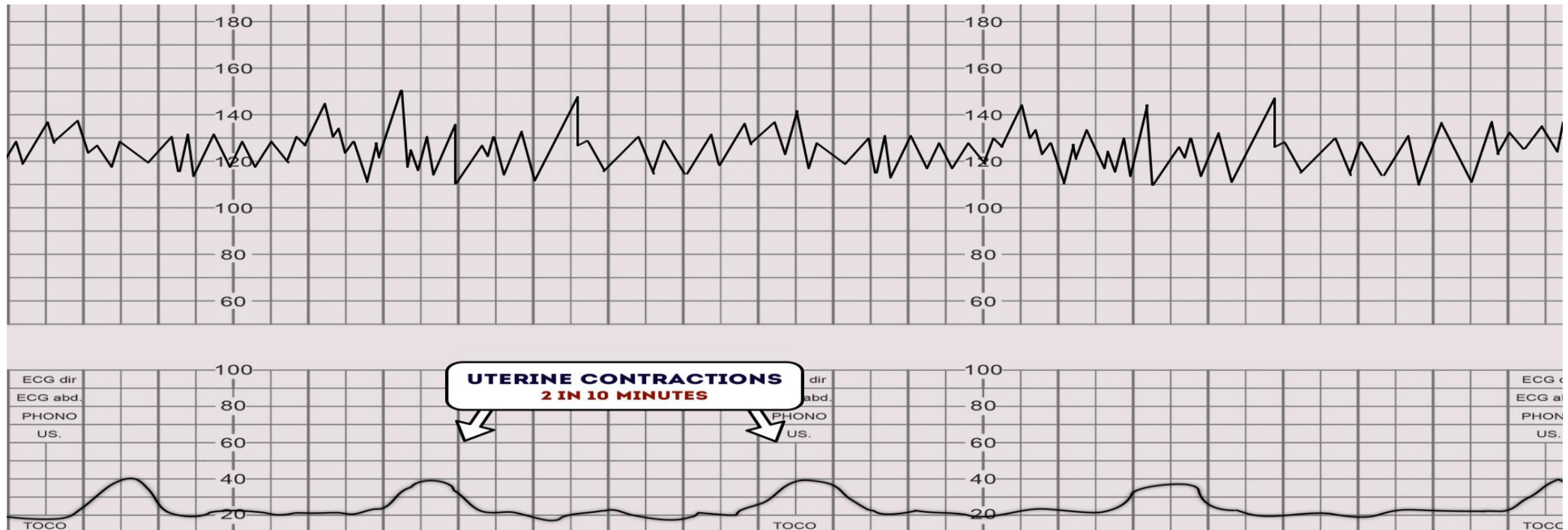


CTG Examples

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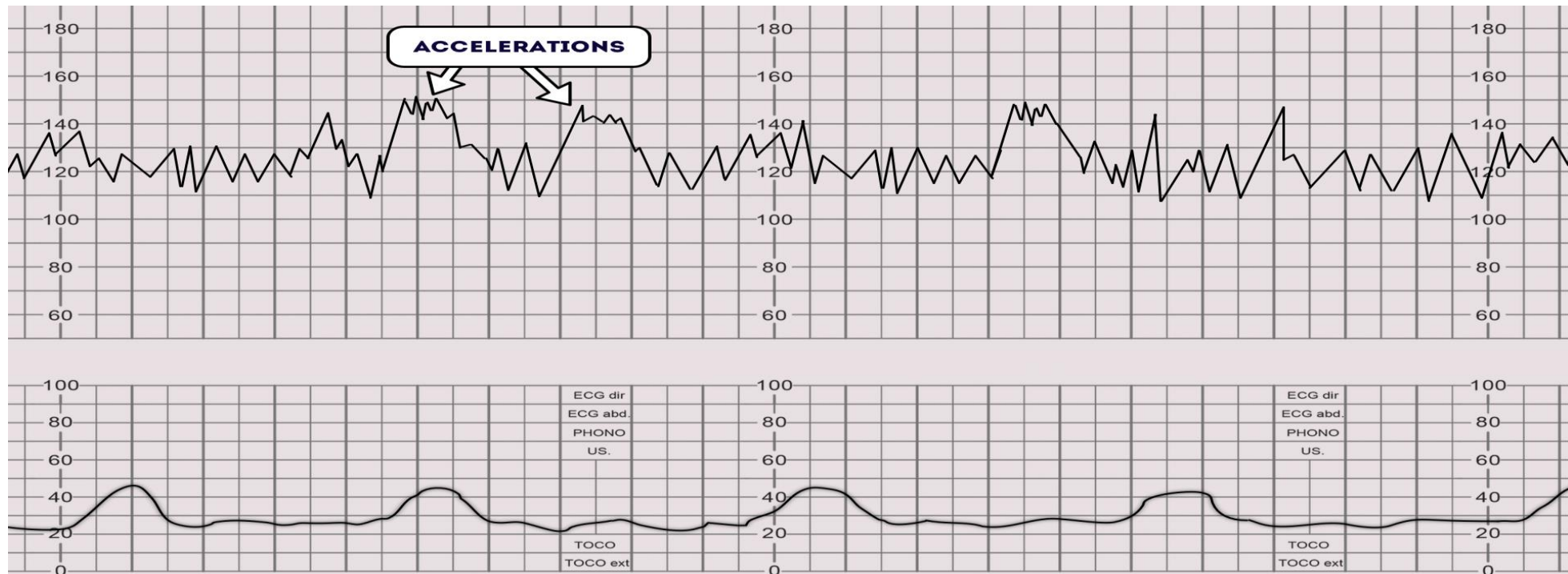
Normal CTG



