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Ultrasound and future development

Christian Maaser

Uninverstiy Teaching Hospital Luenenburg. Germany

IBUS Advanced Ultrasound Workshop – Module 3

DDW, San Diego, US, May 5th, 2025



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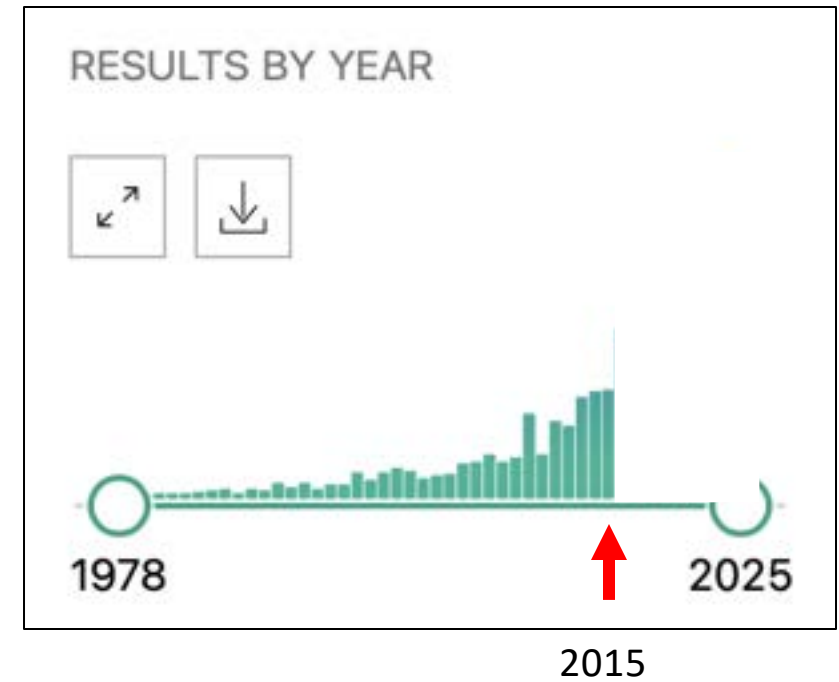
Disclosure

- None for this presentation



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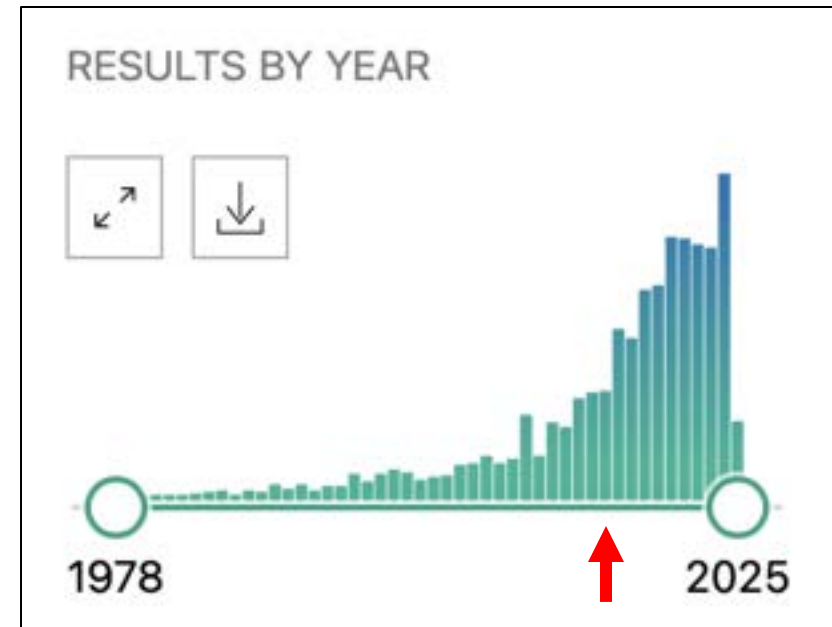
IUS in IBD in Europe 2015





