

Breach of duty in Birth Injury

Speakers:



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CNZ v (1) Royal Bath Hospitals NHS Foundation Trust (2) Secretary of State for Health and Social Care [2023] EWHC 19 (KB)

- Twin delivery in 1996
- First twin delivered vaginally, second twin did not. Delay in carrying out the CS, C suffered HII and CP
- Duration of HI was 14 – 18 minutes
- Delivery was at 01.03:
 - 3 minutes of HI post-birth
 - Timing of onset was approximately 00.48
 - Delivery should have been by 00.55 - 00.58 i.e. 5-8 minutes earlier than it was.

The points of interest

1. Documentary/contemporaneous evidence
2. *Montgomery*
3. Causation

Documentary/contemporaneous evidence

- 1996: parents' recollections vs medical notes and “usual practice” evidence
- Additional evidence:
 - Video of the labour
 - Parental account of what occurred, written two months post-birth
- Ritchie J relied very heavily on those two documents

Montgomery – how retrospective is too retrospective?

- Montgomery itself: decision in 2015, treatment in 1999
- Rationale was the shift from paternalism to personal autonomism
- Ritchie J was troubled by its retrospective effect on an era when attitudes were different

Para 264 of *CNZ*:

- This decision clarified in arrears the requirements in law for clinicians when they are consenting patients. It applied to the 1999 events in the case, but how far back can this decision be taken? I doubt it can be taken as far back as the 1950s or 1960s. I make no decision on those decades. I wonder if it could be applied to clinical practice in the 1980s. Again I make no decision on that question. As for the 1990s, taking into account the rationale expressed for the movement from paternalism to patient choice there may be a tipping point at which the growth of the internet (Berners-Lee released his system in 1993), the changes in societal values and GMC guidelines and the passing of the Human Rights Act 1998 and other legislation came together to generate the change from paternalism to patient choice. So does Montgomery apply to the facts of this case in February 1996, two years before the passing of the Human Rights Act 1998 and before the internet had really developed much? I admit that I am troubled by this. I consider that it probably does. I have considered whether a watered down form of the ruling would have applied or whether a tapered growth of the Montgomery duty to consent properly could be the correct approach in 1996 but I do not consider I am permitted to do so as a Court of first instance without an indication for such in the Supreme Court's judgment.

Standards of the day vs duty to consent

- Origin of this concern was the evidence of both expert obstetricians
- Practice in 1996 was not to offer ECS to mothers of healthy multiples who had had previous VD's and whose twins were cephalic but was only to discuss it if the mother requested it. Then it would only be allowed if the mother insisted on it.
- Experts agreed that this practice was not compatible with the duty as exemplified in Montgomery but neither of them would have offered mother ECS

Consent (Montgomery) or medical (Bolam)?

- *McCulloch v Forth Valley* [2021] CSIH 21

“Montgomery imposes an obligation on the Doctor to discuss the risks associated with a recommended course of treatment and to disclose and discuss reasonable alternatives. **It does not go so far as to impose upon the Doctor an obligation to disclose and discuss alternatives that he or she does not, in the exercise of professional judgement, regard as reasonable.** If the Doctor is wrong either about the risks of the recommended course or about the reasonableness of any alternative, then he or she might be liable for any consequent loss or injury, but that would be decided by application of the *Hunter v Hanley* test.”

Para [265] of CNZ

Conclusion on that issue

- J found that, antenatally, CS was a reasonable treatment option [286] on the basis that the obstetricians would have agreed to it if mother had insisted.
- Then found that it was discussed but she was appropriately and reasonably counselled against it [287] – no BOD
- But during labour the dr should have offered them CS or VD with ARM and explained the risks/benefits – Montgomery applied. Then should have acceded to parents' request for CS.

Some thoughts

- When, in this era, can it ever be said that ECS is not a reasonable option for MOD? Expert may be able to say when, if ever, ECS is positively contraindicated.
- Therefore ECS should, prima facie, always be discussed as a reasonable option pursuant to Montgomery - regardless of the standards of the day
- The standards of the day will no doubt inform the counselling that ensues depending on state of knowledge
- Until the SC says otherwise, assume Montgomery applies retrospectively regardless of date of treatment

Causation

- 14-18 minutes, midpoint 16 minutes
- First 10 minutes are non-damaging
- 4-8 minutes of damaging hypoxia, midpoint of 6 minutes
- Finding of fact that C should have been delivered 5-8 minutes earlier i.e. midpoint of 6.5
- Duration of insult would have been under 10 minutes = non damaging
- The BODs were causative of the entirety of C's brain injury – every minute (from 10+) of hypoxia caused damage = but for causation was made out

The alternative case

- But what if the finding had been that she should have been born 2 minutes earlier?
- 10 minutes non-damaging, 4 minutes non-negligent, 2 minutes negligent
- Each minute increased the disability
- So for the purposes of assessing quantum, what would her outcome have been in the absence of the negligent period of hypoxia?
- Principle is that D should only be liable for its share in the damage unless science cannot say what that is

Paras 332 - 383

- If C would have suffered brain damage in any event, only fair that D should be liable for the part it caused
- But for causation
- Material contribution where scientific gap leads to impossibility of satisfying but for test
- Multiple possible causative factors
- Indivisible or trigger injury cases
- Divisible and dose-related cases
- Impossibility of proof rather than difficulty of proof

The conclusion on the facts of this case

- D argued that there should be an apportionment
- None of the experts could advise on C's likely level of functioning had she suffered 1 or 3 minutes less hypoxia
- This was not an indivisible injury because it is dose-dependent i.e. the longer the period of hypoxia, the greater the brain damage. Functional outcome however may be indivisible.
- If there is a scientific gap making proof of causation of functional outcome and therefore quantification impossible (not difficult) C will recover 100% if the breach made a MC to the reduced functional outcome
- In this case such proof was impossible and C was entitled to recover 100%

Some thoughts

- This part of the judgment is obiter as but for causation was made out on the factual findings of hypothetical timings
- May still be useful as a general rule in CP cases
- May be an area of developing research – see Rosenbloom's aliquot theory
- Will be important in cases where there is more than one potential or actual cause of a baby's brain injury

Thank you

- Feedback forms
- Webinar available on the website
- Next sem/webinar (hybrid) is on 9 March
- Causation in birth injuries:
 - Kevin Ives – Consultant Neonatologist
 - John-Paul Swoboda and Thea Wilson

