

developmental\_reflexes\_extended

| Reflex Name                                    | Related Body Part                        | Typical Age of Integration                  | Behavioral Issues   | Key References                                |
|--|--|---|---|---|
| Moro reflex                                    | Whole body (vestibular, shoulders, arms) | 4–6 months                                  | Hypervigilance; Anxiety; Sensory defensiveness; Poor impulse control; ADHD-like symptoms                        | StatPearls 2023; Additude 2024                |
| Fear Paralysis reflex                          | Whole body (freeze response)             | 2–3 months                                  | Freeze/flight reactions; Social anxiety; Withdrawal; Sleep disturbances   | Goddard-Blythe 2005; Masgutova 2015           |
| Palmar grasp reflex                            | Hands/fingers                            | 4–6 months                                  | Poor fine-motor skills; Immature pencil grip; Handwriting and spelling difficulties; Speech articulation delays | Swaiman 2017; McPhillips & Sheehy 2004        |
| Plantar grasp reflex                           | Feet/toes                                | 9–12 months                                 | Poor balance; Toe-walking; Postural instability; Delayed gait maturation  | StatPearls 2023; Illingworth 2013             |
| Rooting reflex                                 | Mouth/cheeks                             | 3–4 months                                  | Oral hypersensitivity; Drooling; Speech-sound errors; Feeding issues  | Illingworth 2013; StatPearls 2023             |
| Sucking–Swallow reflex                         | Mouth/tongue                             | 2–5 months                                  | Feeding problems; Thumb-sucking persistence; Mouth breathing; Articulation disorders                            | Illingworth 2013; StatPearls 2023             |
| Spinal Galant reflex                           | Lumbar trunk                             | 3–6 months                                  | Fidgeting; Bed-wetting; Hypersensitivity to clothing; Poor short-term memory                                    | Harkla 2021; Hemispheres 2018                 |
| Asymmetrical Tonic Neck Reflex (ATNR)          | Neck/arms                                | 5–7 months                                  | Difficulty crossing midline; Poor reading tracking; Dyslexia; Handwriting fatigue; Visual tracking deficits     | Konicarova & Bob 2013; McPhillips et al. 2000 |
| Symmetrical Tonic Neck Reflex (STNR)           | Neck/upper & lower limbs                 | 9–11 months                                 | Poor sitting posture; W-sitting; Attention deficits; Clumsiness; Visual accommodation problems                  | Konicarova & Bob 2013; Paine 1964             |
| Tonic Labyrinthine Reflex (TLR)                | Vestibular system, trunk                 | 6 months                                    | Poor balance; Motion sickness; Spatial orientation problems; Difficulty judging distance                        | StatPearls 2023; BRMT-Canada 2024             |
| Babinski reflex                                | Feet (sole)                              | 9–12 months                                 | Toe-walking; Sensory seeking with feet; Clumsiness in sports  | StatPearls 2023; Illingworth 2013             |
| Stepping/Walking reflex                        | Legs/feet                                | 1–2 months                                  | Delayed walking; Gait abnormalities; Poor rhythm in locomotion  | Illingworth 2013; StatPearls 2023             |
| Crawling (Bauer) reflex                        | Arms/legs                                | 3–6 months                                  | Difficulty with reciprocal crawling; Delayed bilateral coordination; Shoulder stability issues                  | StatPearls 2023; Touwen 1993                  |
| Positive Support reflex                        | Legs/feet                                | 2–4 months                                  | Rigid toe-walking; Limited knee flexion; Poor adaptive postural responses                                       | NCBI Bookshelf 2023; Illingworth 2013         |
| Negative Support reflex                        | Legs/feet                                | 2–4 months                                  | Difficulty in standing transitions; Poor postural flexibility   | NCBI Bookshelf 2023; Gould 2022               |
| Placing reflex (upper & lower)                 | Arms/hands or legs/feet                  | 6 weeks                                     | Delayed adaptive reach/step planning; Inefficient obstacle negotiation  | Illingworth 2013; StatPearls 2023             |
| Perez reflex                                   | Spine/paraspinals                        | 4–6 months                                  | Spinal over-sensitivities; Delayed trunk rotation; Discomfort in seated posture                                 | StatPearls 2023; Bekhterev 1911               |
