1. The strategies of the task (the why) leads to the exercises of the task (the what).

2. The "Name of the Game" is found in simple verbiage to describe Function.

3. The need of being able to witness Function and communicate Function in order to take Function to a deeper, higher, and more progressive level.

4. Terms must accurately describe what the body is doing.

5. In three dimensional space, a Functional Triangulation is needed to describe a specific point.

6. The need to describe Function - calls for Functional Triangulation, the use of terminology that is clean, clear, concise, and applies to all disciplines, using proper rules for greater consistency.

7. "If we are limited by the terminology, our function becomes contrived." - Gary Gray

8. Put an objectivity and quantification to the exercise to make it a test - the exercise is the test and the test is the exercise.

9. "It's the empowerment of you using the tool versus the imprisonment of the tool using you." - Doug Gray

10. Description and documentation are keys to success and improvement.

11. Appropriate, consistent nomenclature for functional terminology allows for more dynamic locomotor patterns, such as shuffling, walking, running, jumping, hopping, jopping, skipping, and skuffling.

12. Functional nomenclature adds greater understanding and appreciation to all functional activities as shown through 3DPC (Three Dimensional Personal Conditioning).

13. Lack of common communication inhibits research dramatically; discussions and conclusions are gapped.

14. Proper functional nomenclature makes it easier to tweak the exercise.

15. "Nomenclature empowers you to own and control space." - Bob Wiersma
**v4.12 FUNCTIONAL NOMENCLATURE**

Learning, Speaking, and Applying Function

By: Gary Gray, PT

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**OBJECTIVES FOR THE FUNCTIONAL NOMENCLATURE FUNCTIONAL GUIDE**

To assimilate up-to-date information and knowledge about Functional Nomenclature.

To learn how to apply effective functional techniques when testing, training, and rehabilitating using a Functional Nomenclature approach.

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

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**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.
Gary, Brad, & Doug

Brad and Doug reenacting what they did as youngsters, listening to Gary on the answering machine, who was calling from his hotel room with a "challenge" grounded in functional terminology.

The "challenge" includes the following activities:

- Three (3) Out-of-Sync Frontal Plane Squat Thrusts
- Making five (5) shots while performing Left Leg Sagittal Plane Hops
- Five (5) Right Same Side Lateral Shuffles and five (5) Left Same Side Lateral Shuffles around the tree in the front yard
- Posterior Skip to mailbox;
- Anterior Sprint into the house
- Giving Lucy an M&M Peanut
- Finding mom and telling her how much dad loves her
Abnormal upbringing of Brad and Doug involving Function with them being the sons of the "Father of Function"

The parallel of Gary's challenges with Function, in that both are task driven

The method to the madness is found in the task

The strategies of the task (the why) leads to the exercises of the task (the what)

The "Name of the Game" is found in simple verbiage to describe Function

Bridging the gap of communication

A special thanks to Brad
(Gary & Doug)

- Problems exist due to lack of communication
  - Gary's analogy of becoming "Raymond"
- Doug's journey through the trials and tribulations of learning how to speak Function
- The need of being able to witness Function and communicate Function in order to take Function to a deeper, higher, and more progressive level
- The need to cleanly differentiate what is seen in order to properly communicate
- Function-Ease - how to make speaking Function easy
- Pure terms to what is taking place three dimensionally
- Red Book of Function - comprehensive text using cleaned-up terms that has already been provided by those who have gone before us
- Showing how the terminology pieces fit together in the puzzle of Function
- Importance of understanding the complexities of Function on the front end in order to appreciate the simplicity of Function on the back end
- Function - complex and variable (literally over a million intricacies that need to be described in various movement patterns)
- Terms must accurately describe what the body is doing
- Any language system is complex
- Understand definitions and understand rules of the game in order to effectively apply
- A system of communicating Function
- Slang is only good if you are in the circle of slang; there must be a common language of exact functional terminology
- "Balance Reach" example
  - Title of the exercise with a picture of the exercise to piece both together
  - "1 Leg Balance Reach" - what leg to balance on (right or left), what driver to reach with (nose, hand, single hand, bilateral hand, knee, foot, etc.)?
    - Left Leg Balance, Right Foot Anterior at Knee Reach.
- Can be a testing exercise, a rehabilitation exercise, a training and conditioning exercise, etc.
- Numerous options to choose from to reach (driver); must be able to describe all options cleanly
- Change of height from knee to ankle changes ankle dorsiflexion, knee flexion, and overall driver of the stability leg
- Even though all are going along the same path, there is a need to accelerate understanding and communication forward to better influence lives for greater benefits
- Difference between position and motion
  - Words ending in "ed" or "us" relate to positions
  - Words ending in "ing" or "ion" relate to motions
- Conscious driver of a part of the body (i.e. - the right knee) facilitate subconscious chain reactions throughout the rest of the body
In three dimensional space, a Functional Triangulation is needed to describe a specific point.

