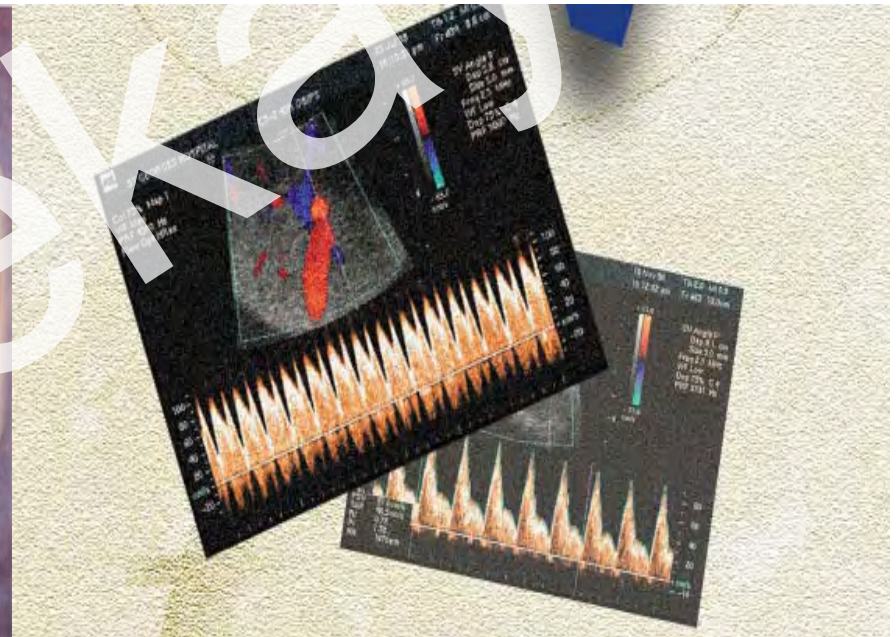
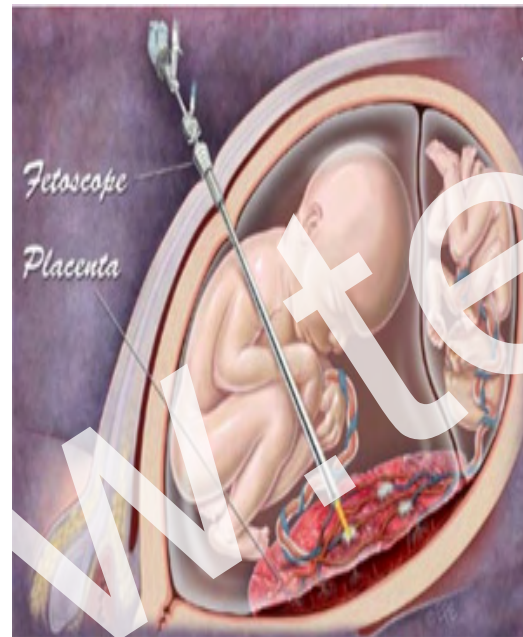


