

1. Human function when viewed intuitively is a very simple thing . . . when analyzed it turns into a complex tangle of paradoxes (Functional Oxymorons)
2. Integrated Isolation is truly authentic isolation
3. With Integrated Isolation we are making various parts of the body become better friends and more effective members of the body
4. To get to simplicity, we first of all must appreciate the blessing of complexity
5. Integrated Isolation and Isolated Integration are the ultimate use of our power of tweakology
6. The strategic use of movement tweaks . . . plane tweaks, joint tweaks, range tweaks, and position tweaks, to make Integrated Isolation even much more powerful
7. We need to know the functional biomechanical anatomy and **chain reactions** of all tissue and body parts, in order to know how to tweak and take advantage of Integrated Isolation and Isolated Integration
8. We need to be a constant flux of tweaking in and tweaking out, within the power of all of our components of tweakology
9. We constantly have to analyze . . . we never rehab, we never train and condition, without ongoing analysis
10. Our default button must always be what we are proprioceptively feeding the system
11. In upright function, the abdominals get turned on with three dimensional motion relative to the shoulders and the pelvis
12. The goal is to integrate the isolated soft tissue back into function
13. By definition the Power of Transformation must be a grace gift



FUNCTIONAL DESIGN SYSTEMS

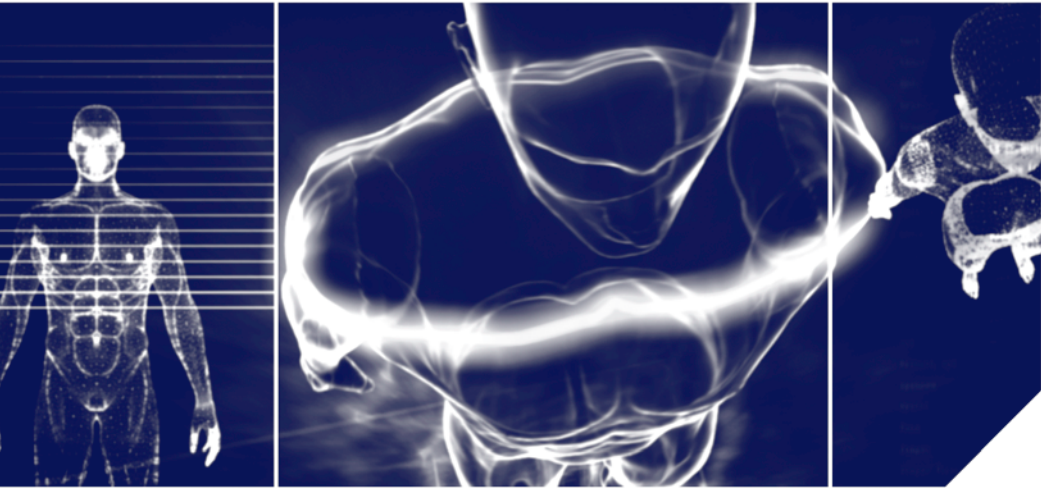
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v4.8 INTEGRATED ISOLATION

Zeroing In On Function

By: Gary Gray, PT



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OBJECTIVES FOR FMR OF THE INTEGRATED ISOLATION FUNCTIONAL GUIDE

To assimilate up-to-date information and knowledge about Integrated Isolation.

To learn how to apply effective functional techniques when testing, training, and rehabilitating using an Integrated Isolation approach.

To understand and appreciate the tri-plane **Chain Reaction™** principles as they apply to Integrated Isolation.

HOW TO USE THIS FUNCTIONAL GUIDE

This *functional guide* can be used as a convenient summary of the program's contents to take with you after viewing. You can also use this guide as a notebook; space has been provided so that you can make notes on relevant tracts as you watch them.



