



Sono4You Graz

Manual for participants

8th Late Summer School for Ultrasound

LKH Univ.-Klinikum Graz
Auenbruggerplatz 15/2
8036 Graz

Hi!

We are pleased that you are interested in the "Late Summer School for Ultrasound" in Graz. We launched the "Late Summer School" in 2014 as a kick-off event for our peer-teaching project "Sono4YouGraz". With this project, we want to introduce students to the world of sonography and offer them the opportunity to acquire skills in the use of ultrasound equipment.

As a voluntary project, we focus on the joy of working together and the enthusiasm for sonography.

We would like to cordially invite you to this project that is near and dear to our hearts! This year the event will take place from 15 - 17 October 2021. Hence the name "Late Summer School for Ultrasound".

Contents of this Manual

Who?

Sono4You Graz

What?

The 8th Late Summer School for ultrasound in Graz
Timetable

Where?

Graz and its surroundings

How?

Visiting the Late Summer School on site
Online Meetings: Lectures only
Online Meetings: Lectures and Hands-on sessions
Ressources



Sono4You Graz

Sono4You Graz is an initiative of ultrasound interested medical students from Graz, who want to enable colleagues to make their first steps at sonography. We do this free of charge in about 80 regular courses per year, in workshops at conferences and at our annual Late Summer School for Ultrasound.

Founded in 2013 by a small group of students, who acquired their first skills with an ultrasound device and YouTube videos in a living room under a palm tree. Since then, the project has evolved through great personal effort of students and supporting physicians.

To date, more than 1600 participants were able to attend our courses and 42 active student **peer teachers** are currently contributing to the project voluntarily. Each year, we train about 15 new tutors according to a curriculum authored by us.

We have made it our mission to share our teaching materials and resources in the spirit of #FOAMed - "Free Open Access Meducation" – free to use and open for further improvement. With the Late Summer School alone, we have reached about 50,000 people with our live stream and about 100.000 people with our on demand videos. In addition, about 725 students were able to participate on site.

Our courses focus on a high share of applicable knowledge and hands-on skills, are held in small groups (5 participants with 2 peer teachers at one ultrasound machine), utilise innovative didactic methods and are free of charge for the participants.

The 8th Late Summer School for Ultrasound in Graz

Date: October 15th - 17th 2021

Location: LKH Universitätsklinikum Graz

For the eighth time, Sono4You Graz is hosting a Late Summer School for Ultrasound for medical students - and we'd love to share this learning opportunity with as many students as possible. This year the two and a half day course puts its emphasis on focused ultrasound in emergency medicine (eFAST, RUSH, LUNG & DVT), giving participants an idea on how and when point of care ultrasound can help them as young doctors during their first night shifts. The high proportion of practical activities is supposed to help students to implement this modality of diagnosis in their future routine as an addition to a classical workflow.

For the past six years, we have not only hosted the Late Summer School for Ultrasound in Graz, but also shared it with other universities via an interactive video conference, while hands-on sessions were held locally. All lectures are also available as a livestream via YouTube and Facebook to anyone interested in participating and learning - in the spirit of #FOAMed.

Structure of the course

The two and a half day course covers:

- Theoretical and hands-on basics of handling an ultrasound machine
- A repetition of the most relevant anatomic structures
- Structured interpretation of acquired ultrasound images
- Indications for the use of point of care ultrasound as well as limitations and pitfalls
- Making therapeutic decisions based on the findings

Structured protocols for thoracic, abdominal and DVT ultrasound are presented in lectures by experienced clinicians and learned by students in small groups with peer teachers:

- Extended Focused Assessment with Sonography for Trauma (eFAST)
- Rapid Ultrasound for Shock and Hypotension (RUSH)
- Lung ultrasound & two point compression technique for DVT detection

Speakers & Peer Teachers

6 experienced doctors as speakers

42 Sono4You Graz peer teachers

5 international guest peer teachers

Participants

60 students from the Medical University of Graz

participants from other medical faculties via remote courses; e.g. Maribor, Berlin, etc.

Language

English and German (Hands-on sessions in groups in which all participants and peer teachers are comfortable with speaking German may be held in German).

Objective

After the course, participants should be able to:

- Operate an ultrasound machine safely and securely
- Ask focused questions to a sonographic examination
- Collect different sonographic planes within the examination protocols
- Interpret the acquired films in a structurally sound way