Birth Asphyxia

Gerald Mason

Consultant in Feto Maternal Medicine

Aim

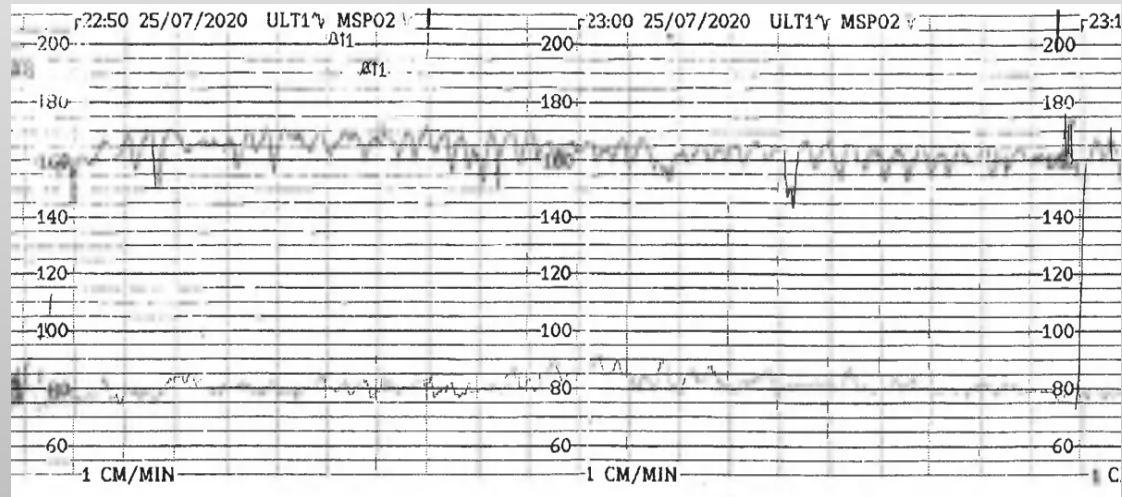
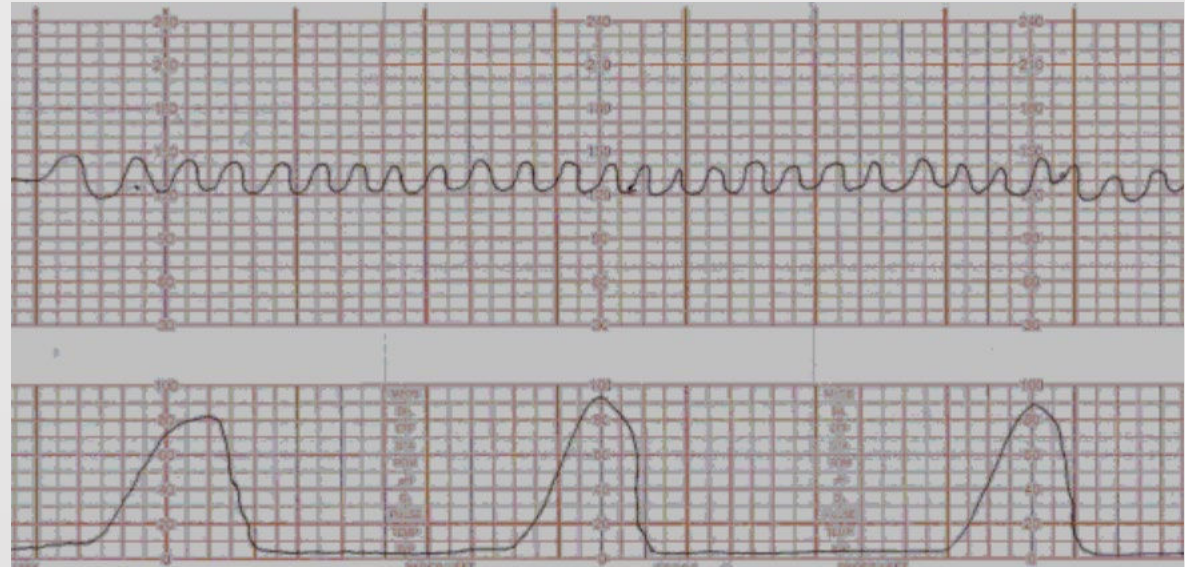
- Why babies die
- 2 specific potential causes of birth asphyxia
- Placental failure

Why do babies die?

- Miscarriage
- Preterm delivery
- Genetic anomalies
- Maternal disease – diabetes / cardiac / lupus
- Acute complications in labour
- Placental failure
- Feto maternal haemorrhage

FMH

- Common
- Why does it occur
- What is a severe FMH
- Timing
- Presentation
- Possible outcomes

