the evaluation of appropriate use criteria for surgical decision making in lumbar degenerative spondylolisthesis, in the framework of a controlled, multicentre, prospective observational study. He also co-authored posters on two neurosurgical issues, namely those of an uncommon 4th ventricle hematoma from bulbar choroid plexus papilloma, and of cranioplasty with 3D-printed titanium flap in a case of isolated cranial melorheostosis, respectively.

ONCOLOGY

SENOLOGY

Magdalena Kholik (Centre du Sein, Clinique de Genolier) co-authored three articles on the therapeutic management of mammary carcinomas. The first one studied the use of neoadjuvant systemic therapy in patients with clinically node-positive breast cancer in Europe in the framework of the prospective TAXIS study (OPBC-03, SAKK 23/16, IBCSG 57-18, ABCSG-53, GBG 101), the second one reported on the association of axillary dissection with systemic therapy, and the third one studied the pre-planned feasibility tailored axillary surgery, in both studies, for the same nodal-positive patient population.

MEDICAL ONCOLOGY

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In 2023, **Matti Aapro (Clinique de Genolier)** published a large number of peer-reviewed articles in various domains of medical oncology. His numerous research programs in geriatric oncology, breast cancer management, and supportive care, bear witness to his experience in clinical research protocols, and educational activity. Besides his clinical activities in Genolier and Geneva, Matti Aapro is President of SPCC (Sharing Progress in Cancer Care) (<https://www.spcc.net/>) an educational not for profit organization established under Swiss law. He is also President of AllCan (<https://www.all-can.org/>), a non-profit organization established under Belgian law with the aim of improving the patient pathways worldwide with the same budget, and a member of the board of UICC (International Union for Cancer Control).

Alex Friedländer (Clinique Générale-Beaulieu) contributed to clinical research aiming to identify predictive and prognostic biomarkers in lung cancer, with the goal of optimizing treatment choices.

A member of the sarcoma group of EORTC and SAKK, as well as the Founder of the swiss GIST Group, Michael Montemurro (Clinique de Genolier) co-authored an article on preoperative treatment of locally advanced rectal cancer, published in New England Journal of Medicine, and the results of a global collaborative study of CIC-rearranged, BCOR:CCNB3-rearranged and other ultra-rare unclassified undifferentiated small round cell sarcomas (GRACeful), in the European Journal of Cancer.

In regards to translational research, the collaboration between the Réseau Romand d'Oncologie and the medical oncology team of Clinique de Genolier was further developed, mainly in the field of the biomolecular approach to cancer treatment for selected patients.

RADIO-ONCOLOGY

Oscar Matzinger, Medical Director Radio-Oncology, Swiss Medical Network

It is with a sense of pride and achievement that the 2023 report of the Radiotherapy Department of the Swiss Multidisciplinary Cancer Network is presented.

This year again, our department distinguished itself with remarkable activity, characterized by a constant focus on excellence and the customization of treatments offered to our patients.

At the heart of our commitment, the highest priority is given to the very high quality of each treatment. We have adopted a highly individualized approach, ensuring that each patient receives care tailored to their specific needs. This philosophy is reflected in all our actions and is the cornerstone of our reputation.

We are particularly proud of the progress made in the radiotherapy department of the Clinique Générale-Beaulieu. With cutting-edge equipment such as Radixact and CyberKnife accelerators, the department has reached its cruising speed, marking an important milestone in our evolution.

In addition to clinical activity, our team has been fully engaged in the project to open a new service at the Clinique de Genolier scheduled for April 2024. Moreover, our collaboration with Accuray in creating a global training center, which will welcome radiotherapy professionals from 2024, underlines our commitment to being at the forefront of education and innovation in our field.

Our dynamism is also evident through our active participation in numerous research and clinical development projects. These efforts have been successful, culminating in the presentation of several abstracts at scientific congresses, summarized in the following pages. In collaboration with our industrial and academic partners, we have launched development projects aimed at contributing to the technological evolution of radiotherapy, always in the best interest of our patients.

Finally, I would like to highlight the exceptional commitment of all our collaborators. In addition to their contributions in the clinical field, they have been involved in numerous roles in teaching, scientific committees, professional associations, and health policy. Their active participation in these various domains ensures a significant influence of our department on the overall quality of care offered to patients suffering from oncological diseases.

This year again, we have faced many challenges and reached crucial milestones, always guided by our mission of excellence and innovation in the service of our patients.

RADIO-CHEMOTHERAPY

Jacques Bernier (Clinique de Genolier) co-authored the results from european meta-analyses published last year in Radiotherapy & Oncology regarding the potential relationship between season of radiotherapy and outcomes of head & neck cancer patients, a relationship that had been elicited in a previous report from a single institution. In these large MACH-NC & MARCH meta-analyses, no impact of seasonality was actually found in more than 7'000 cases from 62 randomized trials, with respect to loco-regional failures and progression - free survival rates.

ONCO-GYNECOLOGY

Stéphanie Seidler (Clinique de Genolier) research significantly contributed, as co-author, to the field of gynecological surgery, focusing on the application and evaluation of vaginal natural orifice transluminal endoscopic surgery (vNOTES) in a first publication in emergency gynecological situations, showcasing its potential benefits in urgent care settings. A second study evaluated the practicality and safety of this endoscopic surgery in obese patients, expanding the scope of this minimally invasive technique to a broader patient demographic. Lastly, a third study entitled «Impact of Uterine Weight and Shape on vNOTES Hysterectomy» analyzed how these factors influence the outcomes of this type of hysterectomies, providing critical insights from an extensive sample of 238 cases.

These studies collectively highlight Stéphanie Seidler's integral role in advancing vNOTES as a versatile and safe surgical option in gynecology, with a focus on its adaptability and effectiveness in various patient conditions and scenarios.

Stéphanie Seidler also introduced the event entitled «Tout sur l'endométriose» organized at the Clinique de Genolier, on March 26, as part of the «Journée Mondiale de l'Endométriose».

ONCO-SURGERY

Pierre-Alain Clavien (Privatklinik Bethanien) contributed significantly to various fields within surgery and liver research through a series of publications. His work broadly encompassed areas like liver resection techniques (comparing robotic vs. open approaches for hepatocellular carcinoma), surgical strategies for intrahepatic cholangiocarcinoma, and advancements in liver perfusion technology. He also focused on specific issues like post-hepatectomy liver failure, effects of COVID-19 on surgical care, and methodologies for assessing complications post-surgery. Additionally, his research delved into liver transplantation, exploring aspects like ischemia-free transplantation, small-for-size syndrome in living donor liver transplantation, and novel strategies for rescuing discarded organs for transplantation. His contributions, appearing in high-impact journals, reflect a blend of clinical innovation, surgical technique refinement, and transplantation science, underscoring his role as a leading figure in hepatic surgery and research.

The scientific contribution of **Walter Weder (Privatklinik Bethanien)** are significant advances in the management of thoracic pathologies addressed, such as surgical issues and the use of immunotherapy approaches in lung cancers.

At Privatklinik Bethanien, **Daniel Christen, President of the Interdisciplinary Gastroenterological Surgical Team (Interdigest)**, continued to develop a regional network of surgeons, oncologists and gastroenterologists, working closely with pathologists, radiologists and other experts on specific issues. Their main objective is a real-time implementation of the most recent scientific advances in the domain of the digestive tract malignancies.

Christoph Andreas Maurer (Privatklinik Obach) authored the final report of the OCUM Study on risk-adapted neoadjuvant chemoradiotherapy in rectal cancer, published in the highly ranked Journal of Clinical Oncology.

(<https://pubmed.ncbi.nlm.nih.gov/37335957/>)

Loïc Lang-Lazdunski (Clinique de Genolier; Clinique Générale-Beaulieu) was member of the faculty and session chairman at the 2023 Congress of the International Mesothelioma Interest Group - IMIG (June 2023, Lille, France). He also authored a chapter entitled «Pleural Infection» in the textbook: Singh, Pelosi, Conway-Morris editors, Oxford Textbook of Respiratory Critical Care (Oxford University Press) published in 2023 .

(<https://academic.oup.com/book/55213>).

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OPHTHALMOLOGY

2023 Activity Report Swiss Glaucoma Research Foundation (SGRF)

Kaweh Masouri, André Mermoud (Swiss Visio Network, Clinique de Montchoisi)

The Swiss Glaucoma Research Foundation continued its focus in two main areas: supporting advanced research for the development of pioneering and innovative treatments against glaucoma, and the training and education of health professionals to better diagnose, treat, and ultimately cure glaucoma. Below is a summary of these activities for the year 2023.

RESEARCH ACTIVITIES

The SGRF sustained its support for glaucoma research and led several innovative research projects:

Studies

Multicentric Studies

- **MINIject® Registry Study with iSTAR Medical:** Continued this registry of patients implanted with the MINIject® device, aiming to gather real-world data to address questions about ease of use during implantation, safety data in a broad population, and patient quality of life over time.

- **MINIject® FDA Study:** Ongoing study to test the safety and efficacy of the latest model of this device, aimed at gaining approval from the Food and Drug Administration (FDA).
- **Eyewatch Study with EPFL Lausanne Start-up:** Testing the world's first adjustable valve-equipped glaucoma drainage device using a magnet. Long-term results to be published in scientific literature soon.
- **Argos Study Conclusion:** Completed study on the ARGOS-SC medical device, an implant allowing patients to measure intraocular pressure autonomously. Aimed to demonstrate the tolerability and long-term safety of the implant in patients.

Monocentric Studies (initiated by Kaweh Mansouri)

- **INTEGRAL Registry Study:** A longitudinal study collecting anonymous clinical data of hundreds of glaucoma patients to identify genetic and environmental risk factors.
- **Laser SLT Study:** Ongoing longitudinal database tracking intraocular pressure variation in patients treated with SLT laser for glaucoma.
- **XEN Implant Study:** Testing the efficacy and safety of the Xen implant as a minimally invasive option in glaucoma treatment.
- **OCT Angiography Study:** Investigating the use of OCT angiography for detailed visualization of the retina and optic nerve vasculature in glaucoma diagnosis.
- **PERG Analysis Study:** Evaluating the effectiveness of «Pattern Electroretinogram» in early detection of glaucoma.

Notable Publication

- «The Science of Glaucoma Management: From Translational Research to Next-Generation Clinical Practice» by Kevin Gillmann and Kaweh Mansouri (1st Edition - 18.05.2023).

Achievements

- Eight scientific publications in peer-reviewed journals.
- The SGRF is now recognized as the leading Swiss research center on glaucoma.

EDUCATIONAL ACTIVITIES

- Glaucoma on the Lake Series: Didactic courses on glaucoma for young ophthalmologists in various cities:
 - Geneva (20.10.2023)
 - Lausanne (30.11.2023)
- 7th International Montchoisi Glaucoma Symposium: Over 100 participants at the Musée Olympique de Lausanne with highly positive feedback.
- Preparation for the 8th International Montchoisi Glaucoma Symposium.

TRAINING ACTIVITIES

The Foundation supported the development of clinical and surgical skills in glaucoma treatment through various training programs:

- Training of 2 young physicians (young physicians' research program).
- Surgical training for 2 young ophthalmologists.
- Clinical and surgical training for 2 interns.

2023 Activity Report Swiss Visio Retina Research Center, Lausanne Aude Ambresin (Swiss Visio Network)

Swiss Visio Retina Research Center (SVRRC), directed by Aude Ambresin, is very dynamic, leading 5 investigator-initiated studies and participating in 6 multicentric studies focused on retinal diseases. Study results were presented in 2023 at major international conferences through 14 invited talks, 4 oral presentations, and 12 poster presentations. Additionally, the team published 4 peer-reviewed scientific papers and is actively engaged in advisory boards, with 6 international and 5 national participations, along with receiving the rising star award. The center's partnerships with four public and private partners demonstrate its commitment to diverse and impactful research initiatives. A pivotal achievement in 2023 was the contribution to the establishment of the Swiss Retina Research Network, catalyzing innovative collaborative projects, particularly those advancing AI applications.

INVESTIGATOR-INITIATED STUDIES

- Chitoroaga M, Perez Y, [Ambresin A](#). Adaptive Optics-enhanced dual retinal layer imaging and region reflectivity-based segmentation: unveiling variances in healthy and diseased retina. Ongoing.
- Barbosa M, [Ambresin A](#). Switch From Aflibercept to Faricimab in Patients with Neovascular Age-related Macular Degeneration. Ongoing.
- Barbosa M, [Ambresin A](#). Efficacy and Durability of Faricimab Intravitreal Injections in Naïve Patients With Wet Age-related Macular Degeneration. Ongoing.
- Owlya N, [Ambresin A](#). Intravitreal Faricimab in Patients Treated for Refractory Diabetic Macular Edema. Ongoing.
- Calci C, Barbosa M, Owlya N, [Ambresin A](#). Evolution of Acute Intraocular Pressure Elevations Following Intravitreal Anti-VEGF Injections Over One Year of Treatment. IOP. Ongoing.