Preliminary Programme

Of the 8th Late Summer School for Ultrasound

■ Lecture ■ Hands-On / Workshop ■ Repetition ● Live Stream

FRIDAY, October 15th	
Basics	15:00-15:30 ■ ● Registration & Pre-Test
	15:30-16:00 ● Opening
	16:00-16:45 ■ ● Keynote
	17:15-18:00 ■ ● Basics of Sonography
	18:15-19:15 ■ Hands-on - Acquisition
	19:15-20:00 ■ ● Basics of Anatomy
SATURDAY, October 16th	
Crashing Patient	09:00-09:30 ■ ● The eFAST-Protocol I: Background
	09:30-11:30 ■ Hands-on - FAST Workshops
	11:30-12:00 ■ ● The eFAST-Protocol II: Clinical Cases
	12:00-13:00 Lunch Break
	13:00-13:30 ■ ● The RUSH-Protocol I: Background
	13:30-16:30 ■ Hands-on - RUSH Workshops
	16:30-17:00 ■ ● The RUSH-Protocol II: Clinical Cases
	18:30-19:00 Speakers Dinner, Social Evening
SUNDAY, October 17th	
Dyspnoeic Patient	09:30-10:00 ■ ● Lung and DVT I: Background
	10:00-10:45 ■ Hands-on Lung
	11:00-11:45 ■ ● Lung and DVT II: Clinical Cases
	12:00-13:00 Lunch Break
	13:00-13:15 ■ ● Repetition
	13:15-16:00 ■ Hands-on in Depth Workshops
16:15-16:30 ■ ● Sono Quiz & Closing	

Besides an introduction to the basics of sonography, the preliminary programme is divided into two major parts:

- the trauma patient (eFAST + RUSH protocol)
- the dyspnoeic patient (lung sonography + sonography of the deep veins of the legs)

These parts will each take the form of:

- a theoretical lecture on differential diagnoses and therapy
- a theoretical lecture on the examination protocol itself
- and practical sessions.

The theory lectures will be transmitted live via video stream.

Graz and its surroundings

Graz is a small city in the south of Austria with a population of about 300,000 and is known for its beautiful old town. More than 50,000 students at 5 different universities make it one of the liveliest cities in Austria. It is the capital of Styria, a province stretching from the alps in the north to rolling hills with vineyards in the south, resembling the “Styrian Tuscany”.

(see also: <https://www.graztourismus.at/en>)

Travelling to Graz

The airport of Graz [GRZ] is located only a few kilometres south of Graz, making it the most comfortable choice for getting to Graz. However, direct connections are available only to very few airports (Düsseldorf, Frankfurt, Istanbul, Munich, Stuttgart, Vienna).

Vienna airport [VIE] is about 200 kilometres away from Graz and offers connections to most major European cities as well as intercontinental flights.

There are trains and buses running directly from Vienna airport to Graz, and depending on the timing we might also be able to pick you up from the airport or at least organise your trip from there to Graz. There are direct train connections from Graz to Frankfurt (via Munich), Prague, Vienna, Zagreb and Zürich. Graz is located next to the A2 and A9 motorways and about two hours of driving away from Vienna and five hours from Munich.

If you need any help with your travel arrangements, need to be picked up from the airport or if you are planning to stay for a few extra days in Austria and want a few suggestions on what to do here, please contact us, we are happy to help out.

Staying in and getting around in Graz

Getting around in Graz is quite easy during daytime as the city centre is rather small and public transport in general works quite well. The Late Summer School takes place at the university hospital (LKH Universitätsklinikum Graz) which is located about two kilometres away from the city centre and can be reached with tram line 7 or taxi in about 10 to 15 minutes. Most sights of Graz, as well as hotels and restaurants, are in walking distance in the inner city.

Participation in the Late Summer School for Ultrasound

As students of other universities

Essentially, as a student from another university, you can participate in the Graz Late Summer School for Ultrasound in three ways:

1. On-site as a **guest tutor**

If you have sufficient previous experience, you are welcome to actively participate in the Summer School as a tutor. You can listen to the lectures yourself and then, together with the tutors from Sono4You Graz, accompany the practical sessions for the course participants.

2. On site as a **guest student**

As a guest student you are cordially invited to take a look behind the scenes of the Late Summer School. You can listen to the lectures, practise on your own device, attend the practical sessions and get to know Sono4You Graz. We would like to give you an impression of how we organise this event and convey the contents to the participants. We especially want to promote the exchange between different projects and groups and would be happy to build on this foundation and further develop student ultrasound teaching with you.

3. In **conference call**

Following the pilot project in 2016, we want to realise this offer again this year. The idea behind this is that the lectures will be held at a central location (Graz), but the practicals will be organised autonomously at several different locations (your own home city).

We will make all lectures available to you via live stream. You can actively participate via conference call (see below for technical details) and you have complete freedom to organise your internships. It is also up to you whether you make the event public or only hold it internally. You can also just watch the lectures and make them public, e.g. in a lecture hall. You decide what is possible for you and what you want to implement.

For further questions, we are available to provide you with everything you need (video stream, scripts...).

Visit the Summer School on site

Confirmation

In order to be able to plan everything, we need a binding confirmation from you by 31 July. Please send us an email to lsscommunications@sono4you.at with your Name(s), your university and a phone number.

Travel

Please organise your own travel arrangements. We are happy to pick you up at the train station or airport. On 17.10. the programme is planned until 5 pm.

Accommodation

Regarding accommodation, we will try to provide you with private accommodation with tutors from our group. Please let us know if this is desired. We will then put you in touch with the tutors and you can arrange with them whether you need to bring your own equipment like sleeping bags etc.

Contribution to expenses

As we have a relatively tight budget, we ask you to pay a contribution to expenses of 20,- €. Refreshments and snacks will be provided during the course. As a guest tutor, there is of course no contribution to pay.

