AIFIMM Formation
Provider CPD 21418 (UK)
CE Broker ID 50-54885 (Florida USA)
Provider ECM 1701 (IT)
www.mskbiomechanics.com

mini E-book online course clinical model:

Systemic and Segmental MSK Biomechanics – Online Course

Physics-based assessment and treatment of musculoskeletal pathologies

Physical and Clinical Foundations of the AIFiMM Model

From Theory to Practice

This e-book presents the theoretical foundations of the AIFiMM biomechanical model.

Clinical application is developed in the online course, which has been awarded:

38 CPD hours (CPD Certification Service UK)

45 contact hours / 4.5 CEU (Florida – USA)

Online course – 38 hours including theoretical content, practical demonstrations, and downloadable PDF materials.

The original videos in Italian have been professionally dubbed into English by professional actors

Physical and Clinical Foundations

Authors: Dr. Mauro Lastrico – Dr. Laura Manni – physiotherapists, AIFiMM instructors

This mini e-book synthesizes the theoretical and clinical principles underlying the analytical and systemic biomechanical model of the course according to applied biomechanics, complex systems physics, and physiotherapeutic clinical reasoning.

It does not describe techniques or operational protocols, but provides the conceptual framework necessary to understand their coherence and clinical application.

Chapter Index

Chapter 1: The Physical Foundations of the AIFiMM Model

Why Muscles Shorten and What Actually Happens to Joint Biomechanics

In clinical practice, a consistent phenomenon is observed:

in the absence of specific pathologies, muscles progressively tend to shorten, altering joint statics and dynamics.

The AIFiMM model interprets this phenomenon through the physical laws of material deformation applied to muscle tissue, translating clinical observation into verifiable physical language.

The Physical Principle of Muscle Shortening

From a biomechanical standpoint, muscle is not a homogeneous material but consists of components with different elastic behavior:

Contractile Component (actin-myosin)

High elasticity coefficient → it shortens and releases, returning to the initial state.

Its variations are predominantly expressed as muscle tone modulation.

Connective Component (membranes, aponeuroses, interposed tissue)

Lower elasticity coefficient → maintains residual deformations proportional to the force × time product.

In physical terms:

forces applied for sufficiently long periods produce permanent shortening of the connective component, even in the absence of lesions.

It is the same principle governing any plastic material.

It is not a pathology. It is physics applied to biological tissues.

Muscle as Compressive Force

From a mechanical standpoint, muscle always acts as a compressive force:

it brings its insertions closer together but cannot, autonomously, move them apart.

Since the skeleton does not possess autonomous movement capacity,

alterations in joint sequence, in the absence of specific pathologies, are a direct consequence of shortening muscle forces.

The skeleton passively adapts to force resultants.

The FR-FL Model: The Core of AIFiMM Biomechanical Reading

Shortening of the connective component produces two simultaneous effects:

Increase in Resistant Force (FR)

It is the resistance that muscle opposes to lengthening.

→ Static effect: alteration of joint axes, asymmetric load distribution, abnormal intra-articular compressions.

Decrease in Work Force (FL)

It is the muscle's capacity to produce useful mechanical work.

→ Dynamic effect: reduced movement efficiency, increased compensations and energy expenditure.

Resistant Force and Work Force are inversely proportional: an increase in the first determines a decrease in the second.

The Clinical Paradox

A shortened muscle is simultaneously:

"too strong" from a static standpoint (high FR)
"inefficient" from a dynamic standpoint (reduced FL)

A Clarifying Clinical Example

After removal of a cast from the elbow, the biceps tends to keep the joint in flexion.

it opposes resistance to extension → high FR
but if dynamic capacity is tested, it is reduced → decreased FL

The muscle "holds" the joint, but works worse.

This is the FR-FL model clinically observable.

