



## ABR FASCIA GEL AND ITS BENEFITS FOR STRUCTURE, MUSCLE TONE AND MOVEMENT CONTROL FUNCTION

Dear Friends!

We are glad to share with you 3 'Before-and-After' videos that demonstrate remarkable changes following the *consistent* ABR Fascia Gel application over a period of several months.

These videos illustrate the spectacular improvements in:

- eating function: <https://youtu.be/EJLGt0F3GKA>
- drinking function: <https://youtu.be/bUxEznb9LM>
- overall engagement of the mimic muscles and emotional expressions: <https://youtu.be/a2yk8xYiCzE> and <https://youtu.be/a2yk8xYiCzE>

### WHY DO WE ILLUSTRATE THE FASCIA GEL EFFECTS AND MOVEMENT CONTROL PROGRESS THROUGH THE FACE / MIMICS CHANGES?

- **Face mimics changes are the EASIEST to OBSERVE and EVALUATE even when you are not a professional movement analyst**

All of us are natural experts in looking at other humans' faces, reading and recognizing emotions and facial expressions. The rest of human anatomy is more vague to us – we see much less and detect the nuances much poorer (arm shapes, or legs contours, or abdominal attachments). When looking at faces – we might not be so detailed in our detection of muscle control specifics but we can recognize those when pointed out. In the other areas of the body, such detection is much more difficult for the untrained eye. That's why the changes of the eyes/ face muscles and the enrichment of mimics are the most informative as the illustrations of the Fascia Gel effects.

**Typical question/ objection 1:** "I see the face improvement on the videos and I understand that the face is important overall ... but my child is doing okay with the face control – at least she//he is not struggling and not being in big trouble. But the other parts of the body -- the legs, the hips, the feet, the hands, the arching spine, etc. – worry me much more.

**Typical question/ objection 2** "About the mimic function ... it's nice to improve it but my child can communicate his/her basic emotions well enough even though the limited mimic repertoire ... what worries me much more are the problems with other motor functions and positions – sitting, standing, crawling, walking, etc. "

So I want to concentrate on those areas that are in trouble and those movement functions that are in the worst condition – and I do not understand how the Fascia Gel is going to help my child in those areas. "



## Answer/clarifications:

### Neurological Control of *Muscles*

- Eyes muscles are the **QUICKEST, FASTEST, MOST PRECISE AND FREQUENTLY USED MUSCLES** of the entire body. As a result, they are the **MOST DIFFICULT (HARD) FOR THE BRAIN TO CONTROL**.
- If the brain control of the **EYE MUSCLES**, i.e. **THE QUICKEST ONES IMPROVES** – then the neurological control of **ALL THE OTHER MUSCLES IMPROVE** as well.
- What matters **IS NOT THE AREA** where you **WORK** but the **CONTROL IN THE MOST DEMANDING AREA**
- In other words, **IMPROVING THE CONTROL OF THE QUICKEST EYES AND FACE MUSCLES – HELPS ALL OF THE OTHER AREAS**. And vice versa – trying to train/stretch/stimulate the other slower muscles – doesn't help much neither to the quicker/rapid cascades muscles nor to the trained slower muscles themselves ('a fragile house of cards')

The *quicker* the muscle firing rate – the more difficult it is for the brain to control it. Muscles' quickness activation is measured through latency – the delay of its activation following the brain signal which is measured in milliseconds (1/1000 of a second). Big muscles of the legs and arms are very slow to react – could be as slow as 500 ms (1/2 second), meaning that they are easier to control and do not need frequent adjustments from the nervous system.

On the opposite, the eye muscles are 10x quicker (1/20 second) and work in rapid cascades. In other words, these are the muscles that require the quickest adjustments by the brain and need to be activated very frequently in cascades. Obviously, that is a much harder job to do for the brain damaged by a brain injury/ genetic malfunction.

That's why if we see the improvement in eye muscles control – stability, tracking; far and near distance accommodation, switching between central and peripheral perception, etc. – we should be very happy because it tells us that connections of the brain to the most difficult muscles are improving.

