

ZEBRANIE NAUKOWO- SZKOLENIOWE



ODDZIAŁ ŚLĄSKI POLSKIEGO TOWARZYSTWA
ANESTEZJOLOGII I INTENSYWNEJ TERAPII

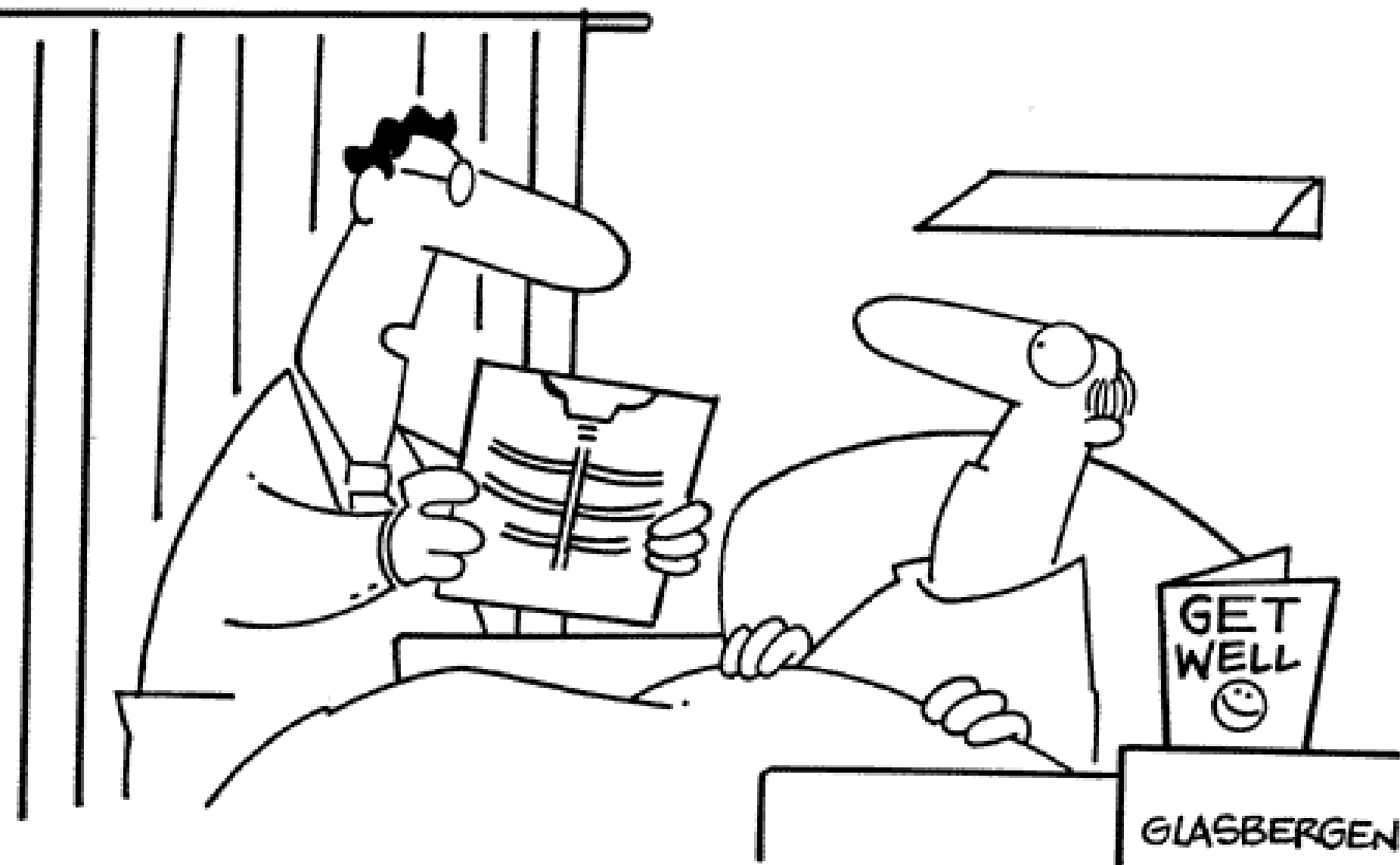
Ultrasonografia w OiT Aparatura i główne wskazania



Radostław Marciniak



Oddział Kliniczny Anestezjologii i Intensywnej Terapii
Katedry Anestezjologii, Intensywnej Terapii i Medycyny Ratunkowej
Wydziału Lekarskiego z Oddziałem Lekarsko-Dentystycznym w Zabrze
Śląski Uniwersytet Medyczny w Katowicach



**“Your x-ray showed a broken rib,
but we fixed it with Photoshop.”**



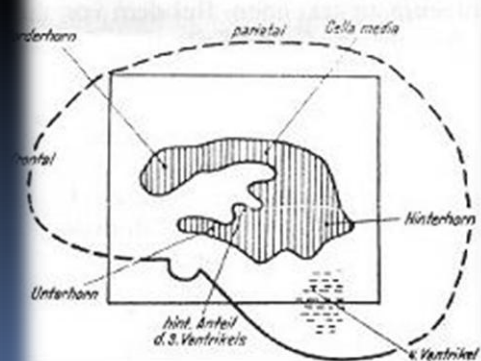
„W krainie ślepców
jednooki jest
królem”

/Erazm z Rotterdamu/

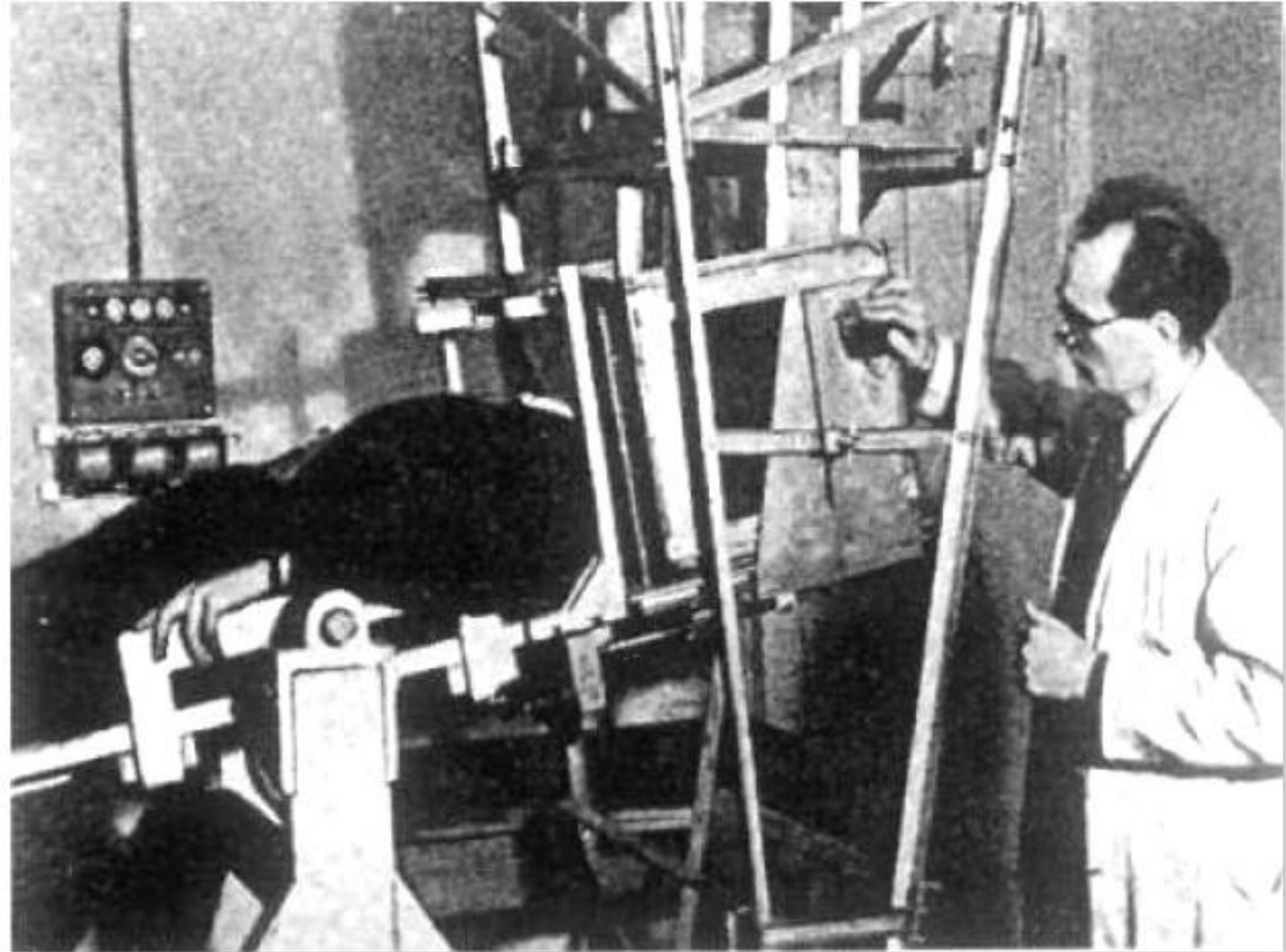
The radar chart displays the following domain names plotted on the chart:

- uni-ula.de
- beni.wh-hes.uni-ula.de
- notchill.wh-hes.uni-ula.de
- nobby.wh-hes.uni-ula.de
- bar.wh-hes.uni-ula.de
- stankis.wh-hes.uni-ula.de
- ssoldner.wh-hes.uni-ula.de
- weirbach.wh-hes.uni-ula.de
- cauettel.wh-hes.uni-ula.de
- torstau.wh-hes.uni-ula.de
- irvex.wh-hes.uni-ula.de
- irvex.wh-hes.uni-ula.de
- irvex.wh-hes.uni-ula.de
- irvex.wh-hes.uni-ula.de

-



Karl Theo (Theodore) Dussik
1908 - 1968





„A fool with a tool is still a fool...”