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IUS in IBD in Europe 2015





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IUS in IBD in Europe 2025

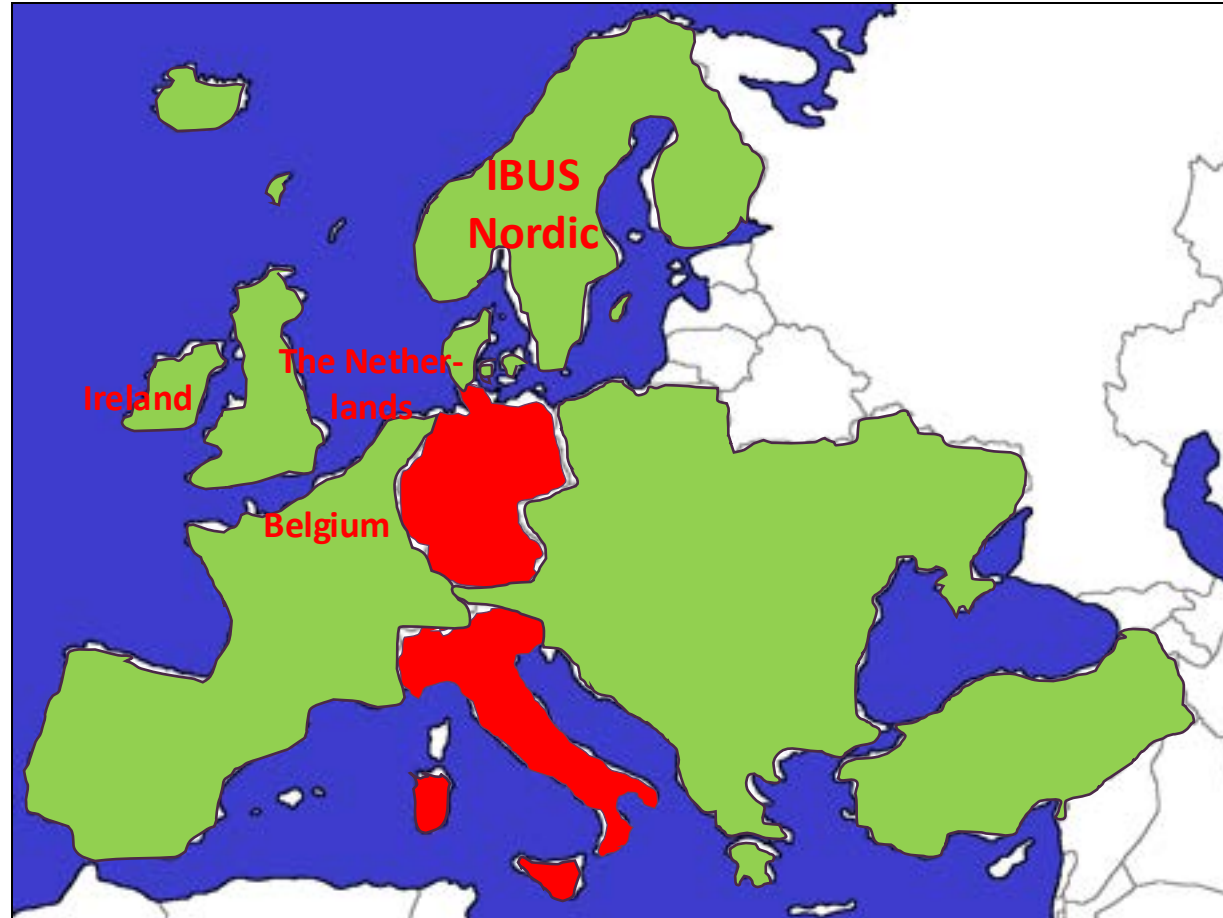
Copenhagen

Copenhagen

Malmö

Copenhagen „bootcamp“

Bergen



London

Dublin

Amsterdam

Amsterdam

Leuven

Leuven

Lisbon

Lueneburg

Lueneburg

Lueneburg IBUS XP

Berlin IBUSXP

Prague

Athens

Athens

Milan

Italy

Milan



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IUS in IBD around the world

Educational partnership with



Educational partnership with





Responding to the demand: new additions to the IBUS-training curriculum

Module 1

Didactic course and face-to-face hands-on workshop

- 2.5 days multinational
- 1 day hybrid national incl. E-learning course



Module 2

Hands-on Training ➔ 4-weeks in an IBUS-certified training center

- 2-weeks in an IBUS-certified training center + advanced e-learning pattern recognition training
- 2-day bootcamp + advanced e-learning pattern recognition training

Module 3

Advanced Workshop ➔ During ECCO + DDW

- virtual version starting in fall 2025



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Development of **e**Learning Platform For Standardization and Dissemination of Intestinal **UltraSound Education** Globally (IBUS eIUS Ed)

PI:
Mike Dolinger

THE LEONA M. AND HARRY B.
HELMSLEY
CHARITABLE TRUST



Certification for the IUS-experienced physician

IBUSXP

Masterclass and certification for the experienced IUS performer

This IBUS Hybrid Workshop is open to Physicians with IUS experience who would like to obtain IBUS Certification.

Eligibility Criteria & Submission Requirements:

- Performed a minimum of 300 exams over the last 3 years
- Submit a certified letter from the head of the department confirming the candidate's experience and expertise (if part of a medical department) or motivational letter (if part of a private practice)
- IBUS member in good standing



IUS in IBD – meeting the rising educational demand

- Scientific evaluation of training curricula → competency
- IBUS IUS training for “nurse-practitioners”
- IBUS IUS training for radiologist
- Train-the-trainer courses
- Join educational forces with iUSCAN, GENIUS and other national IUS groups



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Remote teaching and mentoring to help meet the demand?



LinkedIn

[https://il.linkedin.com › company › mindview-technolo...](https://il.linkedin.com/company/mindview-technolo...)