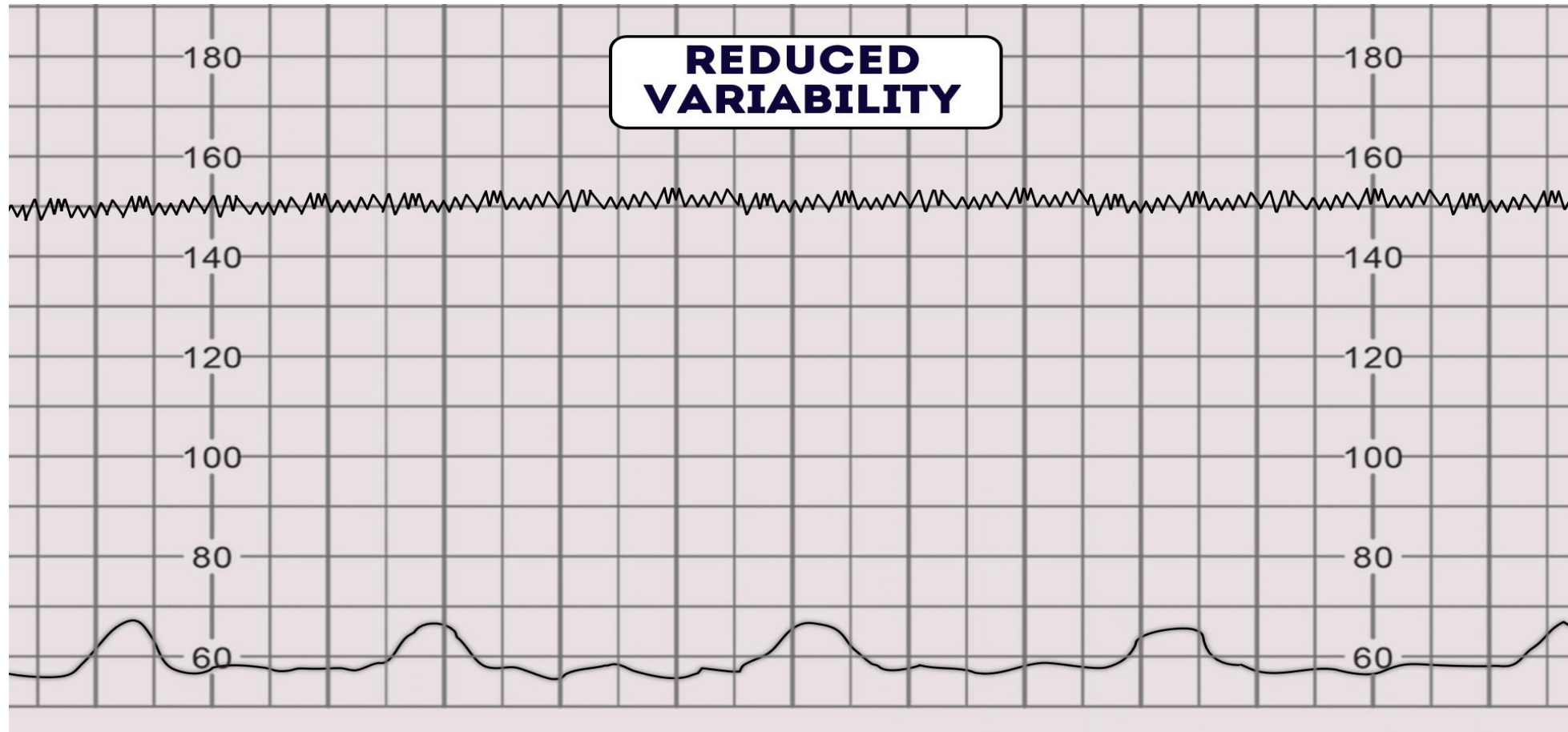
CTG

- Record the number& duration of the contractions present in a 10-minute period.
- Comment on:
 - Baseline (110-160 B/M)
 - Variability (5-25)
 - Acceleration
 - Deceleration

The presence of accelerations is reassuring
The absence of accelerations with an otherwise normal CTG is
of uncertain significance



