



Dear friends,

For almost two years we are focused on the "most important" medical problem in the world, the COVID-19 infection. It is already defined as a system disease, which impacts not only pulmonary system, but also the intestines, heart, blood vessels, nervous system, even musculoskeletal system...

USA reports over a million people on a sick-leave for their post-Covid symptoms. These symptoms include not only heart and respiratory problems, but also chronic fatigue disease, chronic fever, inability to walk, palsy like symptoms, etc...

Meanwhile, there is an ongoing war among "vaxers" and "antivaxers", as if we are in the Middle age. Everything is based on beliefs, personal standpoints, without any serious scientific background.

Within these unreal surroundings we must preserve our common sense and our scientific position. We must rely our statements on solid based well checked scientific information.

In light of all of these circumstances, we are declaring year 2022 the year of LUNG ULTRASOUND, which will stop the Covid pandemic by "new" diagnostic tool, LUS (lung ultrasound)

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# POCUS Seminar in Bosnia & Herzegovina

During the weekend of December 11th and 12th, 2021, a seminar in ultrasound diagnostics was held at the Prnjavor Health Center, near Banja Luka, Bosnia and Herzegovina. The seminar was conducted on behalf of the International POCUS Organization (IPO) by specialists and instructors of POCUS diagnostics: Prim. dr. med. sci. Ivica Zdravkovic, prim. dr. med. Zeljka Popovic, dr. med. Sava Vojnović. The seminar was attended by 15 family doctors, led by the manager of DZ (HC) Prnjavor, Dr. Bojan Subotic.

During 4 sessions in two days, the colleagues, having previously mastered the theoretical IPO training program, have been trained in working with the probe in the areas of ultrasound diagnostics of the abdomen, thyroid gland and lungs. At the end, certificates of completed basic training were awarded to all.

What remains now for attendees of the seminar is to practice and spend as many hours as possible with a probe in the hand. Health Center Prnjavor at least does not lack in quality equipment (instructors were amazed by the equipment of the institution).







# **“News from Haiti IPO School of Ultrasonography” or the “Making of better doctors”**

**Have you ever seen a boat sailing against the wind? How can a school of Ultrasound respect international standards in a country ruled by gangs even in the surroundings of the national palace? We will proudly say: it is just IPO.**

**We believe that doctors should not endanger the human species. They should be competent to save lives wherever they are and Haiti, even the poorest country in America and, unfortunately, a failed state under gangs’ laws, will not be an exception whatever the political situation.**

**IPO is proud of its program director, Professor Gédéon Gélín, MD/Phd in Medical Ultrasound by Portfolio and a Sorbonne trained elderly heart diseases for his leadership.**



**Dr Gédéon GELIN-Founder and Chair of Haiti IPO Ultrasound School**

**Haiti IPO school of Ultrasound recruited a new cohort in July 2021. Eighth physicians, among them, six general practitioners and two specialists in internal medicine are currently participating in an 18-month general ultrasound training program.**



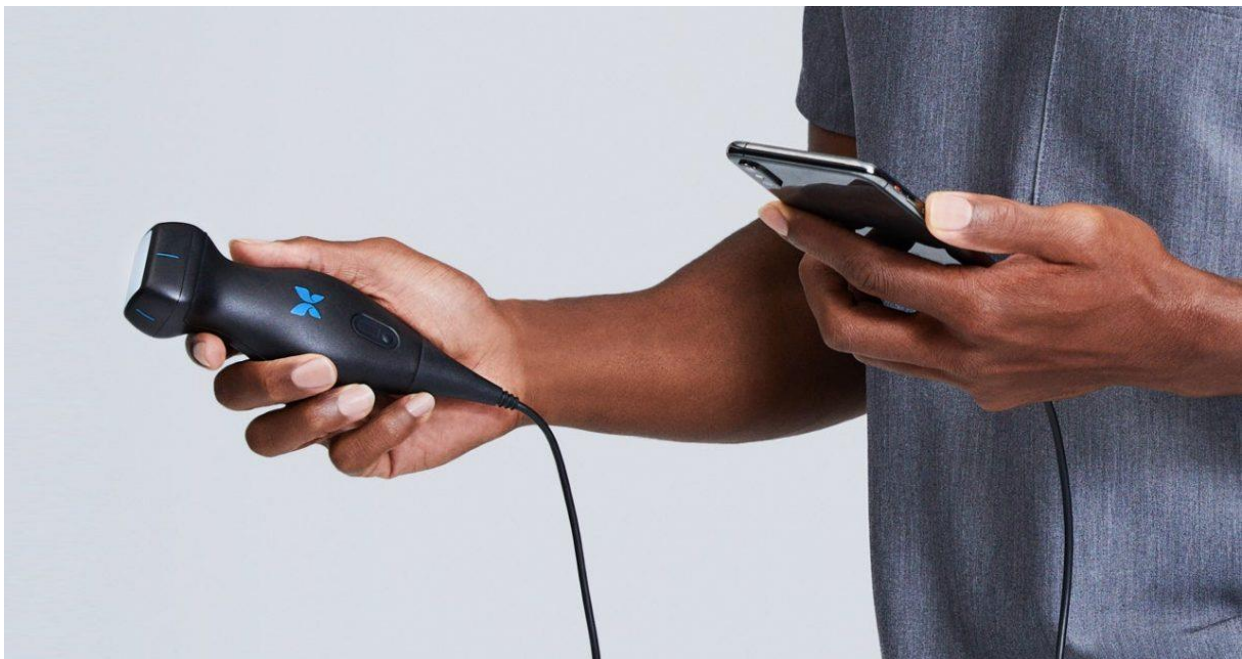
**Dr Innocent and Dr Merzius, two physicians currently in training in our School**