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ECCO e-learning platform

A screenshot of the ECCO e-learning platform interface. The top navigation bar is dark blue with the ECCO logo, the text "European Crohn's and Colitis Organisation", the "e-CCU Learning Platform by ECCO" logo, and a user profile for "Christian Maaser". Below this is a light blue navigation bar with links: "About", "IBD Curriculum", "Course Content", "Advanced Training", and "e-Library". The left sidebar is dark blue with a list of menu items: "Ultrasound Advanced Training", "Participants", "Badges", "Competencies", "Grades", "Home", "Dashboard", "Calendar", "Private files", "Content bank", "My courses", and "Optic Endoscopy Advanced Training". The main content area is light blue and contains the following text: "Welcome to Ultrasound Advanced Training!", "The Advanced Training Programme on Ultrasound is designed to improve your ability to use ultrasound to monitor IBD.", "After successful completion of all the theoretical modules and the practical module of the course, you will receive a certificate of completion for the course.", "You can start the programme by clicking on Module 1 below.", "You can expand your learning further by also exploring the IBUS curriculum for additional advanced ultrasound courses". At the bottom, there are two course cards: "Theory - Module 1 (Equipment)" and "Theory - Module 2 (Findings)".



Past Webinars

★ Members Only



IUS Monthly: April 2025

Watch the IUS Monthly April 2025 Webinar on the use of intestinal ultrasound to monitor Crohn's disease activity and detect complications during pregnancy and to monitor transmural inflammation in ulcerative colitis in the setting of mucosal healing.



★ Members Only



IUS Monthly: March 2025

Watch the IUS Monthly March 2025 Webinar on the use of intestinal ultrasound in a variety of clinical scenarios, ranging from non-IBD and malignancy to stricturing Crohn's disease.



★ Members Only



IUS Monthly: February 2025

Watch the IUS Monthly February 2025 Webinar on the use of intestinal ultrasound as a diagnostic screening tool and to detect complications in adult and pediatric Crohn's disease.





IUS in IBD around the world

Rapid almost logarithmic rise in IUS in IBD interest and application in IBD in the last 10 years!! 😊

But:

- Educational opportunities need to be able to meet the demand
- Quality + competency!!
- IUS as mandatory component for gastroenterology board certification
- Extending training to radiologists and IBD “nurse practitioners”
- National recognition as standard-of-care → more research needed
- Adequate reimbursement, IUS billing code
- Pharma excitement – please be patient with us, but be partner in this journey
- Rapid growing interest = more individual personal interest → joining forces in education and research = more powerful to reach the widespread use of quality IUS in the interest of our patients



ECCO-ESGAR-ESP-IBUS: Multi-society Guidelines on Diagnostics and Monitoring of patients with IBD – under review with JCC

09:30 - 09:50



★ SCI22: ECCO – ESGAR – ESP – IBUS: Multi-society Guidelines on Diagnostics and Monitoring of patients with IBD


Speaker:  Torsten Kucharzik, Germany

[Biography...](#)

09:30 - 09:50



★ SCI22: ECCO – ESGAR – ESP – IBUS: Multi-society Guidelines on Diagnostics and Monitoring of patients with IBD

Speaker:  Stuart Andrew Taylor, United Kingdom

09:30 - 09:50



★ SCI22: ECCO – ESGAR – ESP – IBUS: Multi-society Guidelines on Diagnostics and Monitoring of patients with IBD

Speaker:  Roger M. Feakins, United Kingdom

[Biography...](#)

Presented during ECCO 2025 in Berlin → online within the next few weeks



**IUS in IBD a diagnostic tool in many centers
around the world**

.... but still many open questions to be answered



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DEVELOPMENT OF AN INTESTINAL ULTRASOUND SCORE TO EVALUATE INFLAMMATION AND TREATMENT RESPONSE IN CD

USE-IT

A PROSPECTIVE MULTICENTER STUDY

PI:
Kerri Novak, Canada





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Not yet recruiting ⓘ

Calculating the LEmann IndeX Using InTEstiNal Ultrasound (EXTENT)

ClinicalTrials.gov ID ⓘ NCT06647823

Sponsor ⓘ International Bowel Ultrasound Group e.V.

Information provided by ⓘ International Bowel Ultrasound Group e.V. (Responsible Party)

Last Update Posted ⓘ 2024-10-23

Pls:

Carolina Palmela, Portugal

Bram Verstockt, Belgium




[Source: ClinicalTrials.gov](https://clinicaltrials.gov)




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IUS for postoperative monitoring

Recruiting 

Prediction and Close Monitoring of Postoperative Recurrence by Intestinal Ultrasound After Ileocecal Resection in Crohn's Disease Patients (INSIGHT)

ClinicalTrials.gov ID  NCT05713409

Sponsor  Academisch Medisch Centrum - Universiteit van Amsterdam (AMC-UvA)


Information provided by  Krisztina Gecse, Academisch Medisch Centrum - Universiteit van Amsterdam (AMC-UvA) (Responsible Party)

