

## What are Functional Integrated Therapies™



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Charles DeFrancesco*

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## Complementary and Alternative Medicine

Massage, supplements and acupuncture are  
great examples.

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“I never did anything, it  
just started hurting.”

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**An Old Philosophy**

**“A cure of the part should not be attempted without treatment of the whole.”**

*Plato*



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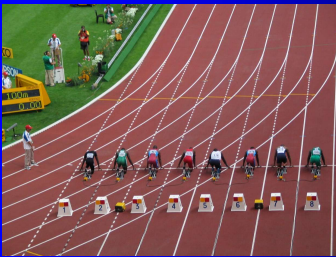
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**“Think and assess globally,  
treat locally and regionally”**



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**Functional integrated approach: definition**

Practical diagnostic and treatment method based on an “original” functional understanding of the musculoskeletal system integrating contemporary neurophysiology, functional anatomy, metabolic-endocrine models as well as strength and conditioning models.

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### Functional integrated approach: characterization

- Information model (function vs. structure):
  - nervous system function
  - soft tissue mechanics
  - joint mechanics
- Functional treatment approach



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### Functional integrated approach: the process

- Clinical retrieval of functional and structural information
- Functional analysis of information (diagnosis)
- Selection of functional therapeutic goals, treatment targets, and outcome measures
- Functional integrated treatment
- Functional retraining



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### Retrieval of functional information

- Comprehensive medical history
- Functional visual and manual examination
- *Complementary* diagnostic methods: lab tests, images (MRI, US, X-rays)



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## Comprehensive medical history

- Detailed mechanism of injury if available
- Behavior of condition over time
- Previous treatments
- Previous injuries
- Childhood diseases
- Social history
- Scars history

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## Functional visual and manual examination

- Qualitative visual biomechanical analysis
- Joint function exam
- Muscle function exam:
  - strength testing
- Soft tissue examination:
  - “trophism”
  - trigger points
  - lines of tension



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## Qualitative visual biomechanical analysis

- Static: posture (standing, sitting, etc.)
- Dynamic: active range, recruitment patterns, specific movement analysis, video analysis



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## Joint function examination

- Active/passive range of motion, accessory movements, palpation



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## Muscle function examination

- Strength testing: standardize, stabilize, detect motor inhibition



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Part 2

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### Soft tissue examination

- Palpation (with or without motion) to assess tissue trophism and texture abnormalities
- Trigger point examination: tender nodules, taut bands, active movement restriction



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### Soft Tissue Changes After Injury

- **Inflamed** • 24 hours to 72 hours
- “**Stringy**” muscles, lesions defined • 2 days to 2 weeks
- **Lumpy** tissue, palpable adhesions • 2 weeks to 3 months
- **Leathery** tissue, changes slowly • 3 months and *beyond*

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### Soft tissue examination

- Lines of tension: joint and soft tissue restricted range (active, passive, with motion palpation)



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## Specificity of Diagnosis and Treatment

- Four major areas of concern to improve outcomes:
  1. Tissue Texture
  2. Tissue Tension
  3. Tissue Movement
  4. Tissue Function

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## Soft tissue examination

- Motion palpation to identify high tension producing areas: scars, dystrophic areas, high friction zones, etc.



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## Principles of ART®

- Cumulative Injury Disorder
- Injury Types
- Law of Repetitive motion
- Cumulative Injury Cycle



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## Cumulative Injury Disorders

- Injuries to the:
  - blood vessels, ligaments, tendons, bones, fascia and nerves
- Actual trauma to the tissue not required for this disorder
- Results from:
  - an acute injury
  - repetitive injury
  - constant pressure/tension injury

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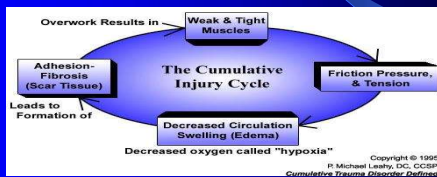
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## Cumulative Injury Cycle

- Repetitive Injury



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## Cumulative Injury Cycle (con't)

- Chronic Injury
  - When a soft tissue injury forms adhesions and fibrosis and is not properly repaired or remodeled then the chronic injury cycle will perpetuate
  - As the downward spiral continues, symptoms and syndromes are produced

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## Part 3

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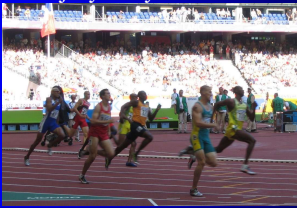
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### Biomechanical Considerations

- Our body is made up of sets of continuous kinetic chains that keep our body balanced, enables us to move and compensates for disturbances in our center of gravity as we move.
- Typically, more than one muscle or structure is involved in an injury or dysfunction



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### Biomechanics (continued)

- Always evaluate initial site of injury
- Always evaluate kinetic chain structures above and below site of complaint
- Always check 360 degrees around affected areas due to agonist/antagonist relationships
- Always compare/contrast opposite side of body to assess symmetry

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## Biomechanical Observation

- Postural Dysfunctions
- Range-of-Motion
- Muscular Imbalances
- Tightness of Muscles
- Symmetry of Motion
- Speed of Acceleration/Deceleration
- Effort required to carry out the movement




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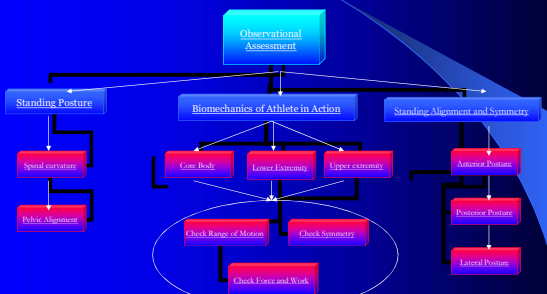
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## Observational Assessment Process




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## Functional analysis of information

information from examination  
 +  
 information from complementary  
 diagnostic methods  
 ↓↓  
 functional hypothesis  
 ↑↑  
 clinical diagnosis




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### Integrated treatment goals

- to **modify specific symptoms**
- to **lessen adaptive demands** at the functional, structural, and/or psycho-emotional-social levels
- to **restore lost adaptive potential** at any or all of those levels (within the available biological and individual capacities, and considering all the practical aspects of the process)

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### Functional interventions

- Contemporary electro-acupuncture
- Active release techniques
- Joint manipulation
- Nutritional/metabolic interventions
- Functional training and ergonomic interventions

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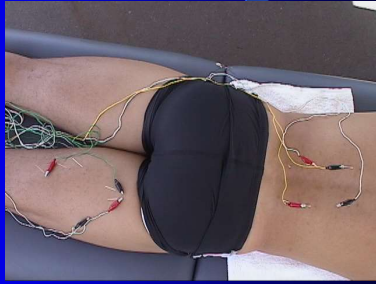
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## Contemporary electro-acupuncture

- Local and multisegmental axial inputs combined in a right hamstring injury treatment



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## Active release techniques® : goals

- Restore relative motion among adjacent muscles
- Normalize local fluid dynamics
- Facilitate lymphatic drainage
- Release peripheral nerves
- Facilitate sensory-motor integration

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## Links



[www.greenwichsportsmedicine.com](http://www.greenwichsportsmedicine.com)

[www.fitandfunctional.com](http://www.fitandfunctional.com)

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