What it means is that, if a damaged brain is good enough, i.e. quick and precise enough, to control the quickest muscles of the body (eyes) then it is **SURELY** good enough to control the other 600 of the slower muscles in the body – including the muscles of the torso, of the arms and legs. Bingo!

As the eyes muscles control improve – so it has a top-down positive effect on the controls of **ALL** the other slower muscles.

### Neurological Control of *Movements*

What we see in the 'Before-and-After' ABR Fascia Gel videos is a very important milestone in Movement Control. **ANY MOVEMENT BEGINS WITH THE EYES ACTIVATION/ ADJUSTMENT FIRST.**

**Why this is so important? – Because what matters in movement control is NOT THE TYPE OF MOVEMENT that you are trying to improve (sitting, standing, walking or fine motor skills) – BUT THE QUALITY OF MOVEMENT CASCADE CONTROL – FROM THE QUICKEST/ MOST RAPID CASCADES TO THE SLOWEST CASCADES.**



In other words – if you are trying to train your child in standing or walking, or whatever else – but the main control of those movements *starts* with the slow muscles of the legs – whilst the quicker muscles of the eyes, face and deep neck are not well controlled – then you are wasting your time and your training is more or less worthless.

It might look improving during the training – BUT it's not going to work in real life. If a child gets stressed, if the environment changes, if a child is tired, if a child is thinking about something, if a child is not feeling well, if a child is not in a good mood, etc. – all of your training goes down the drain and doesn't work. Why? – Because it was based on the executive muscle controls that were too slow for real life. In an artificial easiest environment it sort of worked – but it will not stand the test of real life.

It's like a refresh rate on the TV screen – when the picture changes quickly – at 20 times/ per second or more – then the movie on your screen is smooth and we see people moving realistically. But if your refresh rate is just 2 times/second – you are not going to get a realistic TV experience, there would be just separate pictures, not the streaming movie.

- Any functional or positional adjustment movement that we humans do is a cascade of muscle activations strung together at very short time intervals. The shorter the intervals of delays – the better the movement control.
- If a child initiates his/her movement with slower muscles (arms/legs/ torso – even the neck) – then such cascade is going to be poorly controlled
- If a child initiates his/her movement with the quickest muscles (eyes and face) – then such cascade is going to be much better controlled neurologically
- When the child is able to **BEGIN ANY MOVEMENT or RE-POSITIONING WITH THE EYES ACTIVATION/ ADJUSTMENT/CALIBRATION FIRST** – then we know that now **THE BRAIN IS UNLOCKED! IT HAS THE CAPACITY/ POTENTIAL** for the control of **ALL the other muscles**. In practical terms, we then shouldn't worry about the actual brain damage anymore in respect to those slower muscles. By seeing the improved control of the quickest movements – we have received our confirmation that the neurology is no longer the main constraint on the way to better function (but the structural deficit still is).

In other words, instead of wasting time training the TYPE OF MOVEMENT in a CERTAIN REGION – it makes much more sense to work towards improving the QUALITY OF MOST IMPORTANT, QUICKEST CASCADES OF CONTROL – BECAUSE THOSE HELP ALL OF THE MOVEMENTS IN ALL OF THE REGIONS!

## Neurological Control of *Muscle Tone*

In the first two paragraphs – on Muscle Control and Movement Control – we mainly talked about the eyes. Now it's time to highlight the **SUPER ROLE OF THE FACE**.

The main Global/ Total Body role of the mimic muscles is the **QUICKEST MUSCLE TONE REGULATION**.

Where is spasticity, rigidity and other manifestation of poor muscle tone regulation are most manifested? – Obviously, these are the arms/ hands and legs/feet.

What do most people do? – They are trying to fight against the spasticity where it manifests most – at the extremities.



But! The overall Muscle Tone Regulation is Global! First thing that we should look at are the areas where you get the:

- **Greatest sensitivity** (lowest delay) to the muscle tone regulation
- **Most global impact of the muscle tone regulation** – wide-spreading contribution from one area to the rest of the body

What is the answer to those 2 questions? – **Face and Mimic Muscles make the epicenter of the Muscle Tone Regulation for the entire body.**

- If you change the expression of your face – your ENTIRE body changes its tone. Tighten your face – the muscle tone rises everywhere. Smile and relax – the muscle tone excess discharges everywhere as well.
- If you need to impact your muscle tone quickly – like getting awake in the morning – what do you do? – You splash the coldish water onto your face – and as if by magic your ENTIRE body wakes up.