1. Wskazania

2. Obsługa



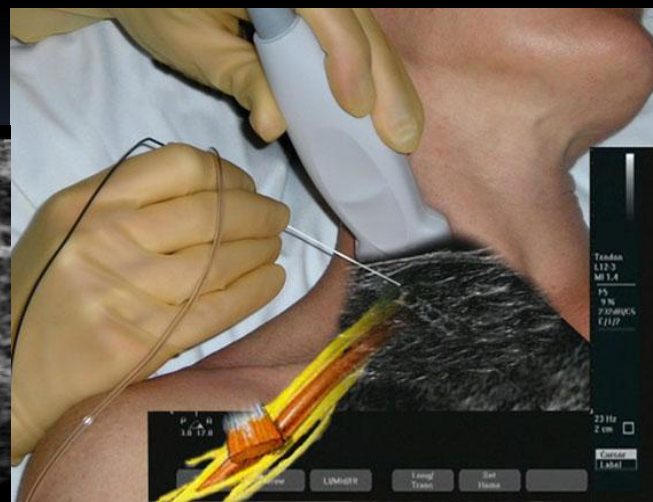
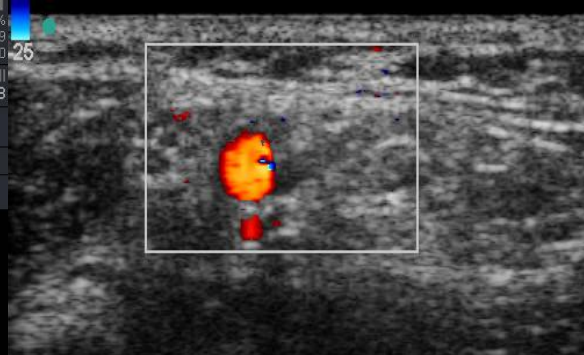
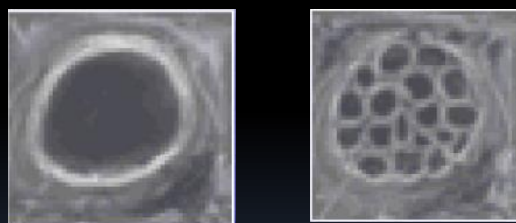
Wskazania w OiT:

- Pacjent niewydolny krążeniowo:
 - ▣ echo, FATE, wypełnienie naczyń, osierdzie/pełny FAST
- Pacjent niewydolny oddechowo:
 - ▣ opłucne, płuca/BLUE, tchawica (intubacja!)
- Pacjent septyczny...
- Pacjent...
- ...

Każdy pacjent.

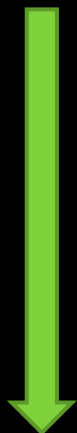
Zastosowanie USG w znieczuleniach przewodowych:

- Obrazowanie nerwów
- Obrazowanie naczyń
- Obrazowanie anomalii anatomicznych
- Obrazowanie rozprzestrzeniania się anestetyku



Ewolucja metody

Sztuka



Nauka

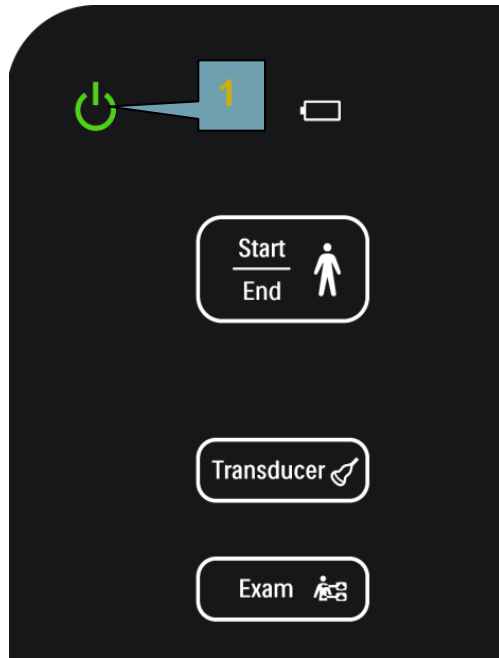
Kiedy?	Kto?	Co?
1911	Kullenkampff	parestezje
1912	Von Perthes	neurostymulacja
1962	Greenblatt	<i>stimulatorolocator</i>
1989	Ting/Sivagnanaratnam	USG

- Kulenkampf D. Anesthesia of the brachial plexus. (German). ZentralblChir **1911**; 38: 1337-1350.
- Perthes G. Conduction anesthesia with the help of electrical stimulation (German). Miinchen Med Wochenschr **1912**; 59: 2545-2548.
- Greenblatt GM, Denson JS. Needle nerve stimulatorlocator: Nerve blocks with a new instrument for locating nerves. Anesth Analg **1962**; 41: 599-602.
- Ting PL, Sivagnanaratnam V. Ultrasonographic study of the spread of local anaesthetic during axillary brachial plexus block. Br J Anaesth. **1989**; 63: 326-9.