Functional Triangulation consists of the following:
- Angulation Coordinate - direction (which way)
- Verticality Coordinate - height (how high)
- Horizontal Coordinate - distance (how far)

Tri-Post - reference point to the Functional Triangulation
- Angulation Coordinate - Real and Relative
  - Real - any degree on the Functional Compass (i.e. - 0°, R90°, etc.)
  - Relative - anterior, posterior, right lateral, left lateral, right anterior lateral, right posterior lateral, left anterior lateral, left posterior lateral, right rotational, left rotational
- Verticality Coordinate - Real and Relative
  - Real - specific number to a specific metric unit (i.e. - 6")
  - Relative - contingent to individual (i.e. - ankle, knee, shoulder, etc.)
- Horizontal Coordinate - Real and Relative
  - Real - specific number to a specific metric unit (i.e. - 12")
  - Relative - contingent to individual (initial range, mid range, end range, etc.)

Driver mentioned prior to Functional Triangulation

Sounds simple and clear due to the effects of the journey

Change in referencing lateral and medial to right lateral and left lateral

Order of words in nomenclature:
- Position first (Right Leg Balance, Knee Flexed 45°)
- Driver second (Bilateral Hands)
- Angulation Coordinate third (Anterior)
- Verticality Coordinate fourth (at Hip)
- Action fifth (Reach)
- Horizontal Coordinate (to 36"/to Max)

Rule of Self-Selection

Right Leg Balance, Nose, Anterior at Nose Reach to Max

Task-oriented nomenclature specific description to facilitate the desired chain reaction throughout the body

Left Leg Balance, Right Hand, Right Rotational at Overhead Reach to Max to create reaction through shoulder into trunk to take pelvis, femur, tibia, and talus to evert calcaneous in order to check the subtalar joint.

SFT (Sagittal/Frontal/Transverse) Syntax:
- Sagittal - Right (R), Left (L), or Neutral (X)
- Frontal - Wide (W), Narrow (N), or Neutral (X)
- Transverse - Externally Rotated (E), Internally Rotated (I), or Neutral (X)
Understanding (cont')

- RWE = Right (in the Sagittal Plane), Wide (in the Frontal Plane), and Externally Rotated (in the Transverse Plane)
- RWE(L) = Right (in the Sagittal Plane), Wide (in the Frontal Plane), and only the Left Foot Externally Rotated (in the Transverse Plane)
- Twenty-seven (27) symmetrical stances and fifty-four (54) asymmetrical stances for a combined eighty-one (81) different stances
- Different stances allow for different chain reactions
- Where is the Tri-Post?
  - Stance position - Directly between both feet
- Angulations referenced by a plane of motion
  - Sagittal Plane Angulations - anterior (0°) and posterior (180°) (referenced by frontal plane)
  - Frontal Plane Angulations - right lateral (R90°) and left lateral (L90°) (referenced by sagittal plane)
  - Transverse Plane Angulations - right rotational and left rotational (referenced by sagittal plane)
- Nomenclature is simple, yet very sensitive (fighter jet and target analogy)
- Movement of Tri-Post
  - Tri-Post of stance position dictates Functional Triangulation for the lunge; lunge foot (driver) dictated Functional Triangulation for the hand reach
  - Right Foot, Right Lateral Lunge (heel on R90° angulation with toes pointing forward or perpendicularly)
  - Right Foot, Right Lateral Rotational Lunge (heel and toes both on R90° angulation)
  - Right Foot, Right Lateral External Rotational Lunge (heel on R90° angulation with toes pointing right or externally)
  - Right Foot, Right Lateral Internal Rotational Lunge (heel on R90° angulation with toes pointing left or internally)
  - Bilateral Hands, Anterior at Ankle Reach - wherever the toes are pointing is the anterior angulation for the hand reaches
- Need to emulate task from a functional perspective, which is complicated, in order to properly train and condition
- Need to describe Function - calls for Functional Triangulation, the use of terminology that is clean, clear, concise, and applies to all disciplines, using proper rules for greater consistency
- LWE, Right Foot, Right Anterior Lateral Lunge with Left Hand, Anterior at Knee Reach to Max and Right Hand, Right Rotational at Shoulder Reach to Max
  - "If we are limited by the terminology, our function becomes contrived." - Gary Gray
- Functional Anatomical Position (FAP) Rule - describe motions of the body as if the body were in standing, anatomical position
- What Chain Reaction™ do you want to gift your client with?
• What Chain Reaction™ would you like to use to rehab your patient?
• "You have to go through the valley of complexity to get to the mountaintop of simplicity."
  - Gary Gray