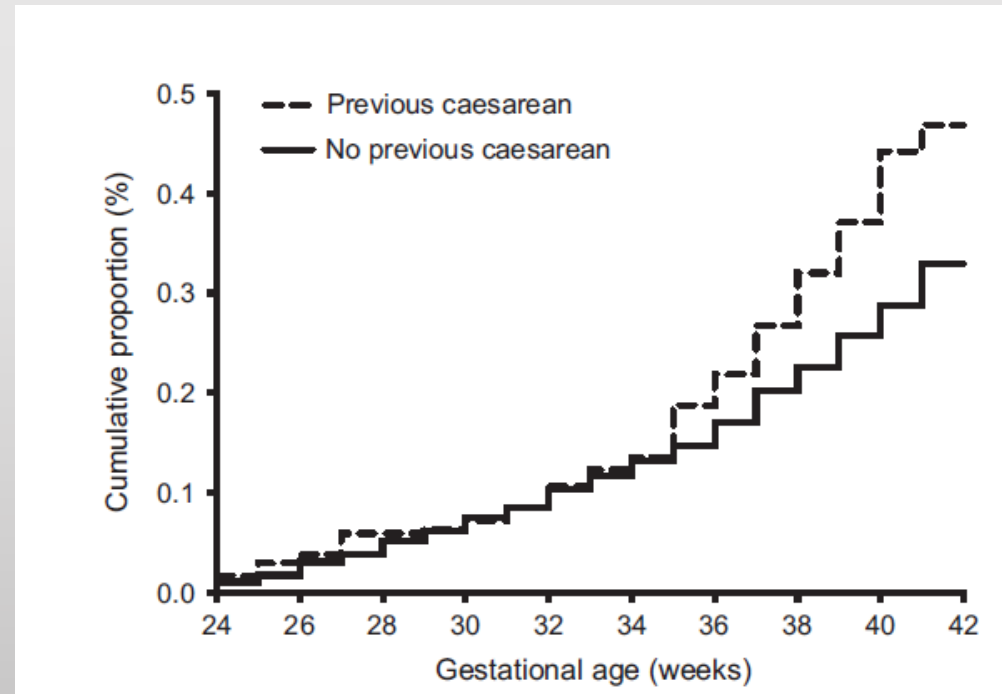


Acute complications in labour

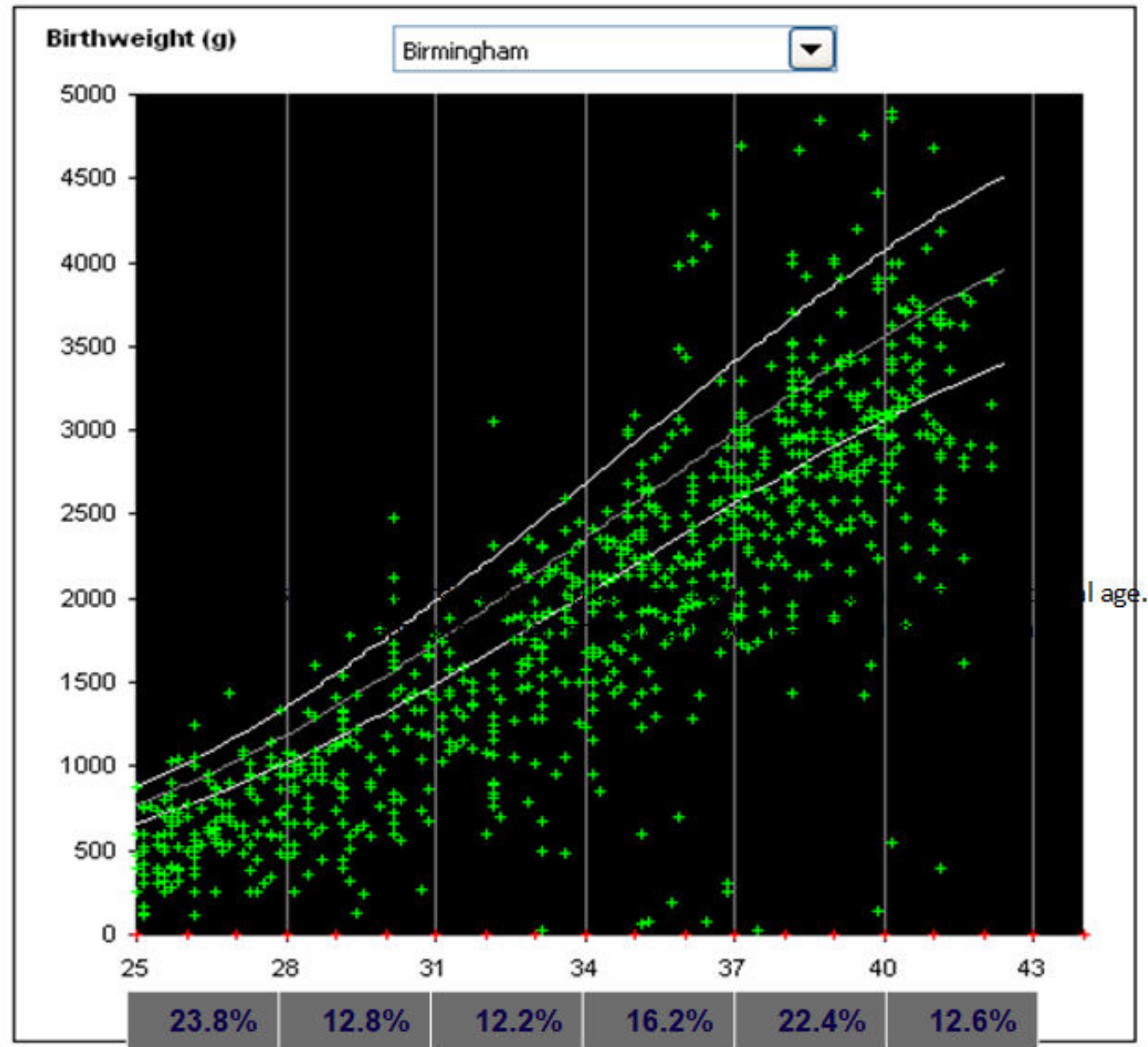
- Cord accidents
 - Prolapse
 - Compression
- Uterine rupture
- Placental abruption
- Hyper stimulation
- Shoulder dystocia

Factors which influence risk of stillbirth

- Obesity
 - BMI <25 OR 1
 - 25-30 OR 1.2
 - 30-35 OR 1.6
 - 40+ OR 2
- Increasing age
- First pregnancy
- Previous CS
- Smoking
- Maternal disease
 - Diabetes
 - Hypertension
- Abruption



Stillbirths - weight distribution



For the majority of women
pregnancy will result in a healthy
baby and a healthy mother

Placental failure

One of the primary aims of antenatal care is to identify placental failure and deliver before the fetus becomes compromised

Definitions

- SGA – small for gestational age
 - $< 10^{\text{th}}$ centile
 - Severe SGA $< 3^{\text{rd}}$ centile
- Growth restriction
 - The fetus which fails to reach its true growth potential

Optimum size to be born

Birthweight centile	Perinatal death/1000 births	Adjusted odds ratio	<i>P</i> -value
<1st	17.8	15.61	<0.001
1st to 3rd	6.2	5.51	<0.001
3rd to 5th	4.6	4.13	<0.001
5th to 10th	3.5	3.11	<0.001
10th to 25th	2.3	2.1	<0.001
25th to 50th	1.7	1.58	<0.001
5th to 75th	1.1	1.06	0.655
75th to 90th	1.1	1.00	Reference
90th to 95th	1.3	1.28	0.193
95th to 97th	1.4	1.33	0.263
97th to 99th	1.2	1.15	0.615
>99th	3.0	2.79	<0.001