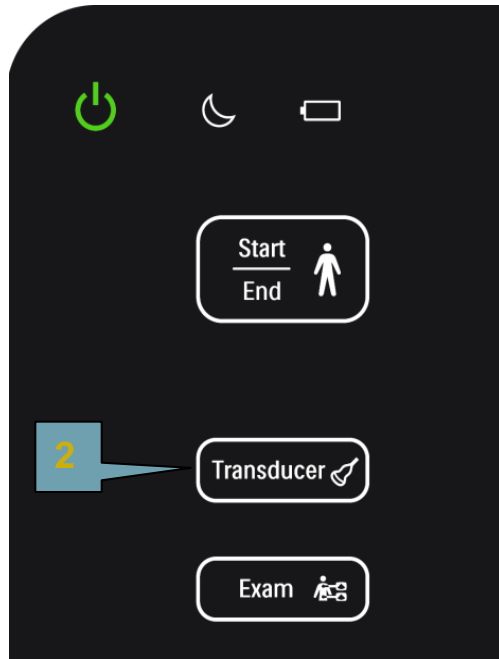
Philips SPARQ



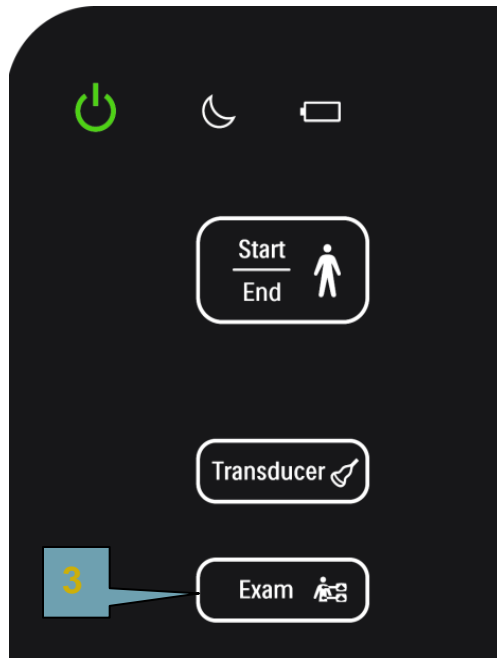
OBSŁUGA



OBSŁUGA



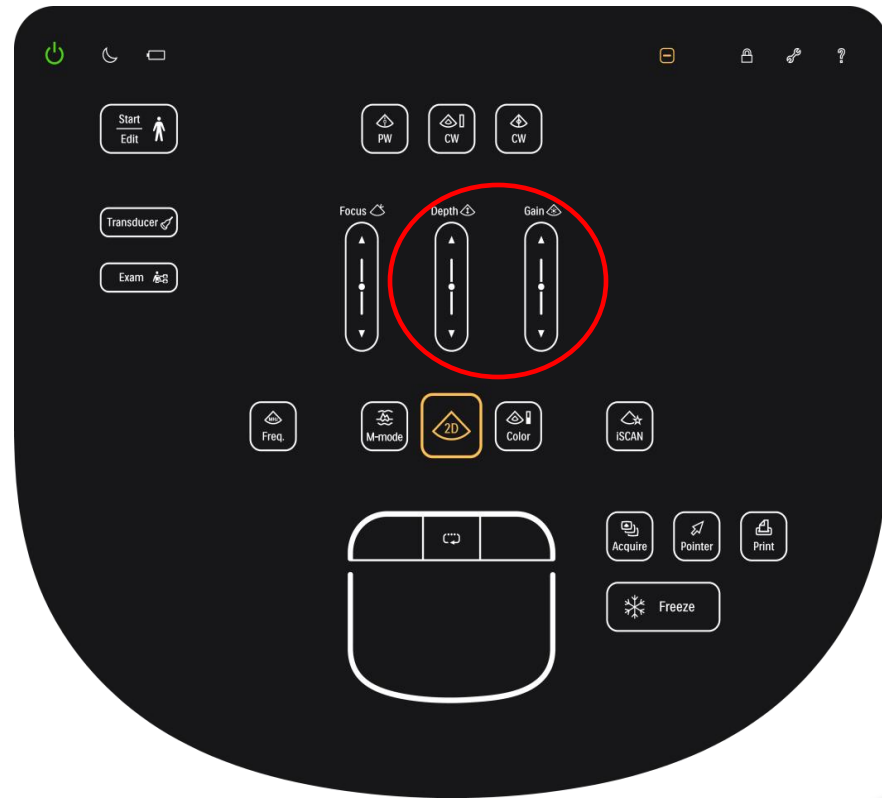
OBSŁUGA



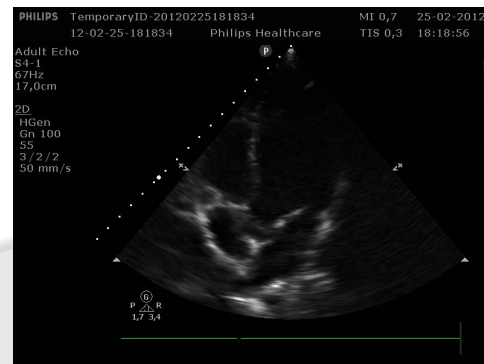
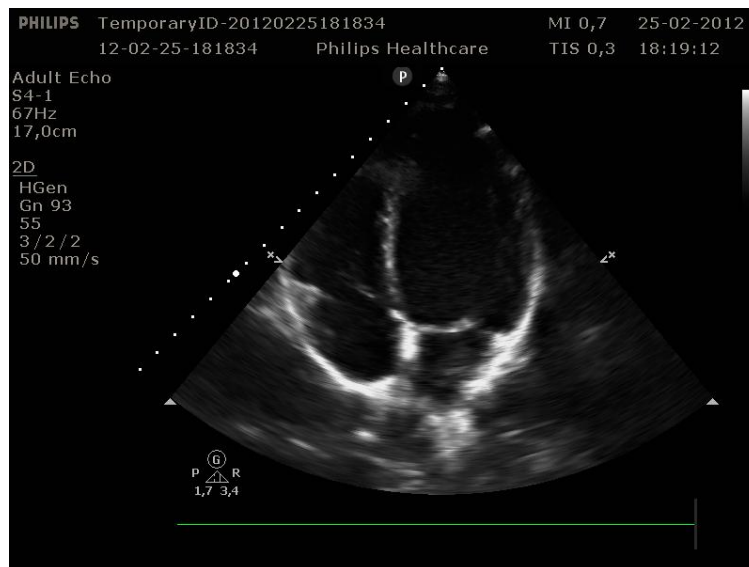
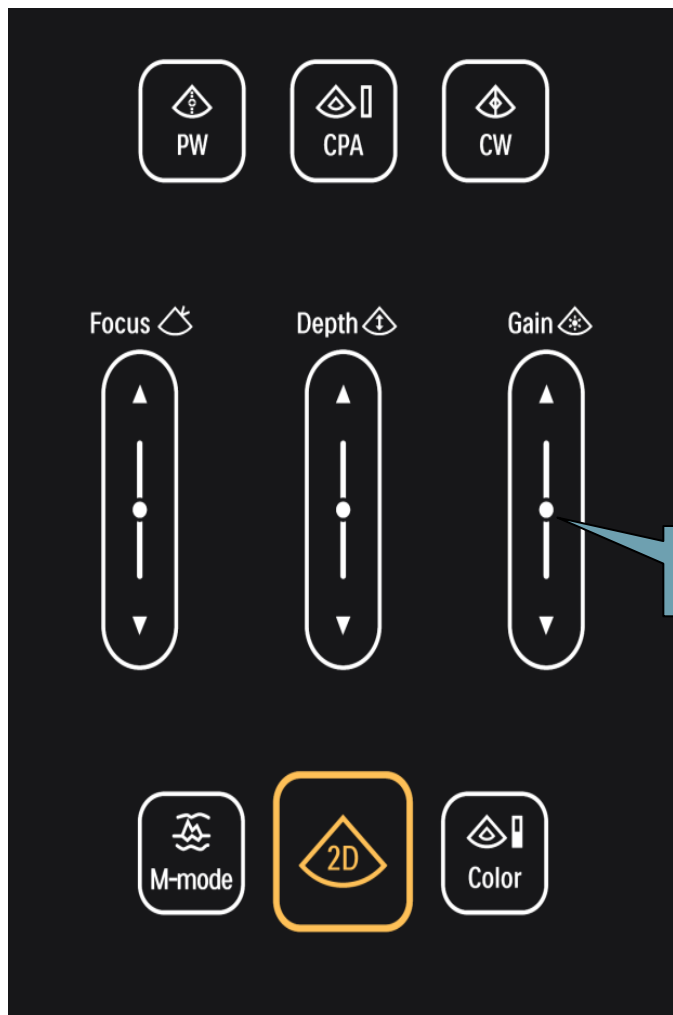
Presets

- Abdomen
- Adult Gen
- Cardiac
- Pelvic
- Ocular
- Superficial**
- Arterial
- Venous
- Vasc Access
- FAST
- Lung
- Nerve0-4cm
- Nerve4-6cm
- Nerve 6+cm

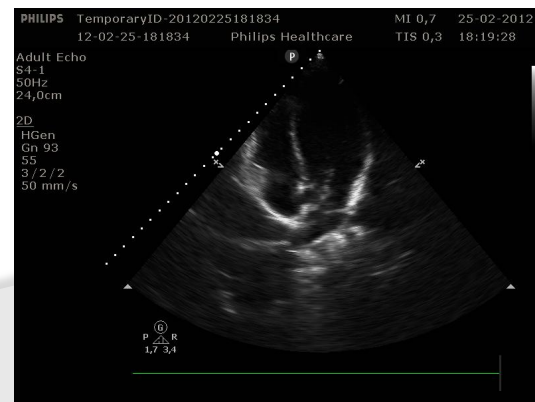
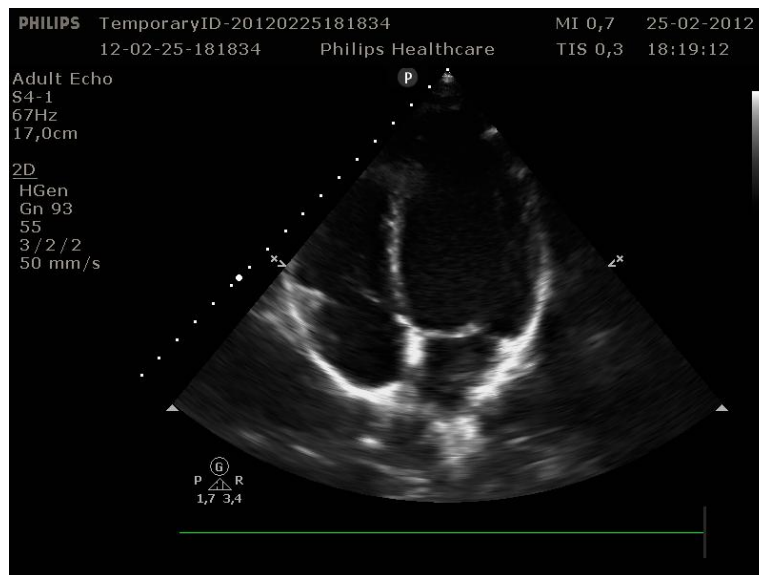
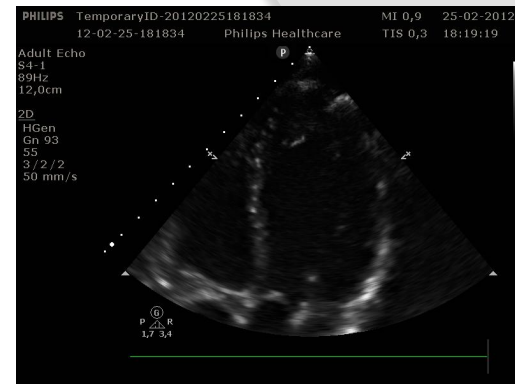
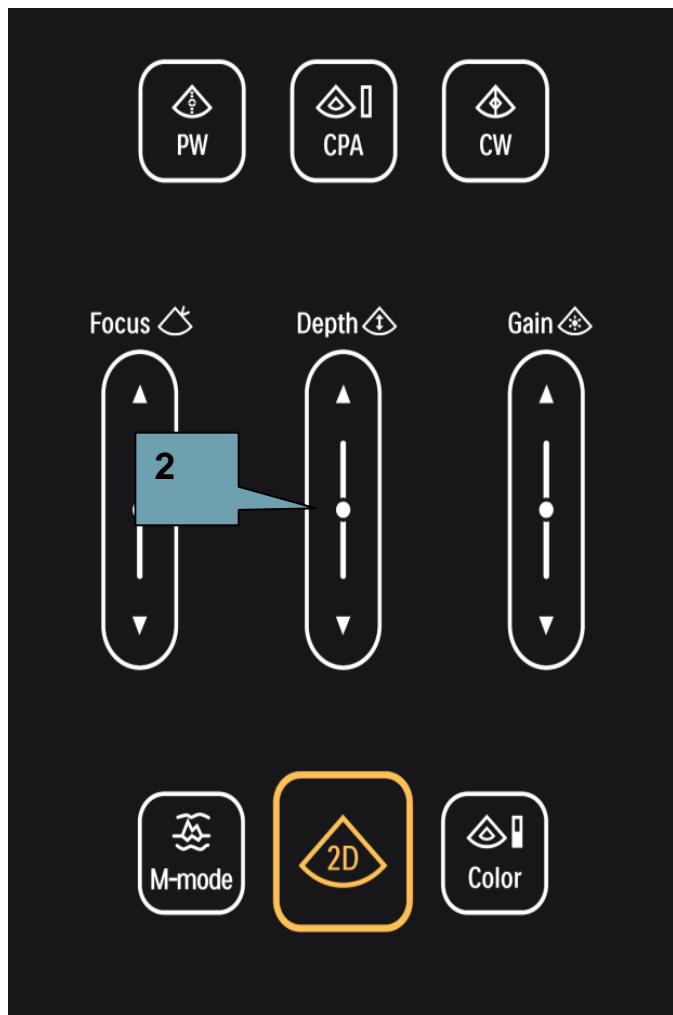
OBSŁUGA



