1. Retro rehabilitation and training may have its greatest influence and power with consideration of the proprioceptive reaction.

2. We can transform our Retro/posterior analysis information into what our patients and clients need and want to do.

3. The strategy of blending planes is to tweak subtly.

4. The gift of Retro is a significant gift for all forms of function.

5. With a Retro technique the bungee cord resists getting to the Point of Transformation.

6. Especially with skilled training, we strategically sandwich the Retro technique into the “normalized technique”.

7. Retro training benefits us neurologically, muscually and skeletally.

8. We can biomechanically analyze the Points of Transformation with all forms of function by taking advantage of a Retro strategy.

9. The older we get the further we can look back . . . a Retro view . . . humbling as it may be.

10. A greater glimpse of transformational dysfunctions reveal themselves with Retro loading.

11. A special thanks to Dr. Dave Tiberio
OBJECTIVES FOR THE RETRO FUNCTIONAL GUIDE

To assimilate up-to-date information and knowledge about Retro function.

To learn how to apply effective functional techniques when testing, training, and rehabilitating using Retro function.

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

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.
The indoor Retro triathlon . . . swimming backwards, pedaling backwards, running backwards.

“The first will be last and the last will be first”.

STRATEGY 1
Strategically appreciating the unique biomechanical features of Retro ambulation

STRATEGY 2
Strategically realizing the proprioceptive influence of Retro rehabilitation and training

STRATEGY 3
Strategically analyzing with specific posterior, backward, Retro evaluative techniques

STRATEGY 4
Strategically understanding sequencing relative to Retro
STRATEGY 5
Strategically taking advantage of Retro rehabilitation and training techniques

STRATEGY 6
Strategically exploiting functional Points of Transformation relative to Retro

STRATEGY 7
Strategically progressing through function utilizing subtle tweaks

STRATEGY 8
Strategically designing functional Retro training programs

STRATEGY 9
Strategically transforming our understanding of function into effective rehabilitative and training programs

STRATEGY 10
Strategically taking advantage of functional research to enhance our abilities to improve the lives of our patients and clients
Thirty years ago in physical therapy school being introduced to the Retro strategy

Use of Retro as a part of rehabilitation . . . getting my patients to walk backwards

Tweaking the Retro gait

Positive correlation from Retro training to the forward desired function

Tweaking the features of Retro

Analyzing the Points Of Transformation in forward walking, as compared with backward walking

Forward versus backward walking comparative fore/aft center of gravity analysis

Both forward and backward gait, the pelvis and trunk rotate opposite to effectively load the core

In the sagittal plane, there is greater anterior rotation of the pelvis going forward as compared to Retro upon initial foot contact. With forward ambulation the trunk is being decelerated while it is moving forward, and with backward ambulation the trunk is being decelerated while moving posteriorly.

Comparatively, a wider base is noted with Retro ambulation, with less hip adduction and frontal plane pelvic rotation . . . therefore less lateral flexion through the spine. Comparative lumbosacral junction three dimensional stress is less with Retro ambulation, compared with forward ambulation.
With forward walking the heel enters into the ground, everts, unlocks the mid-tarsal joint, facilitates transverse plane internal rotation of the tibia and femur, and facilitates internal rotation of the hip. Shock absorption is facilitated through knee flexion and hip flexion, being absorbed by the quadriceps and hamstrings.

With Retro ambulation, the forefoot strikes the ground first . . . the posterior calf muscles including the gastroc and soleus, along with the posterior tib and peroneus longus and flexor digitorum longus, eccentrically decelerate the heel to the ground. Primary shock absorption is done via the calf, while the midtarsal joint is relatively locked up.

The hips in Retro demonstrate less comparative rotation with less hip excursion in the sagittal plane, as well as legs in the frontal plane.

An analysis of the kyphotic trunk going from forward walking to backward walking.

*Retro rehabilitation and training may have its greatest influence and power with consideration of the proprioceptive reaction.*

Discussion of a stroke patient with abnormal tone with abnormal synergy . . . creating a Retro reactive environment to facilitate forward progression.
Dave and Gary going “back to the future”

Understanding the strategy of sequencing in analysis, rehabilitation and training relative to Retro

Lunge Analysis and Treatment
• Anterior lunges, as well as posterior lunges
• Same side lateral lunges, as well as opposite side lateral lunging
• Same side rotational lunges, as well as opposite side rotational lunging
• Analysis of posterior lunges at the Point of Transformation . . . looking for “bailing out”
• The tweak of distance in the sagittal plane, facilitating an enhanced transverse plane reaction

Retro Strategies with Overhead Lifting
• Getting to the posterior vector as well as the anterior, the opposite side lateral as well as the same side lateral, and the same side rotational as well as the opposite side rotational