These are simple examples showing how quick and how global the contribution of the face/mimic muscles is. That's the **SUPER ROLE OF THE FACE MIMIC MUSCLES – GLOBAL MUSCLE TONE REGULATION BASIS.**

In other words, the control of the face muscles and the repertoire of their expressions – is like a 'magic canvas' that underpins all of the other **MUSCLE TONE FLUCTUATIONS!**

That's the key to understand – muscle tone is not a static state – it's in continuous ups and downs, which change in time – quicker or slower. The areas of the quickest change in time of a muscle tone rate define the quality of the muscle tone regulation – for the entire body! – Including the obviously problematic areas which are spastic, rigid or even flaccid and floppy.

**If your child's control of Muscle Tone Fluctuations in the area where it has to be the Quickest, Most Diverse, and Most Precise – i.e. Face Mimic Expressions is poor, then – all the other locations of muscle tone regulation are in trouble aggravating hypertone and/or hypotone problems!**

- Arms/hands, legs/feet muscles – were NOT designed to be independent in their local muscle tone regulation! They are designed to respond slower thanks to muscle tone regulation 'control canvases' as a background setting from the mimic muscles for the entire body!
- Without the proper tone regulation assistance from the mimic muscles – legs and arms muscles are not capable of handling the regional muscle tone fluctuations properly (Because they are not sensitive/quick/ influential enough). The result is either too much (hypertonic spastic/rigid) or too little (hypotonic weak/flaccid)

I hope these answers help you to understand how seemingly local responses of the eyes control muscles and mimic expressions have a huge global role for the:

- Making the existent movements and positions better
- Opening the potential for the new functions to emerge
- Reduction of the tone troubles – both hypertonic and hypotonic.

And amazingly these significant contributions can be achieved with almost zero “work” from your side – since the actual application of the ABR Fascia Gel takes 1-2 minutes twice a day.

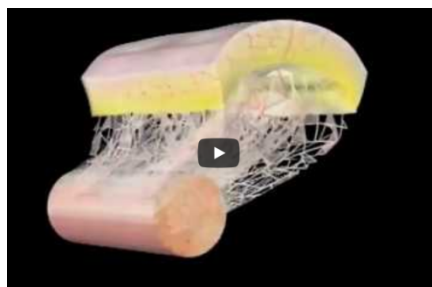
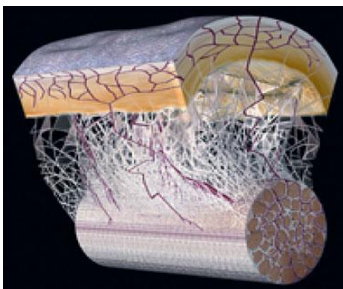
Sounds REALLY GOOD, even too good to be true? – Well, there is a solid scientific background for this.

You already have a 10-page file from a couple of years ago with long explanation and references:

<http://bit.ly/FasciaGelforCP>

Meanwhile, let’s look at the super short explanation that gives a compact understanding.

## **FASCIA CONTROLS THE MUSCLES, TENDONS AND LIGAMENTS (by wrapping those)**



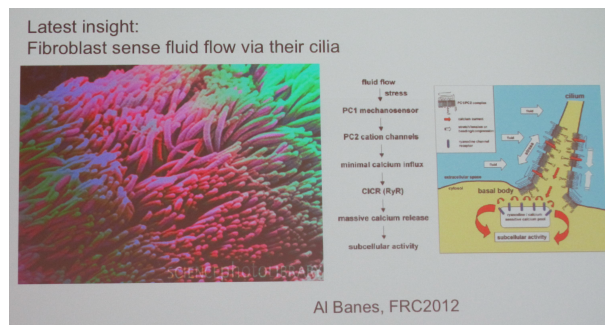
(J.C. Guimbertau, 2009-2018)