OBSŁUGA



OBSŁUGA

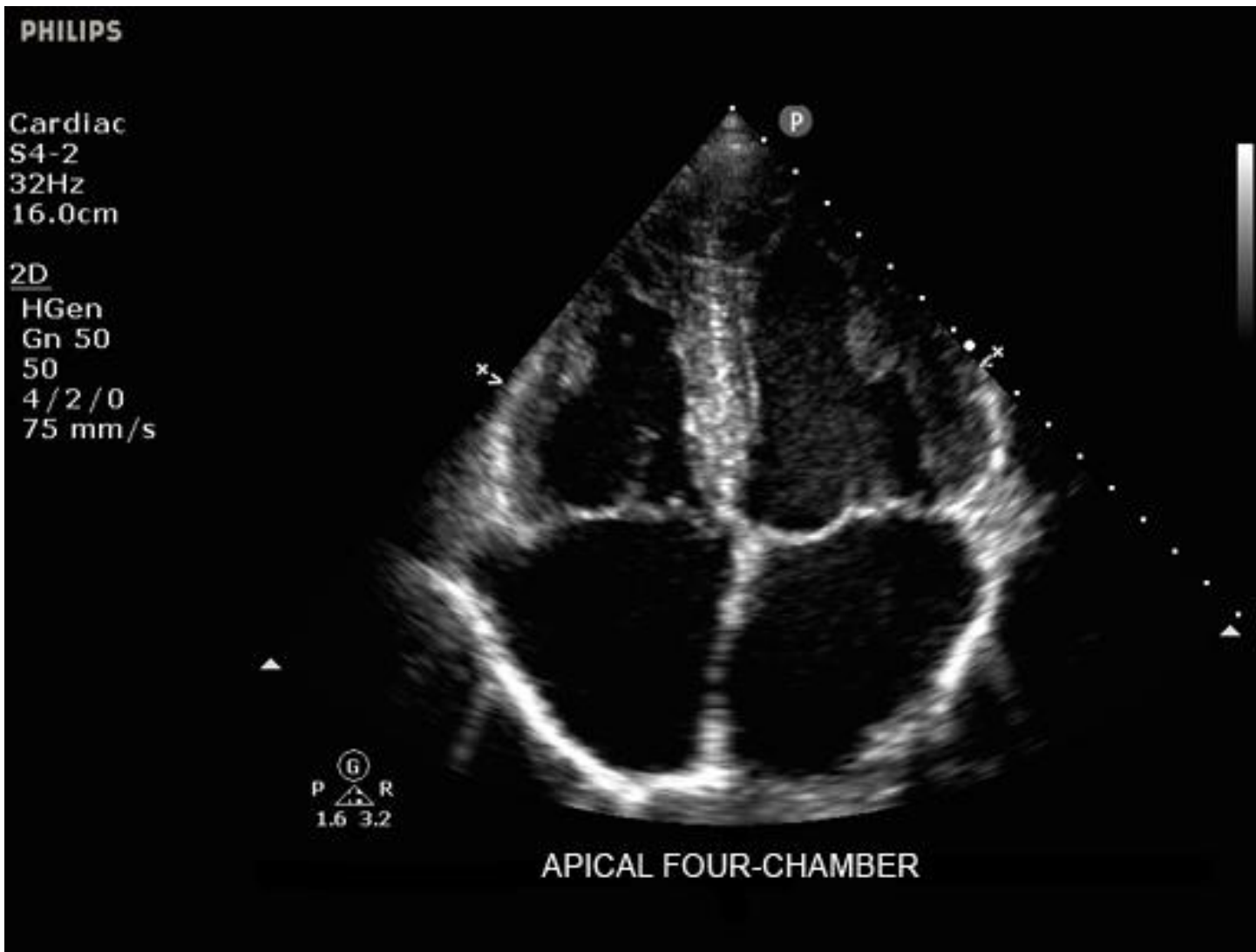


GŁOWICE



SEKTOR

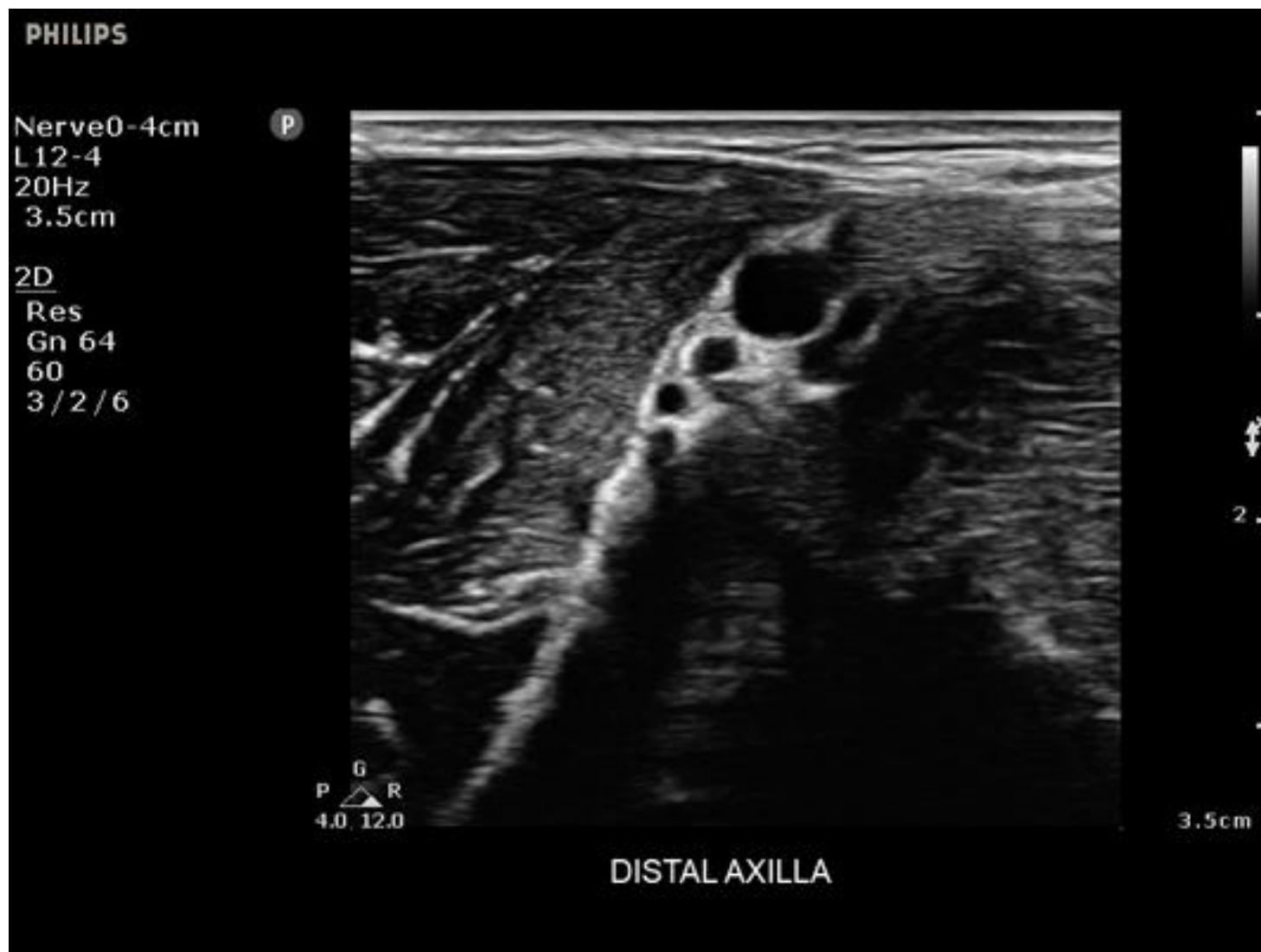




SEKTOR – częstotliwości pracy 2-4 MHz

LINIA

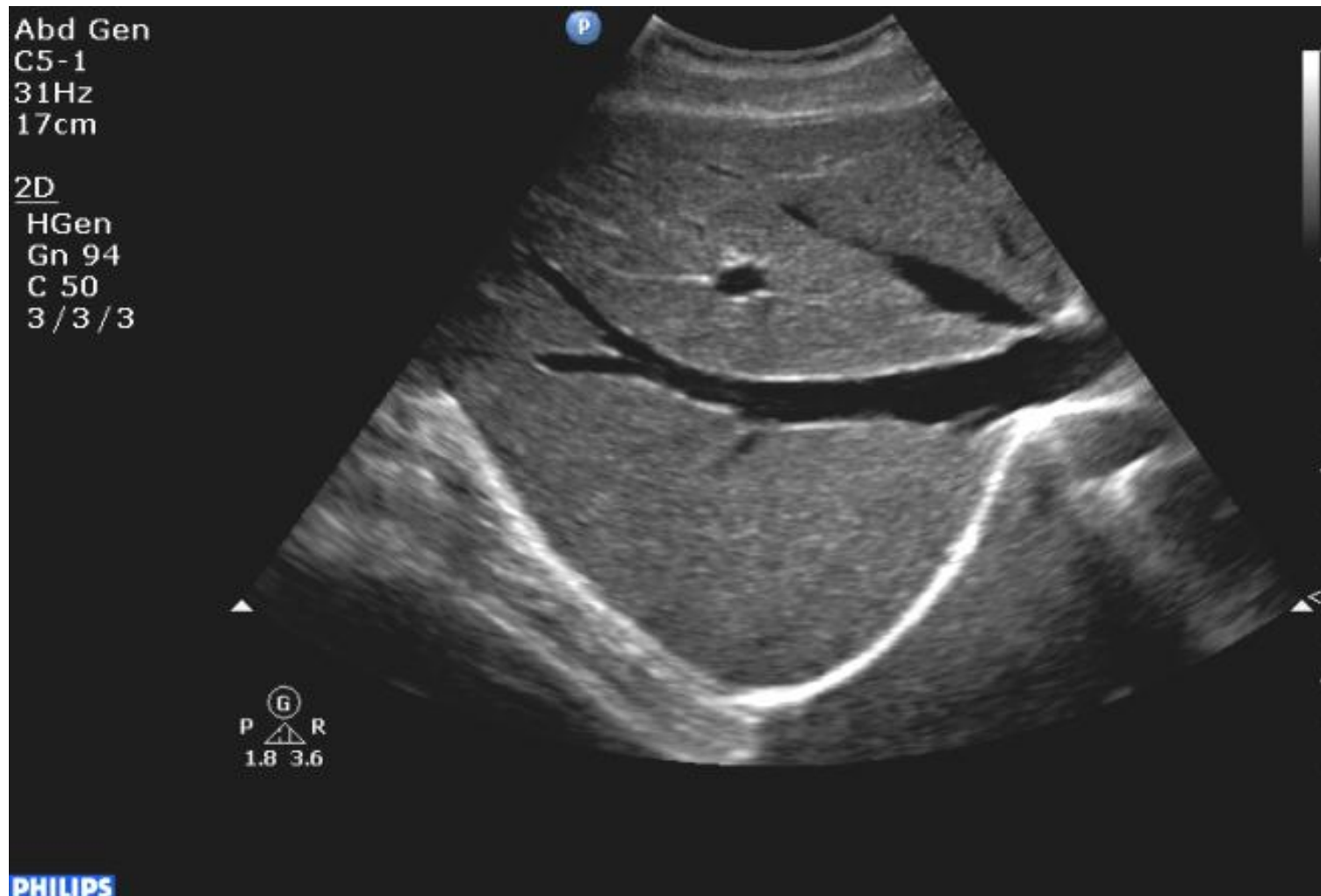




linia – częstotliwości pracy 4-12 MHz

CONVEX





CONVEX – częstotliwości pracy 2-6 MHz

eSaote MyLabOne



Włączyć? Wyłączyć?