SITU

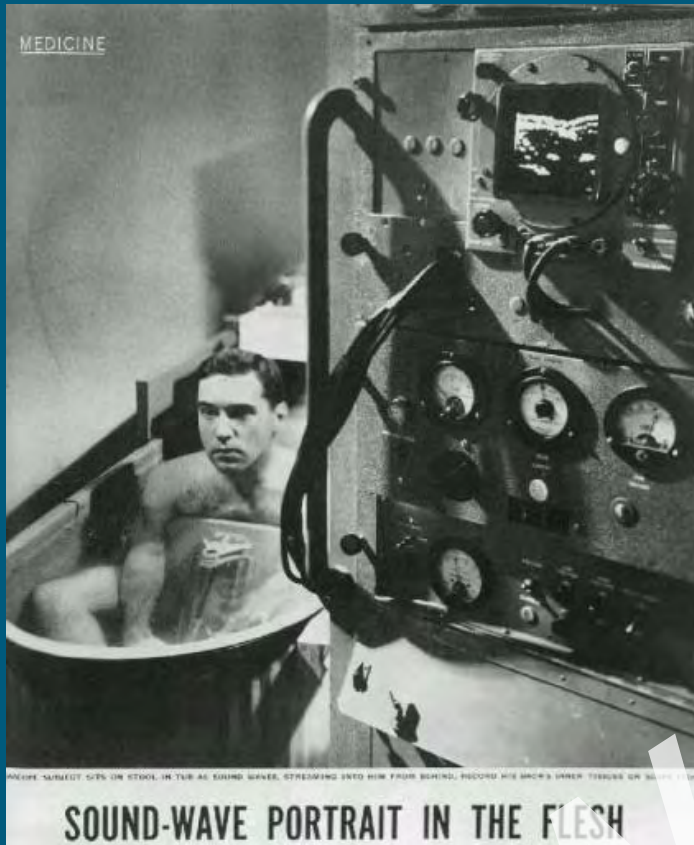
Synnytysten ja naistentautien
klinikka
OYS



Ultraäänitutkimus

A i k e e t

Aydin Tekay – 25.5.2012

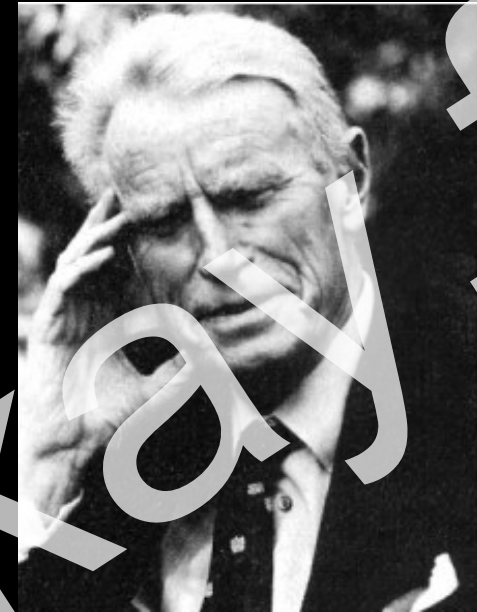
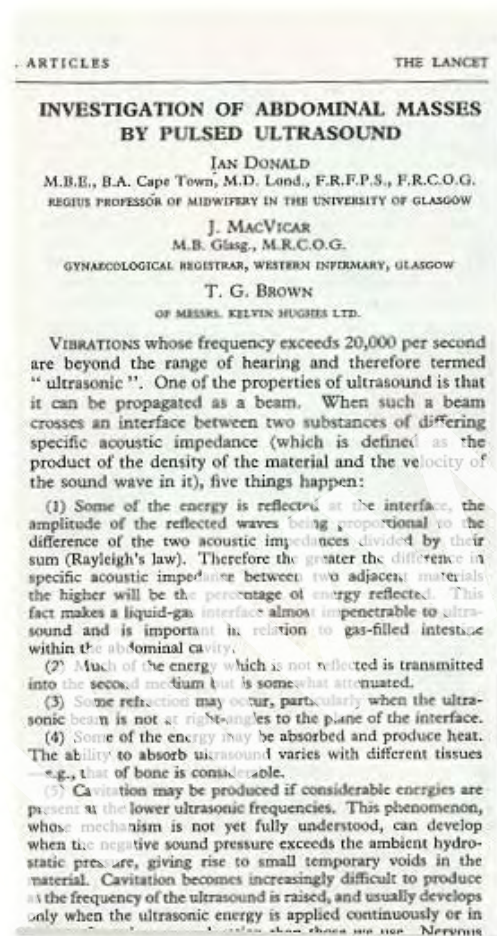


Historiikki

Ian Donald (1910 - 1987)

Investigation of abdominal masses by pulsed ultrasound

Lancet, 1958



A-mode, 1950

1950: A-mode (**A**mplitude)