**Since its opening in December 2017, IPO Haiti School of Ultrasound became very famous all over the country. Unfortunately, our program can only accommodate 12 to 20 participants on a yearly basis. Our project to start a new hospital beginning September 2022 to train more Haitian health professionals in general ultrasound including echocardiography is temporarily shelved by the climate of violence that reigns in the surroundings of the six thousand square meters of land where we plan to open the hospital.**

**Let's hope that 2022 will be better!**

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**Best wishes to our colleagues and friends in Haiti. All of us in Europe, West America and other regions sympathize with our friends in Haiti. We do hope Haiti will soon see a better political future and the Haitian doctors will be given more opportunities to train, learn and upgrade themselves through meetings with other IPO colleagues around the world.**



<https://jkdown.com/handheld-ultrasound-devices-are-speeding-diagnosis-of-covid-19/>

*Dr Zdravković*



During the last quartal of 2021 Medical office "Dr Zdravković" in Požarevac, Serbia, continued to function also as national POCUS school. We have hosted several colleagues from Serbia and abroad. Among them were primaris dr. Željka Popović from Bosnia and Herzegovina and Dr. Aleksandar Milosavljević from Požarevac. They have successfully completed courses and received certificates on behalf of IPO.



Dr. Aleksandar Milosavljević, soon to become a surgeon, with certificates in abdominal and breas ultrasound, and legs Doppler ultrasound.



Prim. dr. Željka Popović, completion of education for POCUS specialist.

CONGRATULATIONS!

# Higher Accuracy of Lung Ultrasound over Chest X-ray for Early Diagnosis of COVID-19 Pneumonia

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## Abstract

**Background:** The COVID-19 pandemic rapidly strained healthcare systems worldwide. The reference standard for diagnosis is a positive reverse transcription polymerase chain reaction (RT-PCR) test, but results are not immediate and sensibility is variable.

**Aim:** To evaluate the diagnostic accuracy of lung ultrasound compared to chest X-ray for COVID-19 pneumonia.

**Design and setting:** A retrospective analysis of symptomatic patients admitted into one primary care centre in Spain between March and September 2020.

**Method:** Patients' chest X-rays and lung ultrasounds were categorized as normal or pathologic. RT-PCR confirmed COVID-19 infection. Pathologic lung ultrasound images were further categorized as showing either local or diffuse interstitial disease. McNemar and Fisher tests were used to compare diagnostic accuracy.

**Results:** Most of the 212 patients presented fever at admission, either as a standalone symptom (37.74% of patients) or together with others (72.17% of patients). The positive predictive value of the lung ultrasound was 90% for the diffuse interstitial pattern and 46.92% for local pattern. The lung ultrasound had a significantly higher sensitivity (82.75%) ( $p < 0.001$ ), but lower specificity (71%) than the chest X-ray (54.02% and 86%, respectively) ( $p = 0.008$ ) for identifying interstitial lung disease. Moreover, sensitivity of the lung ultrasound for severe interstitial disease was 100%, and was significantly higher than the chest X-ray (58.33%) ( $p = 0.002$ ).

**Conclusion:** The lung ultrasound is more accurate than the chest X-ray for identifying patients with COVID-19 pneumonia and it is especially useful for those presenting diffuse interstitial disease.