MULTICENTRIC STUDIES

- **PULSAR (Bayer)** - Randomized, Double-Masked, Active-Controlled, Multi-Center Study Of Efficacy And Safety Of Intravitreal High Dose Aflibercept (8 mg) In Patients With Neovascular Age-Related Macular. PI 2021-2024. Ongoing.
- **QUASAR (Bayer)** - Randomized, Double-Masked, Active-Controlled, Phase 3 Study of the Efficacy and Safety of Aflibercept 8 mg in Macular Edema Secondary to Retinal Vein Occlusion. PI 2023-2025. Ongoing.
- **SANDCAT (Roche)** - A Phase III, Multicenter, Randomized, Double Masked, Sham-controlled Study to Investigate the Efficacy, Safety, Pharmacokinetics, and Pharmacodynamics of Anti-IL6 in Adult Patients With Uveitic Macular Edema.
- **VOYAGER (Roche)** - Real-world, Long-term Data Collection to Gain Clinical Insights Into Roche Ophthalmology Products.
- **INTERCEPT-AMD** - A Collaborative Resource of Heidelberg Multimodal Imaging of Intermediate Amd With and Without Early Atrophy to Study Prediction of Disease Progression. Collaboration with: EVICR.net, 2023-2024.
- **SPECTRUM (Bayer)** - An Observational Study Program to Investigate the Effectiveness of Aflibercept 8mg Used in nDME and nAMD in a Real-world Setting.

CONFERENCES

As invited speaker

- Cas de DMLA avec mauvaise réponse à l'induction: Que faire? Journée nationale de la Société Française de Rétine; 2023 Jan 21; Paris, France.
- Influence of Retinal and Choroidal Perfusion Times Measured Using Dye Angiography on Quantitative Analysis of OCT-Angiography. 46th Macula Society Annual Meeting; 2023 Feb 17; Miami, United States.
- Recommendations for intravitreal injection. 7th Congress of the Swiss Academy of Ophthalmology; 2023 Mar 2; Lucern, Switzerland.
- Vabysmo First Line – The Early Results: Own OCT examples of treatment-naïve patients. 7th Congress of the Swiss Academy of Ophthalmology; 2023 Mar 2; Lucern, Switzerland.
- Traitement de l'atrophie géographique: Le Pegcetacoplan bientôt enregistré en Suisse? Résultats des études pivotales Oaks and Derby; Centre Ophtalmologique La Colline; 2023 Mar 30; Geneva, Switzerland.
- Improved retina fluid control with faricimab in phase 3 trials in wet AMD and DME. Symposium d'ophtalmologie; SwissVisio Montchoisi; 2023 Mar 30; Crissier; Switzerland.
- DMLA: «La cécité est-elle encore une fatalité?». Clinique de Montchoisi; 2023 Avr 27; Lausanne, Switzerland.
- Dégénérescence maculaire liée à l'âge: nouvelles options thérapeutiques. Retina Suisse 44th Annual Meeting; 2023 Apr 29; Bern, Switzerland.
- Pigment epithelium detachment in age-related macular degeneration. Oftacafé 2023 Retina Symposium; 2023 May 18; Lugano, Switzerland.
- Virtual Workshop on Evaluating Vascular Stabilization with Faricimab: Current Status and Future Directions. The Angiogenesis Foundation; 2023 Jul 12-13; Online.
- Pick up the OCT angiography findings requiring dye angiography. SOG/SSO Swiss Society of Ophtalmology; 2023 Sep 1; Lausanne, Switzerland.
- Giocatni-Aurégan A, Munk M, Ambresin A. Illustrative Cases Presentation: the Answer Was in the Angiography... Spot It! SOG/SSO Swiss Society of Ophtalmology; 2023 Sep 1; Lausanne, Switzerland.
- Ambresin A. Wet AMD and Faricimab IVI: fluid analysis using OCT in induction phase. Conference presentation and moderation at: Ophthalmic Imaging: from Theory to current Practice; 2023 Oct 13; Paris, France.
- Ambresin A, Owyla N. Photobiomodulation bei trockener AMD. Conference presentation at: SVRG Swiss Retina Update 2023; 2023 Nov 30; Zurich, Switzerland.

As free paper speaker

- Barbosa M, Owyla N, Nascimbeni A, Pannatier-Schuetz Y, Gallo Castro D, Ambresin A. Short-term Outcomes of Switching to Intravitreal Faricimab in Patients With Treatment-resistant Neovascular Age-related Macular Degeneration. Free paper presented at: SOG/SSO Swiss Society of Ophtalmology; 2023 Sep 1; Lausanne, Switzerland.
- Barbosa M, Owyla N, Nascimbeni A, Pannatier-Schuetz Y, Gallo Castro D, Ambresin A. Short-term Outcomes of Switching to Intravitreal Faricimab in Patients With Treatment-resistant Neovascular Age-related Macular Degeneration. Free paper presented at: 23rd Euretina Congress; 2023 Oct 5-8; Amsterdam, Netherlands.

- Chaudhary V, [Ambresin A](#), Kotecha A, Willis JR, Souverain A, Shildkrot YE, Swaminathan B, Margaron P. Personalised Faricimab Dosing Increased the Proportion of Patients With nAMD Achieving Q16W Dosing in Year 2 of TENAYA/LUCERNE, While Maintaining Functional and Anatomical Outcomes. Free paper presented at: Retina Society 56th Annual Scientific Meeting; 2023 Oct 13; Lisbon, Portugal.
- Chaudhary V, [Ambresin A](#), Kotecha A, Willis JR, Souverain A, Shildkrot YE, Swaminathan B, Margaron P. Personalised faricimab dosing increased the proportion of patients with nAMD achieving Q16W dosing in year 2 of TENAYA/LUCERNE, while maintaining functional and anatomical outcomes. Free paper presented at: 127th Annual Meeting of the American Academy of Ophthalmology; 2023 Nov 3-6; San Francisco, United States.

As poster presenter

- Barbosa M, Pannatier-Schuetz Y, Gallo Castro D, Nascimbeni A, [Ambresin A](#). Ocular Manifestations in a Context of Primary Hyperparathyroidism: a Report of Two Cases. Poster presented at: 129^e Congrès international de la Société Française d'Ophtalmologie (SFO); 2023 May 6-8; Paris, France.
- Bechara Ghobril A, Pournaras J-A, [Ambresin A](#). Increased Relevance of Clinical and SD-OCT Cardinal Signs Recognition in Patients With the Underdiagnosed Macular Telangiectasia Type 2 (MacTel) Disease. Poster presented at: 129^e Congrès international de la Société Française d'Ophtalmologie (SFO); 2023 May 6-8; Paris, France.
- Hebben A, [Ambresin A](#). Analyse qualitative en SD-OCT de la réponse thérapeutique immédiate après un switch par faricimab hors indication chez des patients souffrant de néovaisseaux choroïdiens récidivants sous maculaires secondaires à une chori-rétinopathie séreuse centrale. Poster presented at: 129^e Congrès international de la Société Française d'Ophtalmologie (SFO); 2023 May 6-8; Paris, France.
- Owlya N, Nascimbeni A, Pannatier-Schuetz Y, Gallo Castro D, [Ambresin A](#). Torpedo Maculopathy: Cases Series Presentation of an Underdiagnosed Rare Condition Using Multimodal Imaging. Poster presented at: 129^e Congrès international de la Société Française d'Ophtalmologie (SFO); 2023 May 6-8; Paris, France.
- Barbosa M, Pannatier-Schuetz Y, Gallo Castro D, Nascimbeni A, [Ambresin A](#). Ocular Manifestations in a Context of Primary Hyperparathyroidism: a Report of Two Cases. Poster presented at: SOG/SSO Swiss Society of Ophtalmology Annual Congress 2023; 2023 Aug 30 – Sep 1; Lausanne, Switzerland.
- Hatz K, [Ambresin A](#), Schmid M, Prünke C, Barthelmes D, Machewitz T, Allmeier H, Márk Somfai G. Two-year Results From the Swiss Cohort of a Non-interventional Study Investigating Real-world Proactive Dosing Regimens With Intravitreal Aflibercept in Patients With nAMD: XTEND Study. Poster presented at: SOG/SSO Swiss Society of Ophtalmology Annual Congress 2023; 2023 Aug 30 – Sep 1; Lausanne, Switzerland.
- Owlya N, Hebben A, Barbosa M, Gallo Castro D, Nascimbeni AC, Pannatier-Schuetz Y, [Ambresin A](#). Functional and Anatomical Outcomes of Patients Treated With Intravitreal Aflibercept for Refractory Diabetic Macular Edema Switched to Faricimab: an Interim Analysis. Poster presented at: SOG/SSO Swiss Society of Ophtalmology Annual Congress 2023; 2023 Aug 30 – Sep 1; Lausanne, Switzerland.

- Owlya N, Nascimbeni A, Pannatier-Schuetz Y, Gallo Castro D, Ambresin A. Torpedo Maculopathy: Cases Series Presentation of an Underdiagnosed Rare Condition Using Multimodal Imaging. Poster presented at: SOG/SSO Swiss Society of Ophthalmology Annual Congress 2023; 2023 Aug 30 – Sep 1; Lausanne, Switzerland.
- Ambresin A, Hock Chaun Koh A, Singer M, Tadayoni R, Hill L, Souverain A, Kotecha A, Margaron P. The Potential for Q20W Dosing With Faricimab and Extended Treatment Outcomes in Neovascular Age-Related Macular Degeneration: a Post Hoc Analysis of the Pivotal TENAYA/LUCERNE Trials. Poster presented at: 23rd Euretina Congress; 2023 Oct 5-8; Amsterdam, Netherlands.
- Barbosa M, Calci C, Owlya N, Pannatier-Schuetz Y, Gallo Castro D, Nascimbeni AC, Ambresin A. Acute Intraocular Pressure Elevations Following Intravitreal Anti-VEGF Injections in Patients With Wet AMD: a Preliminary Report. Poster presented at: 23rd Euretina Congress; 2023 Oct 5-8; Amsterdam, Netherlands.
- Bechara Ghobril A, Pournaras J-A, Ambresin A. Increased Relevance of Clinical and SD-OCT Cardinal Signs Recognition in Patients With the Underdiagnosed Macular Telangiectasia Type 2 (MacTel) Disease. Poster presented at: 23rd Euretina Congress; 2023 Oct 5-8; Amsterdam, Netherlands.
- Owlya N, Hebben A, Barbosa M, Gallo Castro D, Nascimbeni AC, Pannatier-Schuetz Y, Ambresin A. Functional and Anatomical Outcomes of Patients Treated With Intravitreal Aflibercept for Refractory Diabetic Macular Edema Switched to Faricimab: an Interim Analysis. Poster presented at: 23rd Euretina Congress; 2023 Oct 5-8; Amsterdam, Netherlands.

COLLABORATIONS

- Prof. Panaretos. Institute of Mathematics, EPFL; Lausanne, Switzerland.
- Hon. Prof Vanderberg and Prof. Hilal Lashuel. Associate Professor of Life Sciences, Director of the Laboratory of Chemical Biology of Neurodegeneration, Brain Mind Institute, Swiss Federal Institute of Technology, EPFL; Lausanne, Switzerland.
- RetinAI Medical AG; Bern, Switzerland.
- Timothé Laforest. CEO, EarlySight; Geneva, Switzerland.

HONORS

- «Rising Star Award» from Roche to Mickael Barbosa.

ORTHOPEDIC SURGERY

The surgical team from Clinica Ars Medica published several articles with particular emphasis on complex reconstruction of the clavicle with a prefabricated medial femur condyle chimeric flap; clipping and exclusion of a thoracic pial arteriovenous fistula with multiple shunting points; management of spinal pial arteriovenous fistulas; and a new classification for internal carotid artery segmental agenesis based on embryologic and angiographic correlation.

Victor Valderrabano, Chairman, Swiss Ortho Center; Schmerzklinik Basel; Privatklinik Obach, is Professor of Orthopaedics (University of Basel), PhD Biomechanics (University of Calgary/Canada) and Doctor in Medicine (University of Zurich). Last year, he co-authored 6 scientific articles in peer-reviewed journals. Victor Valderrabano also delivered many presentations on national and international conferences and webinars.

OSTEOARTICULAR PATHOLOGIES

Adrien Schwitzguébel (Hôpital de La Providence)

Adrien Schwitzguébel is currently working on retrospective projects, including a case series of 240 patients concerning platelet-rich plasma (PRP) for big joints osteoarthritis, the comparison on maximal strength developed on smart fitness devices with different warm-up protocols, and the use of virtual reality for pain management during shock-wave therapy. We also aim to raise funds for a major project concerning stromal vascular fraction for osteoarthritis. Finally, our randomized controlled trial on PRP therapy for tennis elbow is still running.

OUTCOME RESEARCH - VALUE-BASED MEDICINE

Jacques Bernier (Clinique de Genolier)

Regarding the measurement of outcomes, which is a fundamental aspect of both present and future initiatives in clinical practice at Swiss Medical Network, Dr. Jacques Bernier has maintained his active participation in these endeavors. An internal report on the concept of eight paradigms in patient-centered medicine and population-oriented ecosystems) is in progress, with the collaboration of Isabelle Magnin and Esthelle le Gallic de Kerizouët. His involvement extends through ongoing connections with the International Consortium for Health Outcome Measurements (ICHOM).