Analysis & Rehab (Gary & Doug)
• Everything we can nomenclature as an exercise, we can nomenclature in a test - very powerful
• Put an objectivity and quantification to the exercise to make it a test - the exercise is the test and the test is the exercise
• Lunge - speed, repetitions, timing (how many in a given time or how long to do a certain amount), etc.
• Functional 3D Testing System is a Functional Triangulation
  - Angulation Component (Mat)
  - Verticality Component (Pole)
  - Horizontal Component (Measuring Tape)
• Easy to document success and the function of the patient's or client's body with the Functional 3D Testing System
  - Thousands upon thousands of exercises
• Function is so subtle
• Distance can be a linear or an angulation distance
• The step (box) is simply a tool
  - Need to know position (how am I standing) and height of the step
• Ground height is directly under the feet or foot (top of the step)
  - Now have 6" to identify (height of step), which is attained by using the absolute verticality coordinates
    • Positive numbers are above ground height
    • Negative numbers are between bottom and top of step
• Left Leg Balance, Right Foot, Anterior at -3" to Max
  - Testing left ankle dorsiflexion
• Lunge to a box
  - Right Foot, Anterior Lunge to 6" Step to 36"
• Lunge from a box
  - Right Foot, Anterior Lunge from 6" Step to 20"
• With tools, none of the rules change and none of the nomenclature changes
• With a ball, with a TrueStretch™, with a free weight
• Proper nomenclature for a "Bench Press" would be the following: Supine on Bench, Bilateral Hands, Shoulder to Anterior at Shoulder Lift with Barbell
• Dual pulley systems
• Don't be limited by the chart on the machine or the designated protocols
• "It's the empowerment of you using the tool versus the imprisonment of the tool using you." - Doug Gray
• Description and documentation are keys to success and improvement
Training & Conditioning (Doug with Shallon Gray & Sandi Dilts)

• Review of nomenclature
  - Function - positions, motions, and series of motions
  - Positions - standing, balancing, sitting, kneeling, prone, supine, and side lying
  - Identification of Tri-Post references a Functional Triangulation
    • Angulation Coordinate
    • Verticality Coordinate
    • Horizontal Coordinate
  - Drivers
  - Lunge
    • Right Foot, Anterior Lunge
    • Right Foot, Posterior Lunge
    • Right Foot, Right Lateral Lunge
    • Right Foot, Left Lateral Lunge
    • Right Foot, Right Rotational Lunge
    • Right Foot, Left Rotational Lunge
  - Pivots
    • Right Foot, Anterior to Right Lateral Pivot
    • Right Foot, Anterior to Posterior Pivot
    • Right Foot, Anterior to Left Side Lateral to Right Rotational Pivot