Growth restriction – Early and Late

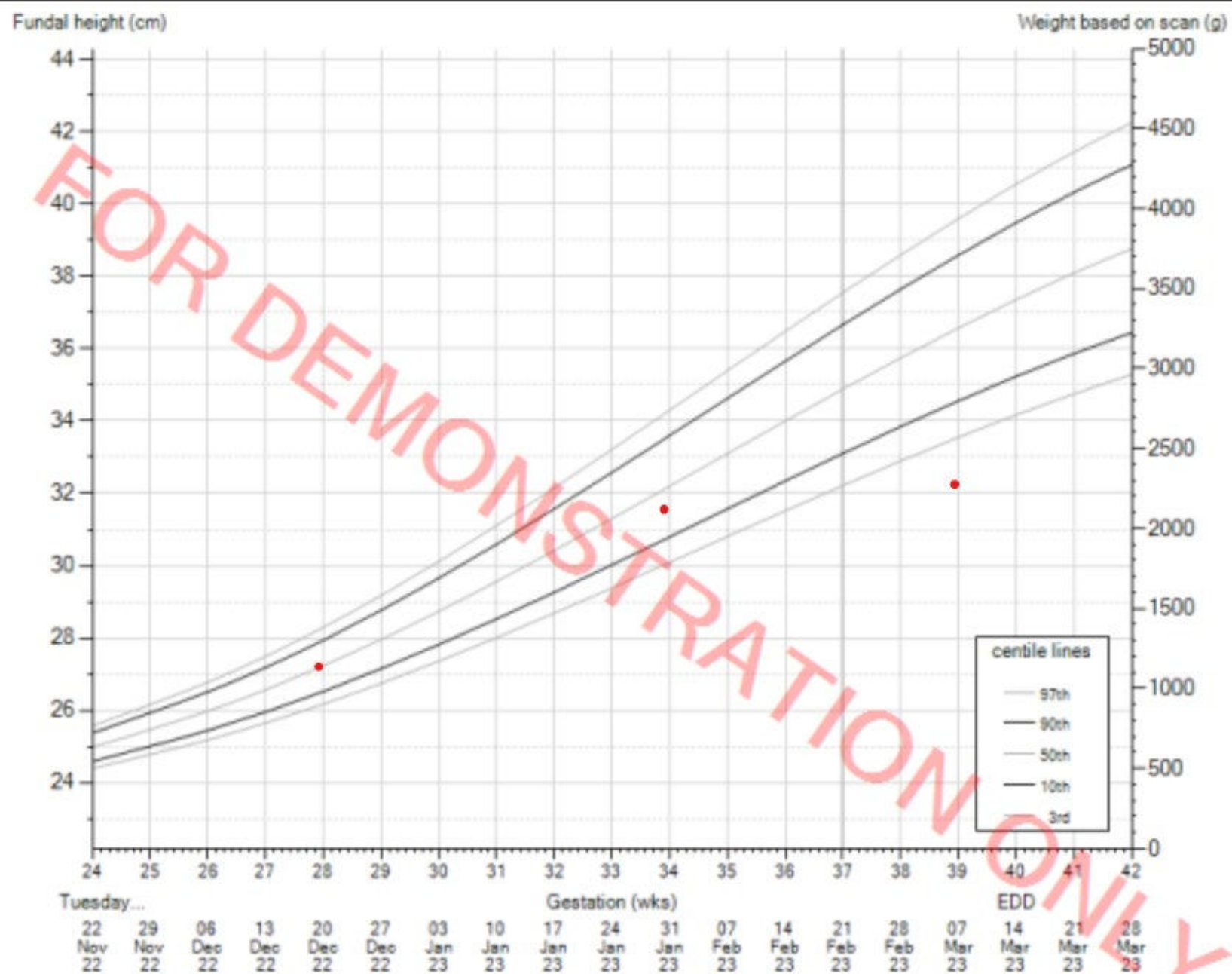
- Arbitrary cut off of 34 weeks
- Early – primarily a problem of placentation
- Late – primarily a problem with diffusion

Early onset growth restriction

- Failure of placenta to adequately invade the uterine wall and to remodel the maternal spiral arteries
- Net result poor blood supply to the fetus
 - Increased resistance in uterine arteries – Abnormal Doppler
 - Early onset growth failure / pre eclampsia
 - Obstetrician role is to assess balance between early delivery and risk of stillbirth

Late onset growth restriction

- Numerically a much larger problem
- We are bad at detecting the small baby
- SFH measurements – detection rates disappointing 17 -27%
- SFH measurement charts
- Customised charts