General Therapeutic Implication

If the problem is not a lack of force but an excess of resistant force, then:

strengthening a shortened muscle does not correct the mechanical cause
it is necessary to first reduce FR
only subsequently can the muscle recover Work Force and efficiency

This principle explains why many patients, despite "doing exercises," do not improve or worsen.

Chapter 2: The Predictive Power of Vector Analysis

Why the System Always Alters in Specific, Predictable Directions

Once clarified why muscle shortens, the AIFiMM model takes the next step:

explaining why joint alterations always emerge in recurring directions.

This is possible through vector analysis of muscle forces.

The Principle of Anatomical Dominances

Muscles are not distributed symmetrically around joints.

For each agonist-antagonist pair, there are intrinsic asymmetries in:

number of muscles

length of force lines

obliquity of application

These asymmetries determine anatomical vector dominances, independent of training or the subject's will.

When Resistant Force increases, dominant vectors emerge first.

Examples of Predictable Dominances

Shoulder – Internal Rotators – External Rotators

Number, length, and obliquity make internal rotators vectorially dominant.

→ Predictable alteration: humeral internal rotation and anterior head projection.

Scapula – Adductors – Abductors

The force ratio exceeds 2:1.

→ Predictable alteration: scapular adduction and reduction of physiological kyphosis at T5.

Foot – Supinators – Pronators

Numerical and vectorial dominance of supinators.

→ Predictable alteration: supination and cavus foot, often proximally compensated.

From Observation to Prediction

This principle transforms clinical reasoning:

Empirical Approach

"I observe an alteration → I seek an explanation"

AIFiMM Approach

"I know the dominances → I predict the alterations → I verify them → I identify responsible vectors"

The method integrates observation and prediction: from knowledge of anatomical dominances, one anticipates which alterations will emerge.

Clinical Confirmation: Neurological Pathology

In spastic hemiparesis, with loss of central inhibitory control,

anatomical dominances emerge in amplified form.

Spontaneous external rotation of the humerus is not observed, because internal rotators are structurally dominant.

Different mechanisms (spasticity - shortening), same anatomical reality.

Connection with the FR-FL Model

When Resistant Force increases and the system moves away from equilibrium limits:

subdominant vectors can no longer compensate

anatomically dominant vectors emerge first

the joint loses physiological sequence following predictable directions

Clinical Implication

Knowing anatomical dominances allows:

immediate guidance of assessment

rapid identification of responsible muscles

reduction of interpretive variability

intervention on truly causal vectors

This approach grounds clinical reasoning on measurable physical laws, allowing prediction of alterations before even observing them.

Clinical Note – Muscle Strengthening

In the AIFiMM model, strengthening is not excluded, but cannot be the initial treatment phase in the presence of dominant vectors in shortening.

A subdominant muscle cannot modify joint alignment

as long as a dominant vector opposes superior Resistant Force.

Reducing FR is the necessary condition for strengthening to become effective.

Chapter 3: Why Muscles Shorten

From Neurophysiological Control to Biomechanical Adaptation

In the AIFiMM model, muscle shortening is not interpreted as an isolated event, but as the final outcome of muscle tone regulation processes involving multiple systems.

However, it is essential to clarify a methodological point:

regardless of the initial cause, muscle always represents the final effector, that is, the system through which the organism realizes adaptation.

For this reason, the model distinguishes hierarchical levels of activation, maintaining a clear delineation of clinical competencies.

1. The Neurophysiological System

Regulation of Basal Tone as a Protection Strategy

The first causal level of persistent muscle tone increase is neurophysiological.

Basal tone is regulated by a complex system of sensory and motor integration, involving:

proprioceptive and cutaneous afferents
visual and vestibular systems
subcortical regulation through the gamma circuit

The central nervous system uses muscle tone as a stabilization and prevention tool.

In this context, two mechanisms assume particular relevance:

posterior antalgic reflexes
protection responses following an already manifested painful event

a priori antalgic reflexes
contractions maintained over time to prevent the emergence of potential mechanical conflicts

When these contractions become chronic, involvement of the connective component leads to structural shortening, according to the force × time laws already described in the physical foundations of the model.