Hmm...



USER

SETTINGS

PATIENT & ARCHIVE

TUTORIAL

SERVICE

DEBUG



esaote MyLab

01-Feb-2009

12:30:43



Presets

DEEP
NERVES

MEDIUM DEEP
NERVES

SUPERFICIAL
NERVES

VASCULAR
ACCES

C5-R40



FREQUENCY
3.6 MHz

DEPTH
10 cm

B-GAIN 70 %

FREEZE

IMAGE

COLOR

ZOOM

REVERSE

Głowica



Archiwizacja

The image shows a medical software interface with a top navigation bar containing tabs: USER, SETTINGS, PATIENT & ARCHIVE (active), TUTORIAL, SERVICE, and DEBUG. The main form is for patient data entry. It includes fields for Last name (Geijsen), First name (Joop), Middle name, ID, Accession number, and Diagnosis. There are also dropdown menus for Referring Physician and Performing Physician. Physical attributes include Birthdate (with a yyyy-mm-dd format hint), Age (with a Y dropdown), Weight (kg), Height (cm), Diastolic Pressure, and Systolic Pressure. Gender is selected as Male (M) with radio buttons for Female (F) and Unknown (U). Action buttons on the right are STORE & CLOSE, NEW PATIENT, and UNDO. A semi-transparent keyboard overlay is positioned at the bottom of the screen.

Last name		Geijsen	
First name		Joop	
Middle name			
ID			
Accession number			
Diagnosis			
Referring Physician		Performing Physician	
Birthdate		Age	
Weight		Height	
Diastolic Pressure		Systolic Pressure	
Gender			

Gender: ☒ M ☐ F ☐ U

Keyboard overlay labels: backspace, tab, caps lock, shift, cancel, enter, clear.

MyTutor

USER

SETTINGS

PATIENT & ARCHIVE

REPORT

MyTutor

R&D

esaote MyLab

MyLabOne

Live preview

NECK

INTERSCALENE

SUPRACLAVICULAR

INFRACLAVICULAR
ARM TIGHT

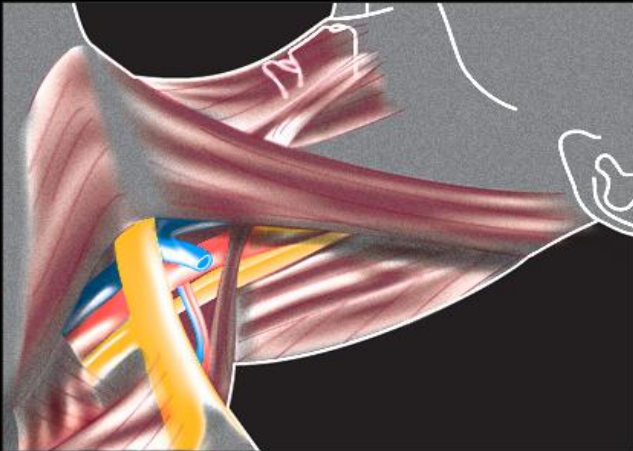
INFRACLAVICULAR
ARM EXTENDED

UPPER LIMBS

ABDOMEN

LOWER LIMBS

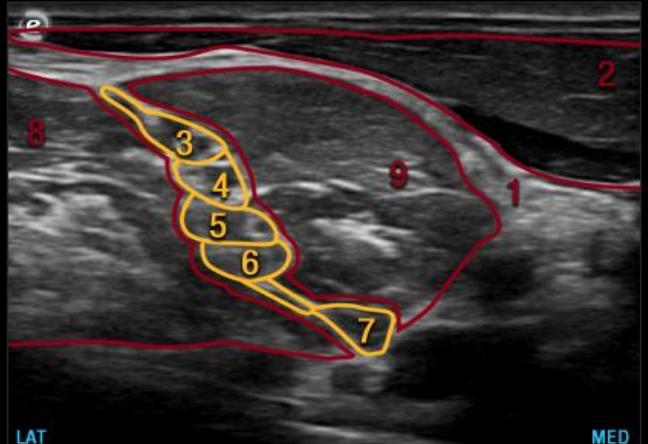
VASCULAR ACCESS



INTERSCALENE BLOCK, LEFT

- 1 neck fascia
- 2 m. sternocleidomastoid
- 3 C5
- 4 C6
- 5 C7
- 6 C8
- 7 TH1
- 8 m. scalenus medius
- 9 m. scalenus anterior