Last Update Posted  2023-02-06

[Source: ClinicalTrials.gov](https://clinicaltrials.gov/ct2/show/study/NCT05713409)




IUS for measuring fibrosis

Recruiting 

Shear-Wave Elastography in **Intestinal** Fibrosis Evaluation in Crohn's Disease (EL-CHIR)

ClinicalTrials.gov ID  NCT06056986

Sponsor  Fondazione Policlinico Universitario Agostino Gemelli IRCCS


Information provided by  Zocco Maria Assunta, Fondazione Policlinico Universitario Agostino Gemelli IRCCS (Responsible Party)

Last Update Posted  2023-09-28




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Ultrasound for monitoring the pouch

Recruiting 

Non-invasive Assessment of RECTUM (POUCH) by US (RECT-US) in a Cohort of IBD Patients (RECT-US)

ClinicalTrials.gov ID  NCT06407674

Sponsor  IRCCS San Raffaele

Information provided by  Mariangela Allocca, IRCCS San Raffaele (Responsible Party)

Last Update Posted  2024-05-09

[Source: ClinicalTrials.gov](https://clinicaltrials.gov)



IUS in IBD: Hand-holds the future?

> J Crohns Colitis. 2023 Jul 5;17(7):1089-1096. doi: 10.1093/ecco-jcc/jjad024.

Hocus Pocus: the Role of Hand-held Ultrasonography in Predicting Disease Extension and Endoscopic Activity in Ulcerative Colitis

Antonio Rispo ¹, Giulio Calabrese ¹, Anna Testa ¹, Nicola Imperatore ², Marta Patturelli ¹, Mariangela Allocca ³, Alessia Dalila Guarino ¹, Nicola Mattia Cantisani ¹, Benedetta Toro ¹, Fabiana Castiglione ¹

Not yet recruiting ⓘ










The Utility of Hand-held Ultrasound Devices to Detect Bowel Wall Inflammatory Activity in Crohn's Disease

ClinicalTrials.gov ID ⓘ NCT06686589

Sponsor ⓘ Sheba Medical Center

Information provided by ⓘ Dr. Dan Carter, Gastroenterologist, Sheba Medical Center (Responsible Party)

Last Update Posted ⓘ 2024-11-13

 GE Healthcare Vscan Air CL... 5.355,00 € DocCheckShop... Kostenloser ... Von smec	 Butterfly IQ+ mit Lightning-... 3.448,81 € praxisdienst.de Kostenloser ... Von smec	 3-in-1 Handheld WLAN... 2.200,00 € eBay.de Kostenloser ... Von Stendia
 Gymna Ultraschaltha... 2.299,00 € Sport-Tec.de Kostenloser ... Von Smarketer	 Philips Lumify Ultraschallgerät 6.783,00 € Medizinio Kostenloser ... Von Google	 DAS NOVAFON power 2 L... 499,00 € Novafon Kostenloser ... Von Google
 Clarius HD3 Ultraschallsys... 6.531,91 € praxisdienst.de Kostenloser ... Von smec	 NOVAFON max+ inkl... 699,00 € Novafon Kostenloser ... Von Google	 Gymna -Ultrasound... 2.140,81 € Medizina Kostenloser ... Von Smarketer

Source: google

Source: ClinicalTrials.gov



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IUS has entered IBD-pharma trials as secondary or exploratory endpoint



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A Phase 3b, Open-label, Multicenter Study to Evaluate Transmural Healing and Disease Modifying Effect of Guselkumab in CD Patients

Recruiting ⓘ

Transmural Healing and Disease-Modifying Effect of **Guselkumab** in Crohn's Disease Patients (REASON)

ClinicalTrials.gov ID ⓘ NCT06408935

Sponsor ⓘ Janssen-Cilag Ltd.

Information provided by ⓘ Janssen-Cilag Ltd. (Responsible Party)

Last Update Posted ⓘ 2025-02-11

[Source: ClinicalTrials.gov](https://clinicaltrials.gov)



An Interventional Study to Evaluate Treating to a Target of Transmural Healing in Patients With Moderately to Severely Active Crohn's Disease

Recruiting

VECTORS - A Study to Evaluate Transmural Healing as a Treatment Target in Crohn's Disease (VECTORS)

ClinicalTrials.gov ID NCT06257706

Sponsor Alimentiv Inc.

Information provided by Alimentiv Inc. (Responsible Party)

Last Update Posted 2025-01-29

Study Start (Actual)

2024-08-07

Primary Completion (Estimated)

2027-01-03

Study Completion (Estimated)

2028-09-06

Enrollment (Estimated)

304

Study Type

Interventional

Phase

Phase 4



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IUS has entered IBD-pharma trials as secondary or exploratory endpoint



**You are
needed!**



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This is critical during a time when staffing shortages are the norm and many experienced clinicians are leaving the profession.