PREVENTIVE AND DIAGNOSTIC MEDICINE

Jacques Proust (Clinique Nescens)

At Clinique Nescens and Laboratoire Genolier, Jacques Proust is dedicated to ensuring the development of products that stand among the most innovative and effective in the beauty and wellness industry. The «Zombie Cell Clearing Serum», a senolytic serum designed to eliminate senescent epidermal cells and to promote rejuvenation of skin structures has been commercialized. Competing for the prestigious international Global Beauty and Wellness Award, the «Zombie Cell Clearing Serum» has distinguished itself from 2000 other products, to secure its place as a finalist in the elite circle for the year 2023. The jury of GBWA is tasked with providing a meticulous evaluation of scientific knowledge related to the various components of the cosmeceutical products and their level of innovation. It also appraises the positive dermatological effects induced by these components, considering them within the broader medical context of clinical studies. This achievement serves as a compelling testament to Nescens' unwavering commitment to advancing scientific research using cutting-edge biologically active ingredients.

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The 360° Protection Complex has also been developed and commercialized. It provides the skin with the most complete daily protection against the exposome (i.e. all the factors of premature aging to which the skin is exposed during a lifetime). This multiprotection daily cream has been shown by laboratory tests to be efficient against UVA, UVB radiation (level SPF30), infrared, blue light, and pollution particulate matter-induced free radical production. Aside from free radical scavengers, it also contains glycation inhibitors and boosters of skin repair mechanisms. It does not contain chemical filters known to be endocrine disruptors.

The entire Nescens product range is undergoing reformulation to enter the next generation of «clean formulas». First of all, clean formulation means formulation without preservative. Until now our products were preserved using a combination of phenoxyethanol and chlorphenesin. We now ensure a bacteriostatic effect with an association of 3 components that are shown to provide benefits to the skin and that are not listed as preservatives in the appendix of the European Regulation. «Clean formulation» also refers to developing products containing only well-tolerated active ingredients and excipients that have been clinically proven for their safety and performance. In line with this clean concept, it is necessary to limit the number of ingredients used and ensure that each component has a positive impact on the skin. Streamlined formulas are being developed to deliver only pure and concentrated active compounds to the skin. Lastly it requires to select sustainable ingredients - preferably derived from biotechnology - to ensure compliance with environmental responsibilities.

QUALITY ASSURANCE

QUALITY MANAGEMENT INITIATIVES

Noëlle Moser-van der Geest (Swiss Medical Network)

This year marked significant advancements in our quality management initiatives, achieving key objectives that fortify our commitment to excellence. The implementation of a new organizational structure, coupled with the enhancement of our network, has substantially elevated the effectiveness of our quality management practices. We successfully formulated a comprehensive group-wide quality policy, setting a robust foundation for standardized and structured quality management. Pioneering initiatives included hosting the inaugural Swiss Medical Quality Day and launching the first Group-wide campaign during the Patient Safety Week, themed «Speak Up @ Patient».

Furthermore, the introduction of a standardized quality management system and the execution of internal and written audits on Critical Incident Reporting System (CIRS) and the «Safe Surgery» checklist exemplify our dedication to continual improvement. Looking ahead, our objectives for the next year revolve around the continuous integration of Patient-Reported Outcome Measures (PROMs) in various clinics and specialties, conducting pilot tests on Patient-Reported Experience Measures (PREMs), implementing a quality dashboard for enhanced responsiveness, and orchestrating seamless coordination of hygiene measures throughout the organization. These strategic goals underscore our ongoing commitment to advancing quality management practices and ensuring the highest standards of patient care.

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QUALITY ASSURANCE IN ORTHOPEDIC SURGERY

As members of the ANQ (Swiss National Association for Quality Development in Hospital), the various teams of orthopedic surgery active at Swiss Medical Network enter data into the SIRIS register (Registre Suisse des Implants). To exemplify this, as in the past years since 2016, the orthopedic surgeons from the Clinique de Genolier record and report, on an annual basis, activity volumes relevant to implanted total primary hip and knee prostheses, as well as the two-year revision rates for these primary total prostheses.

Treatment outcomes related to hip surgery (infection, periprosthetic fracture and loosening femoral dislocation), and knee surgery (patella problems, femorotibial instability and infection, and fracture) can be found at the following link:

https://www.anq.ch/fr/domaines/soins-aigus/resultats-des-mesures-soins-aigus/step3/measure/20/year/2023/nr/26412/?no_cache=1&tx_anq_anqpublicarea%5bsuch-Eingabe%5d=genolier&cHash=c7889ac90f142753852daa72aef6c597%23skalen

REGENERATIVE MEDICINE

Sophie Menkes (Clinique Nescens)

The following research programs were developed by Sophie Menkes throughout 2023 in the field of regenerative medicine:

- **Clinical Case Publication on the Safety of Cross-Linked Hyaluronic Acids with Polyethylene Glycol:** A clinical case was published focusing on the safety of cross-linked hyaluronic acids with polyethylene glycol. This study adds to the understanding of the material's biocompatibility and potential applications in clinical settings.
- **Results of a Study on the Efficacy of the «Topical Washing Buffer»:** In collaboration with Gianni Soldati and Guillaume Vanthier, a study was conducted involving 10 models. The nanofat was prepared and sent to Gianni Soldati for processing. The topical washing buffer, integrated into a Nescens cream base produced by Guillaume Vanthier, showed promising results. A follow-up study with more precise data is underway prior to commercialization.
- **Ongoing Study on «Smart Combinations» Involving Nanofat and Zaffiro Infrared Laser:** This study investigates the synergistic effects of combining nanofat with the Zaffiro infrared laser. Early results are very encouraging, suggesting potential advancements in aesthetic treatments.
- **Collaboration on Hand Rejuvenation Protocol and New Measurement Scale:** Konstantinos Vakalopoulos and Pierre Bonetti are collaborating on a protocol for hand rejuvenation and validating a new measurement scale. This work aims to enhance the effectiveness and precision in aesthetic hand treatments.
- **Upcoming Clinical Research Studies:** Two clinical studies are planned and pending approval. The first focuses on a heterologous secretome based on exosomes from human stem cells, and the second on a new filler that can be injected in liquid form and cross-links with skin heat without the addition of BBDE.
- **Successful Launch of Damascus Rose Stem Cell-Based Exosomes:** These exosomes are designed for skin rejuvenation, hair care, and post-laser treatment. Initial results are promising, indicating potential benefits in these applications.
- **Clinical Study on Intimate Area Applications of Damascus Rose Stem Cell Exosomes:** Currently, we are the only center in Europe, along with a center in Spain, conducting a clinical study on the application of Damascus Rose stem cell exosomes for intimate area treatments.
- **Implementation of Remedex:** Founded by Guy Magalon and his son Jeremy Magalon in 2022, Remedex is a logistic and technical platform for the optimal application of modern PRP injection processes. It provides practitioners with access to a database of scientifically validated treatment protocols and patient information documents. The platform includes the preparation of products in an aseptic manner, provision of biologically qualified single-use medical devices, REMEDEX Report software for quality control, and REMEDEX Follow-Up software for clinical data collection for medical and scientific purposes. Currently, we are equipped with the software and are awaiting the establishment of a cleanroom to develop autologous serum for ophthalmologists.

SUPPORTIVE CARE

Delphine Campbell (on behalf of the Centre de Soins de Support at the Clinique de Genolier)

For people living with cancer, the diagnosis and treatments can lead to physical, psychological, and social impacts from their illness. This is why the Clinique de Genolier has established a Support Care Center. The objectives are to help patients manage the impacts of their illness, reduce the side effects of treatments, improve quality of life, and facilitate a return to everyday life and employment.

Support Care refers to all the care and support that a person suffering from (or their relatives) a serious, chronic disease may need throughout their life. In addition to specific anti-cancer treatments, the comprehensive approach results in the multidisciplinary coordination of all participants. It aims to actively involve the patient in their care journey and give them confidence in facing this new stage of life, direct people with cancer to the most suitable resources available for their situation, and help the patient better manage their difficulties.

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Support care is structured around the four axes of oncological rehabilitation:

1. Psychological Support: psycho-oncology, onco-sexology, medical hypnosis, sophrology, NLP (Neuro-Linguistic Programming), coaching for returning to employment, social worker from the Cancer League, Café Rencontre (Meetup Café), meeting for caregivers, and art therapy;
2. Nutrition: dietetic workshops, personalized nutritional follow-up;
3. Well-being: therapeutic massages, energetic care and massages, sound therapy, makeup/facial care workshops, socio-aesthetic nail care, and self-image coaching;
4. Physical Activity: adapted physical activity, hatha yoga, Qi Gong, fencing, physiotherapy, lymphatic drainage, occupational therapy, snowshoe hiking, nautical activities on lac Léman.

The activities are offered in group workshops or individual care. A significant number of these activities pertain to the domain of innovative solutions, to be applied both during and/or after treatment.

In 2023, the Clinique de Genolier has been accredited by the European Society of Medical Center as ESMO Designated Centres of Integrated Oncology & Palliative Care.

In this, Supportive Care and Palliative medicine has a wide-ranging role in our spectrum of comprehensive cancer care - from patient diagnosis to survivorship. All the multi-disciplinary care team has an important role in providing palliative care in inpatient and outpatient settings. An effective supportive and palliative medicine improves patient and family care and quality of life, reduces distress and discomfort, and is cost-effective.

At the ESMO CONGRESS 2023, Madrid, 20-24 October, the Centre de Soins de Support of the Clinique de Genolier was also awarded by the European Oncology Nursing Society, in recognition of the research this unit is fostering in the domain of innovation. Innovation could mean a new idea, a new method of working, a new technology or a new way of public or patient involvement. The 2023 competition invited entrants to show how they and/or their team are innovating in their workplace. All the complementary therapies alleviate patients' and families' physical and psychological pain and suffering. They really appreciate this different way to deal with their disease and they do appreciate to talk to nurses and other health professionals outside the hospital environment. Patients do love to participate in our innovate workshops and we see how their conditions improve in a substantial way.

SURGERY: PLASTIC AND RECONSTRUCTIVE SURGERY, LYMPHATIC SURGERY, MICROSURGERY AND SUPERMICROSURGERY

Mario Scaglioni (Klinik Pyramide am See)

Mario Scaglioni authored and co-authored a very significant number of scientific publications reporting on, among others, the use of pedicled flaps in complex defects reconstruction throughout the body, benefiting patients surgically treated for sarcomas, breast carcinomas or head-and-neck malignancies.

UROLOGY

Charles-Henry Rochat, Georges-Antoine de Boccard, Stefano Regusci, Martina Martins-Favre, Gergory Wirth (Urology Center, Clinique Générale-Beaulieu)

The activity of the Urology Center <https://www.swissmedical.net/fr/hopitaux/generale-beaulieu/specialites/urologie> in collaboration with the Swiss International Prostate Center (SIPC) <https://sipc-urology.ch/> continued in its various areas of expertise primarily for the treatment of prostate cancer as well as other areas of general urology.

In 2023, Hester Haverdings has joined the team of CUGB. In April she completed the Columbia microsurgery lab course and started robotic microsurgery at Clinique Générale-Beaulieu with George-Antoine de Boccard.

George-Antoine de Boccard, Martina Martins-Favre, Stefano Regusci, Charles-Henry Rochat and Gregory Wirth regularly intervene as experts in international committees.

Charles-Henry Rochat and Stefano Regusci also have an involvement in humanitarian medicine in connection with the Genolier Foundation.

The Urology Centre at the Clinique Générale-Beaulieu has been strengthened since the opening of the radiotherapy center and the oncology center. Tumor Boards are now organized weekly. Various articles on robotic prostatectomy are in press or in preparation thanks to a solid database started in 2003. The robot-assisted laparoscopy center (da Vinci) has celebrated its 20th anniversary in January 2023 with more than 4000 procedures to date.

COMPLEMENTARY ACTIONS

CLINICAL CARE AND MANAGEMENT

Nurse Days (September 25-26, Interlaken)

As last year, the primary objective of the Nurse Days 2023 was to acknowledge the critical role of the caregivers all along their daily commitment. This initiative was also meant to provide them the possibility to meet outside the clinics in order to share their projects, and therefore boost the dynamic of joint work.

(<https://www.swissmedical.net/fr/smn-events/nurse-days-25-26-septembre-2023>)

More than 200 care employees (nurses, icus, sterilisation block staff, physiotherapists, etc.) took part in the 2-day get together and were offered the opportunity not only to meet with colleagues from other clinics but also interact with members of the Executive Board of Swiss Medical Network, with respect to their needs and their concerns regarding their professional development.

A number of lectures allow the participants to update their knowledge of research and clinical domains such as new concepts for care in delivery units, the innovative «Delir project» in postoperative setting, quality assurance, as well as ergo-therapeutic management in patients with visual deficit.

The Nurse Days allow discussions with colleagues, external experts and Board members. All are determined to pave the way for concentrated actions in terms of research and development in the field of clinical care and management. Moreover, it strengthens the production of scientific contributions in referenced journals.

HEAD AND NECK PATHOLOGIES

At the Clinique de Montchoisi, research activities of Albert Mudry, (assistant professor, head of research in history at «Ear, Nose, Throat – ENT» Stanford University and professor in history of medicine University of Paris Cité) cover the history of ENT, more particularly otology, with a particular focus on methodology, the first ideas behind progress and innovation.