Placental function

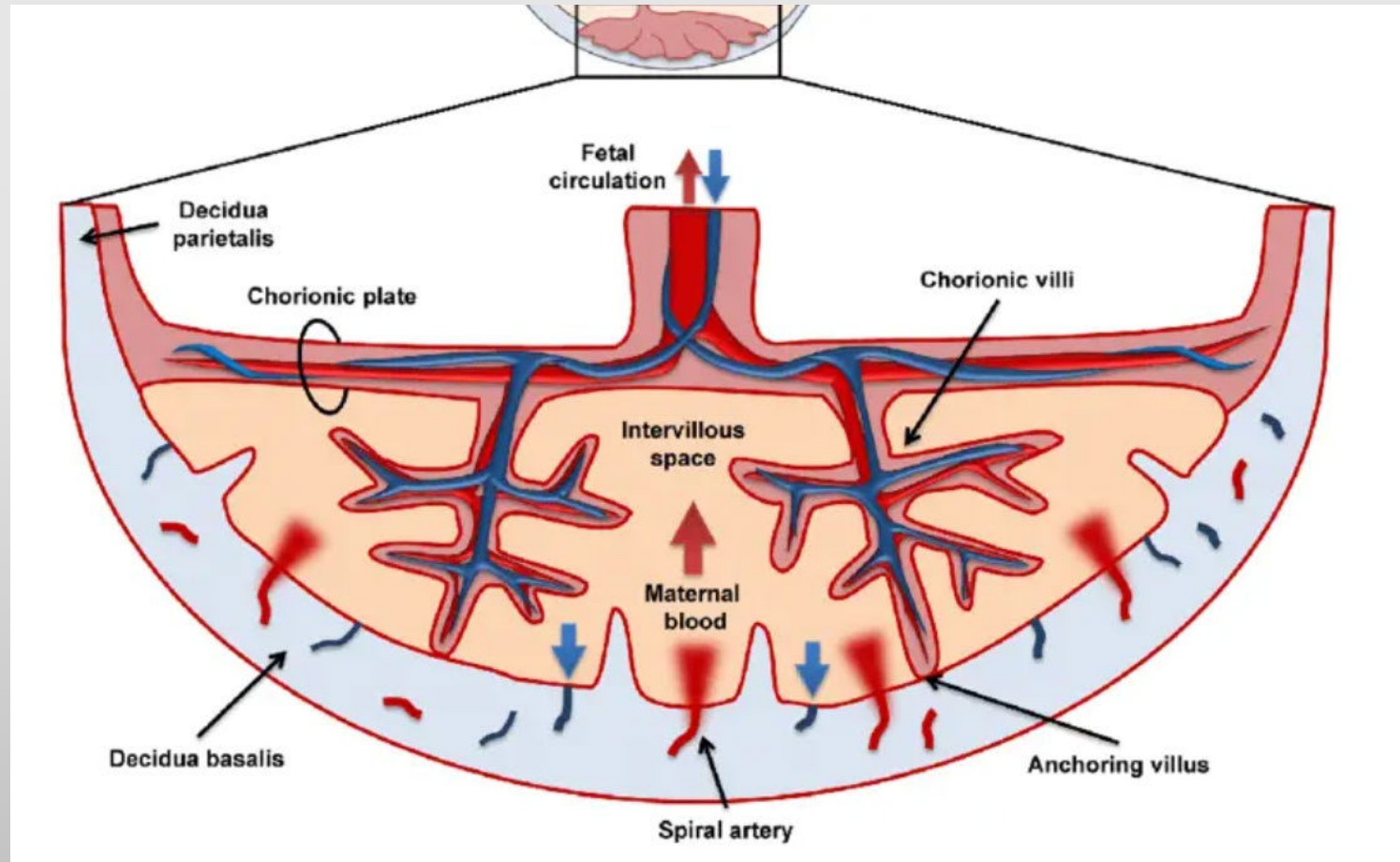


TABLE 4

Common underlying placental causes of specific adverse outcomes

Preterm fetal death

Global/partial maternal vascular malperfusion (accelerated maturation), global/partial fetal vascular malperfusion (UC accident), abruptio placenta

Spontaneous preterm birth

Acute chorioamnionitis, marginal abruption, mild global/partial maternal malperfusion (accelerated maturation)

Fetal growth restriction/indicated preterm birth

Global/partial maternal malperfusion (accelerated maturation), chronic villitis (VUE), complete/segmental fetal vascular malperfusion (fetal thrombotic vasculopathy), fetal stromal-vascular developmental lesions

Term fetal death

Abruptio placenta, global/partial fetal vascular malperfusion (UC accident), fetomaternal hemorrhage, delayed villous maturation

CNS injury at term

Complete/segmental fetal vascular malperfusion (fetal thrombotic vasculopathy), global/partial fetal vascular malperfusion (UC accident), chronic villitis (VUE) with obliterative fetal vasculopathy, acute chorioamnionitis with severe fetal cellular inflammatory response, multiple placental lesions

UC, umbilical cord; VUE, villitis of unknown etiology.

Redline. Classification of placental lesions. *Am J Obstet Gynecol* 2015.

Placental histology is important

- VUE (villitis of unknown aetiology)
- Graft versus Host reaction
- Increased risk in obese women
- 25-50% recurrence risk.

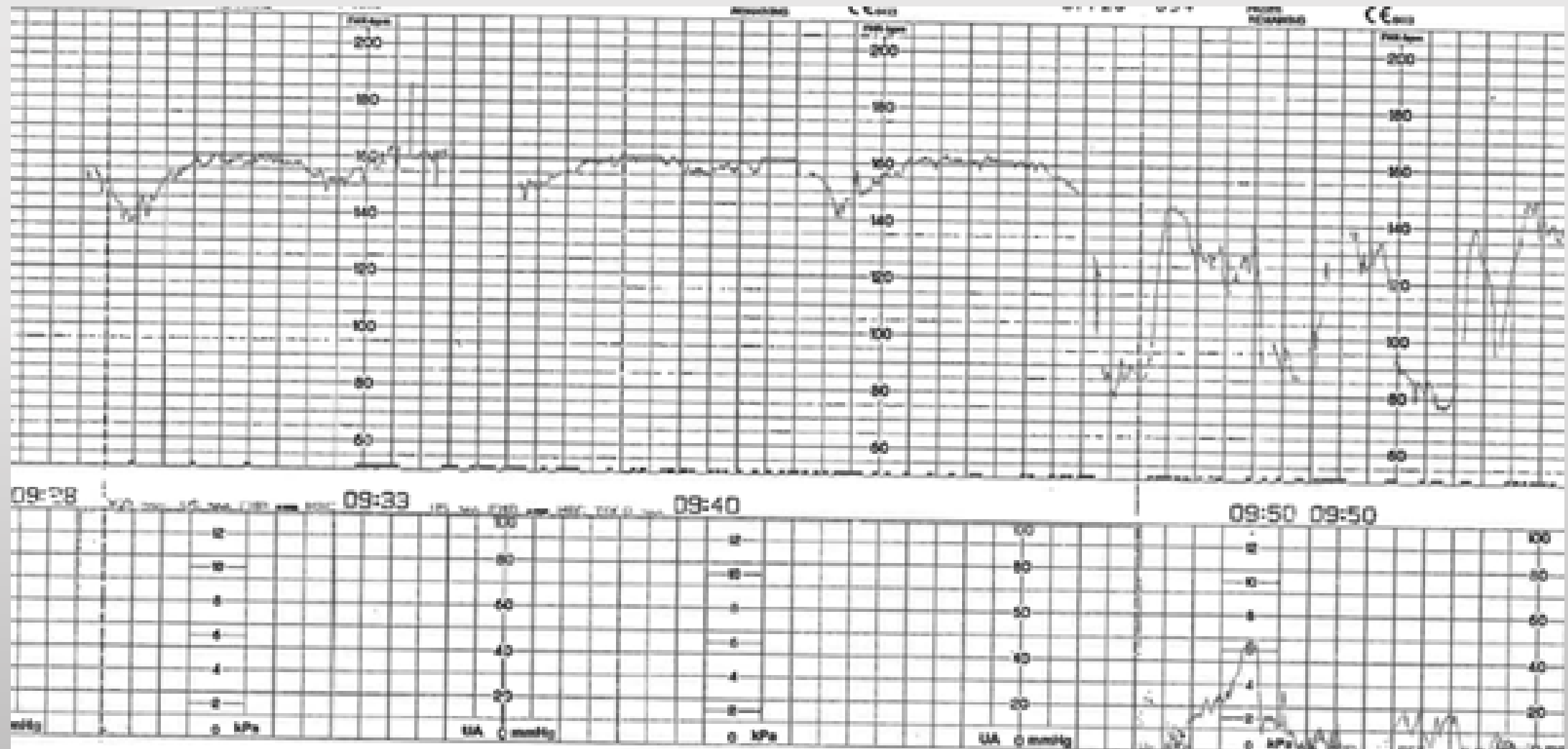
Labour is potentially dangerous

- During a contraction there is a fall in uteroplacental perfusion
 - As a result the fetus switches from aerobic to anaerobic respiration
 - Anaerobic respiration inefficient and causes a very small fall in pH.
 - After contraction switches back and in the normal situation pH returns to normal.
-
- Not a problem unless
 - Contractions are too frequent
 - Placental function is compromised
 - There is additional problems like cord compression.

