

# Fetal ECG

*Fetal ECG analysis (FEKG) or ST-analysis (STAN)*<sup>[1]</sup> is a method of fetal monitoring based on **the ability of the myocardium to respond to hypoxia**.

During hypoxia, catecholamines are flushed out,  $\beta$ -receptors are activated. Due to increased metabolic demands in the myocardium, anaerobic glycogenolysis occurs, lactate is produced and hyperkalemia develops. The resulting change in the cell membrane potential of the myocardial cells manifests itself as **ST depression**. Hypoxemia, combined with additional stress, causes a further flush of epinephrine, increasing contractile activity that requires further glycogenolysis, manifesting as an **increased T wave**. During decompensation, on the contrary, **ST elevation** occurs, whereby the ST segment acquires a biphasic course, which helps to estimate the degree of myocardial ischemia caused by fetal hypoxia and the degree of progression of metabolic acidosis.

The recording can only be evaluated after 20 minutes of shooting. The simultaneous use of CTG and STAN will reduce the incidence of metabolic acidosis by 60% and the number of operations for fetal distress by 25%<sup>[1]</sup>.

 For more information see *Electrocardiography*.

## Links

### Related articles

- Fetus hypoxia
- Intrapartal fetus monitoring
- Cardiotocography
- Fetal pulsion oxymetry

### References

1. KREJČÍ, Wroclaw. *Cardiotocography, disorders of uterine activity, fetal hypoxia* [lecture for subject Gynecology and obstetrics pre-state internship, specialization General medicine, 1. medical faculty Charles University in Prague]. Prague. 2/17/2013.

### Literature

- MĚCHUROVÁ, Alena. *Kardiotokografie : minimum pro praxi*. 1. edition. Praha : Maxdorf, 2012. 183 pp. ISBN 978-80-7345-274-2.



Ultrasound of human fetus, 8 weeks and 1 day.