

Annual Report 2017

SATC center

Department of Surgery

Odense University Hospital

Svendborg Hospital

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Preface

What is Department of Surgery's SATC Centre?

In 2014, the unit for neoplastic colorectal research, Department of Surgery, OUH Svendborg Hospital, received a large grant from The Danish Cancer Society to support the development of a “National Reference Centre” for advanced adenomas and early colorectal cancer (in Danish: Store Adenomer og Tidlige Cancere i Colon og rectum” – SATC). The activities were described as:

Learning and
education

Clinical
Excellence

Research

This was the starting point for an intensive collaboration between the Department of Surgery's management and the research unit about professional training of nurses and doctors, as well as an update of transanal ultrasound and endoscopy apparatus. In parallel, dedicated clinics for diagnosing and treating SATC patients were developed, and a group of five permanently employed doctors and four nurses were allocated to the clinical activities and the actual development efforts.

New surgical techniques were implemented so that the centre today offers all known treatments in transanal and endoscopic treatment of SATC lesions.

Courses and symposia on transanal ultrasound techniques as well as on treatment and stage assessment of advanced adenomas and early cancers were developed for doctors.

The funding from The Danish Cancer Society accelerated the research and led to several PhD studies as well as other national and international clinical studies. The unit has gained a foothold in European networks and researcher groups, has established an international steering committee, and has two internationally acclaimed associate professors:

- Professor Robert J. C. Steele – Head of Cancer Research at University of Dundee; Professor of Surgery and Head of Academic Surgery, Ninewells Hospital and Medical School, and Clinical Director of the Scottish Colorectal Cancer Screening Programme
- Professor and Consultant Geerard Lucien Beets - Department of Surgery, Netherlands Cancer Institute, Amsterdam, the Netherlands

In 2017, the SATC-Centre received a grant from the Danish Regions' (the interest organisation for the five regions in Denmark) “the-sooner-the-better” funds, which enabled further expansion. The new SATC-C learning centre was established at the beginning of 2017 with the purpose of building a regional centre for:

1. Learning through peer-to-peer training, courses, symposia, and congresses
2. Quality assurance and development

3. Database operation for research and monitoring
4. Clinical competence
5. Research

The primary purpose of the learning centre is to achieve a uniform and high-level standard for treatment of advanced adenomas and early colorectal cancer in the Region of Southern Denmark.

Background

The Danish bowel-screening programme was commenced in 2014 and has initiated a development contributing to a multiplication of the number of advanced adenomas and early cancers being treated. The percentage of early cancers has risen from 7% to 40%. More than 95% of all early cancers can be cured and the quality of treatment continues to improve – it is no longer a matter of improving survival. Focus is now on minimising complications and adverse effects, as more than 50% of those receiving major surgery for rectal cancer end up with permanently reduced quality of life as a result of the treatment.

At the same time, the minimally invasive, transanal, and endoscopic techniques have gone through significant development. The new methods increase the possibilities for completing treatment without major surgery. However, the methods are new, in some cases experimental, and must be evaluated. In our department, the percentage of major surgery for benign tumours has more than halved over the past five years. The dominant minimally invasive procedures for transanal surgery are:

- Transanal Endoscopic Microsurgery (TEM)
- Endoscopic Mucosa Resection (EMR)
- Endoscopic Submucosal Resection (ESD)
- Endoscopic Full Thickness Resection (eFTR)

The potential number of candidates for minimally invasive transanal treatment is growing rapidly on both regional and national levels, however the number of completed advanced procedures is not growing at the same rate. There is a lack of endoscopists in the region's hospitals formally trained in carrying out advanced procedures in the colon. Treatment of advanced adenomas in the rectum is centralized and the capacity for handling an increase in activity is present. The modest increase in activity can be attributable to a lack of knowledge about the national guidelines in this area.

Consistent application of the state-of-the-art treatment principles throughout the region could reduce the number of major surgical procedures significantly. Achieving the full clinical gain of recent years' breakthroughs requires intensive efforts to make the guidelines generally known and to increase the number of endoscopists trained in EMR. It is a prerequisite for spreading the principles and competences regionally on a voluntary basis. Furthermore, it is in everybody's interest to develop the methods for a further expansion of the indication areas for organ-preserving treatment.