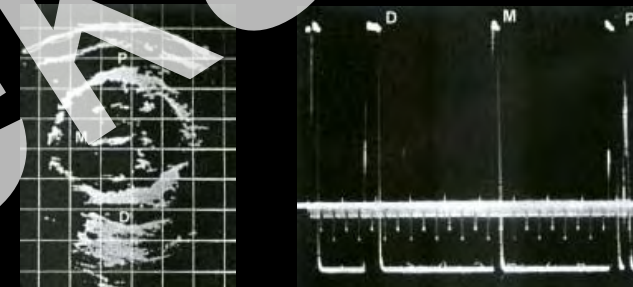
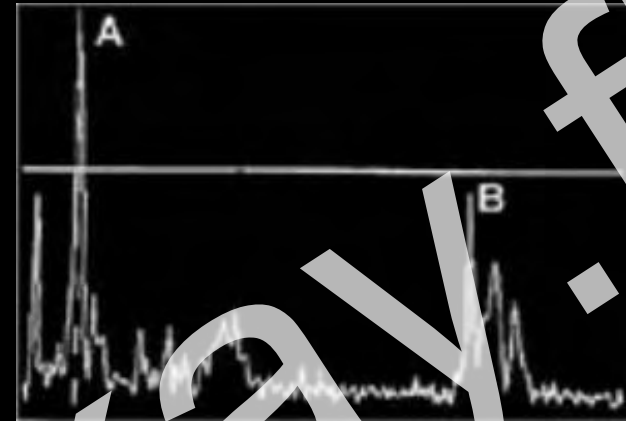
- Suunta?
- Heijastuspinta?
- Muoto

1966: B-mode (**B**rightness)

- amplitudi sävyinä
- suunta tiedossa
- muisti (kaikuominaisuudet)

1968: BPD-mittaukset

Stuart Campbell



Arvo Oksala (1957-1964)

OULU

1966 A-mode, *Kretztechnik*

1969 A+B Mode, *Combison*

1973 B, Siemens, *Vidoson*

Paavo Pystynen

Detection of turbidity in amniotic fluid by an ultrasonic technique

(Acta 1966)

Pekka Ylöstalo

- istukan paikka (Oulu 1966)
- sikiön syke vaginan kautta (1971)

Pentti Jouppila

- mola diagnoosi (Oulu 1968)
- alkuraskauden ongelmat

Pertti Kirkinen

- UV virtaus anemiassa (*Lancet*, 1981)