Max Depth cm 3



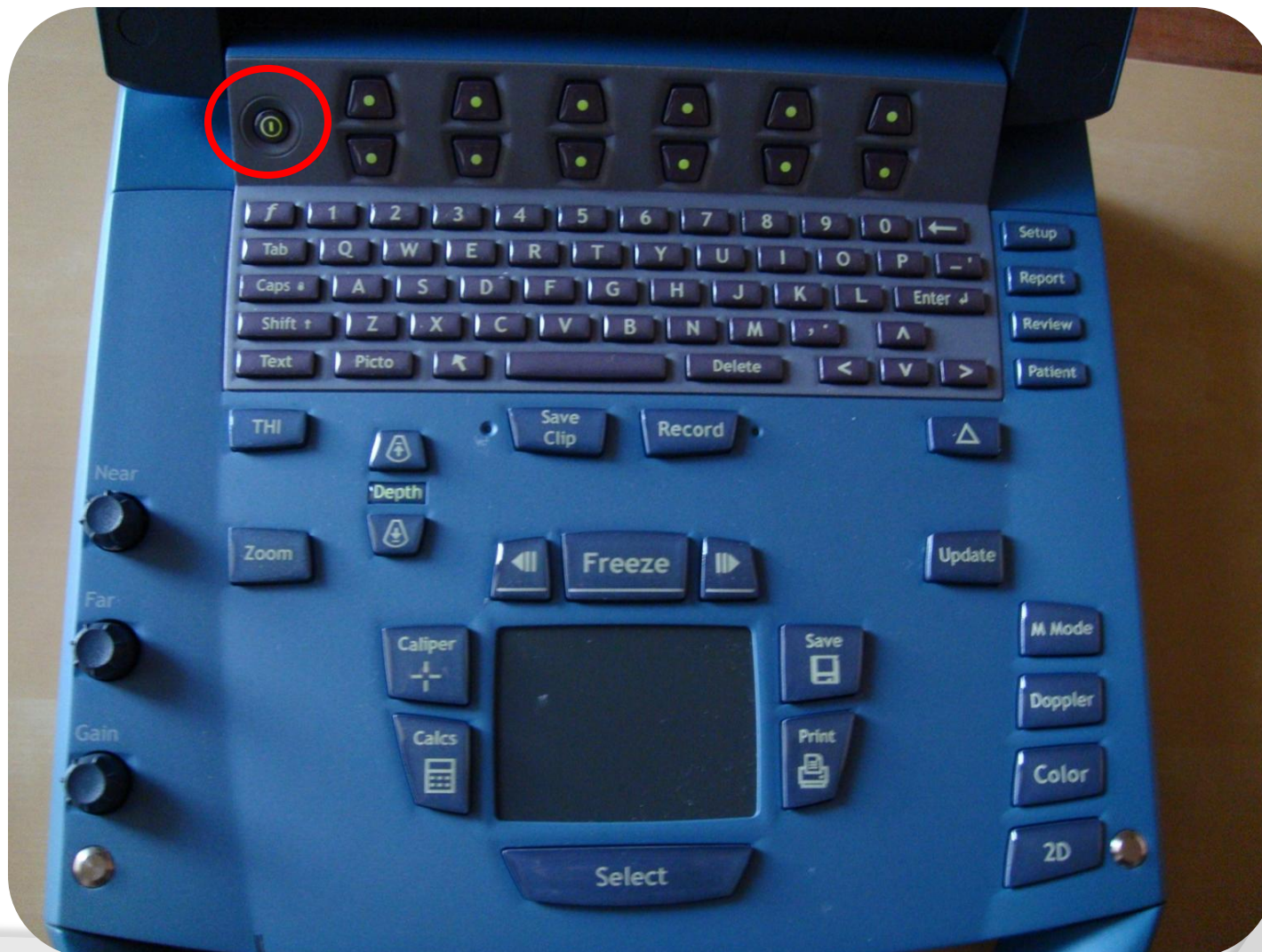
LEFT

RIGHT

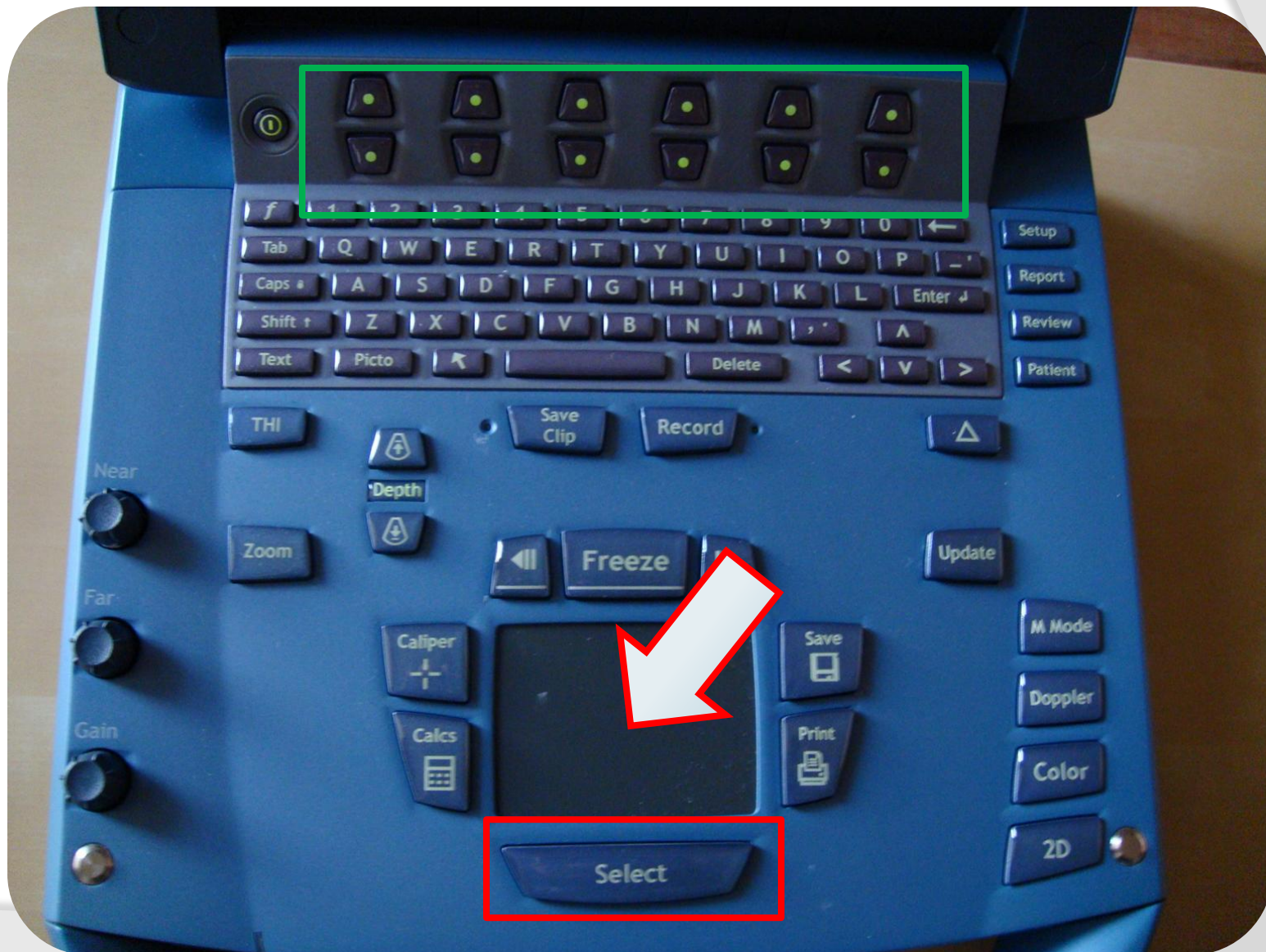
Sonosite Micromaxx i M-Turbo



Włączyć? Wyłączyć?



Sterowanie



Tryb pracy



Tryb pracy



Tryb pracy

2009Apr01 18:16

Patient

Last

First

Middle

ID

Accession

Date of birth / /
YYYY MM DD

Gender

Indications

Exam

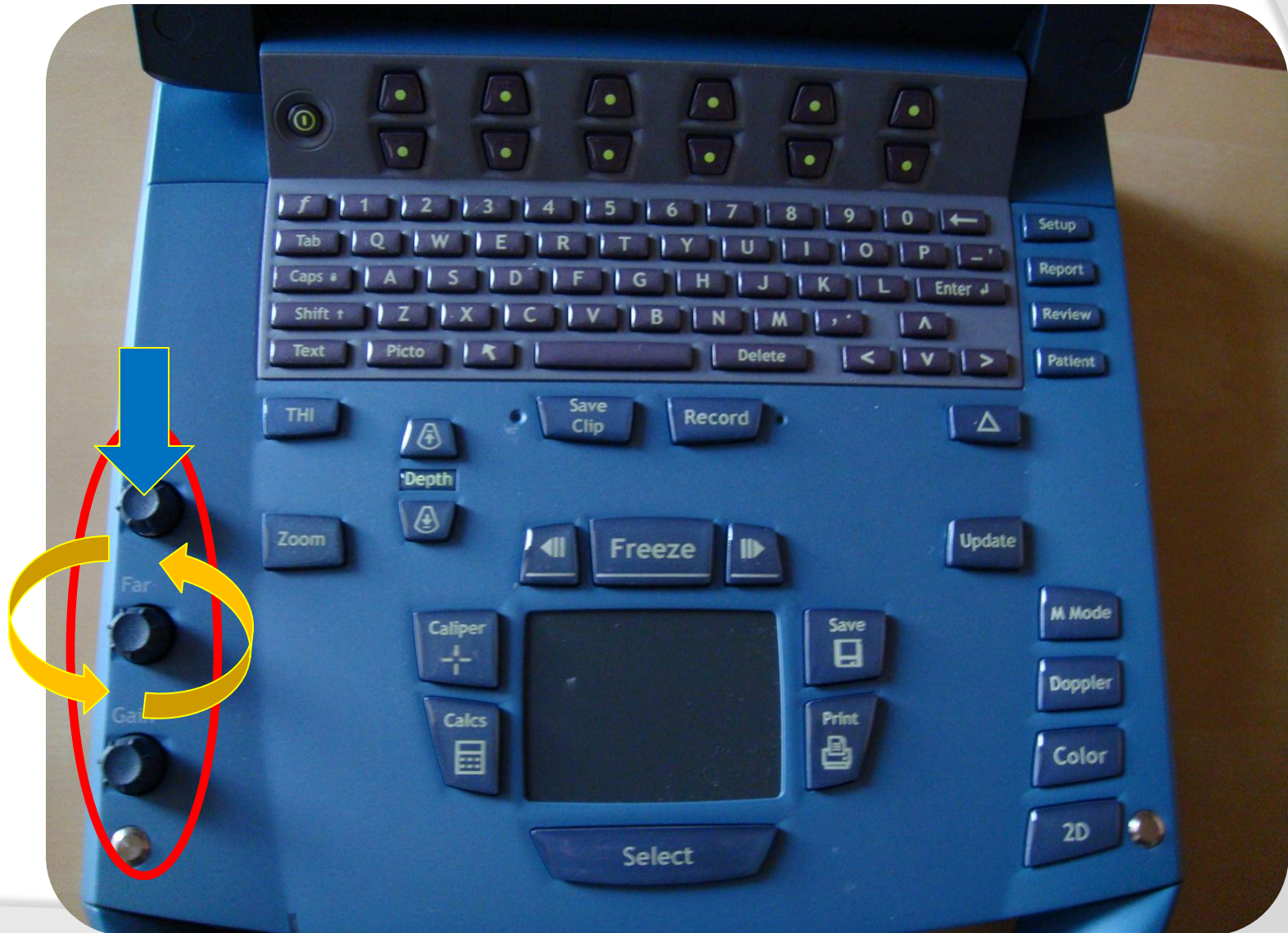
Type

- Nerve(Nrv)
- Breast(Bre)
- Small Parts(SmP)
- Vascular(Vas)
- Nerve(Nrv)**
- IMT

Symbols... More...

New End Exam Cancel Done

Gain



Głębokość

Bardzo istotna
z punktu widzenia
przejrzystości
obrazu!



Color Doppler



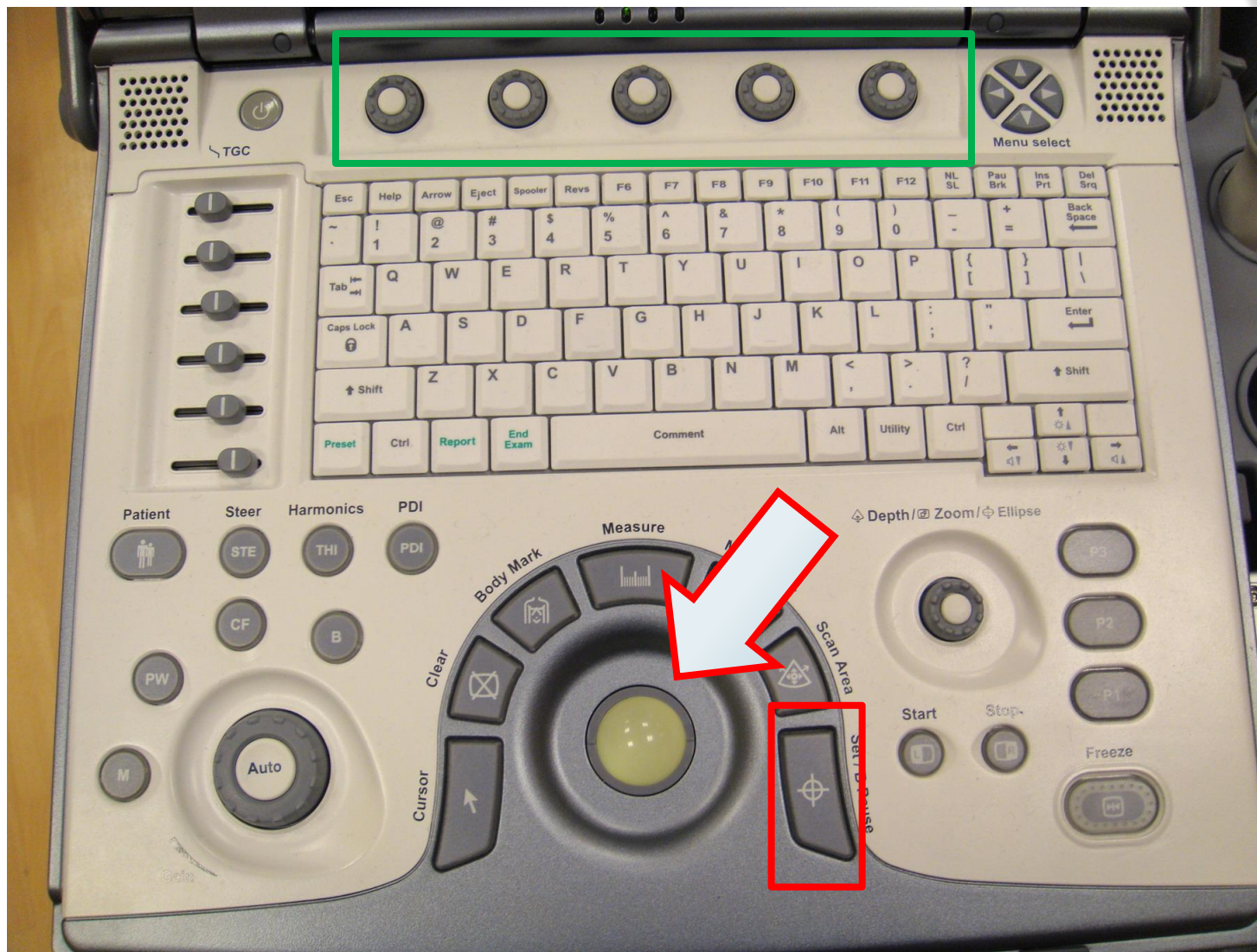
GE LOGIQ e



Włączyć? Wyłączyć?