Placental failure

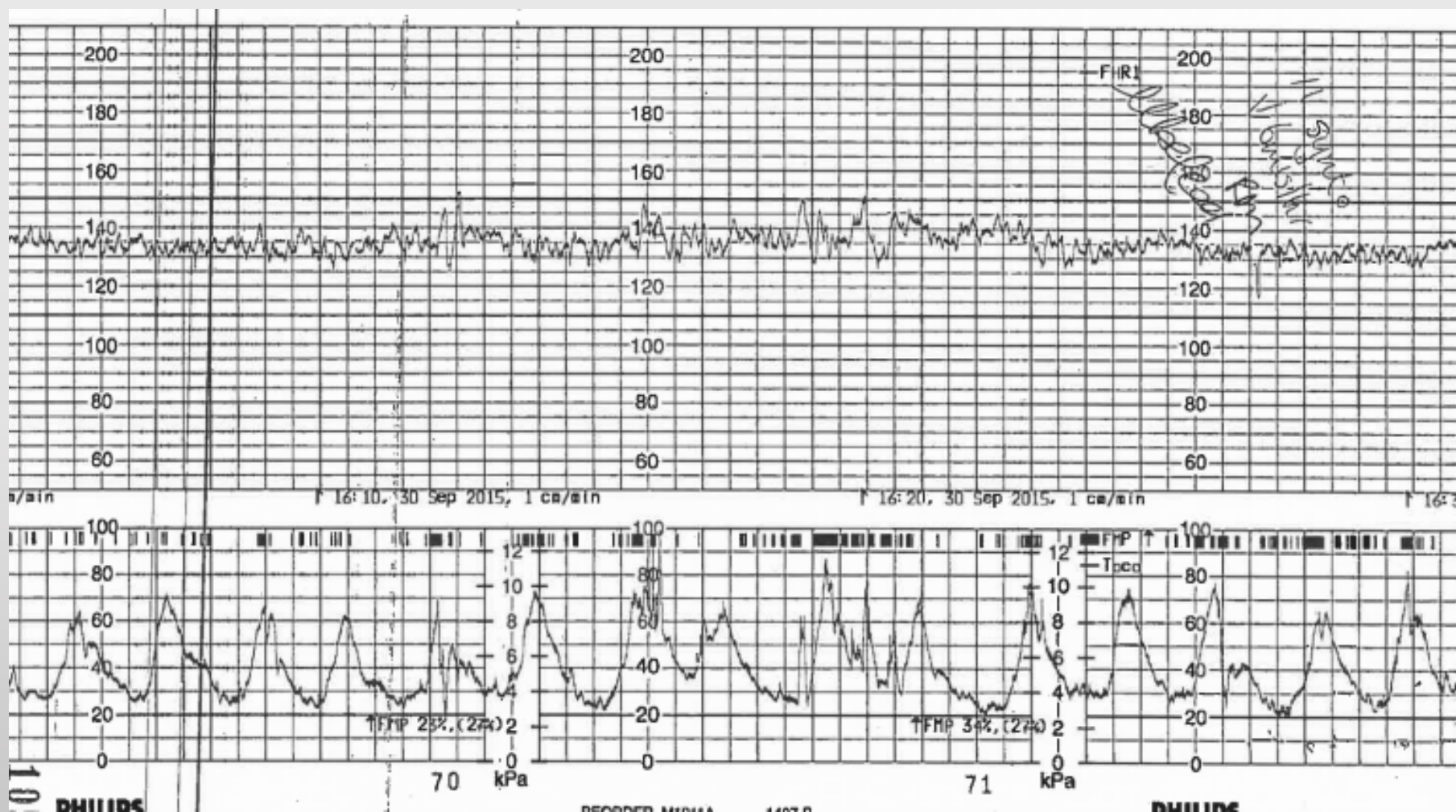
- The fetus might enter labour in an already mildly acidotic and any uterine activity will cause further compromise