IMMUNOLOGY: INFECTIOUS DISEASES

Throughout the first semester of 2023, Jacques Bernier (Clinique de Genolier) continued to edit the electronic version of the scientific Daily Bulletin of the SMN COVID-19 Scientific Reporting. The vocation of this daily bulletin was to offer access to prominent scientific publications on the natural history and management of the SARS-CoV-2 pandemic.

DIGITAL HEALTH IN ECOSYSTEMS: «INNOVATION DAY»

A joint organization between the Genolier Innovation Hub, Swiss Medical Network and the Johnson & Johnson Innovation Company, the «Innovation Day» held at Clinique Nescens, on November 2, 2023, aimed at proposing a critical appraisal of various Research and Development programs presented by six swiss start-ups, in the field of Digital health in Healthcare Ecosystem. This evaluation and interactive discussions between researchers, Genolier Innovation Hub, Swiss Medical Network, and Johnson & Johnson Innovation representatives, and academic experts allowed to identify what were the main strengths and major limitations of each of the six research programs.

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These innovative solutions covered various domains of digital health such as connections between patients and hospitals in terms of communication and information exchanges, preparation of specific surgical interventions or prevention of infectious diseases. The success encountered by this joint organization justifies to set up, in 2024, similar scientific meetings benefiting from this interactive format of the «Innovation Day».

TEAMWORK APPLICATIONS FOR PATIENT AND PERSONNEL SAFETY @ MAYO CLINIC, ROCHESTER, USA

Jacques Bernier was a member of a Swiss delegation that gathered eight physicians for a study visit at the Mayo Clinic, Rochester, on October 10-11, 2023.

The Mayo Clinic is ranked # 1 among the US healthcare institutions. Initiatives to enhance value for patients in terms of safety, quality, patient experience, delivery and affordability (cost) were analyzed in depth, also through the lens of resolute policies promoting teamwork. Interactive sessions covered a number of burning issues, Mayo focused on adding value for the patient.

Among the issues addressed during the visit: institutional structure and strategic priorities; decision making models; quality strategy and underlying tactics; patient safety reporting systems; data analytic models to drive better quality. Particular emphasis was put on the processes of outcome and quality measurements, as well as new research models on patient experience. Integrating scientific domains, clinical activities and educational platforms was also part of the discussions during these two days.

SWISS BRIDGE FOUNDATION

As Board member of the Swiss Bridge Foundation (Zurich), Jacques Bernier continued to participate in the activities of this Foundation. The general theme of the research programs reviewed and the two scientific contributions awarded in 2023 by the Foundation Scientific Committee of the Foundation were «Resistance of cancer cells to treatment». The Swiss Bridge Award, established in 2000, has become one of Europe's most important research awards.

NEUROTEC @ SWISS INSITUTE FOR TRANSLATIONAL AND ENTREPRENEURIAL MEDICINE (BERN, SEPTEMBER 12 AND OCTOBER 4, 2023)

Presentations of sleep center Neurotec (@ SITEM) and rebound visit at the Genolier Healthcare Campus. These two visits allowed a reciprocal presentation of the medical and research teams of both centers, as well as an evaluation of the respective strategic, organisational and operational capacities of the two entities.

SWISS MEDICAL NETWORK MEDICAL DAYS (INTERLAKEN MAY 26-27, 2023)

The annual Medical Days addressed once again a variety of issues for the management of the following clinical situations and pathologies.

While the sessions «Oncology and Surgery» explored cutting-edge advancements in the treatment of liver metastases and colorectal cancer, the symposia on the realm of orthopedic surgery shed light on innovative techniques and therapies.

This year, the exploration of internal medicine covered the domain of gastro-intestinal diseases, and that of the microbiome, emphasizing how breakthroughs in this field are revolutionizing our understanding of the human gut and paving the way for improved treatments.

Two lectures delved into groundbreaking research on hypoxia in space, a crucial area for future space exploration, and into the innovative use of hyperbaric treatment in Long-Covid patients, a ray of hope for those battling the lingering effects of this challenging condition.

Finally, the groundbreaking indications of the use of RNA messenger technology, a field that has garnered worldwide attention in recent times, were thoroughly revisited.

CLINICAL RESEARCH: EUROPEAN INSTITUTE OF ONCOLOGY (MILAN, JULY 3, 2023)

On July 3, a delegation of the Clinique de Genolier composed of managers and physicians paid a visit to the European Institute of Oncology (IEO) in Milan. The objective of this visit was, in a first step, to be briefed by IEO’s staff members on the content and objectives of the phase I unit that was created in the nineties in their Institute and is nowadays considered as one of the major early clinical phase units in Europe. Several aspects of their research platform were discussed with the specialists, responsible of the unit, in terms of accreditation, medical management, protocols, and quality assurance including internal and external audits, and specific units as research nursing staff, pharmacy, and data management. The main operational components of the unit are summarized in the following figure.

Phase 1 Unit: Tentative synopsis



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A final discussion between Roberto Orecchia, Chief Science Officer @ IEO and the delegates of the Clinique de Genolier allowed a broad review of the prerequisites and those strategies that allowed IEO to conduct a large number of early phase clinical studies (exceeding nowadays 60 trials) in collaboration with major pharmas, ensuring a large recruitment of patients from Italy and abroad.

CAS - CERTIFICAT DE FORMATION CONTINUE EN GESTION PUBLIQUE (NEUCHÂTEL, JULY 7, 2023)

In the framework of this educational program, Jacques Bernier gave a lecture on the research and innovation perspectives developed at Swiss Medical Network, with particular emphasis on the main strategies and axes of prospective studies among the various sites of the Group, with particular emphasis on clinical, translational and technology-driven pathways.

IRCAD - INSTITUTE FOR RESEARCH AGAINST CANCERS OF THE DIGESTIVE SYTEM (JULY 12-13, 2023)

On 12 and 13 July 2023, Swiss Medical Network received the visit of Jacques Marescaud, President and Founder of IRCAD, and Antonello Forgione, Director of the Institute. This visit followed the visit by a Swiss Medical Network delegation to the Institut français, at its site in Strasbourg, and aimed to forge further links between the two entities.

IRCAD is a unique research and teaching institution in the field of surgery, offering an exceptional structure and environment to surgeons of all specialties from all over the world.

The first day, which took place in Zurich, was first devoted to the presentation of our Group and that of the Privatklinik Bethanien, and how they work with particular emphasis on «Liver Regeneration-Transplantation & Works with ETHZ» (Pierre-Alain Clavien) and the application of endorectal radiotherapy using the Papillon device (Cristina Picardi).

The day of 13 July began at the Genolier Healthcare Campus, with the presentation of the innovative themes that are being developed there, and in particular at the Clinique de Genolier, Swiss Visio Network, and Genolier Innovation Hub, also in the framework of the Science and Innovation, the scientific platform of Swiss Medical Network. The afternoon was then dedicated to the visit of the Clinique Générale-Beaulieu in Geneva.

Both in Strasbourg and in French-speaking Switzerland, these exchanges between Swiss Medical Network and IRCAD have not only made it possible to offer a clear and detailed vision of the respective development programs but also to begin to draw up potential anchor points between the two entities, particularly in the field of Research & Development and biomedical innovation. All this with a view to pushing the frontiers of research and education ever further.

SECOND SYMPOSIUM ON SUSTAINABLE HEALTH (LOCARNO, AUGUST 5, 2023)

During the second edition of this Symposium held annually in Ticino, a multidisciplinary team from various Swiss Medical Network sites brought in a number of new perspectives on the growing interactions between research and sustainable health evolution.

Alain Kenfak provided a detailed description of the Réseau de l'Arc with particular emphasis on the innovative solutions – in terms of management quality and cost reductions – that integrated care models can offer to care providers, patients and network members, and health insurance companies as well.

In-house Biomedical Research & Development was thereafter illustrated by both Anna Gräbner who presented the content and objectives of the Genolier Innovation Hub, embedded in the Genolier Healthcare Campus, and Jacques Bernier who detailed the main strategies and research axes of «Science and Innovation», the scientific platform of Swiss Medical Network, with particular emphasis on its 2023-2025 priorities.

46 Pierre-Alain Clavien, from Privatklinik Bethanien, detailed the new horizons opened by Outcome Research models and parameters, such as the use of Reported Outcome Measures (PROMs).

To conclude, the final round table underscored the advances and expectations generated by the growing interactions between healthcare and sustainability.

VISIT TO THE AMERICAN HOSPITAL OF PARIS (SEPTEMBER 21, 2023)

This rebound-visit followed the visit that the French delegation had paid to the Genolier Healthcare campus during the spring 2023.

Numerous issues were addressed during this one-day visit thanks to the active participation of local medical staffs who presented the global strategies of the institution, as well as the content and objectives of their actions in a large number of departments, including medicine, surgery, oncology and imaging.

The «universitarisation» program of the American Hospital was discussed in depth, in particular through its growing interactions with various academic institutions from Ile de France and the progressive integration of university professors into the American Hospital's staffs.

Particular attention was paid to the strategies aimed to develop the activities of the check-up center, the coordination between the various poles of internal medicine, and the new opportunities provided by the advent of artificial intelligence in the clinical setting.

Interestingly, this visit confirmed that, notwithstanding the marked differences in environmental conditions between the two institutions, a number of opportunities and

challenges were found to characterize their development. Among others, how to look ahead in terms of acquisition of modern technologies, the enhancement of quality indices for diagnostic and therapeutic procedures, the development of integrative medicine, and a common quest for improving the patient experience in both institutions.

The first exchanges which took place this year between the two institutions call for further interactions at a global scale and also between some of their departments such as imaging, oncology, and those research teams whom Paris and Genolier are empowering to make significant steps in biomedical innovations.

HEALTH AND LIFESPAN INVESTMENT FORUM (CLINIQUE NESCEMS, OCTOBER 5, 2023)

This Forum was co-organized by Genolier Innovation Hub, Clinique Nescens and ND Capital. Among other features, the program of this event, set up by Patrick Aebischer and Jacques Bernier, covered the domains of advancing healthy aging through cross-sector partnerships and the funding of innovation in health and lifespan sciences. Two keynote lectures addressed the issues of the mechanisms of ageing, and their hallmarks, respectively.

The priorities identified during this Forum were of three orders:

Partnerships

- To act on tighter links between research and clinical implementation and to switch from «sick care» to «health care» priorities
- To associate more closely pharma-based and patient-based sciences
- To convince investors through paradigm shifts such as «from patient to person» algorithms
- To avoid the conflict of interest between provider, patient and insurance company through integrated care

Methodological approaches

- Towards simplified messages, simplified demonstration approaches towards clinical evidence
- To enhance database exploitation capacities by pharma companies
- To prioritize the use of evidence-based practice at every stage of activities linked to healthspan, in particular as regards lifestyle and sports
- To motivate the population to take behavioral actions or adhere to interventions as soon as 30-40 years rather than at 60-70 years

Main domains

- Promote new concepts such as «User-Generated Content», as original, brand-specific content created by customers and published on social media or other channels
- Mobility, cognitive capacities, beauty, weight are the 4 axes of physical and mental well-being in the population
- To extend the application of non-invasive methods as e-health, wearables, etc.

The numerous interactions between the various stakeholders participating to the Forum allowed to empower scientists and healthcare providers to potentiate research on biomarkers, digital health, AI, and crowd sources, paving the way for further editions to be organized at the Genolier Innovation Hub, from the fall of 2024 on.

FIRST SWISS MEDICAL NETWORK QUALITY DAY (BERN, OCTOBER 31, 2023)

The event offered a diverse program of internal and external presentations on a wide range of topics related to quality in healthcare – from research on PROMs & quality measurements to quality management in integrated care and rehabilitation. In particular Ms. Melanie Wickie, PhD and Ms. Daniela Zahnd from Swiss National Association for Quality Development in Hospitals and Clinics (ANQ) provided valuable insights into the ANQ measurements of rehospitalizations and infections. In the workshops, the quality managers from the clinics, regions and coordination had a lively discussion about the further development of quality in the Swiss Medical Network.

SWISS MEDICAL NETWORK ORTHO DAY (BERN, MARCH 17, 2023)

Chaired by Victor Valderrabano, Ivan Tami, Alec Cikes, and Philippe Glasson, the Swiss Medical Network Ortho Day was set to be a comprehensive assembly focused on the latest advancements in arthroplasty. The event's schedule was densely packed with specialized sessions, each addressing critical aspects of joint replacement surgery. The morning sessions delved into the intricacies of hand and elbow arthroplasty, exploring the management of joint prosthesis infections and the nuanced approaches to acute joint traumas in the hand, wrist, and elbow. This was followed by insightful discussions on shoulder arthroplasty, contrasting techniques and outcomes of reversed and anatomical shoulder prostheses, and addressing shoulder replacements necessitated by fractures.

Post-lunch sessions extended the scope of the conference to encompass broader, impactful areas in orthopedics. A notable session updated attendees on the intersection of rheumatology and orthopedics, setting the stage for in-depth analyses of hip arthroplasty. This included a comprehensive review of total hip replacements, the potential and challenges of revision hip arthroplasty through the anterior approach, and the global humanitarian impact of these procedures. The focus then shifted to the knee, presenting the latest on total knee replacements in athletes, innovative strides in partial knee replacements, and the technological advancements in robotic-assisted knee surgery. The day concluded with a segment dedicated to foot and ankle issues, offering expert insights into ankle instability, complex total ankle arthroplasty and hindfoot reconstruction, and the surgical management of painful bunions, providing a holistic view of the advancements and challenges in modern arthroplasty.