One survey of radiology technologists indicates that heavy workload and burnout are key factors driving the departures.

**From
2012-2021,**

open sonographer positions increased by over 36%, while the number of ultrasound exams rose by over 55%¹



By 2030,

it is anticipated that there will be a shortfall of 10 million healthcare workers globally²



81%

of health systems surveyed in the US reported radiology technologist shortages³



[Source: gehealthcare.com](https://www.gehealthcare.com)



AI-driven ultrasound is solving challenges and supporting clinicians

Advancements in artificial intelligence (AI) in ultrasound are helping healthcare providers make more informed decisions faster and manage increased demand.

It's as if clinicians have a new teammate.



This is critical during a time when staffing shortages are the norm and many experienced clinicians are leaving the profession.

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Samsung Showcases AI-Based Automatic Measurement and Diagnostic Solutions at ISUOG World Congress 2023

Korea on October 16, 2023

Audio

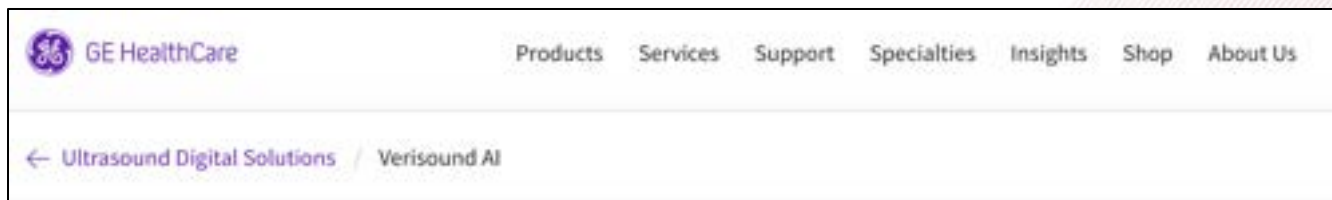


Share



At the conference, Samsung Medison will showcase AI-based diagnostic assistant solutions, including HeartAssist™, which categorizes and provides measurement results for fetal heart diagnosis with a simple press of a button; and UterineAssist™, which automatically measures the size and shape of the uterus helping to accurately examine and diagnose the uterus.

In addition, Samsung Medison will present AI-automated measurement functions such as BiometryAssist™ and ViewAssist™, which measure and automatically annotate fetal growth indicators by extending the items previously measured only in the 2nd trimester (14-27 weeks) to the 1st trimester (1-13 weeks) in accordance with the newly revised ISUOG guidelines in February 2023.



AI for General Imaging

AI for Cardiology

Some of the tasks that are now AI-powered by GE Healthcare Ultrasound and the Verisound AI family include⁵:

Standardizing SonoLyst [®] , a suite of AI tools offered on select Voluson women's health ultrasound devices, standardizes obstetrical exams , improving consistency and saving time by identifying fetal anatomy seen on standard 2nd trimester views and further adding annotations and measurements, improving efficiency by 65%. ⁶	Guidance Caption Guidance [™] on the Venue family of point-of-care ultrasound and Caption AI [™] on Vscan Air [™] SL wireless handheld ultrasound provide real-time, turn-by-turn, on-screen guidance that prompts probe movements to help more medical professionals capture diagnostic-quality cardiac images.	Detecting cNerve in the Venue [™] family of point-of-care ultrasound devices helps anesthesiologists and other clinicians in 99% of cases detect and track nerves during scouting in nerve block procedures. ⁷	Labeling Whizz Label on Versana Premier [™] and Versana Balance [™] ultrasounds automatically labels liver, gallbladder, and right kidney on ultrasound images during abdomen scans of the right upper quadrant (RUQ), helping to save time and enhance workflow productivity for users across experience levels.	Measuring On Vivid [™] cardiovascular ultrasound, Easy AFI LV ascertains measurement of the left ventricle to measure strain in 15 seconds on average, and Easy AutoEF allows users to measure ejection fraction in just one click. ⁸	Populating In near-real time, LOGIQ [™] Thyroid Assistant, powered by Koios DS [™] , automatically populates all TI-RADS[®] descriptors and generates an AI-based thyroid cancer risk assessment using machine learning and proprietary algorithms, leading to a 57% reduction in benign biopsies. ⁹	Assessing Breast Assistant, powered by Koios DS [™] on the LOGIQ family [™] and Invenia [™] ABUS 2.0 ultrasound systems, automatically provides a quantitative breast malignancy risk assessment aligned to a BI-RADS ATLAS [®] category in as little as two seconds.
<small>⁶SonoLyst incorporates the AI technology of Intelligent Ultrasound.</small>						