FUNCTIONAL

Video Digest Series

Having fun with tri-plane tug-of-war

*The kid with the ugliest face is usually the one that is not really pulling very hard
... demonstrating "isolated integration"*

STRATEGY 1

Strategically appreciating the paradoxes of function as well as life and salvation

STRATEGY 2

Strategically understanding the full spectrum of function including Isolated Integration, Integrated Integration, and Integrated Isolation

STRATEGY 3

Strategically analyzing the utilization of an Integrated Isolation and Isolated Integrated approach

STRATEGY 4

Strategically utilizing movement tweaks for analysis, rehabilitation, and training and conditioning



STRATEGY 5

Strategically being able to effectively and functionally tweak in and tweak out

STRATEGY 6

Strategically creating an environment to facilitate three dimensional loading and unloading of the abdominals

STRATEGY 7

Strategically appreciating the functional transformation of soft tissue and the integration of soft tissue back into function

STRATEGY 8

Strategically taking advantage of research to emphasize what can be done based on a "can do" and a "can't do" analysis



Human function when viewed intuitively is a very simple thing . . . when analyzed it turns into a complex tangle of paradoxes (Functional Oxymorons)

Life and salvation when viewed intuitively is a very simple thing . . . when analyzed it turns into a complex tangle of paradoxes

- To become ourselves, we must die to ourselves
- To gain anything, we must give up everything
- To love ourselves, we must first love others by first of all loving ourselves
- We gain strength through an understanding of our weaknesses
- We are uplifted through pure humility

- We gain stability through mobility
- Action is caused by a reaction
- Real is only revealed through the relative
- Our conscious ability gets there subconsciously
- Clarity is revealed through ambiguity
- Pure isolation can only occur through integration

- Understanding Integrated Isolation as well as Isolated Integration
- Understanding the mystery and the paradoxes of the biomechanics of **Chain Reaction™**
- The part must be analyzed with respect to its whole
- The body desires to work together as synergistic parts . . . all parts are friends



Integrated Isolation is truly authentic isolation

Integrated Isolation of the quads is a gradual removal of the quadriceps' friends

Discussion of isolation while integrated

The use of movement tweaks, influence tweaks, and dimension tweaks to bring in more friends (tweaking in) as well as gradually taking away friends (tweaking out)

With Integrated Isolation we are making various parts of the body become better friends and more effective members of the body

Looking at our functional paradoxes

Integrated Isolation and Functional Transformation of Soft Tissue (FTST)

To get to simplicity, we first of all must appreciate the blessing of complexity



Integrated Isolation and Isolated Integration are the ultimate use of our power of tweakology

Our initial emphasis on functional rehabilitation and analysis was with respect to integration without a biomechanical understanding of Integrated Isolation

Discussion of Isolated Integration, Integrated Integration, and Integrated Isolation

Whatever word is at the end, is what we are after, as authentically driven as possible

Tweaking the gait in analysis . . . tweaking in and tweaking out in order to reveal a functional threshold

Making it a little more difficult . . . tweaking out . . . going towards the isolated end

Making it a little easier . . . tweaking in . . . going towards the integrated end

Example of patellar tendonitis

Initially creating success by Isolated Integration by tweaking in

Then gradually tweaking out with an Integrated Isolated approach

Looking for potential causes . . . likely suspects

The strategic use of movement tweaks . . . plane tweaks, joint tweaks, range tweaks, and position tweaks, to make Integrated Isolation even much more powerful

Example of a position tweak with right leg internally rotated with left foot toe touch balance anterior, and then to the other end of the spectrum with right leg externally rotated with left foot toe touch balance posterior/left lateral and compare.



Knowing not only the extremes of Isolated Integration and Integrated Isolation, but the journey through the spectrum to find the functional threshold

A through Z, with A and Z not being absolutes . . . they are relative to what is functionally needed . . . “what are you really after?”

A and Z are different for everything, and different for everybody

The use of a lunge with reaches as analysis techniques for Integrated Isolation and Isolated Integration

Development of a three dimensional functional threshold

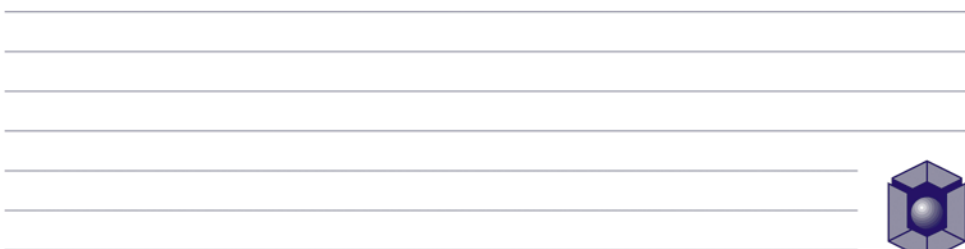
Integrated Isolation in the TrueStretch™ . . . example of a sagittal plane position of eccentric lengthening of the hip flexors, driving into the frontal and transverse planes, while integrated