SCIENTIFIC PARTNERSHIPS

SITEM START-UP CLUB (SSC) - BERN

In Bern, Jacques Bernier and members of the Genolier Innovation Hub participated to the frequent meetings organized all along 2023 by the Start-Up Club of SITEM-INSEL AG (Swiss Institute for Translational and Entrepreneurial Medicine), the Genolier Foundation/ Swiss Medical Network is leading partner of.

In particular, the expertise of Swiss Medical Network was constantly requested on the occasion of the pitching events set up by the SSC to assess the value of research programs developed by swiss and international start-ups.

BIOPÔLE - LAUSANNE

Likewise, our scientific team regularly participated to the scientific events organized by the Biopôle in Lausanne, in the framework of the new partnership between this entity and Swiss Medical Network. Monthly videoconferences allowed to identify and select research programmes started at Biopôle and likely to be integrated in a second phase into one of the entities of the Genolier Healthcare Campus.

ISTITUTO EUROPEO DI ONCOLOGIA - MILANO

The Collaboration Agreement, between the IEO and Swiss Medical Network, sets out several key objectives, including:

- The development of clinical research: Harnessing the expertise of the Istituto Europeo di Oncologia to conduct innovative clinical trials, thereby improving the understanding of oncological diseases and strengthening treatment options;
- Accreditation of the Clinique de Genolier: Recognizing the Clinique de Genolier as an Associate Center of the Istituto Europeo di Oncologia, and ensuring the highest standards of research and patient care;
- Knowledge exchange and training: Promoting the sharing of knowledge and best practices in oncology among health professionals;
- Cooperation activities: By committing to participate in cooperation activities, with modalities set out in separate agreements, including data protection and confidentiality.

This Collaboration Agreement will enable the Swiss Medical Network in general, and the Clinique de Genolier in particular, to consolidate its clinical study center, particularly in the field of early-phase trials. It will also be a key element of translational research strategies, i.e. the transition from the laboratory to the clinic, also in the context of future synergies with the Genolier Innovation Hub.

MAIN SCIENTIFIC PROGRAMS AND RESEARCH SITES

(in alphabetical order)

1 CELL THERAPIES

Swiss Stem Cell Foundation
Swiss Stem Cells Biotech

2 DIGITAL HEALTH/DATA SCIENCE

Swiss Medical Network

3 GENOMICS

Clinica Sant'Anna
Clinique de Genolier

4 HEAD AND NECK PATHOLOGIES

Clinique de Montchoisi

5 IMMUNOLOGY INFECTIOUS DISEASES

Clinique de Genolier

6 INTERNAL MEDICINE

Clinique de Genolier
Réseau de l'Arc

7 INTERVENTIONAL RADIOLOGY

Clinique de Genolier

8 NEUROSURGERY

Clinique de Genolier
Clinique Générale-Beaulieu
Clinique Générale Ste-Anne

9 ONCOLOGY

Clinica Sant'Anna
Clinique de Genolier
Clinique Générale-Beaulieu
Clinique Générale Ste-Anne
Privatklinik Bethanien

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SWISS MEDICAL NETWORK SITES WITH ONGOING RESEARCH PROJECTS

10. OPHTHALMOLOGY

Clinique de Montchoisi
Swiss Visio Network

11. ORTHOPEDIC SURGERY

Clinica Ars Medica
Clinique de Genolier
Clinique Générale Ste-Anne
Privatklinik Bethanien
Privatklinik Obach
Schmerzklinik Basel

12. OSTEOARTICULAR PATHOLOGY

Hôpital de La Providence

13. OUTCOME RESEARCH VALUE-BASED MEDICINE

Clinique de Genolier

14. PREVENTIVE AND DIAGNOSTIC MEDICINE

Clinique Nescens

15. REGENERATIVE MEDICINE

Clinique Nescens

16. QUALITY ASSURANCE

Clinique de Genolier
Swiss Medical Network

17. SUPPORTIVE CARE

Clinique de Genolier
Swiss Medical Network

18. SURGERY:

PLASTIC SURGERY

LYMPHATIC SURGERY

MICROSURGERY

Klinik Pyramide am See

21. UROLOGY

Clinique Générale-Beaulieu



BASEL

Schmerzklinik Basel



BERN/JURA/NEUCHÂTEL

Réseau de l'Arc
(Hôpital de Moutier et Hôpital de Saint-Imier)



FRIBOURG

Clinique Générale Ste-Anne



GENEVA

Clinique Générale-Beaulieu



GENOLIER

Clinique de Genolier
Clinique Nescens



LAUSANNE

Clinique de Montchoisi
Swiss Visio Network



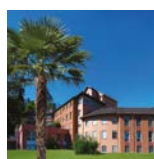
NEUCHÂTEL

Hôpital de La Providence



SOLOTHURN

Privatklinik Obach



TICINO

Clinica Ars Medica, Gravesano
Clinica Sant'Anna, Sorengo
Swiss Stem Cell Foundation, Lugano



ZURICH

Privatklinik Bethanien
Swiss Stem Cells Biotech

ON-GOING RESEARCH: STUDY PROTOCOLS

BREAST CANCER

SAKK 23/16 (TAXIS): TRIAL OVERVIEW

- Patients entered into this trial are those presenting with breast cancer, with positive axillary nodes.
- This clinical study investigates the role of a new surgical approach, called tailored axillary surgery (TAS), an innovative technique that aims at selectively removing the positive lymph nodes.
- The study compares this new surgical approach, which is likely to reduce the surgery side effects, to conventional axillary dissection.
- Should TAS be as efficacious as conventional surgery in terms of disease control, the use of this innovative approach would then improve the quality of life of a significant number of breast cancer patients with positive nodes in the axilla.

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Trial Title

OPBC-03/SAKK
23/16/IBCSG 57-
18/ABCSG-53/CBG-101.
Tailored AXillary Surgery
with or without axillary lymph
node dissection followed
by radiotherapy in patients
with clinically node-positive
breast cancer (TAXIS).

Clinical Phase

Clinical trial phase III

Sponsor

University Hospital Basel

Coordinating investigator

W.P. Weber, Basel

Patient population

The TAXIS trial will evaluate the optimal treatment for breast cancer patients with confirmed nodal disease at first diagnosis in terms of surgery and radiotherapy.

Background and Rationale

The removal of all lymph nodes in the armpit through conventional axillary dissection has been standard care for all patients with breast cancer for almost a century. In the nineties, the sentinel lymph node (SLN) procedure, which involves the selective removal of the first few lymph nodes in the lymphatic drainage system, was introduced in clinical practice. Today, conventional axillary dissection is still performed on many women with breast cancer that has spread to the nodes. It is the cause for relevant morbidity in the form of lymphedema, impairment of shoulder mobility, sensation disorders and chronic pain in as much as one third of all women undergoing the procedure. The TAXIS trial will evaluate the optimal treatment for breast cancer patients with confirmed nodal disease at first diagnosis in terms of surgery and radiotherapy.

Objective(s)

TAXIS will investigate the value of tailored axillary surgery (TAS), a new technique that aims at selectively removing the positive lymph nodes. TAS is a promising procedure that may significantly decrease morbidity in breast cancer patients by avoiding surgical overtreatment.

The main objective of the trial is to show that tailored axillary surgery (TAS) and axillary radiotherapy (RT) is non-inferior to axillary lymph node dissection (ALND) in terms of disease-free survival of breast cancer patients with positive nodes.

BREAST CANCER

PREVENT: STUDY OVERVIEW

- Patients entered into this study are those presenting with high-risk breast cancer and treated by surgery.
- Persistent postsurgical pain occurs in more than 30% of patients undergoing breast cancer surgery.
- This clinical study aims at determining whether pregabalin, a drug with analgesic and anxiolytic activities, may reduce the incidence of persistent postsurgical pain.
- Should a significant analgesic effect of pregabalin be demonstrated by this study, the administration of this drug would be strongly recommended in the future for breast cancer patients at risk of developing post-surgical, chronic pain syndrome.

Patient population

High-risk patients undergoing breast cancer surgery.

Background and Rationale

Persistent postsurgical pain occurs in more than 30% of patients undergoing breast cancer surgery. Evidence that gabapentinoids such as pregabalin may reduce the incidence of persistent postsurgical pain is ambiguous, potentially because in previous trials prophylactic treatment was administered to every patient undergoing surgery. The patients at low risk of long-term pain are exposed to side effects without much benefit to expect.

Objective(s)

The PREVENT study has two aims:

- Validating or refuting the utility of pregabalin to prevent long-term postoperative pain in patients at high risk of persistent pain after breast cancer surgery.
- Analyzing how side-effect information influences treatment tolerance.

In addition, genetic material will be collected for a later genetic association analysis on acute and chronic post-surgical pain.

Study Title

Swiss multi-center, randomized, placebo controlled trial of pregabalin for prevention of persistent pain in high risk patients undergoing breast cancer surgery.

Clinical Phase

Clinical phase III study

Sponsor-Investigator

B. Rehberg-Klug, Geneva

BREAST CANCER

RIB-ELLE: STUDY OVERVIEW

- The patients entered into this study are post-menopausal female patients (≥ 18 years old), with a diagnosis of HR+/HER2-negative advanced breast cancer.
- Endocrine (hormonal) therapy has been the backbone of HR+/HER2- negative advanced breast cancer treatment, nevertheless its efficacy is limited.
- The primary objective is to analyze the potential advantages of the addition of ribociclib – a CDK4/6 inhibitor – to an aromatase inhibitor in these patients in comparison with the endocrine therapy alone.

Study Title

RIB-ELLE: A non-interventional study to assess the safety and efficacy of RIBociclib in combination with an aromatase inhibitor (letrozole, anastrozole, exemestane) in the swiss advanced breast cancer population.

Clinical Phase

Clinical non-interventional study

Sponsor-Investigator

Dr. Nadine Pasche,
Novartis Pharma Schweiz AG

Patient population

The study will enroll 200 adult post-menopausal female patients (≥ 18 years old), with a diagnosis of HR+/HER2-negative advanced breast cancer that will be treated with ribociclib and an aromatase inhibitor.

Background and Rationale

Endocrine (hormonal) therapy has been the backbone of HR+/HER2- negative advanced breast cancer treatment, nevertheless its efficacy is limited.

Nevertheless, a recent clinical study showed that, in postmenopausal women with HR+/HER2-negative advanced breast cancer who had received ribociclib, a CDK4/6 inhibitor, plus letrozole versus placebo plus letrozole, showed that a 44% relative risk reduction was evident in the hazard rate of progression/death in favor of ribociclib plus letrozole.

Objective(s)

The primary objective is to analyze time to treatment failure (TTF) for the initial endocrine based treatment with ribociclib plus an aromatase inhibitor in patients with HR+/HER2-negative advanced breast cancer in a real world patient population (Switzerland).

BREAST CANCER

SAKK 23/18: TRIAL OVERVIEW

- Patients entered into this trial are those presenting with luminal B, ER<10%, cT1c-cT2c breast cancer, with (near) complete radiological response after neo-adjuvant chemotherapy (NAC).
- As NAC induces different response patterns, radiologic imaging is not sufficiently accurate in predicting residual disease. This clinical study investigates the sensitivity of vacuum-assisted biopsy (VAB) through the possibility of obtaining tissue of the former tumor center that could contribute more reliably to detect any residual tumor or respectively, rule out residual disease.
- The main objective of the trial is to determine the diagnostic accuracy of the post-NAC VAB in determining pCR, compared to open surgery.
- Should vacuum-assisted biopsy be more sensitive than open surgery to detect pCR after neo-adjuvant chemotherapy, this former technique should be considered as standard approach in the patient population mentioned above.

Patient population

Patients with unifocal, histologically confirmed invasive breast cancer with immunohistochemistry luminal B type (with or without overexpression or amplification of the HER2 receptor) and all ER negative (ER<10%) breast cancers. Initial tumor size larger than 1 and less than 5 cm (cT1c to cT2), any N, M0. Following neoadjuvant chemotherapy resulting in a radiological complete response or near complete response on radiologic imaging.

Background and Rationale

Neoadjuvant chemotherapy (NAC) has lately become common practice in the primary treatment of breast cancer. The use of modern NAC regimens lead to a complete pathologic remission (pCR) of the tumor in more than 50% in aggressive tumor types. In general, it is difficult to predict pCR in the absence of invasive surgical techniques, as it depends on several factors such as biological subtype, the used chemotherapy regimen and anatomic stage. As NAC induces different response patterns, radiologic imaging is not sufficiently accurate in predicting residual disease. Because of this uncertainty, surgery (and the standardized assessment of resected tissue) is so far the only valid option to either ascertain complete response or to remove the complete residual disease.

Vacuum-assisted biopsy (VAB) with the possibility of obtaining tissue of the former tumor center could contribute more reliably to detect any residual tumor or respectively, rule out residual disease. Ultrasound (US) or mammographically (MG) guided VAB will be used in this trial in order to detect residual tumor lesions in patients with radiological complete response (rCR) after NAC.

