Feldenkrais Skolan

Life is a process. Improve the quality of the process and improve life itself.
- Moshe Feldenkrais

In a **newborn**, several **primary (infant) reflexes** are normal in early development but disappear as the nervous system matures.
In an **adult**, these same reflexes are considered **pathological** if they persist or reappear.

Foot Reflexes in the Newborn

Newborns display several normal **primitive reflexes** involving the foot:

- **Babinski reflex (plantar reflex)** – stroking the sole of the foot causes **toe spreading and upward movement of the big toe** (dorsiflexion).
- **Plantar grasp reflex** – applying pressure to the sole causes the **toes to flex**.
- **Dorsal foot extension reflex (automatic stepping reflex)** – when the infant is held upright and the sole touches a surface, **stepping movements** occur.
- **Stepping reflex** – similar to the above, sometimes listed separately.
- **Crossed extension reflex** – when one leg is stimulated, the **opposite leg extends**.

These reflexes are **normal in newborns** but should **disappear during the first year of life**, typically between **6 and 12 months**.

In Adults

In adults, normally only the **inhibitory plantar reflex** remains (toes flex downward).
If infant reflexes **reappear**, this indicates **pyramidal tract damage (upper motor neuron lesion)**.
They are then classified as **pathological reflexes**.

Pathological Foot Reflexes (in Adults)

The following reflexes indicate **pyramidal tract involvement**:

- **Babinski** – stroking the sole → big toe extends upward; other toes fan out.
- **Chaddock** – stroking around the lateral ankle → same response as Babinski.
- **Oppenheim** – pressing along the shin → big toe extends upward.
- **Gordon** – squeezing the calf muscle → big toe extends upward.
- **Schaefer** – squeezing the Achilles tendon → big toe extends upward.

All these produce a **Babinski-like response** and are classified as **pathological plantar reflexes**.

Foot Reflexes – Infant and Adult

Reflex	Stimulus (what is done)	Response (what happens)	Normal in	Comment
Babinski (positive in infants)	Stroke along the lateral sole from heel to little toe, then toward the big toe	Big toe extends upward; other toes fan out	Infant	Disappears by ~12 months; pathological if present in adults
Plantar grasp reflex	Apply pressure to the sole (in front of the heel pad)	Toes flex downward and grasp the finger	Infant	Should disappear within the first year
Stepping (walking) reflex	Hold the baby upright with soles touching a surface	Alternating leg movements resembling walking	Infant	Disappears within the first few months
Crossed extension reflex	One leg flexed; touch the sole of that leg	The opposite leg extends	Infant	Indicates immature spinal control
Normal plantar reflex (adult)	Same as Babinski test	Toes flex downward (plantar flexion)	Adult	Normal inhibition via corticospinal tracts

Pathological Plantar Reflexes (in Adults)

Reflex name	Stimulus	Response	Comment
Babinski	Stroke the sole (lateral → medial)	Big toe extends upward	Classic sign of pyramidal tract lesion
Chaddock	Stroke around the lateral ankle	Big toe extends upward	Alternative to Babinski
Oppenheim	Press downward along the shin	Big toe extends upward	Indicates same lesion
Gordon	Squeeze the calf muscle	Big toe extends upward	Same interpretation
Schaefer	Squeeze the Achilles tendon	Big toe extends upward	Same interpretation

Summary

Group	Number of foot reflexes	Normal in	Examples
Primary (infant) reflexes	4–5	Infant	Positive Babinski, plantar grasp, stepping, etc.
Pathological (adult) reflexes	5 classical	Only if lesion present	Babinski, Chaddock, Oppenheim, Gordon, Schaefer
Normal adult reflex	1	Adult	Plantar reflex (toes flex downward)