1. These pictures show how the individual longitudinal anatomical elements – muscles; ligaments; tendons are embedded into extracellular matrix/ fascia that surrounds and guides them as a ‘Velcro grip’.
2. These pictures show that there TWO main anchors for the fascia network that spreads with 1000s of fibres – one is the deep one (the bone), but the other one is the skin! In fact, the total area of the skin that is anchoring the fascia ‘mesh’ is several times larger than the surface area for the bone – hence has BIGGER ROLE in controlling the distribution of loads through fascia network – which in turn controls the rate of contraction/extension for the longitudinal elements (muscles, tendons, etc. )
3. If the Fascia mesh is challenged then there is a combination of it being ‘too glued’ in some areas and ‘too loose’ in the others – so the ‘embedding’ and distribution that it has over the muscles, tendons, etc. – is compromised.

“Extracellular matrix (ECM) is a diverse collection of proteins and sugars surrounding cells in all solid tissues; mainly composed of an interlocking mesh of fibrillar and non-fibrillar collagens; elastic fibers; glycosaminoglycan (GAG)-containing non-collagenous glycoproteins (hyaluronan and proteoglycans)” (Cox, 2011)

That’s why the fibroblasts are sensitive to the interstitial flow within the ECM. In other words – when ECM elements are ‘glued’ together; or being too loose; or being too thin; or being bundled together – the fibroblasts end up in the dormant state and stop doing their remodeling job. All these are so-called THIXOTROPIC properties of tissues (the flow of the interstitial fluids)

Fascia Gel is applied at the skin – so its BIOACTIVE POLYMERS have the ability to get through the pores of the skin – and start the ungluing process in the ‘too glued’ areas and stimulating process in the ‘too loose’ areas – thus improving the total distribution //the thixotropic properties of fascia.



As a result we have beneficial cascading effects.

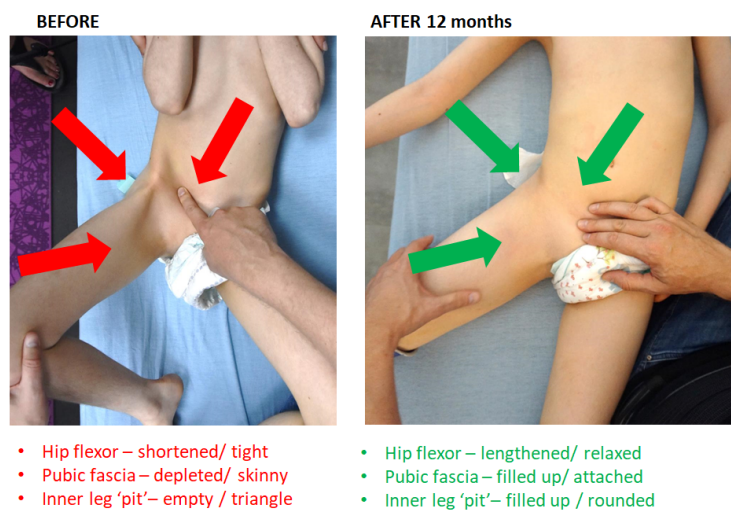
- Obviously, Fascia Gel doesn't work with muscle fibers directly – but by changing the properties of the skin/fascia interface – it is a 2<sup>nd</sup> order effect that helps muscles, tendons, ligaments, etc.
- Fascia Gel has the most obvious effects on the face and mimic muscles – because the relative role of the skin is particularly large in the face area (compared to the deep bone attachments)
- Obviously, Fascia Gel doesn't claim any direct effect on the brain itself – but via another 2<sup>nd</sup> order effect the unlocking of the eyes/face muscles allows the brain to unlock its otherwise unavailable potential for the control of these Quickest muscle tone and muscle contraction regulators
- Besides of the cascade effects that downstream from the eyes/ mimic control to the unlocking of the new functions and new tone improvements – there are also additional skin-fascia-muscle benefits that come from the Fascia Gel applications

Here are the additional areas:

## 1. Neck

Obvious considerations – huge role of the fascia envelopes onto the superficial and deep neck muscles, especially the ever-problematic SCM and Trapezius hypertone/shortening.