Objective(s)

The main objective of the trial is to determine the diagnostic accuracy of the post-NAC VAB in determining pCR compared to open surgery.

Trial Title

Vacuum assisted biopsy Immediately before Surgery as an Intra- or pre-Operative surrogate for patient response to Neoadjuvant chemotherapy for breast cancer (VISION I).

Clinical Phase

A multicenter prospective feasibility trial. Clinical trial with other health intervention.

Sponsor

Swiss Group for Clinical Cancer Research (SAKK)

Coordinating investigator

C. Tausch, Zurich

BREAST CANCER

HEDGE: STUDY OVERVIEW

- Patients entered into this study are female patients of at least 18 years old, diagnosed with breast cancer, whatever the type, treated with breast conserving surgery.
- So far at least 20% of patients undergo more than one procedure to achieve acceptable cancer-negative margins as part of breast conserving strategy. Applying a second procedure has physical, psychological and economic sequelae and delays the administration of adjuvant therapy. An efficient intraoperative assessment of the margin may solve these issues.
- The aim of this observational study is to show that the pathologist can perform the analysis of the resection margins with an accuracy at least similar to the current standard of care by using the Histolog Scanner (HLS), a recent confocal laser scanning microscopes (CLSM) imaging equipment which can improve fresh tissue ex-vivo imaging. Should the analysis of the resection margins with the Histolog Scanner with an accuracy at least similar to the current standard of care, and with a required time to assess the margins comparing favourably with that required for the same current standard of care, the Clinique of Genolier would use the innovative solution brought by the Histolog Scanner to analyze resection margins.

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Trial Title

HEDGE: Integration of the Histolog Scanner (HLS), a novel ex-vivo confocal microscope designed for breast cancer detections at the margins of breast lumpectomy specimens, at the Clinique de Genolier.

Clinical Type

Monocentric, prospective, single arm, observational study

Sponsors

Clinique de Genolier

Coordinating investigator

Magdalena Kohlik,
Clinique de Genolier

Patient population

Female patients of at least 18 years old, diagnosed with breast cancer, whatever the type, treated with breast conserving surgery.

Background and Rationale

Although there is no universally accepted definition of negative surgical margins, at least 20 % of patients undergo more than one procedure to achieve acceptable cancer-negative margins as part of breast conserving strategy. Applying a second procedure has physical, psychological and economic sequelae. It delays the administration of adjuvant therapy, and has been associated with an elevated risk of local and distant disease relapse. An efficient intraoperative assessment of the margin may solve these issues. Today, no studies with high levels of evidence demonstrate a significant improvement from alternative intraoperative margin assessment methods in breast conservative surgery. All have unique limitations and to date none has gained universal international adoption. There is a clear need to improve the performance of the procedure(s) analyzing tumor resection margins in breast conserving surgery.

Objective(s)

The primary objective is to compare the performance achieved retrospectively for breast cancer detection in lumpectomy margins using Histolog Scanner images with the detection performance achieved with the intraoperative standard of care practice performed in the Clinique de Genolier. The secondary objective is to compare the time required to assess the margins with the Histolog Scanner to the time required for the standard of care intraoperative assessment.

VARIOUS CANCERS

SAKK 96/12: TRIAL OVERVIEW

- Patients entered into this study are those presenting with bone metastases from castration resistant prostate cancer or from breast cancer.
- Denosumab, a monoclonal antibody, has a high activity in preventing skeletal related events. Although denosumab is generally well tolerated, severe toxicities as marked hypocalcemia can be observed after the administration of this drug.
- The main objective is to compare two modalities of Denosumab administration, namely every month vs every three months, in these two patient populations.
- Should a dose reduction of this drug show equivalent efficacies, patients could be treated with less toxicities, resulting in a better quality of life.

Patient population

Patients with bone metastases from castration resistant prostate cancer or from breast cancer.

Background and Rationale

Based on their ability to inhibit osteoclast activity, bisphosphonates have been used for more than a decade to delay the onset and to reduce the incidence of skeletal related events (SREs) in people with breast and prostate cancer. Traditionally, SREs were defined as a pathologic fracture, spinal cord compression, requirement for radiation therapy or surgery to bone or change in antineoplastic therapy to treat bone pain. Denosumab, a human monoclonal antibody against RANKL, entered the field and three phase 3 studies have shown a higher activity in preventing SREs as compared with zoledronic acid without impact on disease progression or death. Although denosumab is generally well tolerated, severe hypocalcemia (corrected serum calcium <1.75 mmol/L) was reported to occur in 3.1 % of patients treated with denosumab (versus 1.3 % of patients treated with zoledronic acid), and even fatal and prolonged cases have been reported. The impact of dose reduction on SREs has therefore to be investigated.

Objective(s)

The main objective is to establish that denosumab 120 mg given every 12 weeks is non-inferior to denosumab 120 mg given every 4 weeks, in patients with bone metastases from castration resistant prostate cancer or from breast cancer.

Trial title

SAKK 96/12. Prevention of Symptomatic Skeletal Events with Denosumab Administered Every 4 weeks versus every 12 Weeks – A Non-Inferiority Phase III Trial.

Clinical phase

A Non-Inferiority Phase III Trial

Sponsor

Swiss Group for Clinical Cancer Research (SAKK)

Coordinating investigator

R. von Moos. Kantonsspital Graubünden, Chur

IMPACT OF RESEARCH PROGRAMS ON PATIENT PATHWAYS

EXAMPLES OF SUCCESSFUL COOPERATIVE AND INTERNAL CLINICAL STUDIES INVOLVING SWISS MEDICAL NETWORK TEAMS OR INDIVIDUALS

ONCOLOGY

Risk-Adapted Neoadjuvant Chemoradiotherapy in Rectal Cancer: Final Report of the OCUM Study

In a prospective multicenter interventional study, patients with rectal cancer (cT2-4, any cN, cM0) were classified according to the minimal distance between the tumor, suspicious lymph nodes or tumor deposits, and mesorectal fascia (mrMRF). Patients with a distance >1 mm underwent up-front total mesorectal excision (TME; low-risk group), whereas those with a distance ≤1 mm and/or cT4 and cT3 tumors in the lower rectal third received nCRT followed by TME surgery (high-risk group). The primary end point was 5-year LR rate.

A total of 530 patients underwent up-front surgery, and 354 had nCRT followed by surgery. Kaplan-Meier analyses revealed 5-year LR rates of 42.9% after up-front surgery, and 5.7% after nCRT followed by surgery. The 5-year rate of distant metastases was 15.9% and 30.5%, respectively. In a subgroup analysis of 570 patients with lower and middle rectal third cII and cIII tumors, 257 (45.1%) were at low-risk. The 5-year LR rate in this group was 3.8% (95% CI, 1.4 to 6.2) after up-front surgery. In 271 high-risk patients (involved mrMRF and/or cT4), the 5-year rate of LR was 5.9% and of metastases 34.5%.

These findings support the avoidance of nCRT in low-risk patients and suggest that in high-risk patients, neoadjuvant therapy should be intensified to improve prognosis.

Reference: Ruppert R, Junginger T, Kube R, Strassburg J, Lewin A, Baral J, Maurer CA, Sauer J, Lauscher J, Winde G, Thomasmeyer R, Stelzner S, Bambauer C, Scheunemann S, Faedrich A, Wollschlaeger D, Merkel S. *J Clin Oncol.* 2023 Aug 20;41(24):4025-4034. doi: 10.1200/JCO.22.02166. Epub 2023 Jun 19. PMID: 37335957. <https://pubmed.ncbi.nlm.nih.gov/37335957/>

PREOPERATIVE TREATMENT OF LOCALLY ADVANCED RECTAL CANCER

This is a multicenter, unblinded, noninferiority, randomized trial of neoadjuvant FOLFOX (with chemoradiotherapy given only if the primary tumor decreased in size by <20% or if FOLFOX was discontinued because of side effects) as compared with chemoradiotherapy. Adults with rectal cancer that had been clinically staged as T2 node-positive, T3 node-negative, or T3 node-positive who were candidates for sphincter-sparing surgery were eligible to participate. The primary end point was disease-free survival. Among a total of 1194 patients, 585 were in the FOLFOX group and 543 in the chemoradiotherapy group.

At a median follow-up of 58 months, FOLFOX was noninferior to chemoradiotherapy for disease-free survival (hazard ratio for disease recurrence or death, 0.92; $P = 0.005$ for noninferiority). Five-year disease-free survival was 80.8% (in the FOLFOX group and 78.6% in the chemoradiotherapy group. The groups were similar with respect to overall survival (hazard ratio for death, 1.04) and local recurrence (hazard ratio, 1.18).

In conclusion, patients with locally advanced rectal cancer who were eligible for sphincter-sparing surgery, preoperative FOLFOX was noninferior to preoperative chemoradiotherapy with respect to disease-free survival.

Reference: Schrag D, Shi Q, Weiser MR, Gollub MJ, Saltz LB, Musher BL, Goldberg J, Al Baghdadi T, Goodman KA, McWilliams RR, Farma JM, George TJ, Kennecke HF, Shergill A, Montemurro M, Nelson GD, Colgrove B, Gordon V, Venook AP, O'Reilly EM, Meyerhardt JA, Dueck AC, Basch E, Chang GJ, Mamon HJ. *N Engl J Med.* 2023 Jul 27;389(4):322-334. doi: 10.1056/NEJMoa2303269. PMID: 37272534; PMCID: PMC10775881. IF: 158.5. <https://pubmed.ncbi.nlm.nih.gov/37272534/>

GENOMICS

The COVID-19 Host Genetics Initiative: A second update on mapping the human genetic architecture of COVID-19

This Initiative formed a global network of researchers to investigate the role of human genetics in SARS-CoV-2 infection and COVID-19 severity. This update describes the results of three genome-wide association meta-analyses that consist of up to 49,562 patients with COVID-19 from 46 studies across 19 countries. It reports 13 genome-wide significant loci that are associated with SARS-CoV-2 infection or severe manifestations of COVID-19. Several of these loci correspond to previously documented associations to lung or autoimmune and inflammatory diseases. They also represent potentially actionable mechanisms in response to infection. Mendelian randomization analyses support a causal role for smoking and body-mass index for severe COVID-19 although not for type II diabetes. The identification of novel host genetic factors associated with COVID-19 was made possible by the community of human genetics researchers coming together to prioritize the sharing of data, results, resources and analytical frameworks. This working model of international collaboration underscores what is possible for future genetic discoveries in emerging pandemics, or indeed for any complex human disease.

Reference: The complete list of authors can be found online at: COVID-19_HGI_r7_authorship_list. *Nature*, 621; E7-E26; September 2023. IF: 69.50. <https://doi.org/10.1038/s41586-023-06355-3>

SURGERY

Consensus recommendations on how to assess the quality of surgical interventions

Postoperative complications represent a major public health burden worldwide. Without standardized, clinically relevant and universally applied endpoints, the evaluation of surgical interventions remains ill-defined and inconsistent, opening the door for biased interpretations and hampering patient-centered health care delivery. We conducted a Jury-based consensus conference incorporating the perspectives of different stakeholders, who based their recommendations on the work of nine panels of experts. The recommendations cover the selection of postoperative outcomes from the perspective of patients and other stakeholders, comparison and interpretation of outcomes, consideration of cultural and demographic factors, and strategies to deal with unwarranted outcomes. With the recommendations developed exclusively by the Jury, we provide a framework for surgical outcome assessment and quality improvement after medical interventions, that integrates the main stakeholders' perspectives.

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Reference: Domenghino A, Walbert C, Birrer DL, Puhan MA, Clavien P-A. Outcome4Medicineconsensus group. Nat Med. 2023; 29: 811-822. IF: 87.24. <https://pubmed.ncbi.nlm.nih.gov/37069361/>

Hemodynamics



Heart rate

Aging vascular health

Status



Type-6: 85.09%

Type-8: 84.23%

Blood circulation and energy state is becoming good thanks to wearing

Keep blood pressure and cholesterol in a health range. avoid long periods of immobility

Energy analysis



EDUCATION

IN 2023, A RANGE OF MEDICAL CONFERENCES AND SEMINARS WERE ORGANIZED EITHER IN PRESENTIAL OR HYBRID MODE.