Integrated Isolation in the TrueStretch™ . . . example of a frontal plane position of eccentric lengthening of the adductors, driving into the sagittal and transverse planes, while integrated

We need to know the functional biomechanical anatomy and **chain reactions** of all tissue and body parts, in order to know how to tweak and take advantage of Integrated Isolation and Isolated Integration

Getting to the Position In Time Of Transformation (PITOT) of the posterior left shoulder throughout the entire **Chain Reaction™**

Movement tweaks and PITOTs are the key to success in Functional Manual Reaction (FMR) and Functional Transformation of Soft Tissue (FTST) with an Integrated Isolated and an Isolated Integrated functional approach



Once we gain motion at PITOT, we then go to Isolated Integration, and then to Integrated Integration, and finally to Integrated Isolated strengthening

We utilize movement tweaks, including positioning, planes of motion, range of motion, and joint tweaks, as well as the tools we use in a bottom up or top down approach to produce the desired **Chain Reaction™**

Concurrently tweaking up and tweaking down, concurrently tweaking in and tweaking out, concurrently integrating and isolating to move along the functional pathway (which is not a linear route . . . it is a three dimensional zig-zag)

Getting to "Double Z" through "L,M,N,O,P"

We need to be a constant flux of tweaking in and tweaking out, within the power of all of our components of tweakology

We constantly have to analyze . . . we never rehab, we never train and condition, without ongoing analysis

Range as a tweak . . . full eccentric range can be a tweak out and it also can be a tweak in, depending upon what we are after and the desired **Chain Reaction™** required

Our default button must always be what we are proprioceptively feeding the system


A special treat of having Bob Wiersma debrief Dave Tiberio



Debrief with Bob Wiersma, Executive Director, Functional Rehabilitation Network with special guest Dave Tiberio

- Getting rid of the "Gray" factor
- Isolation Isolation . . . an isolation of the part, as well as all the associated proprioceptors, that makes no sense functionally
- Accumulative trauma caused by compensatory Integrated Isolation by default
- Getting to the causative cures
- Getting to the Integrated Isolation strategy, especially near the end of rehabilitation
- Using the Integrated Isolation strategy and analysis to get safely to the functional threshold of success
- The use of influence and dimension tweaks, such as force application, speed of movement and feedback to get to Integrated Isolation
- Integrated Isolation and the Position In Time Of Transformation . . . PITOT
- If we tweak the range, we tweak the range in which the Point of Transformation occurs
- If we tweak the plane, we tweak the primary plane of reaction at the Point of Transformation
- If we tweak speed, we tweak the speed at which the Point of Transformation must be controlled and transformed into productive movement

A special thanks to Bob Wiersma and Dave Tiberio



G2's opportunity to train and condition with his son, Doug

The abdominals are tough to isolate while integrated in upright posture

In upright function, the abdominals get turned on with three dimensional motion relative to the shoulders and the pelvis

In upright function gravity defaults us to turn off the abdominals

To facilitate an abdominal reaction, we need to understand what they do and how they do it within the context of the entire **Chain Reaction™** system, and within the context of the desired function

The use of the power of tweakology in order to get the abdominals to decelerate extension of the trunk on the pelvis, along with deceleration of lateral flexion and rotation

We want to facilitate the deceleration of lateral flexion and rotation in the same direction, to facilitate the deceleration of lateral flexion and rotation in opposite directions

The use of two load tweaks . . . a weight vest and a bungee cord

- The weight vest adds more mass and momentum of the trunk which requires greater capability of the abdominals at the Position In Time Of Transformation, three dimensionally
- The use of the bungee cord attached at the posterior shoulder facilitates an extension load with a lateral flexion and rotational load

With extension the abdominals react to both Type I and Type II motion of the spine

- Type I motion: Lateral flexion and rotation opposite
- Type II motion: Lateral flexion and rotation same



