

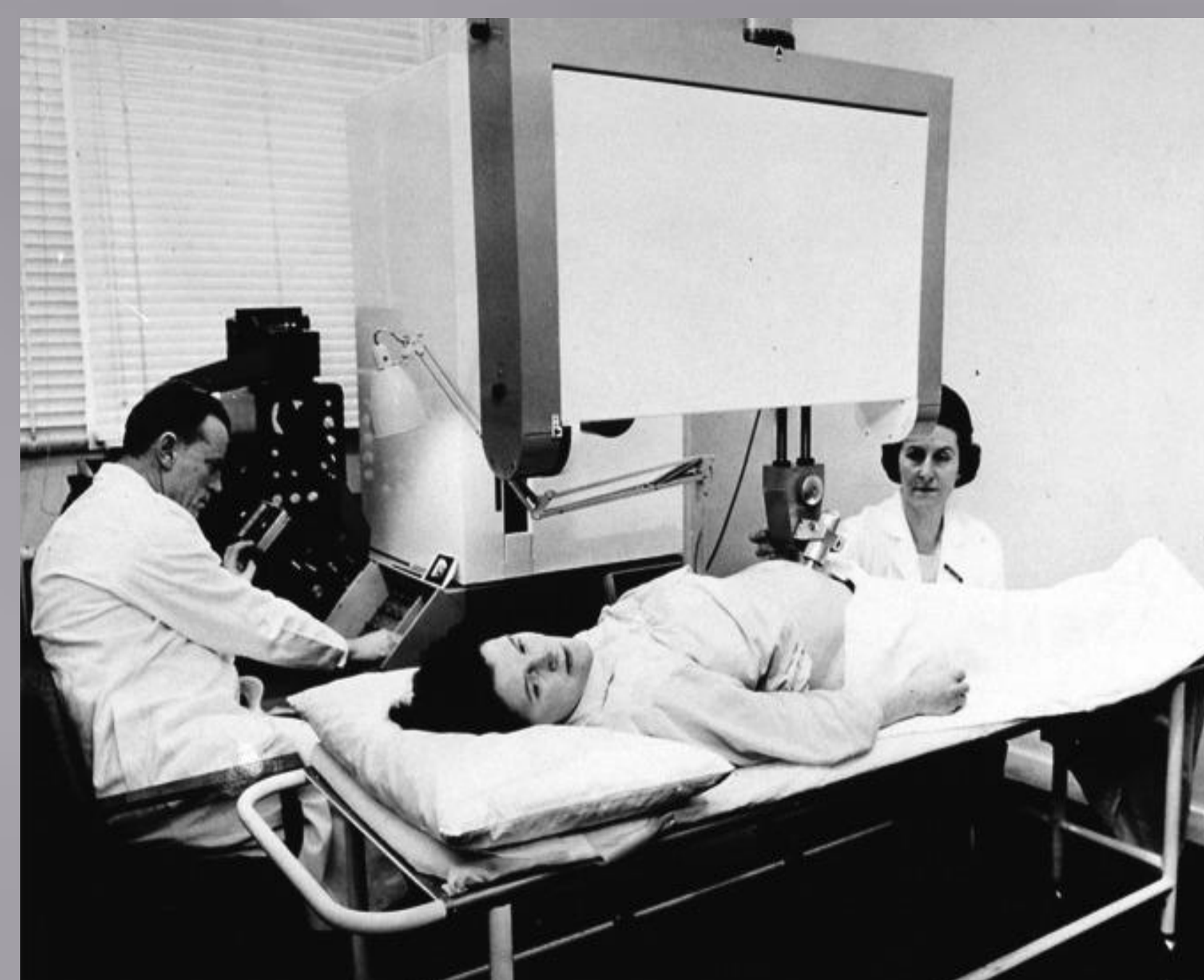
THE ADVANCES OF DIAGNOSTIC MEDICAL ULTRASOUND IMAGING IN PREGNANCY

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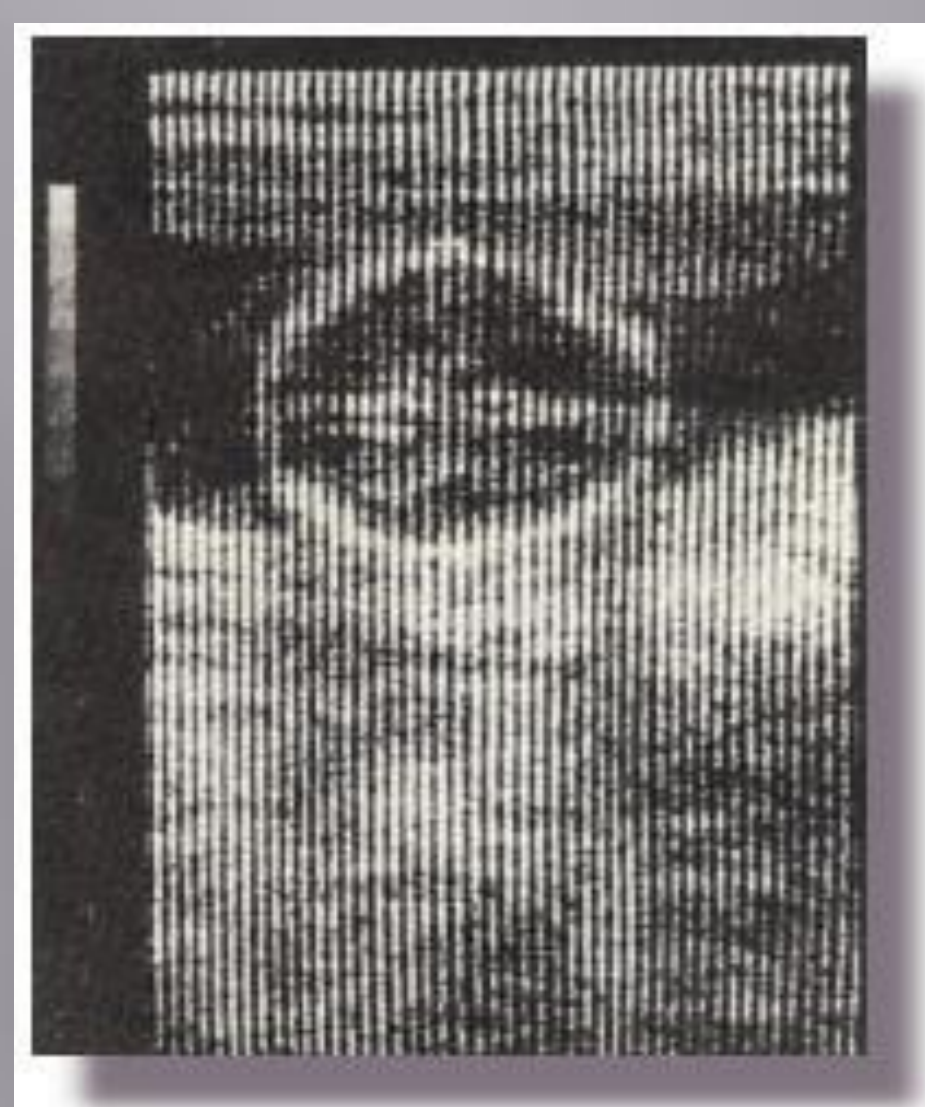


Undeveloped Medical Ultrasound in Pregnancy Prior to Dr. Kypros Nicolaides' Life Contributions

"Ultrasound in Obstetrics...had a very definite beginning with the 1958 classic Lancet paper (Donald et al., 1958) by Ian Donald, John McVicar, and Tom Brown "The investigation of abdominal masses by pulsed ultrasound... the paper...was entirely devoted to ultrasound studies in clinical obstetrics...and contained the first ultrasound images of the fetus... The other unique feature was that these were the first images taken with a compound contact scanner which was the first practical scanning machine."