(in alphabetical order)

CLINICA ARS MEDICA

Dolore vertebrale	02.03.2023
Medical Conference	04.04.2023
What's new in knee surgery	
Symposium	29.09.2023

CLINIQUE DE GENOLIER

La place de la chirurgie dans les troubles dégénératifs du rachis : quand adresser le patient au spécialiste	
Medical Conference	19.01.2023
Journée mondiale de l'endométriose	
Public Conference	26.03.2023
Un grain de musique, une note de sable	
Public Conference	12.10.2023
Journée sur les pathologies de la prostate	
Medical Conference	16.11.2023

CLINIQUE DE GENOLIER

CLINIQUE DE MONTCHOISI

CLINIQUE VALMONT

Fracture du col du fémur chez la personne âgée	
Medical Conference	
Dr. Jean-Marc Bougaud and Dr. Olivier Guyen	09.02.2023
Pour les thérapeutes du canton de Vaud	
Les principales pathologies de l'épaule et leur prise en charge	
Medical Conference	
Dr. Alec Cikes	16.05.2023

CLINIQUE DE MONTCHOISI

Genou traumatique: tout savoir sur l'entorse de genou	
Symposium – Moderator: Dr. Laurent Gillain	03.11.2023

CLINIQUE GÉNÉRALE-BEAULIEU

Journée de la médecine de l'adolescence Medical Conference	09.02.2023
2^e Journée de cancérologie Medical Conference	27.04.2023
Cancer de la peau Medical Conference	04.05.2023
2^e Journée de l'obstétrique Medical Conference	11.05.2023
Cancer pulmonaire Medical Conference	29.06.2023
International Sialendoscopy Conference Symposium	04-07.09.2023
Octobre Rose Medical Conference	06.10.2023
Cancer du sein Medical Conference	06.11.2023
1^{ère} Journée du rachis Medical Conference	09.11.2023

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CLINIQUE VALMONT

Douleurs du dos: rôle des thérapeutes et optimisation du parcours de soins Medical Conference Dr. Rodolfo Maduri	03.10.2023
Les révolutions dans la prise en charge de la sclérose en plaques Symposium Prof. Julien Bogousslavsky	02.11.2023

KLINIK PYRAMIDE AM SEE

Vorteile der minimalinvasiven Wirbelsäulen Chirurgie in der Behandlung von Rückenschmerzen Public Conference Dr. med. Alessandro Rustia	11.04.2023
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PRIVATKLINIK BELAIR

Gynäkologie - Urologie Public Conference	07.03.2023
Hämatologie MPA Event	03.04.2023
Wirbelsäulenchirurgie MPA Event	06.11.2023
Wirbelsäulenchirurgie Public Conference	14.11.2023

PRIVATKLINIK BETHANIEN

Individuelle Therapie von Kniebeschwerden Public Conference	02.02.2023
Diagnose und Therapie der Endometriose Public Conference	16.03.2023
Fortbildung Interdigest: Es fliesst! Doctors' training	23.03.2023
Prothetik der grossen Gelenke Public Conference	20.04.2023
Erkrankungen der Lendenwirbelsäule Public Conference	11.05.2023
Diagnose und Therapie von Myomen Public Conference	08.06.2023
Ernährung und Krebsprävention Public Conference	15.06.2023
Behandlung von Gelenkproblemen Public Conference	14.09.2023
Patient Blood Management Doctors' training	28.09.2023
Erfolgreich gegen Brustkrebs Public Conference	05.10.2023
Papillon-50 bei Rektumkarzinom Public Conference	26.10.2023
Schilddrüsenknoten - wie weiter? Public Conference	02.11.2023
Männervorsorge in der Urologie Public Conference	16.11.2023
Fortbildung Interdigest: Es brennt! Doctors' training	23.11.2023

PRIVATKLINIK LINDBERG

Ästhetische und rekonstruktive Chirurgie MPA Event	23.02.2023
Demenz – Krankheitsbild und Verlauf MPA Event	30.10.2023

PRIVATKLINIK SILOAH

Informationsabend ROSA Orthopädie-Roboter für Hausarzt:Innen & Physiotherapeut:Innen Event for referring physicians Dr. med. Stefan Joss, Dr. med. Uwe Bierbach, Jan Hustin	02.03.2023
Chirurgischer Assistenzroboter Rosa Public Conference Dr. med. Stefan Joss, Dr. med. Uwe Bierbach	22.03.2023

PRIVATKLINIK VILLA IM PARK

Rapid Recovery - rasche Erholung nach Gelenkersatz-OP Public Conference – Dr. med. Lukas Schatzmann	07.09.2023
Aktiv trotz Schulterarthrose: Wie man Beweglichkeit fördert und Schmerzen lindert Public Conference – PD Dr. med. Thomas Suter	25.10.2023

SCHMERZKLINIK BASEL

Therapie-Update Systemischer Lupus erythematoses Lunch Lecture	10.01.2023
Handchirurgie bei der Rheumatologischen Patientin Lunch Lecture	07.02.2023
Multimodale Schmerztherapie, Schwerpunkt Neuraltherapie Lunch Lecture	07.03.2023
Polymyalgia rheumatica – Differentialdiagnosen Lunch Lecture	11.04.2023
Fibromyalgia what is new? (via Teams) Lunch Lecture	09.05.2023
Rolle des Mikrobioms in der Inflammation Lunch Lecture	13.06.2023
Osteopenie/Osteoporose – wann Therapie starten? Lunch Lecture	11.07.2023
Gonarthrose wann konservativ, wann operativ? Lunch Lecture	15.08.2023

Rheumatoide Arthritis: Rolle der Genetik/Epigenetik Lunch Lecture	12.09.2023
Immundefizienzen, wann daran denken? Lunch Lecture	17.10.2023
Hämatologische Komplikationen in der Rheumatologie Lunch Lecture	07.11.2023
Spondylarthritis: Differenzierung radiographisch/ nicht-radiographisch noch sinnvoll? Lunch Lecture	12.12.2023

SWISS MEDICAL NETWORK

Ortho Day Orthopedics - Arthroplasty Medical Conference Dr. Philippe Glasson, Prof. Victor Valderrabano, Dr. Ivan Tami, Dr. Alec Cikes	17.03.2023
Medical Days Microbiome - Oncology - Surgery - Internal medicine Hypoxia messenger RNA - Hyperbaric medicine - COVID long Medical Conference	26-27.05.2023
Anesth Day Anesthesia - Orthopedics Medical Conference Dr. Philippe Glasson, Dr. Ali Sarraj	26.08.2023
Nurse Days Medical Conference	25-26.09.2023
Sport Day Biological innovations - Advances in sports rehabilitation Medical Conference Dr. Philippe Glasson, Dr. Adrien Schwitzguébel	05.10.2023
Onco Day Oncology surgery - Chronobiology - Circadian medicine Therapeutic approaches Medical Conference Dr. Philippe Glasson, Dr. Oscar Matzinger	11.11.2023

SWISS VISIO NETWORK

DMLA: la cécité est-elle encore une fatalité?

Public Conference

27.04.2023

Le défi des fluctuations du diabète:

point de vue de l'ophtalmologue et du diabétologue

Public Conference

15.11.2023

SWISS VISIO NETWORK

CLINIQUE DE MONTCHOISI

Symposium d'ophtalmologie

Glaucome - Rétine - Neuro-ophtalmologie

Chirurgie réfractive - Live surgeries

Symposium

30.03.2023

CONCLUSION

The 2023 scientific report for Swiss Medical Network reflects a year of remarkable strides in the realm of biomedical research. Through collaborative efforts, doctors within the network co-authored a series of groundbreaking scientific publications. These achievements underscore the network's dedication to fostering innovation and represent the success of relentless efforts that, along the main axes of co-development, continue to promote interdisciplinary and concerted actions among research teams.

This report also shows that Swiss Medical Network's researchers are playing a significant role in the scientific publications they co-author in most cases, these publications resulting from national or international collaborations.

Of note, the Science and Innovation platform is providing, in this 2023 report, four examples of successfully lead studies with strong and direct impact on patients' pathway. These lead studies were co-authored by Swiss Medical Network's teams or individuals in the framework of cooperative, multi-institutional clinical studies.

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In Oncology, the final report on risk-adapted neoadjuvant chemoradiotherapy in rectal cancer (OCUM Study) supported the avoidance of neo-adjuvant chemotherapy in low-risk patients and suggested that in high-risk patients, neoadjuvant therapy should be intensified to improve prognosis. In another study dealing also with patients with locally advanced disease who were eligible for sphincter-sparing surgery rectal cancer, preoperative FOLFOX chemotherapy was noninferior to preoperative chemoradiotherapy with respect to disease-free survival.

In the genomic field, the COVID-19 Host Genetics Initiative provided a second update on mapping the human genetic architecture of this coronavirus. This working model of international collaboration underscored what is possible for future genetic discoveries in emerging pandemics, or indeed for any complex human disease.

In the surgical field, consensus recommendations on how to assess the quality of surgical interventions provided a framework for surgical outcome assessment and quality improvement after medical interventions, also integrating the main stakeholders' perspectives.

The annual scientific report not only celebrates the achievements of the past year but also serves as a roadmap for future endeavors. In 2024, the stakeholders who will develop their activities in the Genolier Innovation Hub will help Science and Innovation intensify its strategies of cross-fertilization. As we move forward, we will continue to lay the groundwork for innovative treatments, foster a culture of collaboration and ultimately translate research findings into tangible improvements in personalized patient care and the betterment of healthcare.





Scientific Publications in Peer-Reviewed Journals

(Biomedical domains listed in alphabetical order)

This list of bibliographical references is a compilation of scientific articles that physicians from Swiss Medical Network authored or co-authored in 2023, in the framework of in-house research programs or of their participation to collaborative works, whose results were published by national/international cooperative groups or other institutions.

CELL THERAPIES

Gianni Soldati (Swiss Stem Cell Foundation, Lugano)

- Cremona M, Rusconi G, Ferrario A, Mariotta L, Gola M, Soldati G. Processing Adipose Tissue Samples in a GMP Environment Standardizes the Use of SVF in Cell Therapy Treatments: Data on 302 Patients. *Biomedicines*. 2023 Sep 14;11(9):2533. doi: 10.3390/biomedicines11092533. PMID: 37760974; PMCID: PMC10525825. IF: 4.70. <https://pubmed.ncbi.nlm.nih.gov/37760974/>

GENOMICS

Kathrin Aprile von Hohenstaufen Puoti (Clinique de Genolier)

- The COVID-19 Host Genetics Initiative: A second update on mapping the human genetic architecture of COVID-19. The complete list of authors can be found online at: COVID-19_HGI_r7_authorship_list. *Nature*, 621; E7-E26; September 2023. IF: 69.50. <https://doi.org/10.1038/s41586-023-06355-3>

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INTERNAL MEDICINE

Pierre-Olivier Lang (Clinique de Genolier)

- Quiaios L, Krief H, Lamy O, da Rocha CG, Siegle-Authemayou ML, Lang PO. Impact of an early geriatric rehabilitation program in acutely hospitalised vulnerable patients: a real-life study in an ACE unit in Switzerland. *Geriatr Psychol Neuropsychiatr Vieil*. 2023 Mar 1;21(1):51-62. doi: 10.1684/pnv.2023.1089. PMID: 37115679. IF: 0.52. <https://pubmed.ncbi.nlm.nih.gov/37115679/>
- Lang, P.-O. Herpes zoster – Part 1: The acute phase | Le zona – partie 1: la phase aiguë. *NPG Neurologie – Psychiatrie – Geriatrie*, 2023, 23(136), pp. 216-221. IF: 0.16. <https://www.sciencedirect.com/science/article/abs/pii/S1627483023000673>
- Lang, P.-O. Herpes zoster – Part 2: Postherpetic neuralgia | Le zona – partie 2: les névralgies postzostériennes. *NPG Neurologie – Psychiatrie – Geriatrie*, 2023, 23(136), pp. 222-228. IF: 0.16. <https://www.sciencedirect.com/science/article/abs/pii/S1627483023000661>
- Lang, P.-O. Herpes zoster – Part 3: Prevention of herpes zoster and post-herpetic neuralgia | Le zona – Partie 3: la prévention du zona et des névralgies post-zostériennes. *NPG Neurologie – Psychiatrie – Geriatrie*, 2023, 23(136), pp. 229-235. IF: 0.16. <https://www.sciencedirect.com/science/article/abs/pii/S1627483023000697>
- Lang P.-O. Vaccination contre le zona: quel(s) vaccin(s) pour le plan vaccinal 2024? Vaccination against Shingles: which vaccine(s) for the 2024 vaccination plan? *Rev Geriatr* 2023; 48 (6): 307-313. IF: N.A. <https://www.revuedegeriatrie.fr/?s=lang+Po>

NEUROSURGERY

Rodolfo Maduri (Clinique de Genolier)

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Textbook Editor

Atlas of Upper Gastrointestinal and Hepato-Pancreato-Biliary Surgery. Springer Verlag GmbH & Co.KG, Heidelberg, Clavien P-A, Sarr MG & Fong Y., Editors (80 chapters)

- 1st edition 2007 (translated in Russian)
- 2nd edition 2016 (translated in Russian and Chinese)
- 3rd edition 2023 (in preparation)

Christoph Andreas Maurer (Privatklinik Obach)

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Surgery: ORL (Ear Nose Throat)

Albert Mudry (Clinique de Montchoisi)

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Surgery: plastic and reconstructive surgery, lymphatic surgery, microsurgery and super microsurgery

Mario Scaglioni (Klinik Pyramide am See)

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UROLOGY

**Charles-Henry Rochat, Gregory Johannes Wirth, Martina Martins-Favre
(Clinique Générale-Beaulieu)**

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Scientific Communications

(Specialities in alphabetical order)

ONCOLOGY

RADIO-ONCOLOGY

Clinique de Genolier; Clinique Générale-Beaulieu

Oral presentations

- Nagy A, Fargier-Voiron M, Perichon N, Matzinger O, Jaccard M. Synchrony modality on Radixact: Characterization of dose profiles and development of an End-to-End methodology, Journées Scientifiques SFPM 2023, June 7-9th, Nancy.
- Fargier-Bochaton M, M. Jaccard M. Radiotherapy of the breast: Radixact and Procubitus O. 18th Journée Romande de Radio-Oncologie, October 5th 2023, Vevey.
- Fargier-Voiron M, Nagy A, Perichon N, De Marco C, Conrad M, Matzinger O, Jaccard M. Synchrony modality on RadiXact: development of an End-to-End methodology. Rencontres des Physiciens romands, October 6th 2023, Hôpital de la Tour, Geneva.
- M. Fargier-Voiron M, Nagy A, Perichon N, De Marco C, Conrad M, Matzinger O, Jaccard M. Synchrony modality on Radixact: Evaluation of the targeting accuracy SSRPM Annual Meeting 2023, November 30th - December 1st, Luzern.