## 2. Lower abdominal / pubic / hip pits area



This is the area where the skin is extremely thin and delicate – hence it grips very poorly and slides easily, which worsens hip flexor contracture and adductor shortness – because poor distributions of loads through the skin-fascia-muscle interface result in a concentration of tension in just a few muscles.

Fascia Gel effect brings the thickening of the fascia under the skin – better Fascia Velcro – better distribution of loads – relief of the muscle overload for hip flexors and adductors.

### 3. Spine

We always highlight that the key controls of the spine are in the ligaments – as the fastest wave-tension transfer structures that define the ability of the spine to undulate properly.

Missing micro-movements of the rib cage limit the extension-feed for the spinal ligaments, which tend to 'dry out', glue and over-mineralize.

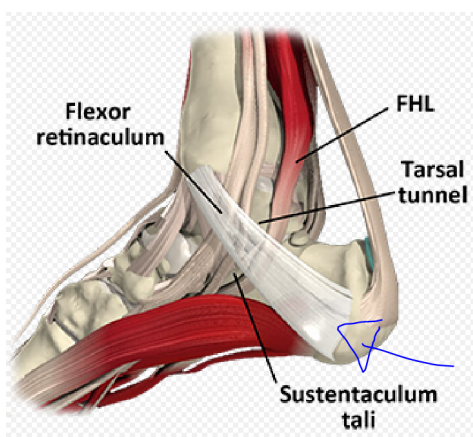
Fascia Gel – helps with ungluing, and hydrating the spinal ligaments – unlocking the undulation potential and of course working in conjunction with your ABR vibro tools

### 4. Feet and hands.

- For the digits – these are the area with the highest role of the tendons and ligaments – i.e. fast responding tensional structures that need the best possible repertoire of tensional fine-tuning. The digits for ALL of the children with CP and genetic conditions are under-performing – using just a fraction of what they can do.
- For the palm and foot soles – the areas of the greatest skin thickness and greatest density

Through the ungluing, Fascia Gel helps to unlock the key control switch – the digits should be leading and the palm/foot should follow.

### 5. Ankles and wrists



Special role of the Super-Bands – the flexor and extensor retinacula that define the insertion of the heel into the ankle (and the carpal bones into the wrist fold). Ungluing is essential for improving this key connection.

### 6. Typical areas of skin-muscle gluing:

Hamstrings, pectorals, biceps/brachialis, wrist flexors



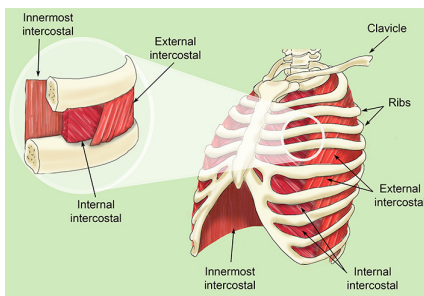
These are the areas where the muscle tendon departs **FARTHEST** from the bone – hence the skin is the main stabilizer, so its role is even greater than in the other areas.

On the other hand, these are the areas of the greatest loads that occur both during the spastic movements and through training (crawling, standing, etc.)

As a result, we *always* observe the skin-tendon gluing, which ranges from significant to extreme.

Ungluing with Fascia Gel is the key – because these areas could be very sensitive and hard to work at mechanically.

## **7. Rib cage and intercostals.**



This is the most obvious and most spread out application of the Fascia Gel – since all of you must be very well aware of the leading role that the respiration mechanics play as the driver of a child development through 20,000 milli- and mini-movements daily.

We want to maximize the role of the internal intercostals – but most children are overcommitted to the use of either external or internal only – hence the excess gluing under repetitive loads.

I hope that this compact text will help you in getting a clearer understanding why I am such an enthusiast for Fascia Gel – and why I really care that you would use it consistently to get the maximum benefits from it.

It's almost effort-free, and really as easy as it could be!

I understand that sounds too good to be true – that's the reason why I want you to see the before-and-after effects and to understand how it actually works with global contributions.

And, from our side – despite the increasing costs of production and huge spike in logistics cost – we have committed to maintain the same pricing as in the previous years.

To your child's happiest life and best progress!

Sincerely,

Leonid Blyum,

On behalf of ABR Team