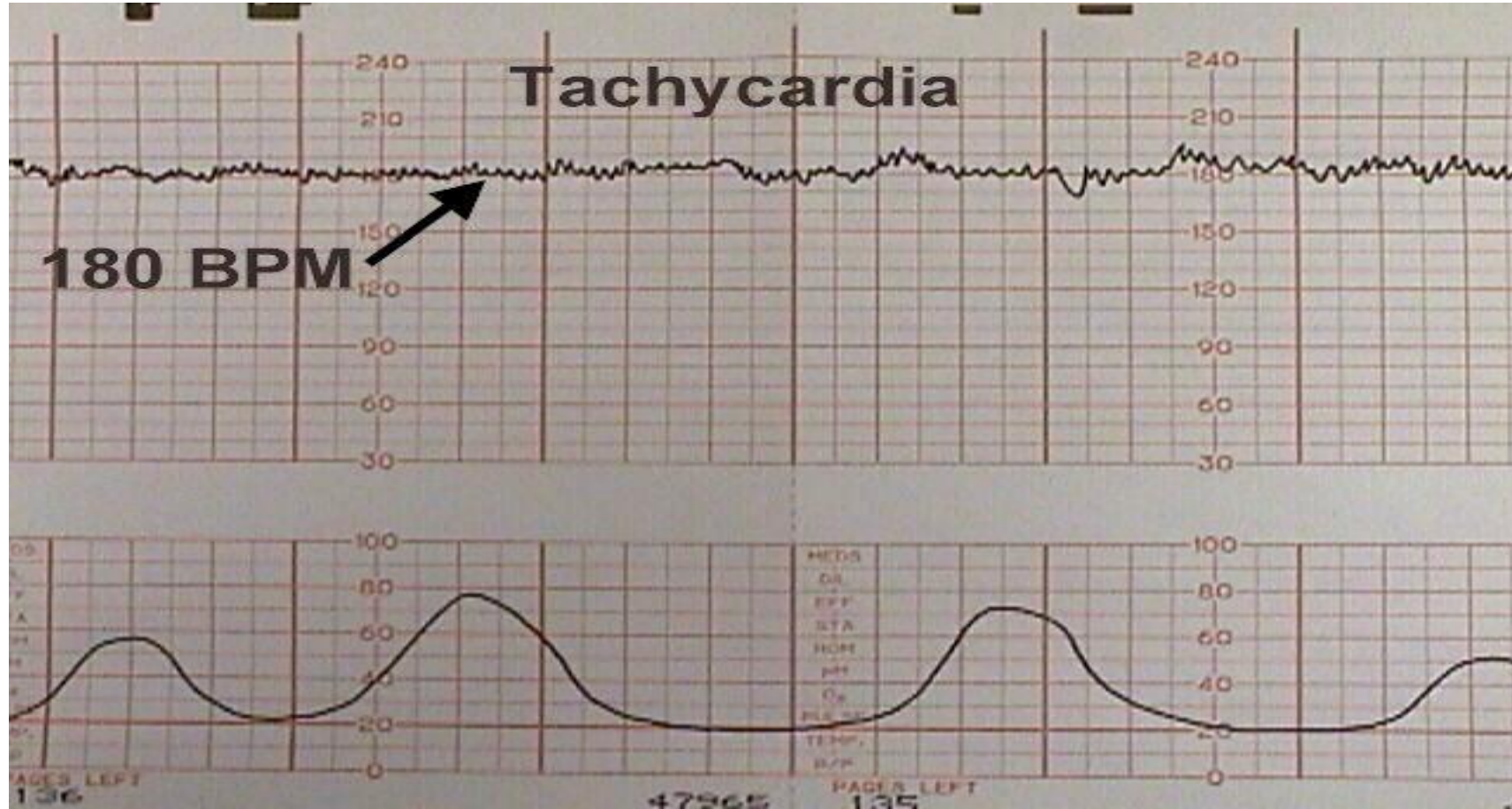
Reduced variability



Reduced variability

- **Reduced variability can be caused by any of the following:**
- Fetal sleeping: this should last no longer than 40 minutes (this is the most common cause)
- Fetal acidosis (due to hypoxia): more likely if late decelerations are also present
- Fetal tachycardia
- Drugs: opiates, benzodiazepines, methyldopa, dexamethasone and magnesium sulphate.
- Prematurity: variability is reduced at earlier gestation (<28 weeks)
- Congenital heart abnormalities