Posters

- Perichon N, Jaccard M, Fargier-Voiron M, Matzinger O, Bulling S. End-to-end tests for Cyberknife treatment delivery with Raystation treatment planning system. ESTRO annual meeting 2023, May 12-16th, Vienna.
- Jaccard M, Fargier-Voiron M, Perichon N, De Marco C, Matzinger O, Bulling S, Caparrotti F. Evaluation of treatment delivery quality for right breast tomotherapy in prone position. ESTRO annual meeting 2023, May 12-16th, Vienna.
- De Marco C, Fargier-Voiron M, Perichon N, Matzinger O, Jaccard M. Changing TPS: What methodology to adopt to avoid traumatizing a radiotherapy service? Example of VMAT technique treatments for locoregional left breasts. Journées Scientifiques SFPM 2023, June 7-9th, Nancy.
- Jaccard M, Fargier-Voiron M, Perichon N, Conrad M, De Marco C, Cosinschi A, Fargier-Bochaton O, Matzinger O and Caparrotti F. Prone position for right breast tomotherapy treatment: dosimetric advantage and delivery quality assessment. SASRO Annual meeting 2023, August 31st - September 2nd, Bern.
- Fargier-Voiron M, Nagy A, Perichon N, Conrad M, De Marco C, Cosinschi A, Matzinger O, Caparrotti F, Jaccard M. Dosimetric comparison between CyberKnife and Radixact for prostate stereotactic body radiotherapy with and without urethra sparing. SASRO Annual meeting 2023, August 31st- September 2nd, Bern.
- De Marco C, Fargier-Voiron M, Perichon N, Matzinger O, Jaccard M. New TPS in a radiotherapy department: a methodology to maintain treatment planning quality - Example for locoregional left breasts treatments. SASRO Annual meeting 2023, August 31st - September 2nd, Bern.
- Aubry C, Legros S, Jaccard M, Matzinger O. Evolution of organs at risk contouring time. SASRO Annual meeting 2023, August 31st - September 2nd, Bern.

- Lorton O, Achard V, Koutsouvelis N, Jaccard M, Vanhoutte F, Dipasquale G, Ost P, Zilli T. Elective Nodal Irradiation for Oligorecurrent Nodal Prostate Cancer: Interobserver Variability in the PEACE V-STORM Randomized Phase 2 Trial. SASRO Annual meeting 2023, August 31st- September 2nd, Bern.

Lectures

- Perichon N. Master Physique fondamentale et applications, parcours Physique médicale, Teaching in dosimetry of ionizing radiation, 30h, 2nd semester 2022, Rennes (France).

Participation in training courses and congresses

- Perichon N. ESTRO course Advanced Imaging for Physicists, March 26-30th Brussels.
- Fargier-Voiron M. RayStation Scripting course, RaySearch Laboratories, March 21-22th, online course.
- Jaccard M, Perichon N, Fargier-Voiron M, Conrad M, Décaillet S, De Marco C. Rencontre des Physiciens Romands, March 10th 2023, Clinique Générale-Beaulieu.
- Matzinger O, Cosinschi A, Vermeille M, Caparrotti F, Jaccard M and Fargier-Voiron M. ESTRO annual meeting 2023, May 12-16th, Vienna.
- Perichon N. SASRO one-day multidisciplinary workshop: MR integration in radiation therapy, May 22 2023, Zurich.
- De Marco C, Perichon N, Nagy A. Journées Scientifiques SFPM 2023, June 7-9th, Nancy.
- Jaccard M, Perichon N, Fargier-Voiron M. Applied Medical Physics Meeting, June 22nd, Bern.
- Matzinger O, Cosinschi A, Caparrotti F, Vermeille M, Jaccard M, Perichon N, Conrad M. SASRO Annual meeting 2023, August 31st- September 2nd, Bern.
- Lestrade L. SFRO Annual meeting 2023, September 20th - September 23rd.
- Matzinger O, Fargier-Bochaton O, Vermeille M, Fargier-Voiron M, Jaccard M, Décaillet S. 18th Journée Romande de Radio-Oncologie, October 5th 2023, Vevey.
- Jaccard M, Perichon N, Fargier-Voiron M. Rencontre des Physiciens Romands, October 6th 2023, Hôpital de la Tour, Geneva.
- De Marco C. User meeting RaySearch France, October 17-18th, Nice.
- Fargier-Voiron M, Jaccard M. SSRPM Annual Meeting 2023, November 30th - December 1st, Luzern.
- Jaccard M, Conrad M. Applied Medical Physics Meeting, December 15th, Bern.

Conference chairmanships

- M. Conrad chaired the Physics Symposium, Offline, online, real-time adaptation: challenges and opportunities during the SASRO Annual meeting 2023, August 31st - September 2nd, Bern.
- M. Jaccard chaired the Proffered Paper Session III, Biology - Clinics - Physics, during the SASRO Annual meeting 2023, August 31st- September 2nd, Bern.
- M. Jaccard was a member of the Jury for the Young Investigator Award during the SASRO Annual meeting 2023, August 31st- September 2nd, Bern.
- M. Jaccard chaired the scientific session SSRMP Research grant during the SSRMP Annual Meeting 2023, November 30th - December 1st, Luzern.

ORTHOPEDIC SURGERY

Victor Valderrabano (Schmerzlinik Basel)

Chairmanships

- Swiss Medical Network Ortho Day 2023, Bellevue Palace Bern, March 17, 2023.
- IBRA Orthopaedic Foot & Ankle MASTER COURSE, International Bone Research Association IBRA, Anatomy Department, University of Basel, November 17-18, 2023.
- 2nd Basel International Ankle Osteoarthritis Course, IBRA Orthopaedic Foot & Ankle MASTER COURSE, International Bone Research Association IBRA, Anatomy Department, University of Basel, June 9-10, 2023.

Presentations, Moderations, Workshops in Conferences

Numerous presentations on national and international conferences and webinars.

SPINAL SURGERY

Frédéric Schils (Clinique Générale-Beaulieu)

- Schils F: Step by step cervical arthroplasty Tips and tricks: Spineart Arthroplasty Symposium , October 26-27, 2023, Lisbon Portugal
- Schils F: Literature overview and typical indications of cervical disc arthroplasty: Spineart Arthroplasty Symposium , October 26-27, 2023, Lisbon Portugal
- Schils F: Hernies discales et décompressions, 1^{ère} journée du rachis November 09, .2023, Geneva, Switzerland
- Schils F: Les colonnes instrumentées pourquoi, quand, comment ? 1^{ère} journée du rachis, November 09, 2023, Geneva, Switzerland
- Schils F: Robotic Spine Surgery where do we stand and where do we go?, November 23, 2023, Iberic Spine Summit, Lisbon, Portugal
- Schils F: Live Surgery in Los Angeles, USA, with Dr. Michael Dorsi: Minimal Invasive Tlif with robotics, October 16, 2023

Philippe Otten (Clinique Générale Ste-Anne)

Lectures and Courses

- Otten P: Présentation de cas et discussion avec panel, SYNS, Fribourg, Mai 2023.
- Mannion A F, Mariaux F, Werth P, Pearson A M, Lurie J, Fekete T F, Kohler M, Haschtmann D, Kleinstueck F S, Jeszenszky D, Loibl M, Otten P, Norberg I M, Porchet F : Evaluation of «appropriate use criteria» for surgical decision making in lumbar degenerative spondylolisthesis. A controlled, multicentre, prospective observational study. Eurospine 2023, Frankfurt, Octobre 2023.
- Otten P: Le développement durable dans les Hôpitaux et en chirurgie du rachis. Présentation et session's Chairman. Spine Summit Francophone, Bordeaux, Novembre 2023.

Posters

- Valsecchi D, Otten P: Uncommon 4th ventricle hematoma from bulbar choroid plexus papilloma. Joint Annual Meeting of the SNS and SGNC (EPoster), Zurich, November 23-24, 2023.
- Valsecchi D, Sprenger L, Maestretti G, Otten P: Cranioplasty with 3D-printed titanium flap in a case of isolated cranial melorheostosis, a case report. Joint Annual Meeting of the SNS and SGNC (EPoster), Zurich, November 23-24, 2023.

Educational activities

- Otten P: Cours de Neurochirurgie, Master Médecine UniFribourg.

UROLOGY

Rochat C-H (Clinique Générale-Beaulieu)

Symposia, webinars, workshops and courses

- Rochat C-H: Surgical workshop on obstetric fistula repair and urethral stenosis in Tanguiéta, North Benin, April 3-15, 2023.
- Rochat C-H: Collaboration Europe/Afrique francophone autour de la fistule obstétricale: 30 ans d'expérience. Webinar Falsulf (Fédération des associations et des sociétés d'urologie de langue française), September 1st, 2023.
- Rochat C-H: Moderation at Humans at the Cutting Edge of Robotic Surgery 2023 International Innovation Awards 2023, Ghent, Belgium, October 8, 2023.
- Rochat C-H: 30 years of experience in Benin: how to scale up. Congrès FIGO, Paris, October 12, 2023.
- Rochat C-H: Fistules obstétricales: le modèle de Tanguiéta. Congrès AFU, Paris, November 22, 2023.
- de Boccard G-A: 20 years of Robotic Assisted Vasectomy Reversal. 11th Annual Symposium of the Robotic Assisted Microsurgical & Endoscopic Society, Istanbul, November 4, 2023.
- de Boccard G-A: Robotic Assisted Microsurgery in Ophthalmology. Théa Fondation for Innovation and Training in Surgery, Geneva, October 20, 2023.

Wirth G (Clinique Générale-Beaulieu)

- Moderator at the "Congrès Annuel de la Société Suisse d'Urologie", Lausanne, September 20, 2023.
- Audit as an expert leader mandated by the German Society of Oncology (DKG) and OnkoZert, a certification body, at the prostate center of the Biel Hospital, July 25-26, 2023.
- Course (undergraduate) at the Faculty of Medicine, Pharmaceutical Sciences of Gynecology and Andrology, Geneva.
- Course (postgraduate), urological emergencies, Emergency Department, HUG, Geneva.
- Implementation of the da Vinci robotic surgery program, Daler Hospital (Fribourg), April 2023, with the first intervention on site on April 27, 2023.

Martins-Favre M (Clinique Générale-Beaulieu)

- Martins-Favre M, Wirth G, Hauser J, Carera C, Caviezel A, Fleury N, Chollet Y, Rohner S, Tuchschnid Y, Gross T, Verzotti G, Lalive JE, Treuthardt C, Rochat CH, Mayor G, Sao-Nam T, Altwegg G, Klein J, de Boccard GA, Vlamopoulos Y, De Gorski A, Bitton A, Mottaz A, Schoofs F, Hugonnet C, Iselin C, Mc Adam-Gampert S, Fenner V, Mart A, Renard J, Regusci S. Does the quality performance of the radiologist and MRI ameliorate the diagnostic accuracy of prostate fusion-guided targeted biopsy in the detection of prostate cancer. Congrès suisse d'urologie – Urology, September 21-22, 2023.
- Martins-Favre M, Regusci S: Symposium Thérapie focale et Imagerie uroradiologique du cancer de la prostate. Du diagnostic de qualité au choix du meilleur traitement – Centre Biotech, Geneva, 31.10.2023.
- Martins-Favre M: Membre de la Commission d'analyse SAB Projet Perfuse – Hôpital Edouard Henriot – Lyon, décembre 2023.

Regusci S (Clinique Générale-Beaulieu)

- Regusci S, Van Riel L, Rochat CH, Vlamopoulos Y, Bitton A, De Reijke T, Martins-Favre M. Focal transperineal laser ablation (TPLA) treatment of localized prostate cancer: short and mid-term functional outcomes and toxicity. ESUR Rome, Septembre 21, 2023.

Textbook

- Rochat CH: Robot-assisted Prostatectomy Anterior Approach. Robotic Urology. Hubert John and Peter Wiklund Editors. Springer, in press.
- de Boccard G: Robotic Assisted Vasectomy Reversal and Varicocelelectomy. Robotic U
- Dubuisson JB, Dubuisson J, Martins Favre M, Wirth GJ: «Ureteral Complications of Gynecological Surgery», Springer, 2023, ISBN 978-3-031-15597-0.
<https://link.springer.com/book/10.1007/978-3-031-15598-7>

Poster

- **1st prize**
Pellegrino F, Rochat CH: Prostate cancer specific and all-cause mortality after robot-assisted radical prostatectomy: 20 years report from the EAU Robotic Urology Section (ERUS) Scientific Working Group. EERUS Congress, Florence, September 13-15, 2023.

SCIENTIFIC REPORT 2023

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