Abdominal **Chain Reaction™** Training and Conditioning

- Right wide stance with Type II load with rotation opposite of pelvic position
- Right wide stance with Type I load with rotation opposite of pelvic position
- Left wide stance with Type I load with rotation same as pelvic position
- Left narrow stance with Type II load with rotation same as pelvic position
- Right narrow stance with Type II load with rotation opposite as pelvic position
- Left narrow stance with Type I load with rotation same as pelvic position
- Right narrow stance with Type I load with rotation opposite as pelvic position

- Right leg balance with Type II load
 Feeding in the transverse plane and feeding out the frontal plane
- Left leg balance with Type II load
 Feeding in the frontal plane and feeding out the transverse plane
- Right leg balance with Type I load
 Feeding in the frontal plane and feeding in the transverse plane
- Left leg balance with Type I load
 Feeding out the frontal and feeding out the transverse plane

A logical sequence would be:

- Right leg balance with Type I load
- Right leg balance with Type II load
- Left leg balance with Type II load
- Left leg balance with Type I load

Additional tweaking with the use of arm drivers

- 3D Jumping Matrix, in sync and out of sync, with Type II load
- 3D Jumping Matrix, in sync and out of sync, with Type I load

Proprioceptively facilitating the abdominals through the creation of the proper **Chain Reaction™** to facilitate Positions In Time Of Transformation in order to isolate the abdominals while integrated in order to allow the abdominals to become a more effective member of the body

A special thanks to Doug Gray



Functional Transformation with Lenny Parracino and Dr. Vince Guagliano

The transformational power of friendship

Functional Transformation of Soft Tissue (FTST)

The pure function of the soft tissue

The elasticity of the myofascial system

Transforming the reaction of the soft tissue

Soft tissue includes muscle, fascia, ligaments, tendons, capsule and the nerves

The kinesthetic sense of well-being

Coercing, mobilizing, and facilitating the transformation of the soft tissue

Understanding the relative motion between tissues . . . creating the critical inter-fiber distance to allow the tissue to translate

The use of a functional non-compression tension technique

The difference between an internal glide and an external slide . . . we are after facilitating an internal functional glide between tissues

It is all about knowing our anatomy

It is all about the texture . . . tissue should not have trigger points, should not have knots, should not be ischemic, should not be painful



We need to know what normal texture feels like

The desire for lasting function

It is all about functional motion

The bookends of starting and ending in function

The goal is to integrate the isolated soft tissue back into function

Getting the soft tissue back into function through three planes of motion

Compression hurts, but tension works

Becoming a "concert pianist"

The soft tissue tri-plane strategy

"Feeling" is proportionate to an understanding of functional anatomy and biomechanics

The key is to get the soft tissue therapy to help the overall function of the entire body

By definition the Power of Transformation must be a grace gift

A fun, functional and transformational journey

A special thanks to Lenny and Vince



RESEARCH ROUNDTABLE WITH DR. DAVID TIBERIO

Kowalk DL, Duncan JA, McCue FC, Vaughn CL. Anterior cruciate reconstruction and joint dynamics during stair climbing. *Med Sci Sports Exerc*, 1997 29(11): 1406-1413.

How the body compensates in order to get function done . . . Isolated Integration

Discussion of going up stairs without an ACL . . . what the research says

Following ACL surgery and non-functional rehabilitation, the findings of asymmetry in going up stairs

The problem of not getting to the isolated part of integration

How Pooh Bear looks at artificial isolation compared to the pure function of going up and down steps

The initial loading of the foot going up a step

The strategy of Isolated Integration and the strategy of Integrated Isolation with respect to going up and down steps



Tweaking in and tweaking out

Tweaking the angulation of the step to find the functional threshold with the horizontal and vertical triangulations remaining constant

Tweaking only one dimension and/or one tweak at a time

Bringing in all the friends, yet at the safe and successful functional threshold

Looking at research and finding out what they can do, as well as what they can't

The paradox of "can do" and "can't do"

Going through the complexities of function and the paradoxes of function so that fun is meaningful to us, life is meaningful to us, and salvation is meaningful to us

A special thanks to Dr. David Tiberio