This level is fully within physiotherapeutic competence, because it is expressed through the musculoskeletal system.

2. The Biomechanical System

Mechanical Adaptation to Maintain System Equilibrium

The second level is biomechanical.

When load balance, joint axes, or centers of gravity are disturbed:

the system increases muscle tone to ensure stability
tone increase, if persistent, becomes shortening
shortening further modifies joint geometry

This establishes a self-reinforcing adaptation cycle:

mechanical alteration → tone increase → shortening → new mechanical alteration

The system manages to maintain equilibrium, but at the cost of:

loss of efficiency
increase in Resistant Force
reduction of Work Force
progressive movement rigidity

This level also fully falls within physiotherapeutic competence, because it produces observable, measurable, and treatable joint alterations.

3. The Psychosomatic System

An Existing, Recognized Level, but Not of Direct Competence

A third, psychosomatic level exists, extensively documented in literature:

prolonged emotional states can modulate muscle tone through neurovegetative and central mechanisms.

Over time, this modulation can:

stabilize as basal tone increase
involve the connective component
degenerate into a structured orthopedic problem

In these cases, what begins as emotional discomfort can manifest clinically as pain, stiffness, or functional limitation.

However, in the AIFiMM model, this level:

is recognized,
but is not directly treated.

It is not the physiotherapist's task to intervene on primary psycho-emotional causes.

When these are relevant, involvement of the specific competent professional is necessary.

The physiotherapist's role remains:

treating observable biomechanical effects
avoiding attributing to the muscle a cause that is not its own
preventing emotional adaptation from evolving into orthopedic chronicity.

A Single Common Denominator: Muscle as Final Effector

Whatever the level of origin — neurophysiological, biomechanical, or psychosomatic —

the system always uses muscle as the operational tool.

For this reason, very different clinical presentations can converge toward:

similar shortenings
analogous axial alterations
recurring compensation patterns

The task of the AIFiMM model is not to explain "everything,"
but to read precisely what is of biomechanical competence,
distinguishing:

primary cause
muscular adaptation
observable joint consequences

This distinction is indispensable before introducing systemic analysis, where local shortenings begin to interact within a single complex system.

Chapter 4: The Musculoskeletal System as a Complex System

Why Systemic Analysis is a Clinical Necessity, Not a Theoretical Option

In 1947, Françoise Mézières formulated what she herself defined as her capital observation:

the numerous dorsal muscles behave as a single muscle, too strong and too short.

What was an empirical clinical intuition at the time finds explanation today in the physical theory of complex systems, which describes the behavior of systems consisting of many interdependent and interacting elements.

The human musculoskeletal system is, in all respects, a complex system.

From the Concept of "Chain" to the Logic of Complex Systems

Historically, the concept of muscle chain represents a fundamental step:

a move beyond the vision of isolated muscle in favor of an integrated functional reading.

AIFiMM systemic biomechanics interprets muscle chains through demonstrable physical laws, integrating anatomical analysis with complex systems dynamics.

It is not about replacing the concept of chain, but bringing it within a more general scientific model, that of complex systems.

First Characteristic: Interdependence and Interaction

Every Local Intervention Always Has Systemic Consequences

In a complex system, all elements are interdependent.

This means that any modification applied to a single district produces adaptations throughout the system.

In the musculoskeletal system:

such adaptations can be corrective
or aggravating

The difference does not depend on the "goodness" of the corrective intention, but on the energy balance that the intervention introduces into the system.

If a local correction:

increases global muscle tone
increments Resistant Force

negative systemic effects can far exceed the obtained district benefit.