**Keywords:** COVID-19; general practice; lung ultrasonography; thoracic radiography.

**Source:** <https://pubmed.ncbi.nlm.nih.gov/33801638/#article-details>

# Lung ultrasound compared to lung X-Ray in Covid patients

Ivica Zdravkovic, MD/PhD

**Hypothesis :** Lung ultrasound is well established tool for diagnosing "interstitial syndrome" within patients with pneumonia, ARDS or pulmonary edema. This small study was to re-check the sensitivity of lung ultrasound compared to lung X-ray in a group of patients having a Covid infection.

**Experiment:** We have included 8 of patients visiting our medical office, which had the following entry criteria:

1. Have positive SARS-CoV-2 PCR and positive anamnesis (fever, coughing...)
2. Have elevated CRP
3. Do not have any specific lung X-Ray findings
4. Do not have specific auscultatory and percutory findings.

**Results:** Out of 8 patients included in this study, all of them had lung ultrasound with a specific "B-profile" (two or more B-lines in one intercostal space) in at least one or more of 12 standard scanning areas.

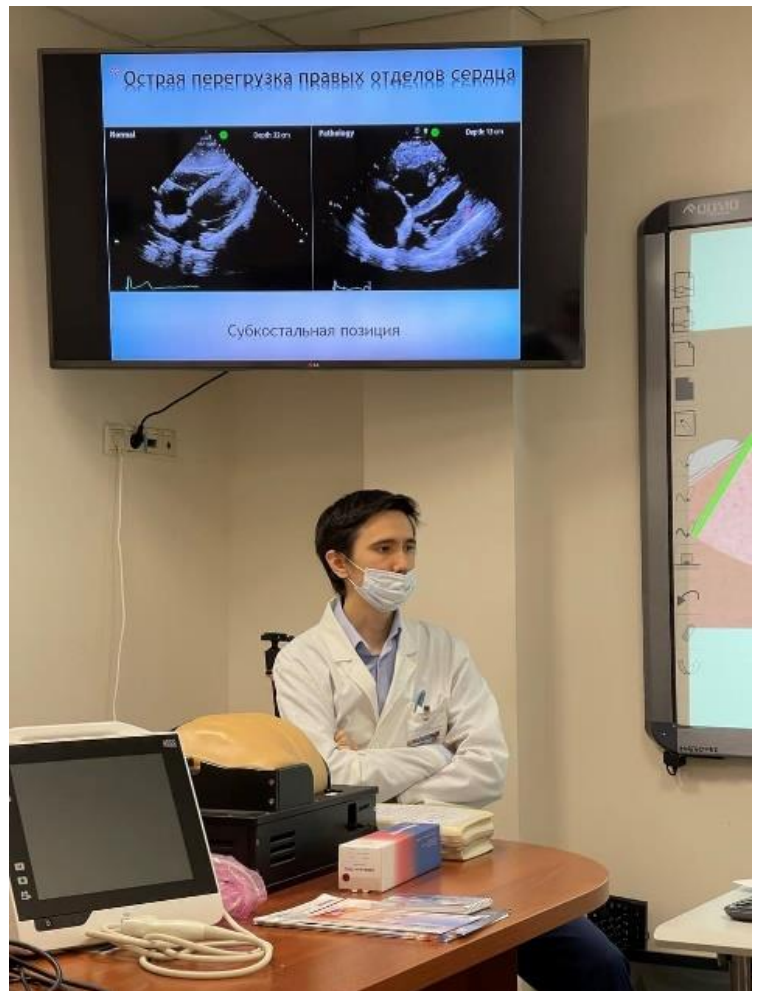
**Conclusions:** Lung ultrasound has higher sensitivity than chest X-ray in finding the early changes of pulmonary interstitium in Covid patients



## The news from POCUS MOSCOW!

Our team is pleased to announce the launching of a new educational course in the context of POCUS. The course is called: Point-of-Care Ultrasound in extracorporeal blood purification. The focus of this course is the importance of functional right ventricular failure and resultant splanchnic venous congestion. We have tried to combine the diagnostic potential of the multi-organ POCUS and extracorporeal blood purification techniques.

Particular attention is paid to the new approach to assessing venous hypervolemia Venous Excess Ultrasound Score (VExUS) in combination with ultrasound assessment of the heart and lungs. We managed to conduct 3 courses and received excellent feedback. In 2022, a similar course is planned to be held monthly.



Ultrasound visualization  
your third eye



POCUS  
IS COMING



Contributed by Dr. Vsevolod Lykhin, MD/PhD, IPO Board member