Turku (Piironen, *IUD*) 1972

Helsinki (Jääskeläinen, cx-CA) 1970s



Pekka Ylöstalo

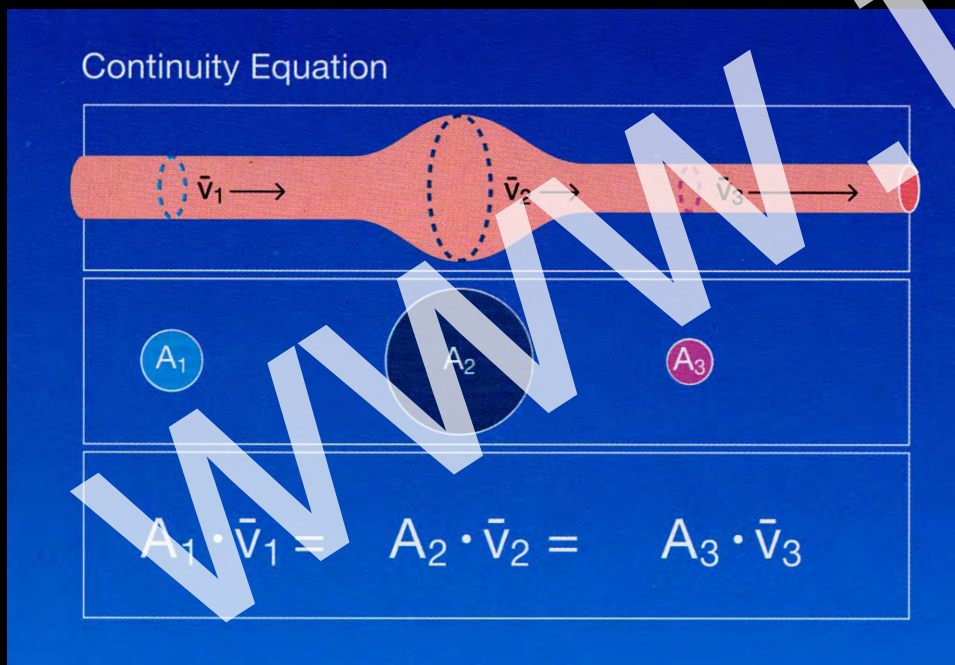
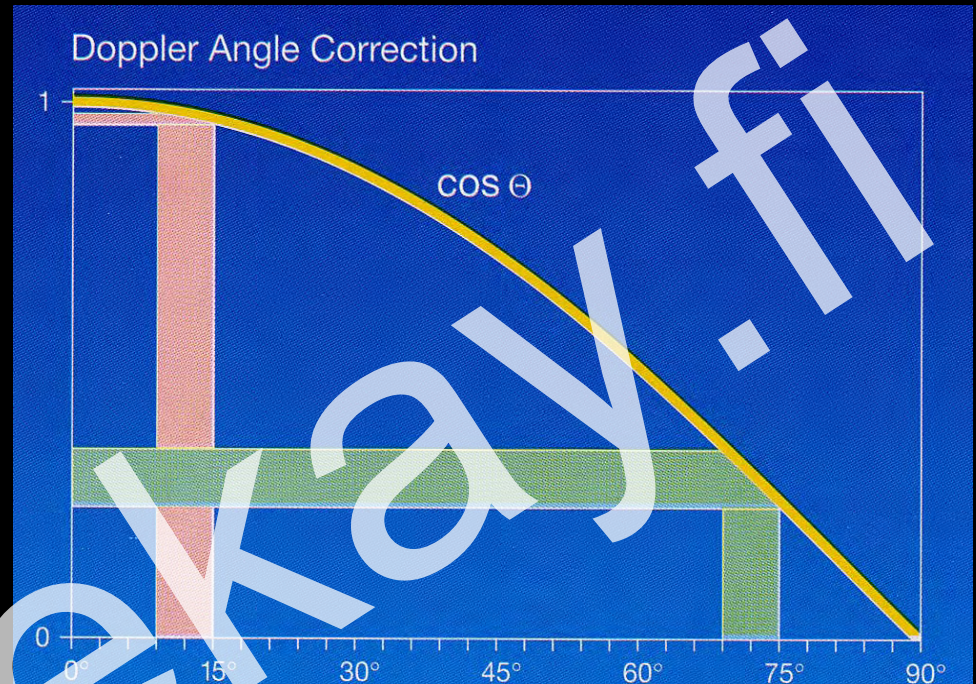
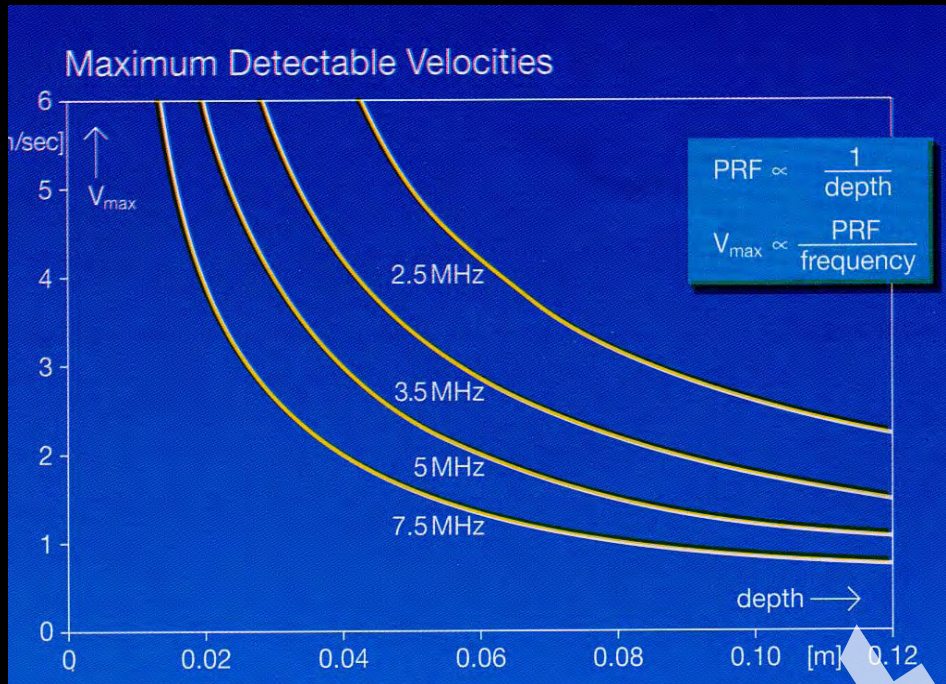