AI for Women's Health

AI for Breast Ultrasound



AI for IQCode

AI for Primary Care



AI for Handheld

AI for Imaging



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Innovate With Us

Who We Are

Resources

News + Media

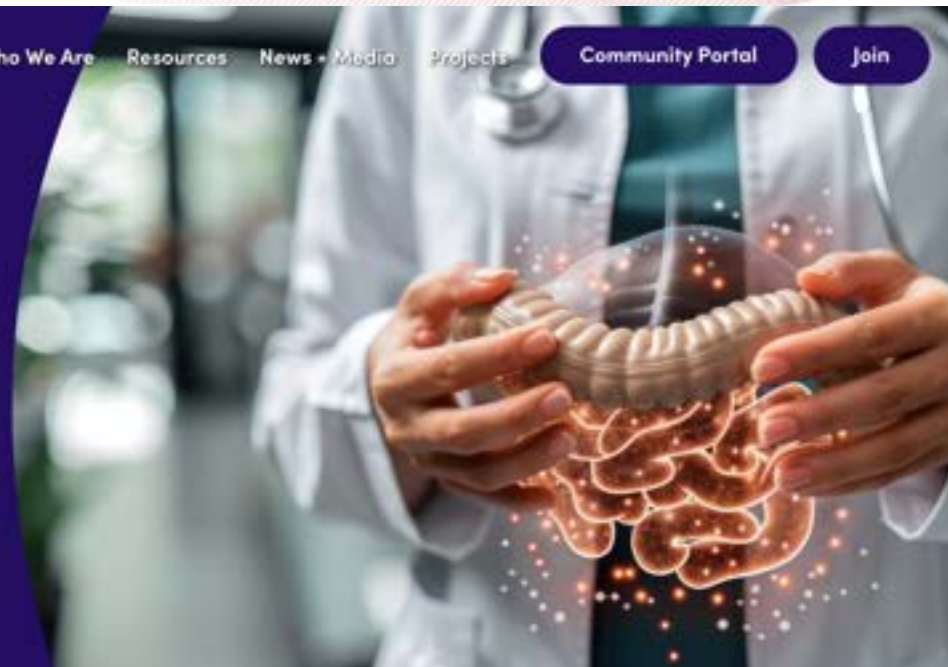
Projects

Community Portal

Join

AI-Powered Ultrasound for Gastrointestinal Healthcare

Revolutionizing intestinal ultrasound with AI for quicker and more accurate diagnosis of gastrointestinal diseases.



