

Irritative Phenomena

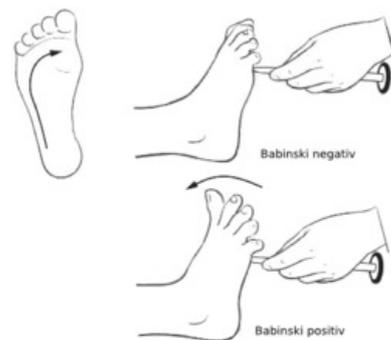
Irritative (irritation) phenomena are sometimes also called irritative pyramidal signs, because their existence in adults means that the pyramidal tract is affected in some region. These phenomena normally occur till the age of 2, when the myelinization is finished. So we don't diagnose them as a pathology in children.

A presence of these phenomena is nearly always connected with *hyperreflexia* and some authors think that we can not count them as a pathological reactions at all. Their existence on lower extremity is more serious than on the upper ones. The most often reason of irritative phenomena is some **lesion of a central motoneuron**, but if there is an asymmetry, we should also think about diagnose of amyotrophic lateral sclerosis.

Irritative phenomena on the upper extremity

The irritative phenomena are present if there is visible flexion of the thumb, which goes to opposition:

- **Hoffmann's sign** - We twang to the middle finger of a patient by our second finger from the top. (see video (<http://www.youtube.com/watch?v=z mhes5e0b9k>))
- **Tromner's sign** - We twang to the middle finger of a patient by our second finger from the underside. (see video (http://www.youtube.com/watch?v=kE40_tx25el))
- **Juster's sign** - We prick a patient by something sharp into *hypothenar*.



Babinski sign

Irritative phenomena on the lower extremity

Extension

The extension phenomena are present if a big toe goes up after the irritation:

- **Babinski reflex:**

It is a test when we stimulate a big toe by some pressure or sharp end of a neurological hammer. We have to lead the movement on the external part of the sole from a heel to a big toe and we evaluate if there is any reaction of it. However, newborns and young children have Babinski sign commonly and there is no reason to be scared. But during our growth this reflex disappears and if a big toe goes up, we can say that there is any damage of central nervous system. Do not say that this reflex is positive (better way is to say that it is present) or negative (absent).

- **Roche's sign**

We stimulate in same style as before but on the external part of the foot.

- **Chaddock's phenomen:**

Reaction on sharp irritation on the outer ankle.

- **Vitek's sign:**

Repeatedly scrape the fingertip of big toe.

- **Oppenheim's phenomen:**

We irritate the periost of *tibia* by our knuckles. (see video (<http://www.youtube.com/watch?v=pxMtnOeHpOM>))

- **Schäffer's phenomen:**

We kneads the *Achilles tendon*.

- **Gordon's phenomen:**

We kneads *musculus triceps surae*.

Flection

These phenomena are present if the fingers of the foot are going into the flection position:

- **Rossolimo** - Reaction on percussio of all fingertips. (see video (<http://www.youtube.com/watch?v=Q68lEnXt gao>))

Links

Related articles

- Pyramidal Tract
- Motoric Lesions
- Motor Neurons
- Amyotrophic Lateral Sclerosis
- Reflexes

External links

- Babinski sign (<http://www.medterms.com/script/main/art.asp?articlekey=7172>)

Further reading

- NEVŠÍMAOVÁ, RŮŽIČKA, TICHÝ,, et al. *Neurologie*. 1st edition. 2005. ISBN 80-7262-160-2.
- JEDLIČKA, KELLER,, et al. *Speciální neurologie*. 1st edition. 2005. ISBN 80-7262-312-5.
- AMBLER,. *Základy neurologie*. 7th edition. 2011. ISBN 978-80-7262-707-3.