Fear Paralysis Reflex and Moro Reflex

We have to consider these two reflexes together. The fear paralysis reflex will first be integrated into the Moro reflex. If not integrated, the Moro reflex will stay active.

The fear paralysis reflex, or FPR emerges at about the fifth to eighth week after conception in response to a threat to the well being of mother and thus the pregnancy. In early pregnancy, a big cortisol and adrenaline rush in the mother due to a threatening situation may cause fetal movement to freeze. The heart rate will go down, and in extreme cases the viability of the pregnancy may be compromised. While the FPR initially protects the baby from exposure to adrenaline and cortisol from the mother, nature is not always benign.

If the threat to the mother is severe enough, there may be a spontaneous abortion, since the mother will be able to produce another fetus but the external circumstances may not be able to support a new life.

We might consider the situation of a woman in Ukraine who experiences a bomb exploding nearby. If the fetus is within six to twelve weeks of maturation, nature may not consider the situation a viable environment for a new life and this woman may lose her pregnancy. A woman who is beaten during the pregnancy, who is suicidal and attempts to take her life, a woman on intoxicants, may be activating, unintentionally the FPR in the fetus. We have even worked with a child with a retained FPR whose mother was dealing with the stress of her business going bankrupt. The child had significant anxiety due to the retained FPR and Moro reflexes. A child may also have a retained FPR if a twin dies during the pregnancy. Some researchers* are considering that a retained FPR may be a trigger for SIDS, though additional research is finding additional triggers.

(***Kaada B.** Med Hypotheses. 1987 Apr; 22(4):347-56. doi: 10.1016/0306-9877(87)90029-6.)

This reflex should be integrated before birth. If it does not, what you might see as symptoms in a child with a retained FPR could include: A child who is prone to freeze in the face of stress, who gives up easily, shuts down during testing, is prone to panic responses, and unwilling to try new activities. You might also see:

- Low tolerance to stress/fear of change
- Constant state of anxiety/ phobias
- Tends to “freeze” when there is a threat, instead of fight or flee
- Sensory processing issues
- Hypersensitivity to light and sound
- Eating disorders
- Overly clingy
- Fear of failure, deep embarrassment simply by being alive
- Deer-in-the-headlights response
- Selective mutism (not speaking in situations where talking is expected, especially if speaking is already an established ability)

- Holding breath when upset or angry
- Obsessive-Compulsive Disorder (OCD) traits
- Defiant or controlling behavior

Please note that *the above listed symptoms are not diagnostic of retained FPR*, as many of the above issues can be caused by other central nervous system challenges. This is critical to keep in mind and should remind us that it is imperative to treat the whole continuum of reflexes, movement, and sensory issues in a logical sequence, dictated by the needs and responses of the client.

NeuroDevelopmental Movement sees reflex integration as part of a larger process of brain integration. We do not integrate reflexes in isolation. And so, starting with these two primitive reflexes, we will go on to discuss how NDM programs integrate each of several retained primitive reflexes in the order of their emergence.

The fear paralysis reflex, if retained, is integrated by five patterns we call the **English 5 Patterns**. Three of these patterns come to forefront. The third pattern, the **Bicycling** pattern replicates a movement made in utero in which the infant turns itself. Florence Scott, R.N. commented that it was simply a way that the infant kept from getting 'stuck to' the uterine wall.

Another **English 5 Pattern** that stands out is the **Hip Roll** (#2) in which the legs, tucked up towards the abdomen, then are lowered slowly towards the floor first on the right and then on the left, as the torso remains stable. This pattern commonly shows up in many 'reflex integration' programs as an integrator for FPR. However, in NDM, we assign all five of the **English 5 Patterns** at once, as they all have a role in this integration process.

The **Push/Pull** pattern (#5) disconnects the head tuck from an automatic corresponding leg tuck and instead they work in opposition making more movement options available.

We sometimes use a **tapping protocol** to address the FPR reflex and its integration. This activity is passive on the child's part and the adult or therapist does tapping in a '1, 2, cha-cha-cha" rhythm on five different places on the body. We teach this in our full certification program.

The Moro reflex or startle, is an instant arousal for purposes of survival. It appears at birth and should integrate by two to four months.

Like the FPR reflex, the Moro reflex can be implicated in a list of general symptoms. For example:

- Easily distracted
- Hypersensitive and/or hyper reactive to sensory stimuli like light and sound and touch
- Over sensitivity to motion causing car sickness
- Or under sensitivity to sensory stimuli
- Overreacts
- Impulsive and aggressive
- Emotional immaturity

- Withdrawn or timid and shy
- ADD
- ADHD
- Autism spectrum
- Asperger's
- Sensory disorders
- Difficulty making friends
- Depression
- Dyslexia
- Health problems
- Allergies and asthma
- Anger or emotional outbursts
- Poor balance and coordination
- Poor digestion and food sensitivities

Even if they don't display any of these symptoms, it is a good idea to do the quick test on them, as there may be other functions that are affected by it that are still unknown.

However, just as with the FPR reflex, these 'signs' may be the result of any number of other issues in the brain's integration. So again, we want to take the whole NDM profile into consideration.

The Moro reflex, if retained, can be partially addressed by replicating and reprocessing the fetal **Startle Pattern.** This pattern specifically addresses the response to loud sounds and helps the stapedius muscle in the inner ear respond more quickly to loud sounds, thus lowering the perceived decibel level by as much as 20 points. For this reason, the Moro reflex should always be integrated before beginning any auditory integration program.

If others of the above listed symptoms remain once these reflexes are integrated, they are due to any number of other immaturities throughout the system. For instance, an immature midbrain, particularly the thalamus - the job of which is to regulate incoming information - could cause a kind of environmental anxiety that is caused by too much unfiltered input. Anxiety that is more existential may be due to the inactivity of mirror neurons and the sense of isolation this may trigger, or due to a high threshold for strong sensory stimulation that limits the perception of danger and makes some clients overly cautious (while some may become overly risk taking).

Sensory processing issues come from a number of sources, including the thalamus, and when we start discussing vision, we get into the world of visual focus and the anxieties that can be produced when a client literally cannot see or visually interpret their environment.

We write this to make the point that each of the symptoms, with few exceptions, can be due to any number of other factors in the brain.

Testing for these reflexes:

1.) The fear paralysis reflex does not, to our knowledge, have a specific test that is separate from Moro reflex testing, but should be considered if the child has had a high-risk pregnancy or has suffered trauma or shock via the mother's life experiences. Being in an auto accident, a bombing, experiencing the death of a loved one, a domestic violence event - all can trigger the fear paralysis reflex, and if it is not integrated, there can be multiple consequences. The best information to indicate the presence of a retained FPR is the list of possible 'signs' noted previously. We do not feel the presence of these symptoms definitively indicate the presence of FPR, but it can be useful to treat it despite the lack of a discreet test. The FPR should be integrated by the time the Moro reflex emerges around 12 weeks after conception.

2.) The Moro reflex (usually integrated by six months postnatally), unlike the retained FPR, can be tested in clients. The most simple and obvious test is to place the child in a seated upright position, with your hands supporting their back. Ask them to lean into your hands and tell them you will be pulling your hands away but you WILL catch them. Then, quickly pull your hands away and immediately put them back where they were. If the child throws their arms and/or legs out, it is a sign of a retained Moro reflex.

In sum, the tools we have in a program of NDM that develop the hand to full functioning, include, but are not limited to:

- Startle Pattern
- English 5 Patterns, including:
    - Bicycling
    - Hip Roll
    - Push/Pull
- Crawling

Further integration of the Moro reflex will take place as the child matures through their pons level program, including **Crawling** on the belly.