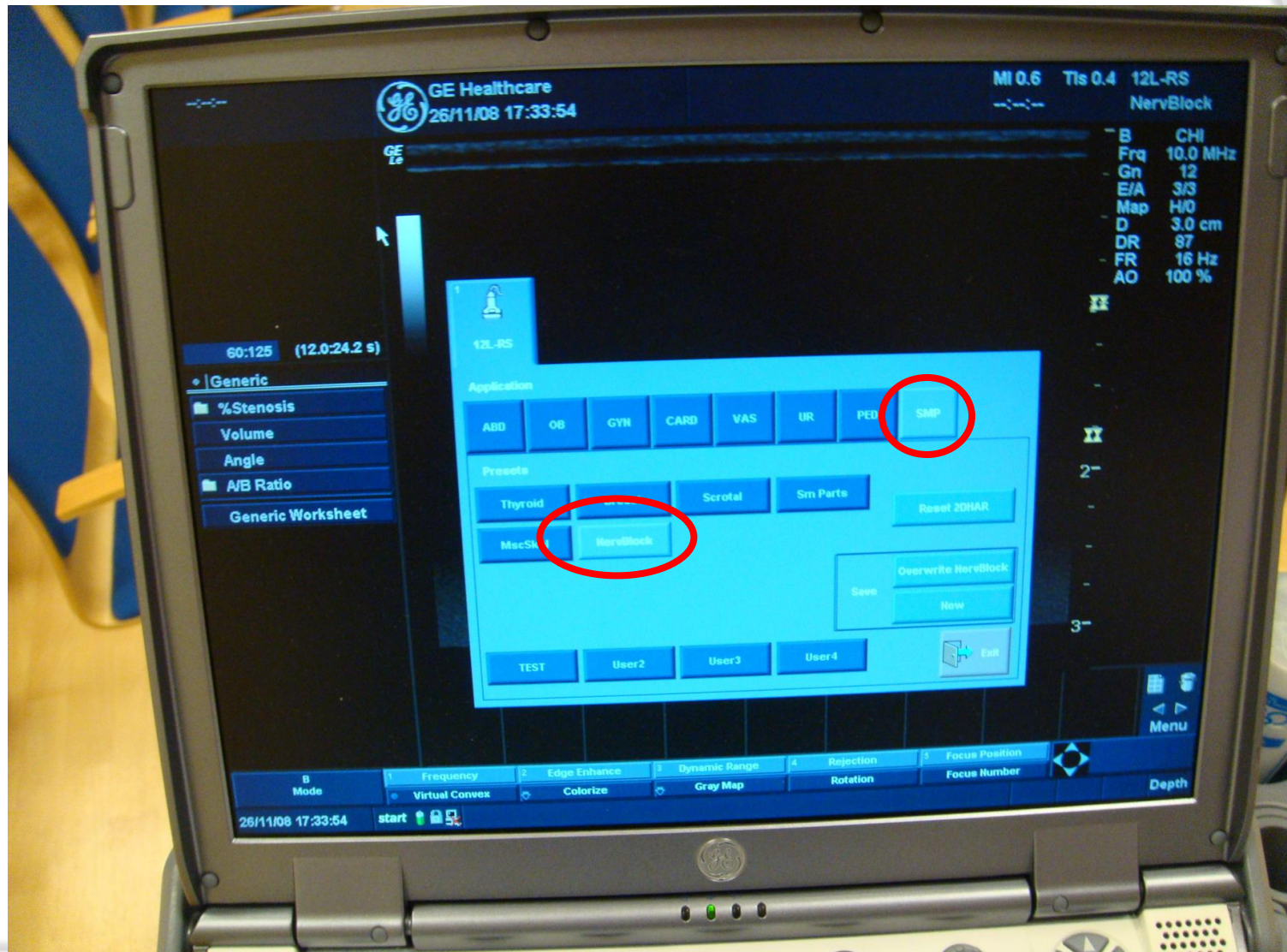
Sterowanie



Tryb pracy



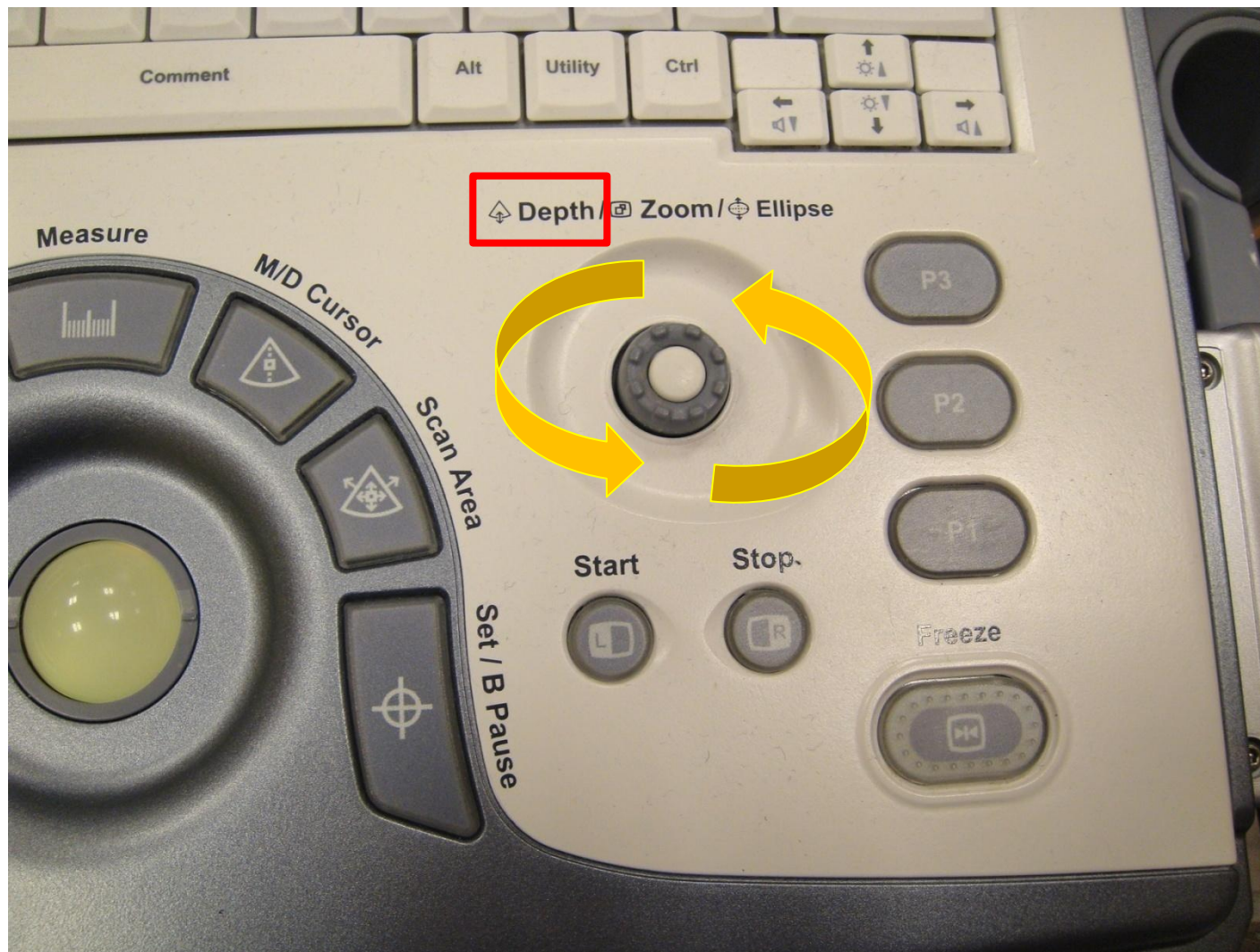
Tryb pracy



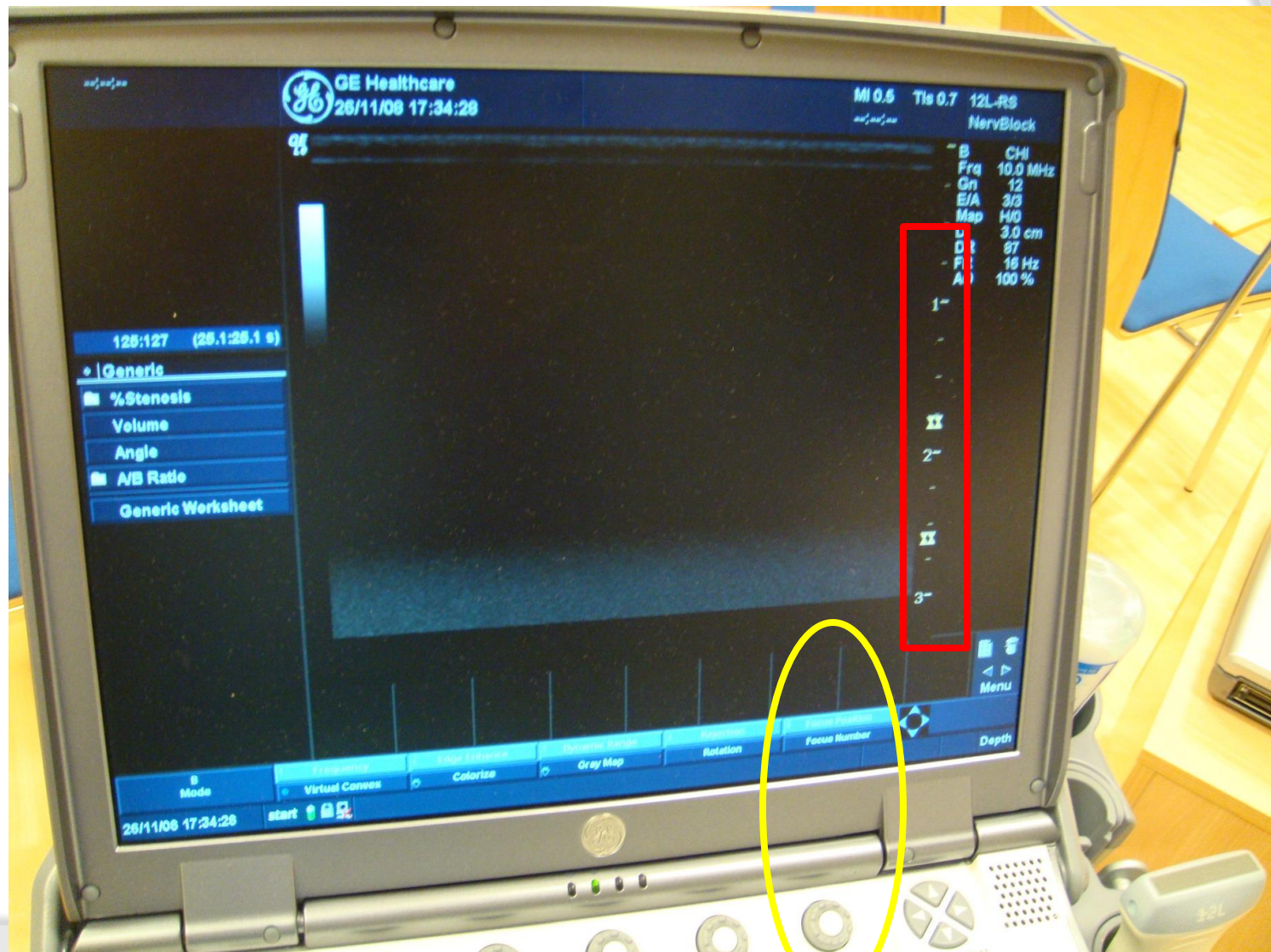
Gain



Głębokość



Głębokość i focus



Color Doppler





Internet...

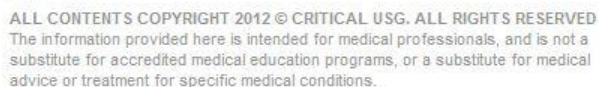
„Przestań wreszcie wszystko wiedzieć, zacznij pytać!”
/Łona i Webber /





KONTAKT

Wybierz zagadnienie



Site aids

- Minimum requirements
- Site instructions
- Legal and copyright information

Home

ICU Sonology tutorials

The information on this site related to ultrasound use in the ICU has been divided into how-to tutorials focussing on one aspect each. While, each tutorial is not a comprehensive review of information available in that topic, an attempt has been made to distill information to simplify it and present it in a practical, bedside how-to guide.

Analysis of the evidence from literature for various facts and methods described here has been avoided. Similarly information that is easily found in standard cardiology and radiology sonology textbooks has been given less coverage. To make the most of these tutorials, however, we suggest that they be supplemented with a reading of select journal articles (see references) and standard echocardiography and ultrasound textbooks.

You can click on the appropriate tutorial from the drop down menu above or the links below.

- Tutorial 1 - Basic physics of ultrasound and the Doppler phenomenon
- Tutorial 2 - Modes of Ultrasound
- Tutorial 3 - Setting up and acquiring images
- Tutorial 4 - Volume status and preload responsiveness assessment
- Tutorial 5 - Assessment of LV systolic function
- Tutorial 6 - Assessment of LV diastolic function and filling pressures
- Tutorial 7 - Assessment of the right heart
- Tutorial 8 - Assessment of pericardial disease
- Tutorial 9 - Lung ultrasound
- Tutorial 10 - Vascular ultrasound
- Tutorial 11 - Abdominal ultrasound
- Tutorial 12 - Miscellaneous uses
- Tutorial 13 - Clinical scenarios
- Tutorial 14 - Infection control and legal issues

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NYSORA

THE NEW YORK SCHOOL OF REGIONAL ANESTHESIA

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GENERAL REGIONAL NERVE BLOCKS JOURNAL RESIDENT'S CORNER MEETINGS FORUM ULTRASOUND ANATOMY



Infracavicular Brachial Plexus

10th Jubilee Annual Winter Symposium NYSORA 2011

Monitoring During Nerve Blocks

Sneak Peek! Peripheral Nerve Blocks: Principles and Practice (2nd Edition)

NWAC World Anesthesia Convention Istanbul, April 24-28, 2012

upcoming meetings



St. Luke's-Roosevelt Regional Anesthesia Preceptorship

NYSORA NEWSLETTER

NYSORA NEWSLETTER AUGUST 2011

NYSORA NEWSLETTER, JULY 2011

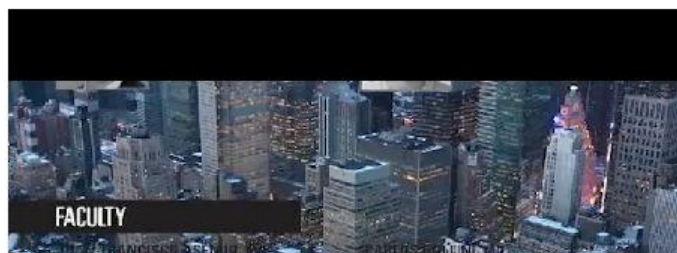
NYSORA NEWSLETTER, JUNE 2011

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Ultrasound for Regional Anesthesia

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INSPIRATION

ISURA
REGIONAL ANESTHESIA
PAIN MEDICINE

2012

9th ANNUAL INTERNATIONAL
SYMPOSIUM OF ULTRASOUND

June 22-24, 2012

LOCATION
The Hart House, University of Toronto
Downtown Toronto, Ontario, Canada

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USRA News

[New date added for Introductory Workshop May 2011](#)
[Thoracic Paravertebral Block Videos April 2011](#)
[Pick of Lit - 2009 December 2009](#)
[Transversus Abdominis Plane \(TAP\) Block May 2009](#)
[Thoracic Paravertebral Block March 2009](#)
[New Interscalene Block \(In Plane Approach\) Video January 2009](#)

USRA Ultrasound Innovation Award

We invite you to [submit an abstract and a video](#) for the 2011-2012 UIA contest.
Submissions between March 15, 2011 and May 25, 2012 will be selected and judged for the 2011-2012 award. | [View Abstracts](#)

Recent Submissions

February 2011