Pentti Jouppila



Pertti Kirkinen

METODI



$$Q = P/R \quad 1/R = \Pi \times r^4 / 8 \times \eta \times l$$

Diameter (cm)	PSV (cm/s)	Mean V (cm/s)
2.5	up to 100	up to 25
0.004-0.01	1...2	up to 1
0.0003-.0008	0.02...0.05	up to 0.05



Vinkkejä



KOKO

www.lekay.fi

Routine
Har-mid
Pwr 100 G
Gn -1
C7 / M7
P3 / E2
SRI II 3

BPD

A BPD 52.6mm
A GA 22w0d >98.0%

Routine
Har-mid
Pwr 100 Q
Gn -1
C7 / M7
P3 / E2
SRI II 3

E8

BPD

A BPD 52.5mm
A GA 22w0d >98.0%

FOCUS

www.lekay.fi





Cardiac
Har-high
Pwr 92 %
Gn 15
C8 / M7
P2 / E2
SRL 1/3

FRAME RATE
(resolution)

Voluson



RAB4-8-D/OB

MI 1.2

OYS

15.4cm / 1.1 / 29Hz

Tls 0.1

24.05.2012

12:17:57

Routine
Har-mid
Pwr 100 dB
Gn 4
C7 / M7
P3 / E2
SRI II 3



Routine
Har-mid
Pwr 100 B
Gn 4
C7 / M7
P3 / E2
SRI II 3

www.tekay.fi

Routine
Har-mid
Pwr 100 G
Gn 4
C7 / M7
P3 / E2
SRI II 3



www.tekay.fi

Routine
Har-mid
Pwr 100 G
Gn 4
C7 / M7
P3 / E2
SRI II 3

www.tekay.fi

Routine
Har-mid
Pwr 100 dB
Gn 4
C7 / M7
P3 / E2
SRI II 3

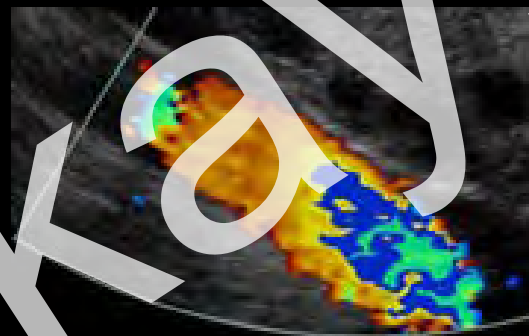
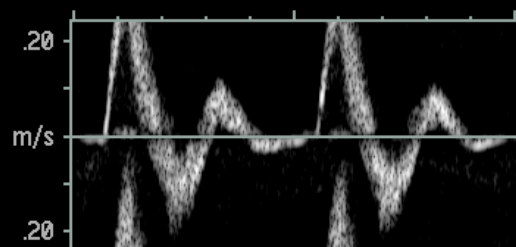
www.tekay.fi