This is why:

"stand up straight" instructions are often ineffective
many mirror self-corrections are counterproductive
isolated segmental approaches generate mechanically predictable problems

Second Characteristic: The System Must Be Understood as a Whole

The Symptom Does Not Necessarily Coincide with the Site of the Problem

In a complex system, the clinical significance of a local alteration can only be understood by observing the behavior of the entire system.

This implies that a symptom can be:

local
referred
expression of an altered systemic organization

AIFiMM clinical reasoning is therefore founded on:

both segmental and systemic musculoskeletal analysis
assessment of vector dominances
distinction between primary and secondary shortenings

Without this vision, treatment risks being repetitive, ineffective, or transiently useful.

Third Characteristic: Emergent Abilities and Substitutive Strategies

When the System Bypasses "Weak" Muscles

One of the most counterintuitive aspects of complex systems is the capacity to generate solutions not predictable from analysis of individual elements.

In the musculoskeletal system, this manifests through:

substitution patterns
apparently illogical co-contractions
recruitment of muscles not anatomically assigned to the action

The reason is simple:

for the nervous system, the objective of movement ("what") has priority over execution modality ("how").

If muscles directly deputized for action are rendered ineffective by excess Resistant Force:

the system bypasses them
activates alternative synergies
generates emergent abilities

This explains why:

strengthening subdominant muscles does not solve the problem
many monoarticular muscles are systematically "skipped"
the same muscles that Mézières empirically called "out of chain" are today predictably substituted

Fourth Characteristic: Balance at the Edge of Chaos

Efficiency, Adaptability, and the Role of Work Force

A complex system functions optimally when operating at the edge of chaos:

a condition in which stability and dynamicity are balanced.

In the AIFiMM model, this condition coincides with:

Work Force dominant over Resistant Force ($FL \gg FR$).

In this state:

small signals produce effective adaptations
energy expenditure is minimal
physiological joint sequence is preserved

When instead Resistant Force increases:

the system becomes rigid
centers of gravity misalign
basal tone grows further

This establishes a self-feeding rigidity circuit, progressively distancing the system from its efficiency zone.

Clinical Implication

These characteristics explain why the Mézières Method cannot be reduced to a local technique, nor interpreted as a simple sum of segmental corrections.

Treating "the local" without understanding "the systemic":

produces compensatory adaptations
reinforces dysfunctional patterns
delays problem resolution

Systemic analysis is therefore not a theoretical addition,
but the necessary condition for building coherent clinical reasoning.

It is on these bases that it becomes possible:

to distinguish what is cause from what is effect
to choose effective therapeutic strategies
to avoid mechanically counterproductive interventions

Chapter 5: Pain, Adaptation, and Clinical Reasoning

From Local Symptom to Systemic Reading

In musculoskeletal pain, muscle rarely represents the primary cause of the problem.

Much more often, it is the final effector of adaptive strategies activated by the nervous system to ensure stability, protection, and movement continuity.

The muscle tone we observe clinically is not random data:

it is the result of a central integration process involving neurophysiological and biomechanical factors (and possibly other systems), which over time can translate into structural shortening and alteration of physiological joint sequence.

Pain as a Signal of Exhaustion of Adaptive Strategies

The nervous system does not intervene only in response to pain, but especially preventively.

Through a priori antalgic reflexes:

it increases muscle tone
temporarily stabilizes the system
reduces perceived risk of mechanical conflict

When these strategies are maintained over time:

they involve the connective component of the fiber
produce residual shortenings
modify joint axes and load distribution

Pain is not the starting point, but often the moment when the system can no longer compensate.

This is why many patients do not connect the symptom to a specific event:

suffering emerges when adaptation margins are exhausted.

Why the Symptom Does Not Necessarily Coincide with the Cause

One of the most important consequences of systemic interdependence is that the site of pain does not always coincide with the site of the problem.

A joint can become symptomatic:

because it is truly in mechanical conflict
or because it represents the breaking point of a system already disorganized elsewhere

This gives rise to one of the most frequent questions in the clinic:

"I have shoulder pain: why are we working on the pelvis?"