Combining Lunges with Reaches, with a Retro Strategy
• Posterior lunges with bilateral overhead posterior reaching, bilateral overhead lateral reaching, and bilateral shoulder height rotational reaching
• Opposite side lunges with bilateral overhead posterior reaching, bilateral overhead lateral reaching, and bilateral shoulder height rotational reaching
• Opposite side rotational lunges with bilateral overhead posterior reaching, bilateral overhead lateral reaching, and bilateral shoulder height rotational reaching
Understanding mobile stability . . . Mostability

**Retro Progression in the TrueStretch™**

- Strategy of stabilizing the arms posteriorly with driving the legs posteriorly
- Strategy of stabilizing the leg posteriorly with driving the arms posteriorly
- Strategy of stabilizing the arms and the legs (four points of stability) with driving the pelvis in all three planes
- Review of knee drivers, pelvis drivers and trunk drivers in all three planes

*Transforming our Retro/posterior analysis information into what our patients and clients need and want to do.*

Sagittal plane stance positioning with frontal plane and transverse plane driving
Retro Step Up
- Analysis of posterior step up and posterior step down and return
- Distance tweak with posterior step down and return and posterior step up
- Driving the hands in all three planes with posterior step down and return

How do we get more information out of our functional analysis techniques?

Analysis of the pelvis in all three planes relative to the trunk in all three planes

Posterior Lunges with Step
- Posterior lunge up
- Posterior lunge down

The answer is in the patient’s body

Demonstration and discussion of opposite side rotational step up

Retro Balance Reaches
- Driving the arms and legs posteriorly
- The inability to take advantage of what is happening behind us
- Tweaking the plane as well as the driver before tweaking the distance with posterior balance reach analysis
Retro Gait Analysis

- Looking at the “front trunk and front butt”
- Utilization of gait as a treatment and training technique
- Tweaking the Retro gait
- 3D thoracic spine function with Retro walking

The Retro Tweak of Speed

Retro Pivoting

- Understanding pivoting in all three planes . . . to the anterior vector and to the posterior vector with arm drivers with a speed tweak

Retro Jumping and Retro Hopping

Retro Skipping

- May be a functional bridge

Not necessary to go pure posterior . . . example of posterior lateral shuffling

Strategy of blending planes . . . tweak subtly.

*The gift of Retro*
G2’s opportunity to train and condition with Jessica and Kent

Developmental Sequence Training Program

Going from ABC and progressing through and to XYZ

• Forward belly crawl
• Forward hands and knee crawl
• Forward hands and feet crawl
• Forward run
• Forward lateral jumps
• Forward skipping
• Forward hurdling
• Forward soccer dribbling
• Forward kicking
• Backward belly crawl
• Backward hands and knee crawl
• Backward hands and feet crawl
• Backward run
• Backward lateral jumps
• Backward skipping
• Backward hurdling
• Backward soccer dribbling
• Backward kicking

“There is a little more giggling going on going backward”

The frontal and transverse planes as part of the developmental sequence training program

*Being thankful for and proud of Jessica and Kent*
Two basic rules of dress code for the average golfer
• Don’t dress Retro
• Don’t dress too color coordinated

Getting Retro to get us better in doing what we want to do better

**Obvious Retro technique . . . right handed golfer hit balls left handed and the left handed golfer hit balls right handed**

*Digging deep into the golf swing and Retro strategy*

Analyzing the Points of Transformation with the golf swing . . . the complete back swing and the complete follow through

**Golf Club and bungee cord loading**
• Bungee cord load for the backswing
• Bungee cord load for the follow through

Let the bungee cord pull us into the Point of Transformation and decelerate the pull (the load) with an end range tweak and a speed tweak
With a Retro technique the bungee cord resists *getting to the Point of Transformation*

**Resisting getting to the Point of Transformation for the backswing**

Resisting getting to the Point of Transformation for the follow through

Again, utilizing an end range tweak and a speed tweak

Especially with skilled training . . . strategically sandwiching the Retro technique into the “normalized technique”

Retro training benefits us neurologically, muscularly and skeletally

Biomechanically analyzing the Point of Transformation with all forms of function and taking advantage of a Retro strategy
RESEARCH ROUNDTABLE WITH DR. DAVID TIBERIO


The older we get the further we can look back . . . a Retro view . . . humbling as it may be

Speed tweaks in Retro gait

Increasing the speed in Retro as we get older does not reveal an increase in stride length

Looking at the hips, the ankles, the trunk, and looking at the proprioceptors as well as muscle function

The strategy of maintaining backward abilities

Following up stretching with *proprioceptive strengthening*

Quantitative as well as qualitative analysis
Utilizing Retro to reveal qualitative features

A greater glimpse of transformational dysfunctions reveal themselves with Retro loading

Enhanced forward walking with CVAs engaged with Retro rehabilitation and training

“Two steps back may be better than one step forward initially”

The posterior blessing . . . trying to understand why Retro techniques are so powerful and successful

Looking at the center of gravity

The ultimate litmus test . . . do we really enhance function?

The good news about function is we don’t have to argue function or hypothesize function . . . we can test function

A special thanks to Dr. Dave Tiberio