• Variety of locomotor patterns
• Shuffle - feet do not cross
  • Right Anterior Shuffling
  • Left Posterior Shuffling
  • Left Anterior Shuffling
  • Right Posterior Shuffling
  • Left Same Side Lateral Shuffling
  • Right Same Side Lateral Shuffling
  • Right Opposite Side Lateral Shuffling
  • Left Opposite Side Lateral Shuffling
  • Right Same Side Rotational Shuffling
  • Left Same Side Rotational Shuffling
  • Right Opposite Side Rotational Shuffling
  • Left Opposite Side Rotational Shuffling
• Walking - series of steps in which one or both feet are in contact with the ground
  • Anterior Walking
  • Posterior Walking
  • Left Lateral Walking (In Front)
  • Right Lateral Walking (In Front)
  • Left Lateral Walking (Behind)
  • Right Lateral Walking (Behind)
  • Left Lateral Carioca Walking
  • Right Lateral Carioca Walking
  • Right Rotational Walking
  • Left Rotational Walking
• Tweak with speed into a jogging/running/sprinting activity
  • Anterior Jogging
  • Posterior Jogging
  • Left Lateral Jogging (In Front)
  • Right Lateral Jogging (In Front)
  • Left Lateral Jogging (Behind)
  • Right Lateral Jogging (Behind)
  • Right Lateral Carioca Jogging
  • Left Lateral Carioca Jogging
  • Right Rotational Jogging
  • Left Rotational Jogging
• Jumping - landing on two feet
  • Anterior Jumping
  • Posterior Jumping
  • Left Lateral Jumping
  • Right Lateral Jumping
  • Right Rotational Jumping
  • Left Rotational Jumping

Continued on next page
• Out-of-Sync Sagittal Plane Jumping Along Anterior Angulation
• Out-of-Sync Sagittal Plane Jumping Along Posterior Angulation
• Out-of-Sync Sagittal Plane Jumping Along Left Lateral Angulation
• Out-of-Sync Sagittal Plane Jumping Along Right Lateral Angulation
• Out-of-Sync Sagittal Plane Jumping Along Right Rotational Angulation
• Out-of-Sync Sagittal Plane Jumping Along Left Rotational Angulation
• Out-of-Sync Frontal Plane Jumping Along Anterior Angulation
• Out-of-Sync Frontal Plane Jumping Along Right Lateral Angulation
• Out-of-Sync Frontal Plane Jumping Along Right Rotational Angulation
• Out-of-Sync Frontal Plane Jumping Along Left Rotational Angulation
• Out-of-Sync Transverse Plane Jumping Along Anterior Angulation
• Out-of-Sync Transverse Plane Jumping Along Posterior Angulation
• Out-of-Sync Transverse Plane Jumping Along Left Lateral Angulation
• Out-of-Sync Transverse Plane Jumping Along Right Lateral Angulation
• Out-of-Sync Transverse Plane Jumping Along Right Rotational Angulation
• Out-of-Sync Transverse Plane Jumping Along Left Rotational Angulation
• Hopping - leaving and landing on the same foot
• Jopping - combination of jumping and hopping
  • Right Foot, Anterior Jopping
  • Right Foot, Posterior Jopping
  • Left Foot, Anterior Jopping
  • Left Foot, Posterior Jopping
  • Alternate Feet, Anterior Jopping
  • Alternate Feet, Posterior Jopping
  • Right Foot, Left Lateral Jopping
  • Right Foot, Right Lateral Jopping
  • Left Foot, Left Lateral Jopping
  • Left Foot, Right Lateral Jopping
• Alternate Feet, Left Lateral Jopping
• Alternate Feet, Right Lateral Jopping
• Right Foot, Right Rotational Jopping
• Right Foot, Left Rotational Jopping
• Left Foot, Right Rotational Jopping
• Left Foot, Left Rotational Jopping
• Alternate Feet, Right Rotational Jopping
• Alternate Feet, Left Rotational Jopping

• Skipping - series of a hop followed by a step
  • Alternate Feet Skipping Along Anterior Angulation
  • Alternate Feet Skipping Along Posterior Angulation
  • Alternate Feet Skipping Along Right Lateral Angulation (In Front)
  • Alternate Feet Skipping Along Left Lateral Angulation (In Front)
  • Alternate Feet Skipping Along Right Lateral Angulation (Behind)
  • Alternate Feet Skipping Along Left Lateral Angulation (Behind)
  • Alternate Feet Skipping Along Right Rotational Angulation
  • Alternate Feet Skipping Along Left Rotational Angulation