Images from early real-time scanners had obtrusive scan lines, low dynamic range and resolution. 1958



Early scanner probe was bulky to fit on the abdomen 1958

B-scan image with gray scale of a similar section of the maternal abdomen showing abdominal circumference and placenta using the Nuclear Enterprise® NE 4102 in the late 1970s



Introduction

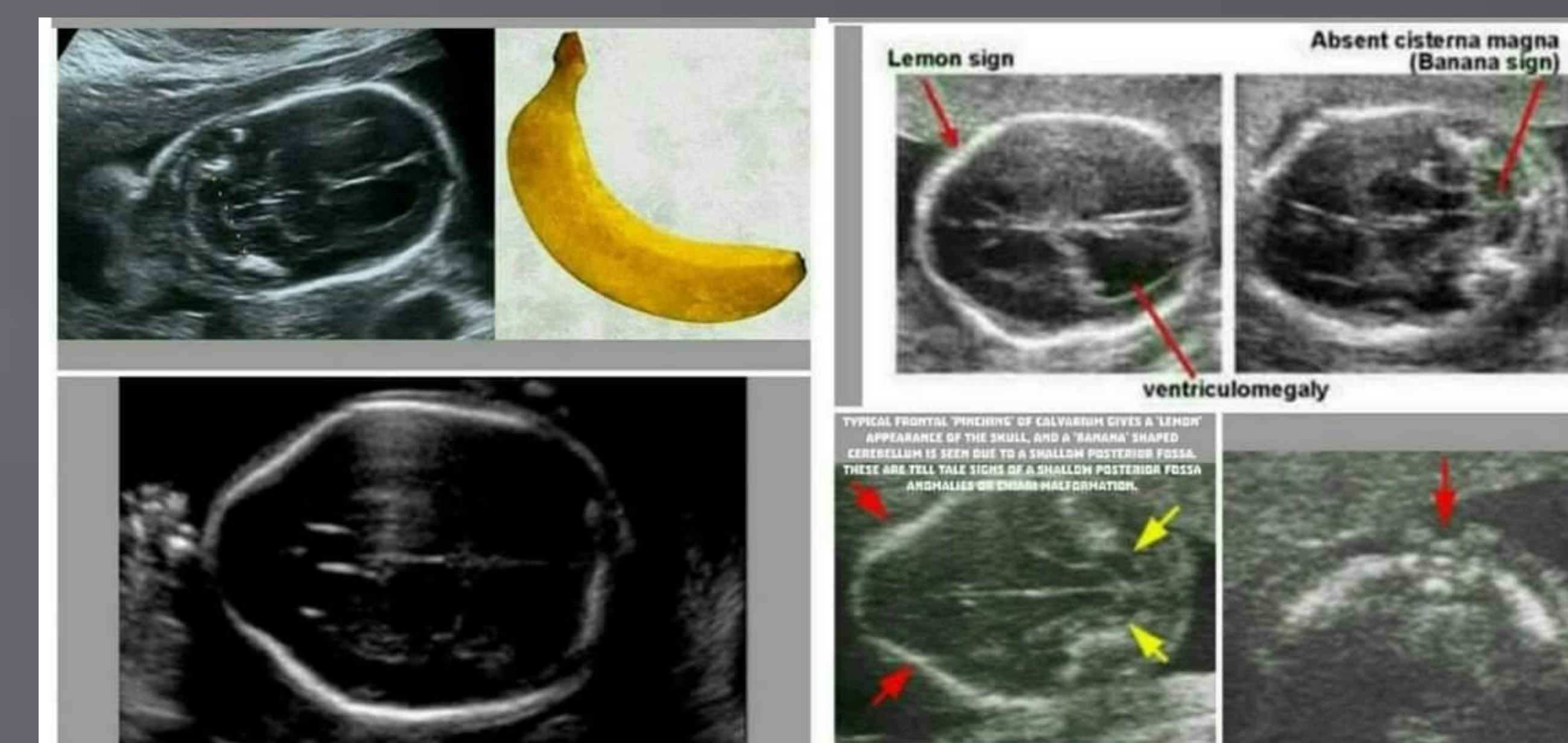
Diagnostic Medical Ultrasound Imaging during pregnancy was revolutionized by Dr. Kypros Nicolaides' contributions. Dr. Nicolaides, an expert in fetal medicine, is a lead pioneer in innovation, research, and education in the field of Diagnostic Medical Ultrasound in pregnancy. His contributions have changed the way the international obstetrics' community understand in utero fetal development and its abnormal findings. Dr. Nicolaides' research consists of more than 1400 scientific publications, many using ultrasound to detect unusual findings in fetal development during pregnancy. Some of his greatest achievements in ultrasound include: discovering the heads of babies with spina bifida have an abnormal shape; detection of chromosome abnormalities at 12 weeks gestation; and using ultrasound to measure Doppler Velocity in fetal brain development. Dr. Nicolaides studied biochemistry, physiology and medicine at King's College of medicine entering college at only 17 years old. He became Professor at King's College in 1992 and Director of Fetal Medicine at King's College in 1994. He is currently the Chairman of the Scientific Committee of the International Society of Ultrasound in Obstetrics and Gynecology. He is also the Founder and Chairman of the UK Charity, the Fetal Medicine Foundation, where Dr. Nicolaides has raised more than 60 million dollars to advance the training of doctors and sonographers world wide. Earlier in his career Dr. Nicolaides went from hospital to hospital in the United Kingdom training doctors and sonographers in Diagnostic Medical Ultrasound teaching simple indicators to detect fetal abnormalities during pregnancy. This led to the popularization of Diagnostic Medical Ultrasound in Pregnancy that we have grown accustomed to in today's world. He now trains the medical community in fetal medicine and diagnostics at yearly conferences and seminars and via the Fetal Medicine Foundation by offering internet based training. Dr. Nicolaides is considered a hero in his field. His genuine and caring character coupled with passion and expertise in fetal medicine have saved the lives of countless women and children internationally. Prior to Dr. Nicolaides' revolutionary advancements, Diagnostic Medical Ultrasound was undeveloped and the information that was available was inaccessible to most doctors and their patients.