Fetal Tachycardia

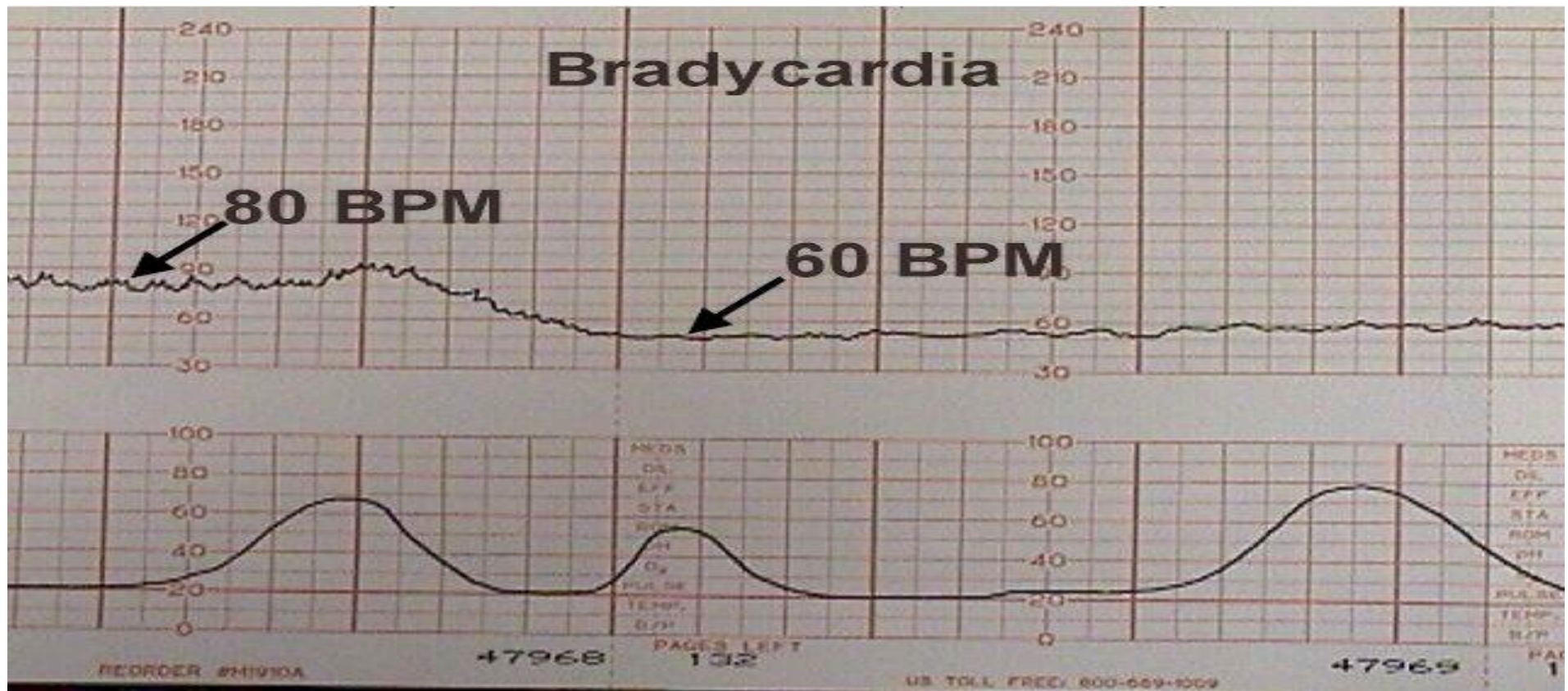


Fetal Tachycardia

- **Causes of fetal tachycardia include:**

- Maternal pyrexia (infection, chorioamnionitis)
- Fetal hypoxia.
- Medications (beta-agonist (Ritodrine (Yutopar) Terbutaline (Bricanyl) (drugs used for