• Skuffling - combination of skipping and shuffling
  • Right Anterior Skuffling
  • Left Posterior Skuffling
  • Left Anterior Skuffling
  • Right Posterior Skuffling
  • Left Lateral Skuffling
  • Right Lateral Skuffling
  • Right Rotational Skuffling
  • Left Rotational Skuffling

• Need for basic definitions in order to apply 3D Matrix to come up with a variety of locomotor patterns

A special thanks to Shallon and Sandi
3DPC - Three Dimensional Personal Conditioning
• Mind, Body, and Spirit

6 Pods (not stations) set up on campus that teach various functional movements, as well as the nomenclature to the movements

• Pod # 1 - Locomotor Patterns
  • 3D Walking
  • 3D Shuffling
  • 3D Skipping
  • 3D Jumping
  • 3D Hopping
  • 3D Jopping

• Pod # 2 - Balance Step Matrix
  • Anterior, Same Side Lateral, and Same Side Rotational Balance Steps
  • Incorporating upper body movements

• Pod # 3 - SFT Syntax
  • Feet and hands
  • Squats (initial range, mid range, end range)
  • Push-ups (nose drivers, butt drivers, on knees, and prone on all fours)
  • Squat Thrusts (in-sync and out-of-sync)
• Pod # 4 - Jumping Jack Matrix
  • In-sync and out-of-sync feet in all three planes of motion
  • In-sync and out-of-sync arms in all three planes of motion
  • In-sync and out-of-sync feet and arms in a specific plane of motion

• Pod # 5 - Lunge Matrix, Stretch Matrix, and Lunge Dance Matrix
  • Main 6 angulations
  • Stretch Matrix - hand drivers to drive the body into flexion, extension, right lateral flexion, left lateral flexion, right rotation, and left rotation
    • Right Anterior Lunge with Bilateral Hands, Anterior at Ankle Reach
    • Right Anterior Lunge with Bilateral Hands, Posterior at Overhead Reach
    • Right Anterior Lunge with Bilateral Hands, Right Lateral at Overhead Reach
    • Right Anterior Lunge with Bilateral Hands, Left Lateral at Overhead Reach
    • Right Anterior Lunge with Bilateral Hands, Right Rotational at Shoulder Reach
    • Right Anterior Lunge with Bilateral Hands, Left Rotational at Shoulder Reach
  • Can go through the above reaches while remaining in a lunge with hold position

• Pod # 6 - Sign Language and "The Rock"
  • Proof of the pudding rests in the eyes and smiles of the kids
  • "I respect your mind, body, and spirit."
  • "I am proud of you."
Debrief & Research with Dr. David Tiberio, Doug & Gary

Research, or lack thereof, shows a failure to communicate

Lack of common communication inhibits research dramatically; discussions and conclusions are gapped

Getting to the simple side of Function

What are the benefits of Functional Nomenclature?

- Undeniably that we should have consistent communication in terminology for all 3D movement
- This system is the best even though it will constantly be tweaked & updated
- The key is that you cannot argue with the Functional Triangulation, you cannot argue with the terminology, you cannot argue about the categorization of the terminology
- Crosses all disciplines

Function is task-oriented. Nomenclature is the perfect compliment to the task given (primarily for documentation and reimbursement)

- Left Leg Balance, Right Foot, Anterior at -3” to Max…in order to create a Chain Reaction™ of dorsiflexion of the left ankle

Nomenclature is pure, yet foreign to many

"A picture is worth pure nomenclature." - Gary Gray

- "I have to many times count on the pure articulation of the triangulation of what's happening three dimensionally in the Chain Reaction™." - Gary Gray
When does the Tri-Post move?

- When more than one action takes place
  - I.E. - Lunge with Reach

Rotational command with a lunge

- "Rotational" - foot (heel and toes) pointing along angulation
- "External Rotational" - heel placed on angulation with toes pointing externally
- "Internal Rotational" - heel placed on angulation with toes pointing internally

The nomenclature makes it easier to tweak the exercise

- Forces subtle tweaks versus aggressive tweaks

Once you identify the Tri-Post, along with the Functional Triangulation, everyone can name any exercise

Sing the song of Function in perfect harmony

"Nomenclature empowers you to own and control space." - Bob Wiersma

- Allows you to be specific and accurate for both the client and for documentation

Nomenclature allows our patients and clients to own and control their space

A special thanks to Doug and Dave