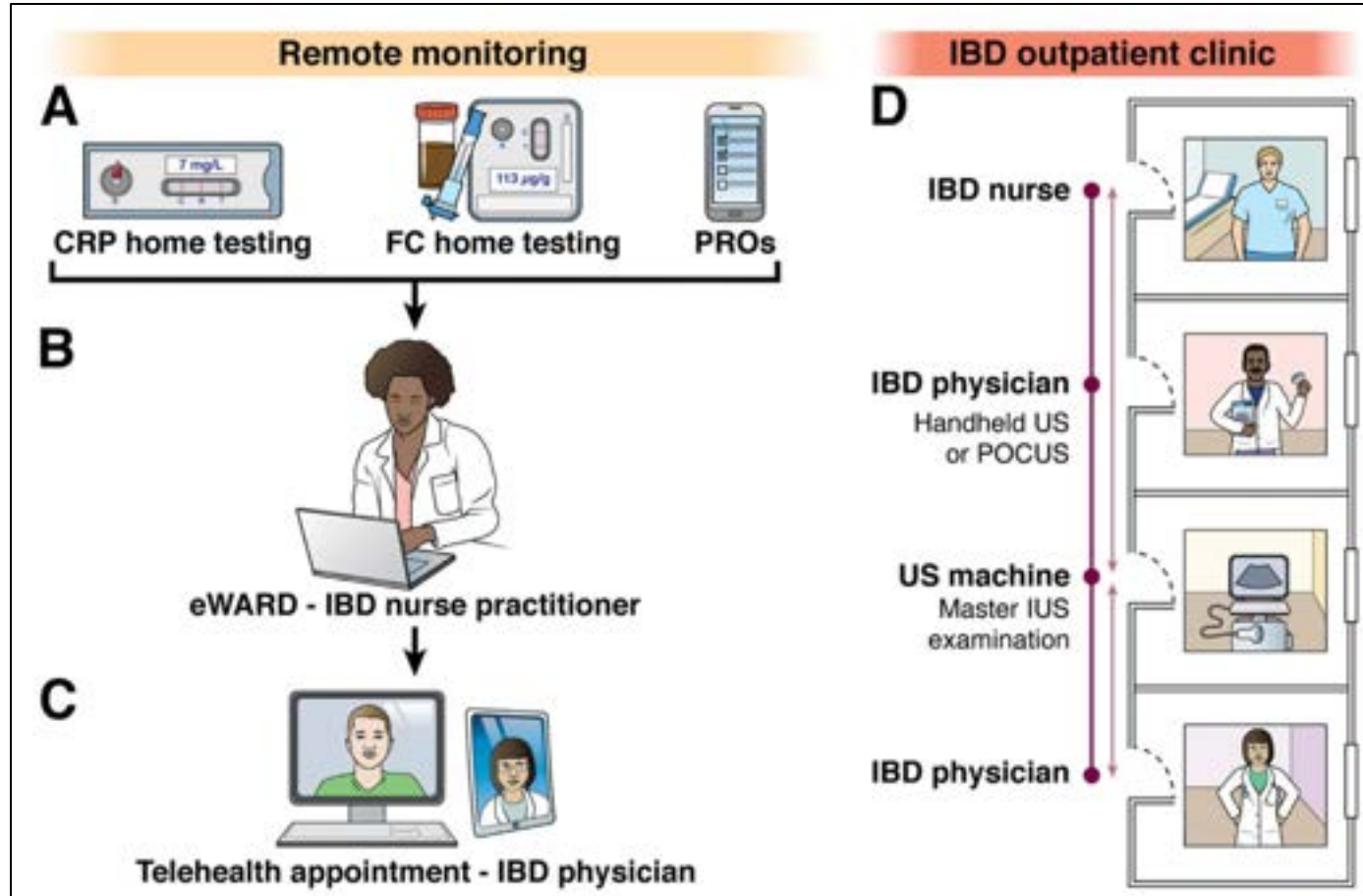
Project Lead

Project Partners





Tight monitoring concept to optimize short- and longterm outcomes



Overcrowded clinics +
shortage of staff



Patient performed
remote IUS?



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Home based patient performed ultrasound

What do we stand for?

Remote & reliable prenatal care

Pulsenmore is a digital prenatal care platform that enables ultrasound imaging and care from home. Prescribed by a physician, our solution enhances access to care, improves resource management and provides greater flexibility for caregivers.



 **Pulsenmore™**
Home Ultrasound

Our solution ▼

Resource Center ▼

About Us ▼

Contact Us



Bridging healthcare gaps with
Home Ultrasound

[Source: pulsenmore.com](https://pulsenmore.com)



Patient performed ultrasound: Scientific evidence



CLINICAL ARTICLE

Hybrid remote and in-clinic maternal-fetal surveillance for women with gestational diabetes: A prospective pilot study

Michal Axelrod¹, Hila Lahav Ezra, Esther Galler, Orner Nir, Karen Ofir, Galia Barkai, Eyal Sivan, Shali Mazaki-Tov, Abraham Tsur

First published: 24 January 2025 | <https://doi.org/10.1002/ijgo.16148>



CLINICAL ARTICLE Open Access

Integrating technologies to provide comprehensive remote fetal surveillance: A prospective pilot study

Orner Nir¹, Gur Dvir, Esther Galler, Michal Axelrod, Adel Farhi, Galia Barkai, Boaz Weisz, Eyal Sivan, Shali Mazaki-Tov, Abraham Tsur

First published: 08 August 2023 | <https://doi.org/10.1002/ijgo.15018> | Citations: 1



2 Oct 2022: 1(2): 101. <https://doi.org/10.3390/jcm102020101>

Submission received: 2 December 2021 / Revised: 16 January 2022 / Accepted: 17 January 2022 / Published: 20 January 2022



Dialysis Patients' Evaluation of Lung Edema at Home Using a Mobile Phone Tele-Ultrasound Application: A Pilot Study

by Ramer Ben Shlomo^{1,2,3,*}, Artya Kadet^{1,2}, Khalid El Haj², Aree Kasta^{1,2}, Ori Karmi¹, Sharon Elmer⁴, Tomer Polig¹, Ariel Amicham Masidon^{5,6}, Nava Benati¹, Tomer Gat^{1,2}, Aila Shneider¹, Ori Barak⁷ and Lior Puchot^{1,2}

- ¹ Joyce and Irving Goldstein Medical School, Faculty of Health Sciences, Ben-Gurion University of the Negev, Beer-Sheva 8410501, Israel
- ² Clinical Research Center, Soroka University Medical Center, Faculty of Health Sciences, Ben-Gurion University of the Negev, Beer-Sheva 8410501, Israel
- ³ Medical Intensive Care Unit, Soroka University Medical Center, Faculty of Health Sciences, Ben-Gurion University of the Negev, Beer-Sheva 84101, Israel
- ⁴ Maccabi Healthcare System, Sharon Region and Faculty of Medicine, Hebrew University, Jerusalem 9112102, Israel
- ⁵ Department of Pediatrics A, Schneider Children's Medical Center of Israel, Petah Tikva 49603, Israel
- ⁶ Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv 6107801, Israel
- ⁷ Department of Nephrology, Soroka University Medical Center, Beer-Sheva 8410501, Israel



Original Article

Fetal heart rate and amniotic fluid volume measurements with a home ultrasound device

Anat Fardo¹, Shir Nahum Fridland², Or Lee Rak¹, Emilie Kischender Frishman¹, Hadas Zahar Danieli¹, Anat Shmueli¹, Shiri Barbach-Hazan¹, Arnon Winitzer¹, Asnat Wallach¹, Tomer Sela¹, Lior Wolf¹, Eran Hader¹