The establishment of a centre for development and dissemination of these patient-friendly initiatives cannot be accomplished with a narrow perspective on the region's needs. The front position can only be sustained through broad collaboration. We have established such collaboration with the British SPECC centre (Significant Polyps and Early Colorectal Cancers). Thus, our initiatives have regional,

national, and international reach. The Danish population largely corresponds to a single regional learning centre in the UK SPECC programme. This is the only way we can accomplish our task: working for a treatment standard of the highest international level in the Region of Southern Denmark.

Head of SATC Professor Gunnar Baatrup

Head of SATC Consultant Niels Buch

SATC Center Organisation

The SATC Centre is located in Forskningsens Hus (“House of Research”), Department of Surgery, OUH Svendborg Hospital, 15 Baagøes Allé, entrance 39, 5700 Svendborg.

Department of Surgery Management

Executive Consultant Claus Christian Vinther

Head Nurse Susanne Barren

SATC Secretariat

Consultant Niels Buch, Head of Centre

Professor Gunnar Baatrup, Director of Research

Education Secretary and Responsible for Communication Lene von Fintel Sostack

Staff Doctor Anders Høgh

Staff Doctor Jesper Meng Rahn Nielsen

Project Nurse Anja Wulle

Project Nurse Mette Lundwald Rasmussen

Post Doc Issam Al-Najami

Post Doc Erik Zimmermann

Student Assistant Lasse Gantzholm Mølhede

Student Assistant Emma Thyra Lund

External Advisors

External advisors are employed by the SATC Centre in order to benefit from sparring and assistance on an international top level in Advanced Adenomas and Early Cancers. Together with the other employees in the SATC Centre, the advisors’ primary task is to ensure the high professional quality in the provided courses, as well as to give presentations. The advisors are experts in their respective fields.

Senior Advisors: Professor Neil Borley, Cheltenham General Hospital, UK and Professor Deirdre McNamara, Trinity College, Dublin.

Advisors: Radiologist Søren Rafaelsen, Vejle Hospital; PhD Jo Waage, Nordsjællands Hospital; and Professor Ismail Gögenur, Zealand University Hospital.

Regional Working Group

A regional working group, consisting of specialist doctors from each of the specialist units in the region's other hospitals, has been formed. The working group's task is to pave the way for regional prioritisation and coordination of the centre's activities, including the preparation of education programmes/concepts.

Executive Consultant Claus Christian Vinther heads the working group, which is assisted by the secretariat.

Advisory Board

Additionally, the Centre has an Advisory Board, which provides advice and sparring on visions, strategies, and professional matters within the core area.

Claus Duedal Pedersen, Chief Consultant, Dept. of Quality, Innovation, and Education, OUH University Hospital, Svendborg Hospital.

Birger Endreseth, Trondheim, Surgical Clinic, St. Olav's Hospital, Norway.

Deidre Mc Namara, Associate Professor, Head of dept. Clinical Medicine, Tallaght Hospital, Trinity College Dublin.

Professor Regina Beets-Tan, Dept. of Radiology, The Netherlands Cancer Institute, Amsterdam.