CTG

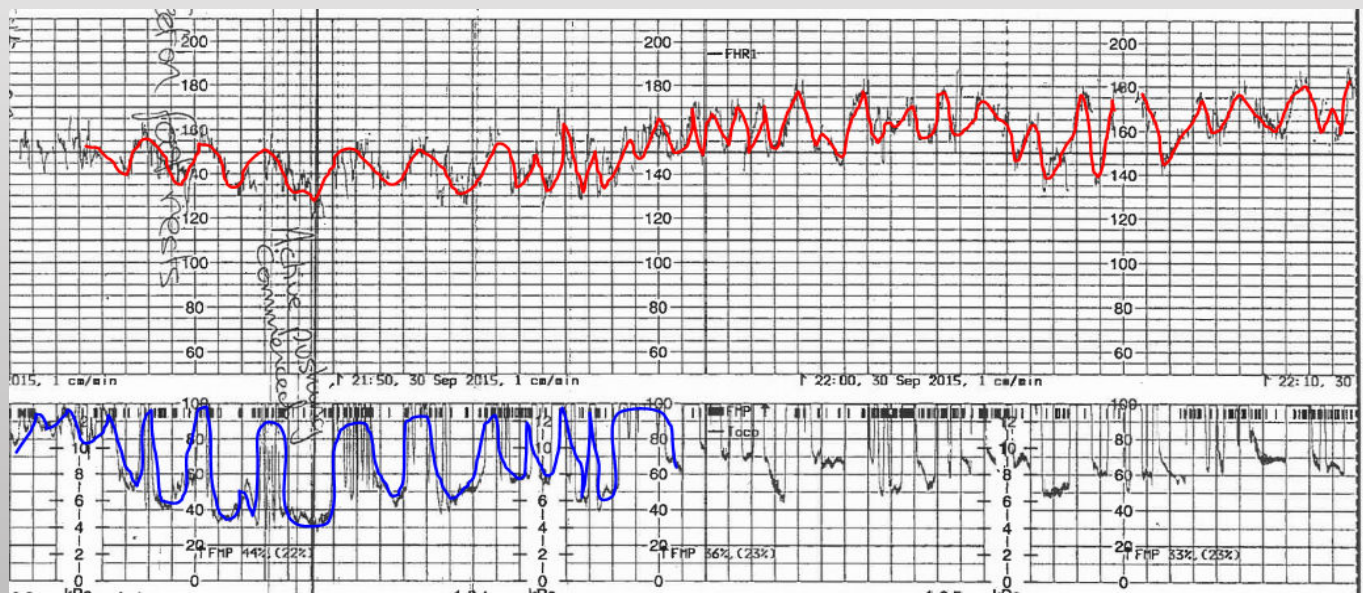
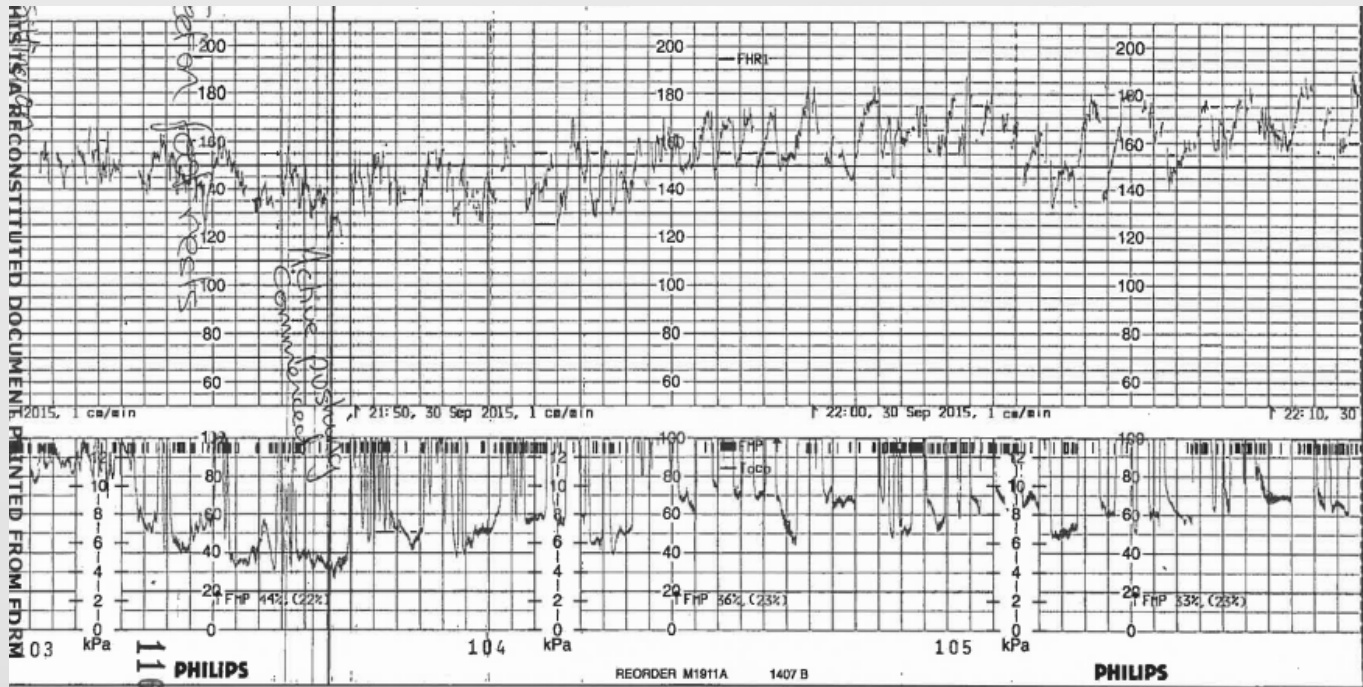


Hyper-stimulation

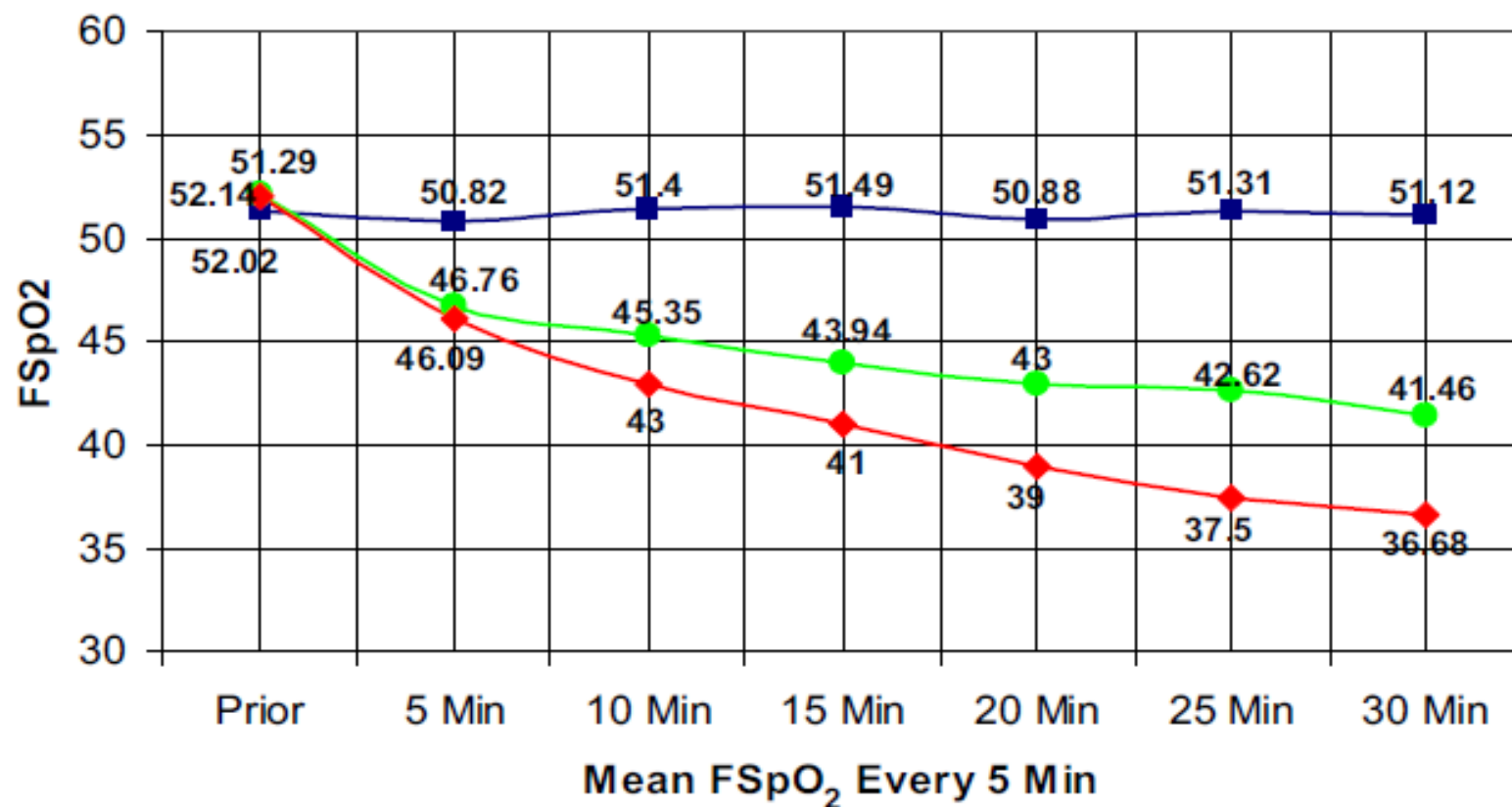
- Contraction frequency of $> 5:10$
- Time between contractions important need 60 seconds of relaxation