tocolysis) (Atropine) (Sympathomimetic drugs) (Parasympatholytic drugs)
- Fetal arrhythmias (SVT).
- Fetal or maternal anemia.
- Fetal hypoxia
- Hyperthyroidism
- Prematurity

Fetal Bradycardia



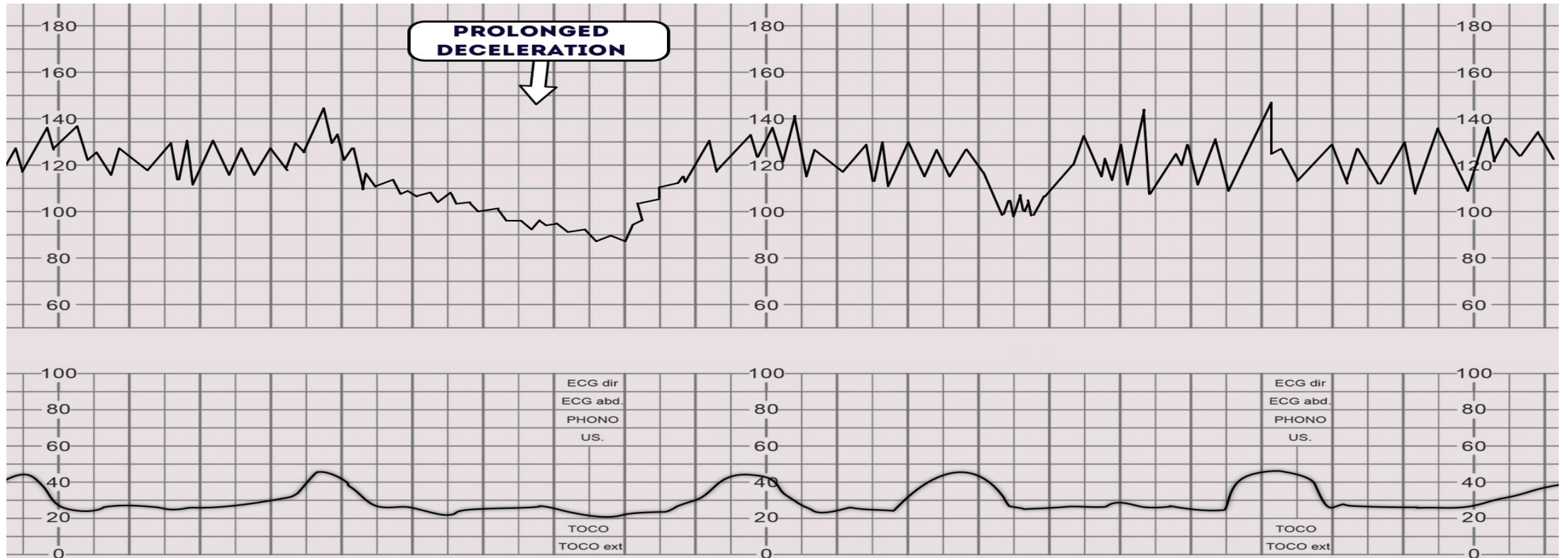
Bradycardia: A baseline value below 110 bpm lasting more than 10 minutes