Because the shoulder can be the local expression of an adaptive strategy originating in another district.

Treating only the site of the symptom is equivalent to turning off a warning light without solving the problem that triggered it.

This understanding profoundly modifies the patient's experience:

the body is not "broken," it is following a precise protective logic.

From Symptom to Clinical Reasoning

In the AIFiMM model, clinical reasoning is founded on an integrated reading of:

statics
dynamics
relationships between districts
vector dominances

This allows distinguishing:

suffering of local origin, where the symptomatic district is truly the cause of the problem
referred symptoms, expression of disorganizations present elsewhere

The symptom emerges when specific muscle shortenings produce force resultants such that:

they alter physiological joint sequence
concentrate loads
generate local mechanical conflicts

In this perspective, biomechanical analysis does not reduce the problem to the symptom, but places it within a broader adaptive strategy.

Primary and Secondary Shortenings

The distinction between primary and secondary muscle shortenings represents a fundamental junction of clinical reasoning.

In primary shortenings, the muscular system is the origin of the problem:

vector rebalancing can be resolutive and stable.

In secondary shortenings, muscle is an adaptive response to a problem from other systems:

in these cases, the improvement obtained is unstable if the primary cause remains active.

The most reliable clinical signal is precisely the response to treatment:

when corrections are lost and the symptom returns, the system is signaling that the origin of the problem is not muscular.

In these cases, a multidisciplinary approach is necessary, with involvement of the competent specialist.

Why Some Improvements Last and Others Don't

This distinction explains a frequent question:

"I was better, then after a few weeks everything came back.
Do I need to continue forever?"

No, not if the real vector causes have been identified and treated.

When work is limited to the pain site without modifying systemic organization, the system tends to reconstruct the same compensation.

When instead the forces responsible for joint misalignment are modified, improvement is maintained over time.

The patient perceives this clearly:

not temporary relief, but stable mechanical reorganization.

Operational Synthesis

In the AIFiMM model:

the origin of the problem can be systemic
but its expression is always mechanically specific

The task of clinical reasoning is to distinguish:

what is cause
what is adaptation
what is simple symptomatic expression

It is on these bases that therapeutic strategy becomes coherent, effective, and durable over time.

Chapter 6: From Physical Principles to Therapeutic Strategies

How the AIFiMM Model Guides Clinical Intervention

The physical principles described in the AIFiMM model do not lead to rigid protocols, but to clinical orientation criteria.

The treatment objective is not to "correct a form," but to modify the forces that maintain the system in an inefficient condition, reducing Resistant Force (FR) and increasing actually available Work Force (FL).

This requires targeted intervention on the two components of the muscle fiber — contractile and connective — which respond to different stimuli and cannot be treated with the same modalities.

Why Spontaneous Movement Is Not Enough

No spontaneous human movement is capable, alone, of re-lengthening a shortened muscular system.

Movement:

always respects already present structural limits

does not exceed boundaries that the nervous system has accepted as "safe"

is fundamental for function, but insufficient to modify stabilized shortenings

When shortening involves the connective component, length recovery requires guided therapeutic intervention, bringing tissue beyond the limits of spontaneous system adaptation.

This is where the specific work of the Mézières Method according to the AIFiMM model is situated.

Why Not All Techniques Produce the Same Effect

The contractile component of the muscle fiber responds easily to:

relaxation

mobilization

manual techniques

But these modalities are ineffective on the connective component, which represents the true substrate of residual shortening.

The AIFiMM model clarifies that:

acting only on tone does not modify mechanics

isolated passive lengthening is insufficient

structural recovery requires active work guided by the therapist

From this derives the use of isometric contractions performed at maximum physiological or relative lengthening, which constitute the heart of treatment.