Activity 1: SATC Education and learning

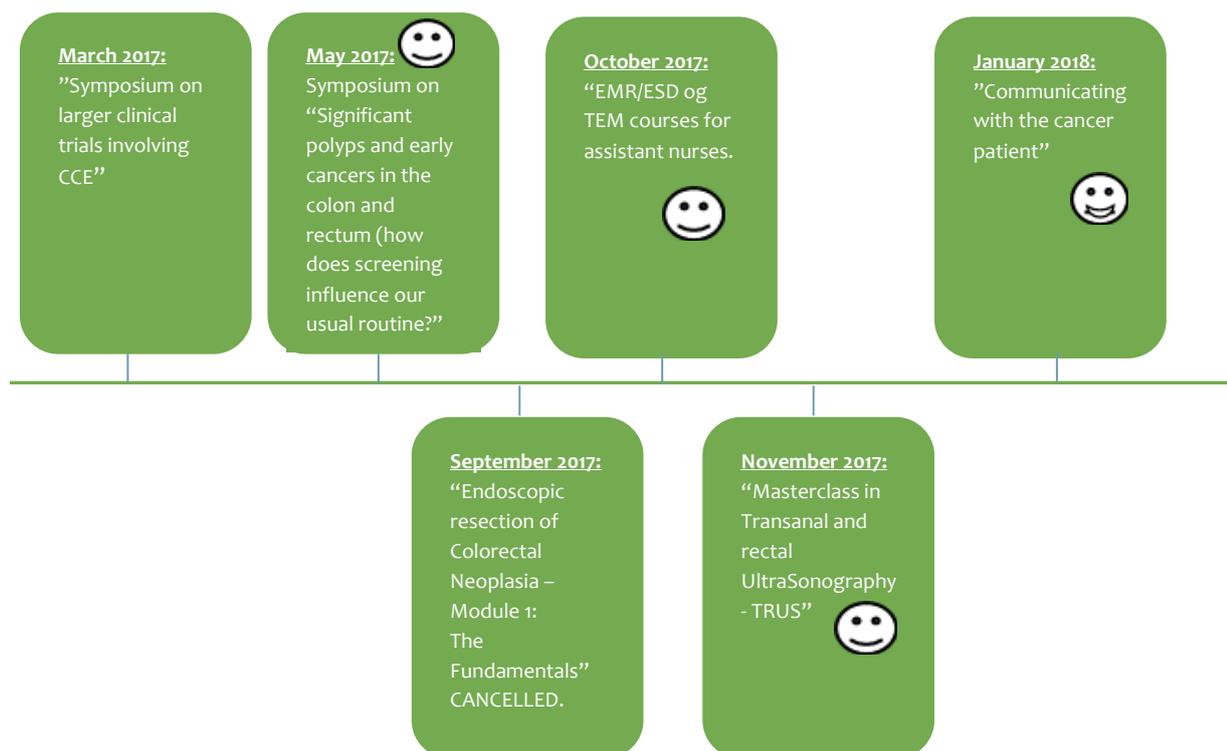
The SATC learning centre provides courses targeting doctors and nurses. Thanks to the grant, employees of the Region of Southern Denmark participate without paying the course fee. The courses take place all over the country and we have seen great interest in the already provided courses.



SATC center team and participants TRUS 2017

In 2017, we held four courses, one mini symposium, and one symposium. Each event is evaluated by the participants on a scale from 1 to 6, where 6 is the best. The basis for the evaluation is the professional content, knowledge gained, presenters, and information about the course. Our courses have received an average score between 5 and 6.

Courses and Symposia Already Held



Activity 2: EndoConf

EndoConf is a real-time audiovideolink system between the endoscopy rooms in the region's hospitals. This means that a mini conference can be established in just a few minutes. Live streaming to a portable tablet enables contact to the specialist on duty at the Department of Surgery, OUH, allowing for the endoscopist to discuss possible treatment methods with the expert during the procedure.

In many cases, a direct and quick mini conference via EndoConf can clarify the further strategy. The idea is for the system to help strengthen local competences, make it possible to complete treatment locally, spare the patient repeated diagnostic colonoscopies, or clarify if a referral to more



advanced procedures is necessary. The system was invented and developed by the SATC Centre.

The roll-out of the EndoConf system is based on the health principle of the Region of Southern Denmark – “equal treatment for all” – and acknowledges that the Department of Surgery, OUH, houses all treatment and examination modalities within advanced adenomas and early cancers. At present, the system is being tested between Svendborg and Nyborg, and roll-out across the Region of Southern Denmark is expected by September 2018.

We have looked into and tested the patentability, although with a negative result.

Activity 3: SATC Website

A new website (www.satccenter.com) is under development and will be launched during the second quarter of 2018. The aim of the website is to create a solid professional platform, where course participants can register for courses and, after their participation, find relevant presentations and course notes. In the future, it will be possible to hold regional polyp multidisciplinary team meetings (MDT) via the website – either through videoconference or just through knowledge sharing in the form of comments.

This platform will be the primary communication channel for both national and international actors. It will also provide the possibility for networking and knowledge sharing as it is possible to comment on the content.



www.satcenter.com

Activity 4: SATC Clinical Excellence

As described above, an accelerated development of the clinical excellence in the Department of Surgery has now been taking place for 3-4 years, since the first grant from the Danish Cancer Society. We have further expanded the tracks that were set out then.

The SATC Centre grant is not intended to contribute directly to this development, but the SATC Centre activity depends on a strong professional environment, and the department management (department

of Surgery, OUH) has contributed to strengthening the quality of the clinical activity. On a national level, we are already in the lead concerning activity level, number of dedicated people, and number of publications.

First and foremost, we have upgraded equipment and specialist competences in a group of dedicated doctors and nurses. We are working to strengthen the endoscopic activity organisationally by placing it under the responsibility of a dedicated specialist.

Another staff doctor has been employed to ensure further development of the ESD activity.