* Author Affiliations
Supported by: Pulsenmore 0063-33-RMC

* Further Information

> Also available at

Abstract PDF (2156 KB)



American Journal of Obstetrics & Gynecology
MFM

Volume 6, Issue 20, October 2024, 101447

Original Research

The effect of home ultrasound on maternal anxiety in patients with previous recurrent pregnancy loss: A randomized control trial

Liat Mor MD^{1,2,3,*}, Eran Weiner MD, Or Marom MD, Daniel Torny MD, Maron Nardi-Arad MD, Grisha Bondi MD, Liliya Tamayev MD, Michael Levy MD



Novice-performed point-of-care ultrasound for homebased imaging



Lung ultrasound performed by 31 volunteers →
experts



- Quality of scans did not differ ($p = 0.09$)
- Individual zone quality did not differ ($P > 0.05$).
- Interpretability of LUS was similar between expert and novice scanners $p = 0.42$)
- Interpretability of novice-obtained scans did not differ from expert scans ($p = 0.42$).

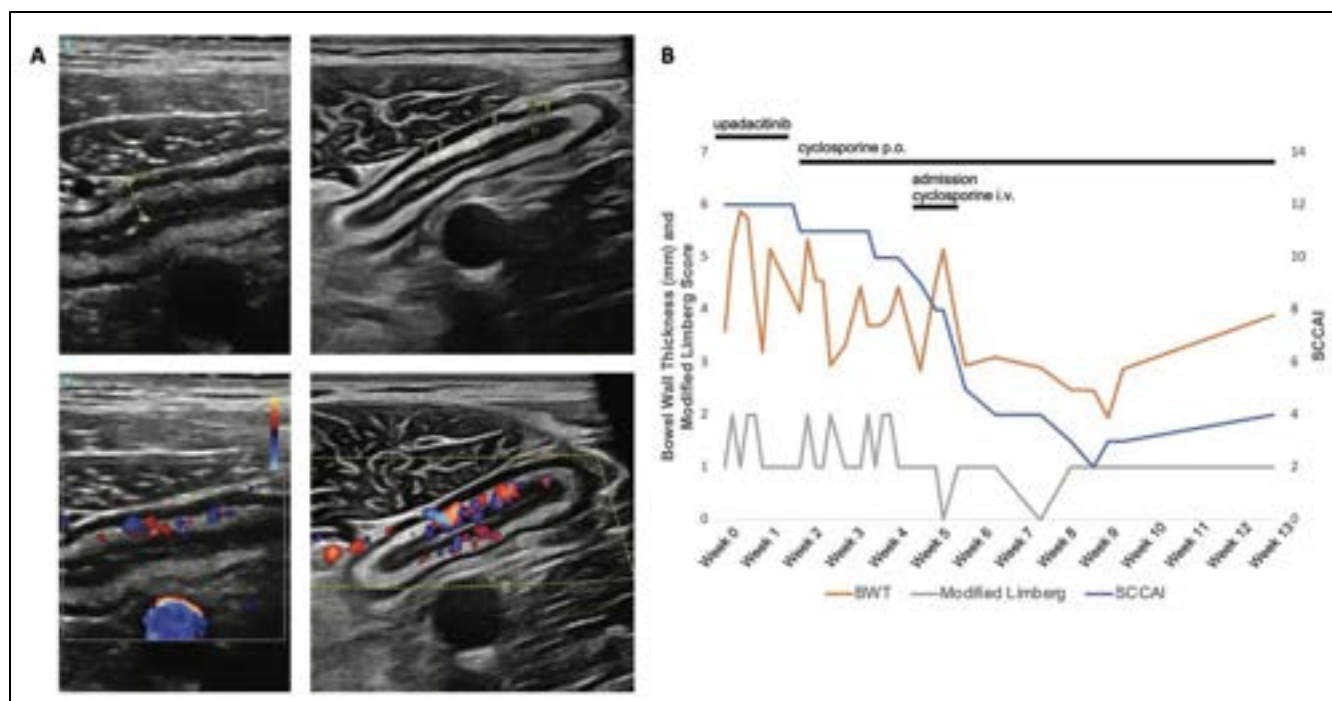


At-home Disease Monitoring by Patient-performed Intestinal Ultrasound in Severe Ulcerative Colitis

Noa Krugliak Cleveland, MD,* Yusuke Miyatani, MD,* Emma A. Picker, BA,* and
David T. Rubin, MD* 

From the *University of Chicago Medicine Inflammatory Bowel Disease Center, Chicago, IL, USA

Address correspondence to: David T Rubin, 5841 S. Maryland Avenue, MC 4076, Chicago, IL 60637, USA (drubin@bsd.uchicago.edu).



Inflammatory Bowel Diseases, 2023, **29**, 1997–1998

<https://doi.org/10.1093/ibd/izad237>

Advance access publication 16 October 2023

Case Report



Tight home monitoring of IBD: The Future?