[Ultrasound Guided Lower Extremities Regional Anaesthesia May 2010](#)
[Ultrasound Guided Radiofrequency Ablation of Post Amputation Neuroma for Intractable Neuropathic Stump Pain May 2010](#)
[Description of a New Scanning Technique of Hip Joint Interventions for Reliable Location and Teaching April 2010](#)
[Supraclavicular Brachial Plexus Block in Lateral Position July 2009](#)

neuraxiom.com

Ultrasound Guided Regional Nerve Blocks

A Website of Neuraxiom LLC

Neuraxiom LLC

A Washington State
Company

Exploring a New Paradigm in Regional Anesthesia

Front Page

Ultrasound

Interscalene Block

Supraclavicular

Infraclavicular BP

Axillary BP

Epidural

Femoral

Sciatic

FICB

Available Now
from
Amazon.com

*The Neuraxiom
Playbook of Essential
Nerve Blocks*

usgra.poland@gmail.com

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USGRA Poland

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Google+: USGRA Poland

The screenshot shows the Google+ web interface in a browser window. The address bar displays the URL `https://plus.google.com/u/0/?tab=mX#circles`. The browser's top bar includes tabs for 'Gmail - Inbox (7) - usgra.polan...' and 'Kregi - Google+'. The Google+ header features the logo, a search bar, and the circle name 'USGRA Poland' with a count of '0' and a '+ Udostępnij' button. A left sidebar contains navigation icons for 'Główna', 'Profil', 'Eksploruj', 'Spotkania', 'Zdjęcia', 'Kregi', 'Gry', and 'Więcej'. The main content area has tabs for 'Twoje kregi (2)', 'Mają Cię w kregach (2)', and 'Znajdź osoby'. Below these are buttons for 'Dodaj nową osobę', a profile card for 'Dariusz Fenikowski', and a card for 'Amadablam Amadablam'. A central instruction reads: 'Przeciągaj osoby do kregów znajomych, aby być z nimi w kontakcie i przysłać im różne rzeczy'. Below this are five circular buttons: 'Upuść tutaj, aby utworzyć krag', 'Znajomi 2', 'Rodzina 0', 'Dalsi znajomi 0', and 'Obserwowani 0'. The footer contains copyright and policy links: '©2012 Google - Warunki - Polityka treści - Prywatność - polski / Ustaw region - Utwórz stronę'. A right sidebar shows a video call button 'Otwórz spotkanie' and a chat section for 'USGRA Poland' with a 'Czat z...' button.

Google+

USGRA Poland 0 + Udostępnij

Główna Profil Eksploruj Spotkania Zdjęcia Kregi Gry Więcej

Twoje kregi (2) Mają Cię w kregach (2) Znajdź osoby Trafność Wpisz nazwę Czynności

+ Dodaj nową osobę Dariusz Fenikowski Amadablam Amadablam

↓ Przeciągaj osoby do kregów znajomych, aby być z nimi w kontakcie i przysłać im różne rzeczy

Upuść tutaj, aby utworzyć krag Znajomi 2 Rodzina 0 Dalsi znajomi 0 Obserwowani 0

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It's looking mighty bare right now. When you follow people their updates will appear here. So go [find some interesting people](#) to follow!

You can tell the world **what's happening** in the box above.

Note that your Tweets will be available publicly.

You can make your Tweets private on your [account page](#).

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3. Set up your profile

- [Upload a profile picture](#)
- [Write a short bio](#)

4. Write your first Tweet!

- [Tell the world what's happening in 140 characters or less](#)

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Use the services below to find people you know on Twitter

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joannakrupa Joanna Krupa ✓ · [Follow](#)

Voted Sexiest Top Model in the world, focused on ...



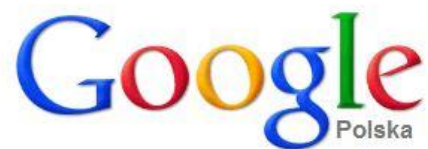
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Sharing cool things I'm learning through my found...

Radosław Marciniak 0 + Udostępnij 



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Szczęśliwy traf

Dziękuję za uwagę