- Values between 100 and 110 bpm may occur in normal fetuses, especially in postdate pregnancies.
- **Causes:**
 - Maternal hypothermia, Hypotension, Hypoglycemia
 - Administration of beta-blockers
 - Fetal arrhythmias such as atrioventricular block
 - (SSA/Ro positive pregnancies (systemic lupus erythematosus (SLE) and Sjögren's syndrome (SS)) associated with heart block)
 - Fetal metabolic acidosis

•Prolonged deceleration:

If it lasts **between 2-3 minutes** it is classed as **non-reassuring**.

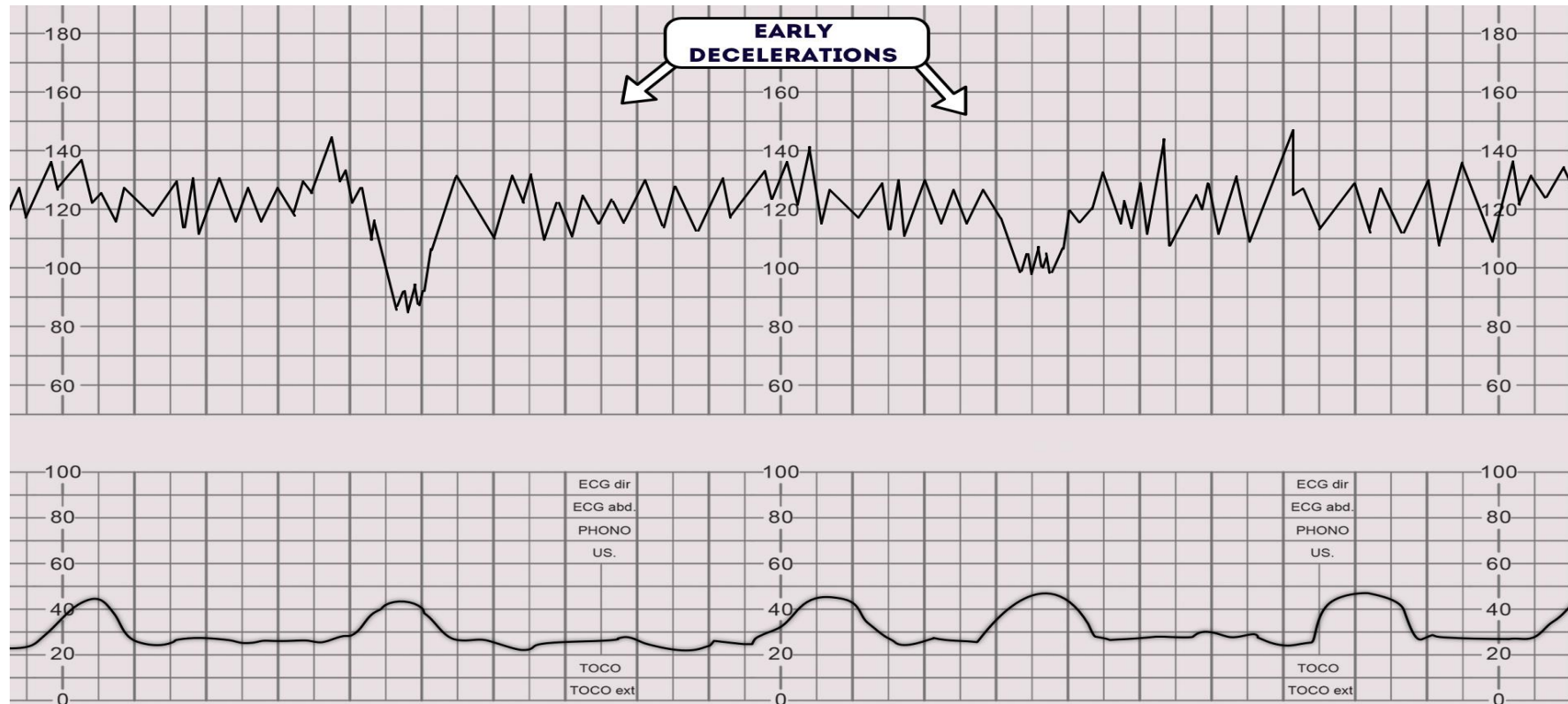
If it lasts **longer than 3 minutes** it is immediately classed as **abnormal**.