Why Isometrics Work (and When They Don't)

Isometric contraction produces a therapeutic effect only if:

performed at maximum available lengthening

respects individual patient limits

integrated into a coherent strategy

If performed below that limit, the effect can be opposite:

further increment of Resistant Force.

This explains why:

the same techniques, applied without considering mechanical context, can produce inconsistent results

some patients worsen "doing exercises"

positioning precision is clinically decisive

In the AIFiMM model, technique is always subordinate to the mechanical context in which it is applied.

The Double Logic of Treatment: Local and Systemic

Effective treatment must respond to a dual requirement:

analytical: resolve the specific mechanical conflict generating the symptom

systemic: prevent local correction from producing systemic tension increase

A correct intervention on a district, if it increases overall system tension, is destined to fail: the body will rapidly return to the previous equilibrium.

Conversely, exclusively "global" work, if it does not address the real local conflict, can improve general sensation but leave pain unchanged.

The Mézières Method according to AIFiMM constantly integrates these two dimensions:

no technical gesture is evaluated only for what it corrects, but especially for how the system reacts.

Why Asymmetries

Every observable equilibrium, even when it appears pathological, represents the best adaptive solution the system has found at that moment.

An elevated shoulder, a vertebral rotation, a pelvic tilt:

are not simple "errors," but strategies organized by the nervous system to avoid worse conflicts.

Correcting a visible sign without understanding its adaptive logic can:

increase tensions

shift conflict elsewhere

generate new symptoms

In the AIFiMM model, improvement is defined by:

reduction of present or potential mechanical conflicts

increase in systemic space

improvement in functional efficiency

Treatment Effectiveness Criteria

At session end, the following must be simultaneously present:

improvement of local problem
reduction of overall tension
greater freedom of system adaptation
absence of new compensatory strategies

If even one of these elements is missing, the result will be unstable.

For this reason, treatment requires:

continuous patient observation
constant strategy adaptation
capacity to read system responses in real time

A Strategy, Not a Protocol

The therapeutic principles of the AIFiMM model are not fixed protocols, but clinical orientation tools.

The intervention sequence:

is not standardized
depends on present dominances
varies according to system response

Sometimes it is necessary to "raise the systemic ceiling" before acting locally.

Other times the district conflict is priority, but must be treated without generating global rigidity.

It is this capacity to navigate complexity that characterizes systemic biomechanical clinical reasoning: constant integration between local analysis and systemic reading.

In Summary

Treatment of muscle shortenings, in the AIFiMM model, is:

analytical, because it acts on specific vectors and conflicts
systemic, because it considers the interdependence of the entire musculoskeletal apparatus

Without a solid physical base, one risks:

treating well the "piece" and worsening the system
treating the system without resolving the real problem

It is on this integration that the clinical effectiveness of the Mézières Method according to the AIFiMM systemic biomechanical model is founded.

Chapter 7: Clinical Application of the AIFiMM Model

When Biomechanical Reasoning Becomes Therapeutic Practice

The AIFiMM systemic biomechanical model finds application in most musculoskeletal pathologies sustained by mechanical alterations of muscle vectors, with particular efficacy in chronic, recurrent, or conventional approach-resistant presentations.

Not because these are "more difficult" cases, but because in these conditions the symptom persists precisely in the absence of coherent biomechanical reading of the forces that continue to regenerate it.

Low back pain that does not improve despite repeated exercises and therapies, persistent cervical pain, shoulder dysfunctions that drag on for months, knees remaining symptomatic despite muscle strengthening, post-surgical recoveries that stall:

in many of these presentations, the problem is not lack of treatment, but the fact that the forces responsible for joint misalignment have not been identified and modified.

From Symptom to Patient: A Relationship Founded on Understanding

In the Mézières Method according to AIFiMM, treatment is never reducible to a technical sequence.

It requires time, listening, and observation, because the physiotherapist's task is not only to "intervene," but to understand and explain.