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FIGURE

Effects of uterine hyperstimulation on FSpO₂**Effects of Uterine Hyperstimulation of FSpO₂ Over 30 Min**

Blue squares indicate less than 5 contractions in 10 minutes; *green circles* indicate 5 or more but less than 6 contractions in 10 minutes; *red diamonds* indicate 6 or more contractions in 10 minutes. Fetal oxygen saturation mean values are plotted every 5 minutes over the course of 30 minutes.

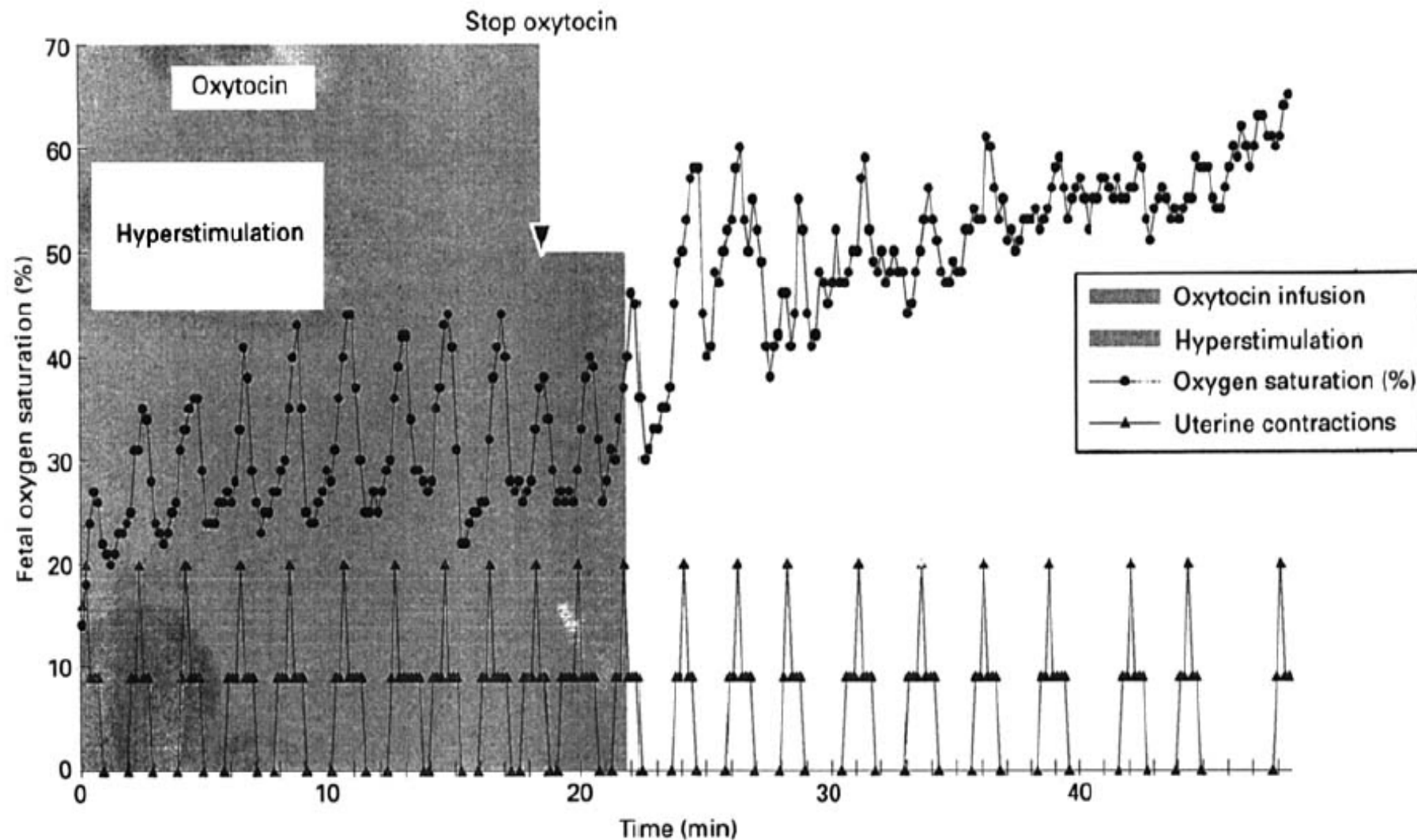


Fig. 1. An example of uterine hyperstimulation. The peak of a contraction is illustrated by the arrow. The calculated oximetry reading is checked with previous data before it is deemed acceptable, and there may be up to a 15-second delay in the plotted oximetry reading.

Oxytocin is a dangerous drug when used incorrectly.

- Widely used where labour going slow
- Cochrane – Randomised trials of oxytocin v placebo for slow labour
- No difference in outcome CS / forceps / maternal or fetal outcomes
- Labour 2 hours shorter
- More hyper stimulation in oxytocin group
- Easy to correct
- Stop / decrease oxytocin
- Uterine relaxant – terbutaline

In conclusion

- Pregnancy and delivery is potentially hazardous.
- A healthy risk free mother with an appropriately grown baby should have no concern
- We do badly at identifying the growth restricted baby in the low risk population
- We continue to make the same mistakes when interpreting a CTG

Thank you