| Crossed Extensor reflex                        | Legs                                     | 6 weeks                                     | Balance reactions asymmetric; Difficulty coordinating bilateral lower-limb movements                            | StatPearls 2023; Illingworth 2013             |
| Flexor Withdrawal reflex                       | Legs                                     | 6 weeks                                     | Tactile hypersensitivity in feet; Sudden avoidance reactions; Poor graded weight bearing                        | StatPearls 2023; Illingworth 2013             |
| Landau reflex                                  | Spine extensors                          | 12–24 months                                | Poor trunk extension; Weak postural control; Slumped sitting; Concentration difficulties                        | Mitchell 1962; Landau study 1982              |
| Parachute Protective Extension                 | Arms                                     | Appears 6–7 months; persists                | Fear of falling; Delayed protective extension; Insecure during sports   | StatPearls 2023; Illingworth 2013             |
| Neck-on-Body Righting (NOB)                    | Neck/trunk                               | 4–5 years                                   | Poor rolling patterns; Postural asymmetry; Reading discomfort in prone  | StatPearls 2023; Paine 1964                   |
| Body-on-Body Righting (BOB)                    | Trunk                                    | 4–5 years                                   | Difficulty with trunk rotation; Poor dissociation of shoulder & pelvic girdles                                  | StatPearls 2023; Paine 1964                   |
| Labyrinthine Righting                          | Head/vestibular                          | Mature by 6 months (persists)               | Poor balance; Vestibular dysfunction; Fear of movement  | StatPearls 2023; Bekhterev 1903               |
| Optical Righting Reflex                        | Visual-vestibular                        | Mature by 6–8 months                        | Spatial orientation issues; Motion sickness; Poor eye-head coordination   | Brown 2010; StatPearls 2023                   |
| Amphibian reflex                               | Trunk & limbs                            | 4 years                                     | Difficulty in crawl patterns; Bilateral coordination deficits; Hip instability                                  | Goddard-Blythe 2005; Masgutova 2015           |
| Equilibrium Reactions (prone, supine, sitting) | Whole body                               | Begin 6 months; persist                     | Poor coordination; Postural insecurity; Inability to adjust to dynamic surfaces                                 | Illingworth 2013; StatPearls 2023             |
| Vestibulo-Ocular Reflex (VOR)                  | Eyes/vestibular system                   | 6–7 months (mature)                         | Reading tracking problems; Motion sensitivity; Visual fatigue; Dizziness  | Brown et al. 2010; ICS 2019                   |
| Optokinetic Reflex (OKR)                       | Eyes                                     | 3–4 months (mature)                         | Difficulty copying from board; Visual tracking deficits; Poor pursuit movements                                 | Fisher & Ciuffreda 2018; Brown et al. 2010    |
| Convergence Reflex                             | Eyes (extra-ocular muscles)              | Mature by 6 months                          | Eyestrain; Double vision when reading; Headaches; Reduced reading endurance                                     | Scheiman & Wick 2014; StatPearls 2023         |
| Acoustic Startle Reflex                        | Whole body (auditory-motor)              | Appears at birth; persists as adult startle | Exaggerated startle; Auditory hypersensitivity; Anxiety disorders   | Koch 1999; StatPearls 2023                    |
| Blink Reflex                                   | Eyes/cranial nerves                      | Appears at birth; persists                  | Reduced visual processing speed; Dry eye or over-blinking; Sensory modulation issues                            | Kimura 2005; StatPearls 2023                  |
| Gag Reflex                                     | Oropharynx                               | Appears at birth; persists                  | Feeding aversion; Hypersensitive gag limits food textures; Speech production issues                             | Logemann 1998; StatPearls 2023                |
| Swallow Reflex                                 | Oropharynx/esophagus                     | Develops 12 weeks gestation; persists       | Swallow incoordination; Aspiration risk; Speech articulation problems   | Logemann 1998; Illingworth 2013               |