Activity 5: SATC Research

The SATC Centre is part of several research projects.

The project “STAR TReC” is an ambitious international randomised study aiming to establish safety aspects in connection with minimally invasive surgery combined with radiation therapy for early rectal cancer. The study also aims to identify a group of patients that can avoid surgery altogether and be treated with radiation therapy alone as Watchful Waiting Strategy.

The project “EMR/ESD and TEM randomisation” is a randomised study aiming to establish the best method for treating advanced rectal adenomas. Preliminary results disconfirm the expectation of more complications by TEM, as well as a better prognosis by the use of TEM in incidental malignant polyps.

The project “eFTR” is a study carried out as part of a national collaboration looking into a new method for full thickness resections of advanced neoplasia in the colon. The study is expected to minimise the number of major surgical procedures carried out on the basis of a non-radical removal of a malignant polyp.

The project “Colonoscopy complications ePROM” is a study applying patient-reported outcomes after colonoscopy. Preliminary results show a surprisingly high rate of sick leave at 5% for a duration of more than one week. Socio-economic costs of colonoscopies may very well be underestimated. More studies are being planned.

The project “DECT” is a study testing the applicability of Dual Energy CT for stage assessment of colorectal cancer. An accurate pre-surgical stage assessment of tumours is a prerequisite for more patients being offered minimally invasive transanal treatment. Standard MR staging has a very poor accuracy of less than 70%. This means that the majority of patients with early tumours, who could be treated with minimally invasive surgery, are subjected to major surgery to be on the safe side. DECT is one possibility for improving pre-surgical diagnostics and stage assessments.

Publication activity based on the above counts 7 peer reviewed papers in international journals, approx. 10 papers in the pipeline, as well as 3 national guidelines in the period 2017-2018.

Publications from the SATC Centre 2017:

[Can we Save the rectum by watchful waiting or TransAnal microsurgery following \(chemo\) Radiotherapy versus Total mesorectal excision for early REctal Cancer \(STAR-TREC study\): protocol for a multicentre, randomised feasibility study.](#)

Rombouts AJM, Al-Najami I, Abbott NL, Appelt A, **Baatrup G**, Bach S, Bhangu A, Garm Spindler KL, Gray R, Handley K, Kaur M, Kerkhof E, Kronborg CJ, Magill L, Marijnen CAM, Nagtegaal ID, Nyvang L, Peters FP, Pfeiffer P, Punt C, Quirke P, Sebag-Montefiore D, Teo M, West N, de Wilt JHW; for STAR-TREC Collaborative Group.

BMJ Open. 2017 Dec 28;7(12):e019474. doi: 10.1136/bmjopen-2017-019474.
PMID: 29288190

[Back-to-back colon capsule endoscopy and optical colonoscopy in colorectal cancer screening individuals.](#)

Kobaek-Larsen M, Kroijer R, Dyrvig AK, Buijs MM, Steele RJC, Qvist N, **Baatrup G**.

Colorectal Dis. 2017 Nov 22. doi: 10.1111/codi.13965. [Epub ahead of print]
PMID: 29166546

[The Diagnostic Yield of Colonoscopy Stratified by Indications.](#)

Al-Najami I, Rancinger CP, Larsen MK, Spolén E, **Baatrup G**.

Gastroenterol Res Pract. 2017;2017:4910143. doi: 10.1155/2017/4910143. Epub 2017 Jul 27.
PMID: 28819357

[Dual energy CT - a possible new method to assess regression of rectal cancers after neoadjuvant treatment.](#)

Al-Najami I, Drue HC, Steele R, **Baatrup G**.

J Surg Oncol. 2017 Dec;116(8):984-988. doi: 10.1002/jso.24761. Epub 2017 Jul 13.
PMID: 28703886

[\[Management of unexpected cancer in locally resected colorectal polyps\].](#)

Al-Najami I, **Baatrup G**.

Ugeskr Laeger. 2017 Jul 10;179(28). pii: V01170029. Danish.
PMID: 28689541

[Dual-energy CT can detect malignant lymph nodes in rectal cancer.](#)

Al-Najami I, Lahaye MJ, Beets-Tan RGH, **Baatrup G**.

Eur J Radiol. 2017 May;90:81-88. doi: 10.1016/j.ejrad.2017.02.005. Epub 2017 Feb 6.
PMID: 28583651

[Validity of data in the Danish Colorectal Cancer Screening Database.](#)

Thomsen MK, Njor SH, Rasmussen M, Linnemann D, Andersen B, **Baatrup G**, Friis-Hansen LJ, Jørgensen JC, Mikkelsen EM.