Networking

We would like to promote networking and exchange between the students, the universities and the different projects. As we are convinced that we can all learn something from each other, we would like to organise a small networking session separately from the Summer School. Therefore, we invite you to present your projects, future ideas or just the everyday life in your working group during the Late Summer School.

Please let us know if you are interested! We would be happy to get to know your locations and projects better.

Participation via conference call: Lectures only

Confirmation

As an individual, you can simply subscribe to the stream and attend the Late Summer School as you wish. However, if you would like to follow the Summer School live with several people, we would like to plan this better (see below). For this we need a local contact person at your place. Please let us know this contact, if you have not already done so. Please send us the contact by 31 September via email (lsscommunications@sono4you.at)

Livestream

We will make the presentations available via "YouTube Live". You will be able to follow the lecture with a delay of about 20 seconds. All you need is a computer, loudspeakers, a projector and good internet access.

Interactive Sono Quiz

On the last day we will organise a "Sono-Quiz". Different ultrasound loops will be presented, in which a pathology will be recognisable. Participants will be able to cast their votes via TED-voting over the internet. The results will be presented immediately and discussed in the plenary. In this way, all participants will receive personal feedback on their knowledge acquisition. To enable this interactions, you'll only need a personal device of your choice.

Fall-back levels

We will put all documents and materials online before the Summer School (e.g. our scripts etc). If worse comes to worse, you can use our video recordings from the previous year and we will be available via WhatsApp and the Facebook group. You can also reach us by phone at any time, we'll send details before the Summer School starts

Participation fees

The live stream will be free of charge.

Participation via conference call: Lectures and practical sessions

As already mentioned at the beginning, there are no limits to the design of your practical sessions. You can work as a team to acquire the skills taught or offer your own practical units for fellow students.

In the following, we would like to introduce you to how we organise the internships in Graz, what we pay attention to and how we prepare. You can follow our concept, but you don't have to.

The hands on sessions

In small groups of 5 participants per unit, the participants practice what they have just heard in theory and examine each other. These practical sessions are accompanied by two student tutors. The focus in both practical courses is on the participants actively using the ultrasound and putting into practice what they have heard. The tutors mainly serve as moderators and support in case of ambiguities or questions.

In order to convey the contents, to clarify anatomical connections and to train the eye for them, we use various teaching aids. We let the participants draw and explain the sections themselves. This helps to quickly identify ambiguities and to internalise the sections. We use virtual, anatomical 3D models on iPads and clarify individual contents with selected images. In particular, we use whiteboards/flipcharts and projections. In addition, the app "Visible Body" is very popular in the context of practicals and courses.

Timetable

see programme.

The equipment

As is common practice in abdominal sonography, the examination of the upper abdomen is performed with a convex transducer. For the exercise unit "Hypotension" a sector transducer is advantageous. Lung sonography can be performed with a convex, sector or linear transducer without any problems. For sonography of the deep leg veins, a linear transducer is preferred.

Older devices are perfectly adequate for learning the basics. Furthermore, examination tables, ultrasound gel and paper towels are necessary. In Graz, we expect to have 15 ultrasound machines with the appropriate equipment available. Connecting the ultrasound machines to a projector or monitor would be didactically advantageous, as all participants would have a good view of the image.

Preparation

We have short scripts for the examination protocols, which we will gladly make available to you. They can be downloaded from our website under the header "Resources". Feel free to modify them and use them in your courses. (If you do not disguise the origin of the scripts, we would be very happy ;-)).

There are also many good podcasts, e-books, etc. to help you prepare. In the following, we have put together a small selection of suitable resources. In addition, you can find most of the lectures from previous years on our YouTube channel.

If you have any questions, please do not hesitate to contact us informally, we look forward to hearing from you!

Resources

E-Books

Introduction to Bedside Ultrasound Vol. I
Introduction to Bedside Ultrasound Vol. II

Lectures

Bedside Ultrasound
Chris Fox - The Point of Care Revolution - TEDx Talk
Ultrasound Basics
Rob Arntfield - Ultrasound physics and knobology
Mike Stone - Probe Handling

FAST

Matthias Hofer - FAST, eFAST (german)
Cliff Reid - eFAST
Beth Cadigan - eFAST

RUSH

Scott Weingart - RUSH - Vodcast
Scott Weingart - RUSH - Podcast I
Scott Weingart - RUSH - Podcast II

Lunge

Mike Stone- B-Lines, A-Lines
Rob Arntfield - Lung Sliding, A-Lines, B-Lines, Consolidation, Effusion Vicky Noble - Lung ultrasound

We are looking forward to seeing you in Graz!

For any questions, feel free to contact us via an E-Mail to:

sono4you@medunigraz.at
lsscommunications@sono4you.at

Contact

E-Mail: lsscommunications@medunigraz.at | Web: graz.sono4you.at
Twitter: [@sono4yougraz](https://twitter.com/sono4yougraz) | Facebook: [fb.com/sono4yougraz](https://facebook.com/sono4yougraz) | Youtube: [Sono4You Graz](https://youtube.com/Sono4YouGraz)