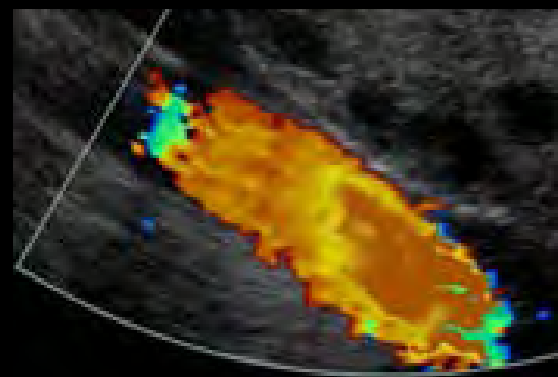
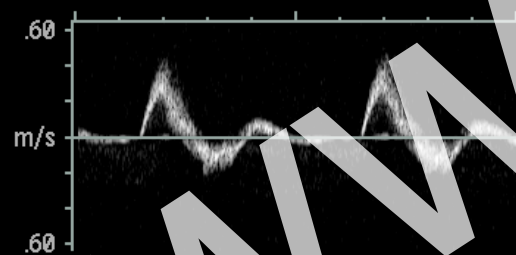
Dopplerista....



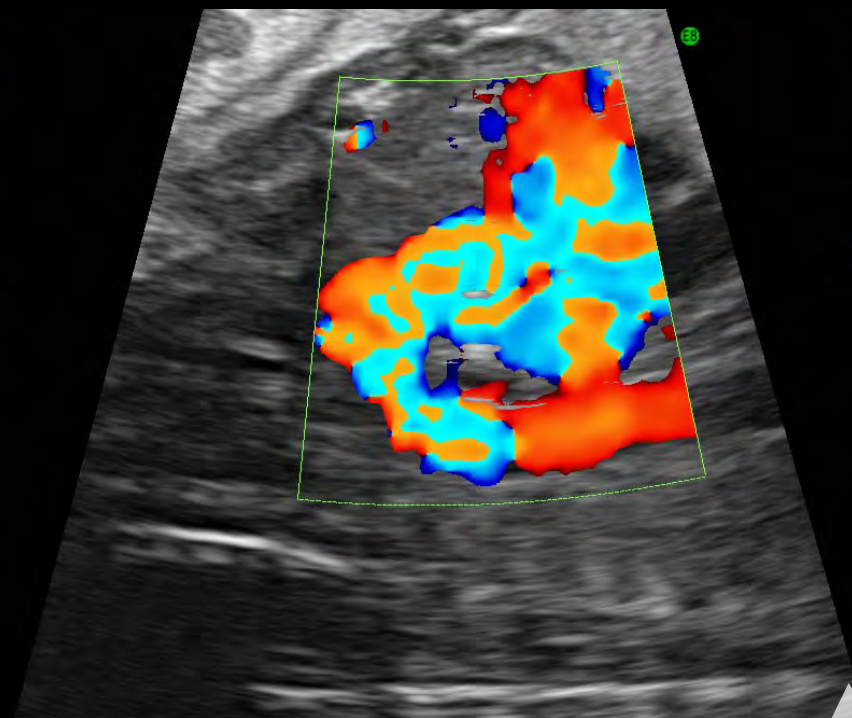
A



B



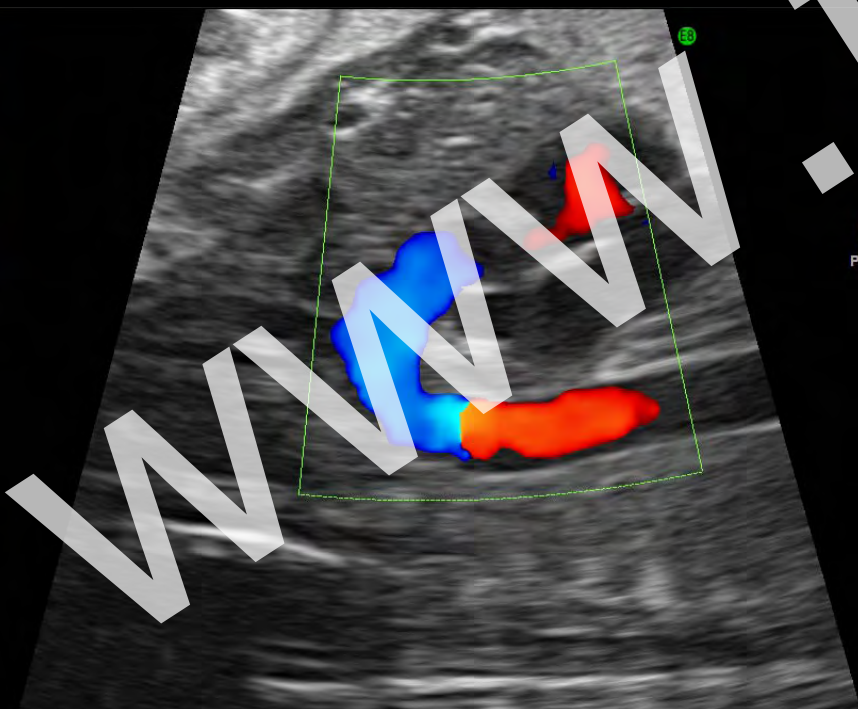
10cm/s
10cm/s



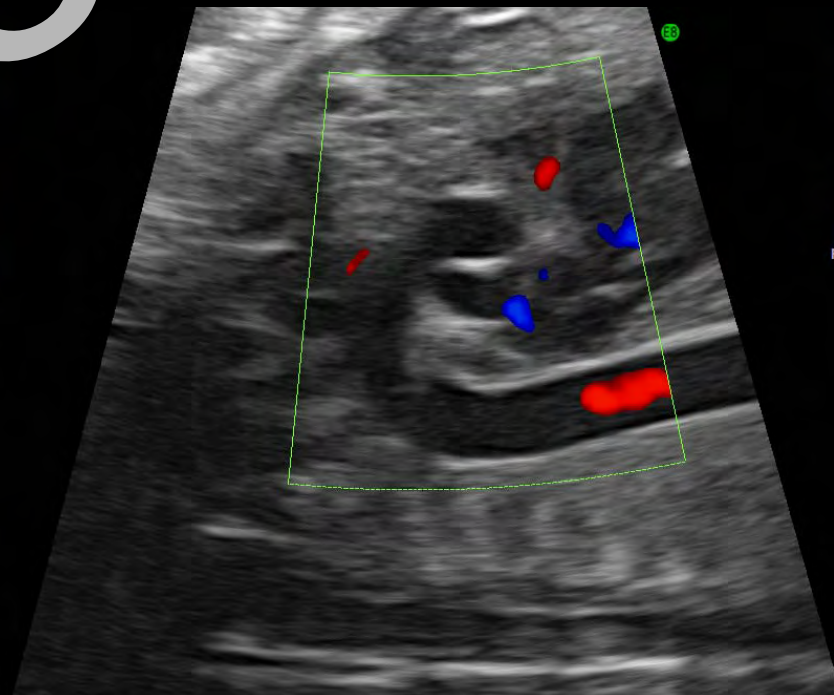
10cm/s
-10cm/s



67cm/s
-67cm/s



67cm/s
-67cm/s



67cm/s
-67cm/s



: 160573-086Y

Dept. OB/Gyn., University of Oulu

10 May 02

8:31:49 am

4V2

12Hz

H4.0MHz

312mm

OBSTETRICS

Fast Flow

Pwr = -4dB

Mlcd = 1.3

TIS = 0.4

T1/-1/1/1/2

2/1

CD: 3.5MHz

CD Gain = 48

S1

.69



.69



CDE/CDV

CD Pan

CD Pos/Size