Individual sessions become the place where:

the patient's adaptive history is reconstructed

motor strategies the system has developed over time are observed

the current symptom is connected to recognizable mechanical logic

Vector analysis is not an abstract tool:

it serves to give clinical meaning to what is observed, to build verifiable reasoning and, above all, to allow the patient to understand what is happening in their body.

This shared understanding is an integral part of treatment.

A patient who understands their problem does not undergo therapy passively, but becomes an active part of it, and this is one of the decisive factors for stability of results over time.

Active, Guided, Non-Protocol Treatment

Treatment is founded on simultaneous intervention on:

the local mechanical conflict generating the symptom
the systemic organization sustaining it

Standardized protocols do not exist, because each system responds specifically.

Therapeutic progression is guided by:

clinical response
reduction of Resistant Force
recovery of functional efficiency

Work is based on guided isometric contractions at maximum lengthening, with active patient participation constantly supervised by the therapist.

This approach permits observable results even in the short term, but especially stable in follow-up, because it does not act on symptom alone, but on the forces that generated it.

The Role of Time and Respect for the System

In the Mézières Method, time is not an accessory variable, but an integral part of treatment.

Destabilizing a dysfunctional equilibrium to replace it with a more efficient one requires:

sufficiently long sessions
coherent frequency
gradual progression

An aggressive approach, forcing the body beyond its tolerance limits, obtains the opposite effect:

increase in defensive tone
intensification of shortening
system closure

For this reason, in the AIFiMM model, work is never performed generating pain.

Pain is not an indicator of effectiveness, but the signal that the system is activating protection strategies that hinder change.

This approach is consistent with the evolution of the Mézières Method itself, which in the final years of Françoise Mézières' life progressively moved away from more aggressive forms, to orient toward work more respectful of patient timing and system response.

Why Results Are Maintained Over Time

What distinguishes transitory improvement from stable change is not treatment intensity, but the quality of clinical reasoning guiding it.

When work is limited to the pain site, the system tends to reconstruct the same compensation.

When instead the muscle vectors responsible for joint misalignment are identified and modified, improvement is maintained because the mechanics generating the symptom have been changed.

The patient perceives this clearly:

they do not leave the session with "back in place," but with new understanding of their own body.

That awareness is already part of the therapeutic result and represents the first step of prevention.

In Summary

In the AIFiMM model:

technique is always subordinate to clinical reasoning

symptom is information, not only a target

effectiveness is measured over time, beyond the immediate

It is in this balance between biomechanical rigor and human dimension of therapeutic relationship that the Mézières Method finds its full clinical application — and it is on this balance that the AIFiMM training pathway is founded.

Chapter 8: Epistemological Positioning

Hypothesis, Verification, and Continuity of Knowledge

The biomechanical model we present is not "the truth about the human body."

It is the most solid hypothesis we have managed to construct in 40 years of clinical and theoretical work, based on current knowledge of physics, physiology, and biomechanics, and on the clinical intuitions that Françoise Mézières transmitted to us.

We know that today's knowledge will be superseded tomorrow. For this reason, we position ourselves clearly in historical continuity: Mézières collected the clinical observations of her era and translated them into therapeutic applications. We have translated those intuitions into verifiable physical-mathematical language. Others, after us, will refine, correct, improve.

If current knowledge were exhaustive and definitive, we would all be doing the same thing.

The fact that different approaches exist does not mean someone is right and others are wrong - it means we are still exploring a complex system with limited tools.

For this reason, in the course we do not present ourselves as holders of absolute certainties.

We invite students to verify what we say, to test it in their clinical practice, to compare it with other knowledge, to doubt when something doesn't add up.

Scientific rigor is not defending a model at all costs - it is building verifiable hypotheses, testing them, refining them, and accepting that they will be superseded.

Our task is not to transmit a doctrine, but to prepare the ground for those who will come after.

On these bases the AIFiMM training pathway is founded and the responsibility we feel toward students.