Clin Epidemiol. 2017 Feb 17;9:105-111. doi: 10.2147/CLEP.S124454. eCollection 2017.
PMID: 28255255

Top Priorities in reducing colorectal cancer deaths side 74

Baatrup, G.

Government Gazette 2017 –volume 2.

Kamerakapslen – en skånsom men dyr løsning (TR: The Camera Pill – a gentle, but Costly Solution)

Baatrup, G.

MedicoTeknik – Magasin for Dansk Medicoteknisk Selskab – DMTS.

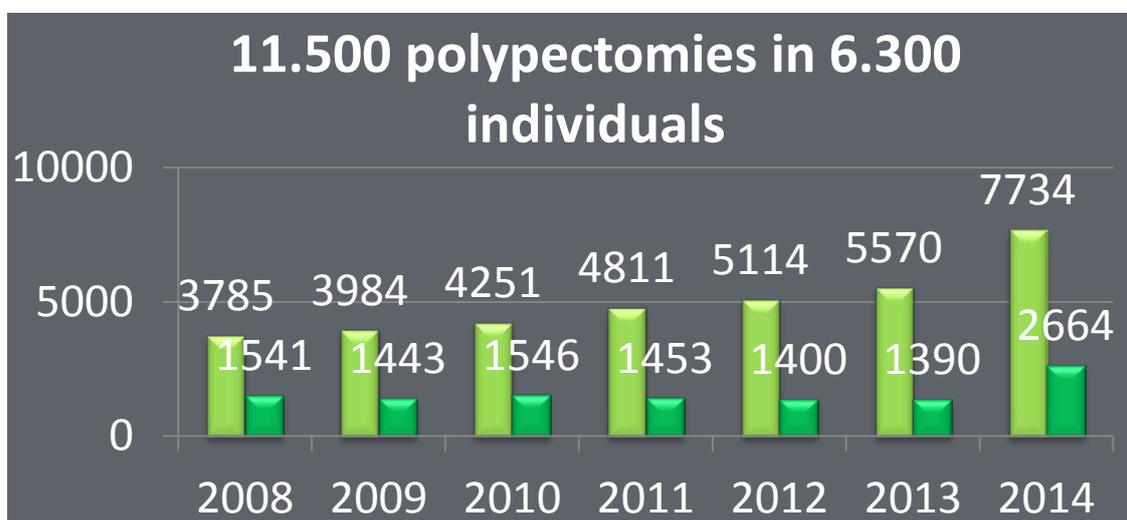
Furthermore, we have given numerous presentations about the centre’s research, purpose, and activities.

Activity 6: SATC database

The EMR-ESD-TEM database of large polyps and early cancers was established in 2007 and today it is the cornerstone of our SATC Centre research, where we measure the effectiveness and safety of the procedures in a prospective registration of all our advanced endoscopic resections. The results are, apart from quality assurance, also a foundation for publications in international journals as well as informative for national guidelines.

For data registration we use Topica as a platform, which meets the demands for data logging. The database is hosted by the regional IT technicians in the main building of the Region of Southern Denmark in Vejle. The database can only be accessed through the Danish Health Data Network (SDN) ensuring that data exchange remains in a closed network with web access. The database is built as a flexible research database, and parameters are changed on a regular basis to adjust focus towards relevant issues. The database is run by a manager and a database technician, and serviced by a secretary and student assistants. The SATC Centre owns the database and forms the steering committee.

Information about patients, procedures, results, and follow-up results are registered in the database. 1400 surgical procedures have been registered and four papers have been published in international journals. More are in preparation.



Retrieval of data from the SATC EMR/ESD database.

The database can also provide quality parameters, which can be retrieved on a periodical basis in order to inform the department about activities and results. The purpose of the database is to optimise and further develop Endoscopic Mucosa Resection (EMR), Endoscopic Submucosal Dissection (ESD), and Transanal Endoscopic Microsurgery (TEM).

In the SATC Centre, we are happy to make our expertise and database available to other departments wishing to be part of the database. Each clinical unit only has access to its own data. Each contributing department owns their own data and a new steering committee with representatives from all participating departments is being formed.

We currently collaborate with departments of surgery in Aarhus, Aalborg, Vejle, and Esbjerg. In the long term, we hope that the database will reach national coverage.