"During a lecture, I'd seen my very first images of a baby moving in the womb. I couldn't sleep that night. It was the first time I truly realized that life doesn't begin at birth. And I wondered if it would be possible to examine and treat a fetus. At that moment, I knew what I wanted to do in life." Nicolaides Kypros

State of the Art Medical Sonography After Dr. Kypros Nicolaides' Life Contributions

The 'lemon' and 'banana' signs are simple and yet the most important ultrasonic signs in the detection of spina bifida. 1986



Ultrasound at 12 weeks gestation is performed for nuchal translucency. If there is a bit of black fluid behind the neck it is an abnormal scan. There is a greater risk for Down Syndrome and other birth defects. 1992



Close bond: Sherrie Sharp with Professor Kypros Nicolaides and Jason, also left in pregnancy scan

By Eleanor Hayward Health Reporter

WHEN Sherrie Sharp was still in her mother's womb, a young surgeon saved her life with a pioneering blood transfusion. "I was diagnosed later, they crossed paths again when the same specialist helped save Sherrie's son - in her womb - in an operation that has only just started being done in the UK."

Professor Kypros Nicolaides, the world's leading expert in fetal medicine, advised Mrs Sharp on the groundbreaking procedure after pregnancy scans revealed her baby had life-threatening spina bifida.

He led a team of doctors who operated on her using her blood when she was an 8-month pregnant.

Three small tumours were made in Mrs Sharp's abdomen, and a thin clear red and purple cord were inserted into her uterus. Doctors then repaired her baby's spine, and she gave birth to her son, Jason, in a major operation at King's College Hospital in London.

Now weeks later, baby Jason was born. He is now four weeks old and can kick his legs and wriggle around - movement made possible by the operation. Mrs Sharp, from Hoveham, West

Fetal Abnormalities Theory Course
DATE: 26-27th FEBRUARY 2022
Via Online ZOOM WEBINAR

All Faculty are accredited by IMU-UK, London



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