Abstract
Primitive (or brain stem) reflexes assist with specific developmental tasks then fade so new reflexes and skills can emerge. Disruptions in this process lead to disordered skill development. Understanding underlying reflex issues can guide treatment for attention, activity level, play skills, self-care skills, and academic readiness.

Reasons children are referred to Occupational Therapy
Primitive Reflexes, Big Consequences
Denise Kania, OTR/L

Usually referred for higher level end products.

What are the roots of some of these problems?

Primitive Reflexes:
automatic, stereotyped, rhythmical movements directed by the brain stem and carried out without involvement of the cortex of the brain

• Each reflex has a job to do
• That job is done before one year of age to allow new reflexes to emerge to do their developmental jobs
• A useful reflex at birth or 2 months of age is not necessarily useful at 4, 6, 8, or more years of age
• Retained reflexes can interfere with normal function and skill development.

Primitive reflexes under consideration today:
Moro
STNR
TLR
ATNR
Spinal Galant

Reflex path

http://www.scielo.br/scielo.php?pid=S0004-282x2005000100035&script=sci_arttext
Reflexes vs. Cognition

Brainstem vs. Cortex

Moro Reflex

From this

To this

http://www.hiren.info/desktop-wapers/babies-pictures/almost-new-born-babyallp

http://www.visualphotos.com/image/2x40/12525/children_working_in_school

http://www.prekop-institut.com/pix/moro_reflex.jpg
Fearful, avoidant, tantrums

Asymmetric Tonic Neck Reflex: ATNR

Poorly integrated ATNR can affect routine childhood activity performance in multiple ways
Inefficient Pencil grasps

Adam

Weightbearing with palmar arches (right hand)

Weightbearing on dorsum (right hand)
Weightbearing on fingers and thumbs, but not palms.

Weightbearing on fingers and thumbs, but not palms.

Weightbearing on palms and flexed fingers.
Tonic Labyrinthine Reflex: **TLR**

Trying to get up against gravity
Uh oh, gravity might be winning

Finally!

Symmetric Tonic Neck Reflex : STNR

- head extension causes arm extension with leg flexion
- head flexion causes arm flexion with leg extension

http://www.binksanggren.se/s/engelska-12.png
The arch enemy

Spinal Galant Reflex

Common triggers:
- Waistbands
- Chair backs
and the importance of movement

Interdigital pencil grasp

During movement
After movement and getting out of reflex patterns
Primitive Reflex Assessment

Antigravity positions

Quadruped testing

QUICK ASSESSMENT

• Antigravity postures
• Quadruped testing
• Head drop/startle
• Schilder’s
• Other observations

• Nice ATNR testing video here: http://video.google.com/videoplay?docid=-4689018693904880012#
• And STNR video here: http://video.google.com/videoplay?docid=-2899568058678927309
Consider the possibility of retained primitive reflexes in children with:

- Poor fine motor skills
- Poor gross motor skills
- Poor ocular motor skills
- Sensory processing deficits
- Sensory modulation deficits
- Attention/activity level issues
- Poor play skills
- Poor self-care skills

Selected References

For more information:
References, continued


References continued


References continued