Causes of prolonged decelerations

- Severe bradycardia: FHR less than 80 beats per minute, lasting longer than 3 minutes is an ominous finding and may be associated with fetal acidosis.
- **Could be transient due to:**
 1. Supine hypotension
 2. Paracervical block
 3. Epidural and spinal anesthesia
- **Other important possible causes:**
 - Prolonged cord compression
 - Cord prolapse
 - Tetanic uterine contractions (Hyper stimulation of the uterus with oxytocin or prostaglandin)
 - Maternal seizures
 - Rapid fetal descent may cause strong vagal response
 - Vigorous vaginal examination may cause strong vagal response
- **If associated with vaginal bleeding we have to think of:** Major abruptio placenta, rupture uterus and vasa previa.

Early deceleration is considered to be physiological and not pathological

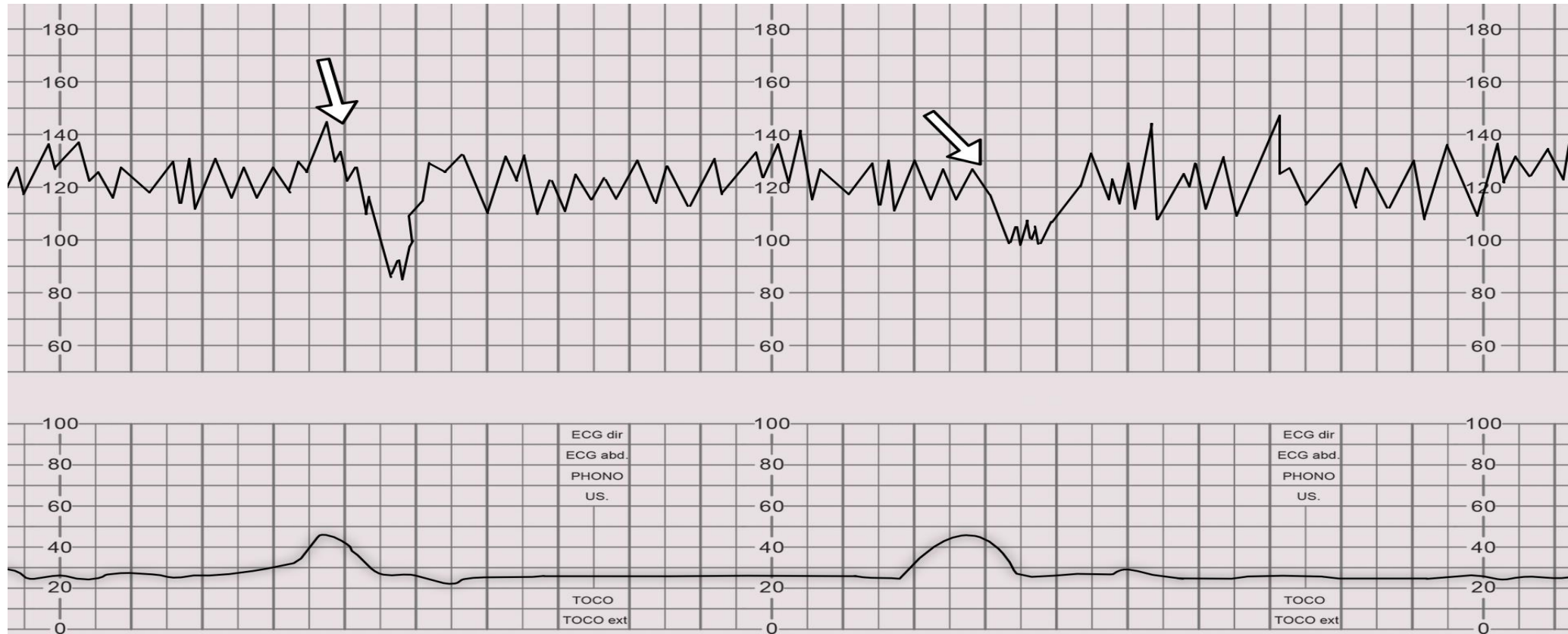


Late deceleration caused by reduced uteroplacental blood flow due to:

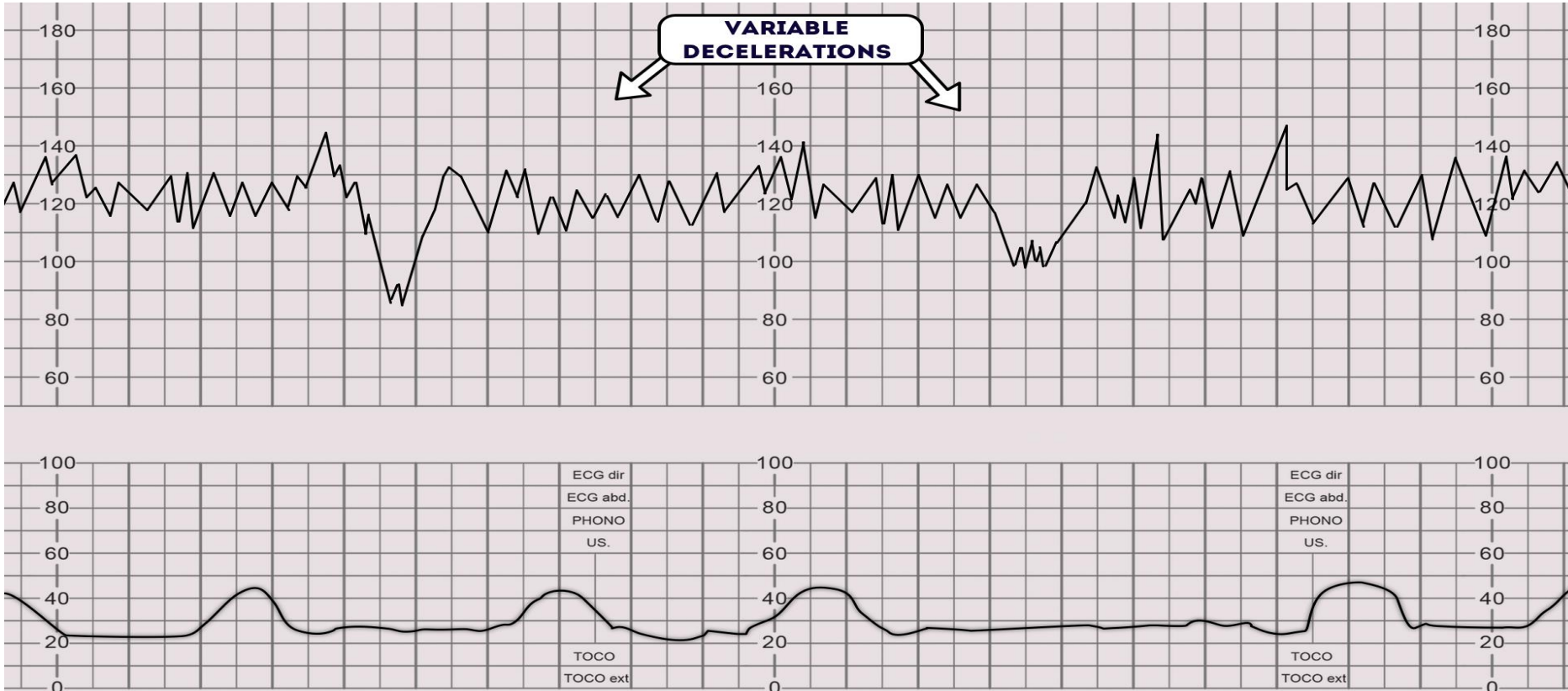
Maternal hypotension

HPT, Pre-eclampsia

Uterine hyperstimulation



Variable decelerations are usually caused by umbilical cord compression



Variable Decelerations

- **The accelerations before and after a variable deceleration are known as the shoulders of deceleration.**
- Their presence indicates the fetus is not yet hypoxic and is adapting to the reduced blood flow.
- The presence of persistent variable decelerations indicates the need for close monitoring.
- Variable decelerations without the shoulders are more worrying, as it suggests the fetus is becoming hypoxic

A sinusoidal pattern usually indicates one or more of the following:

Severe fetal hypoxia

Severe fetal anaemia (Rh disease)

Fetal/maternal haemorrhage

