

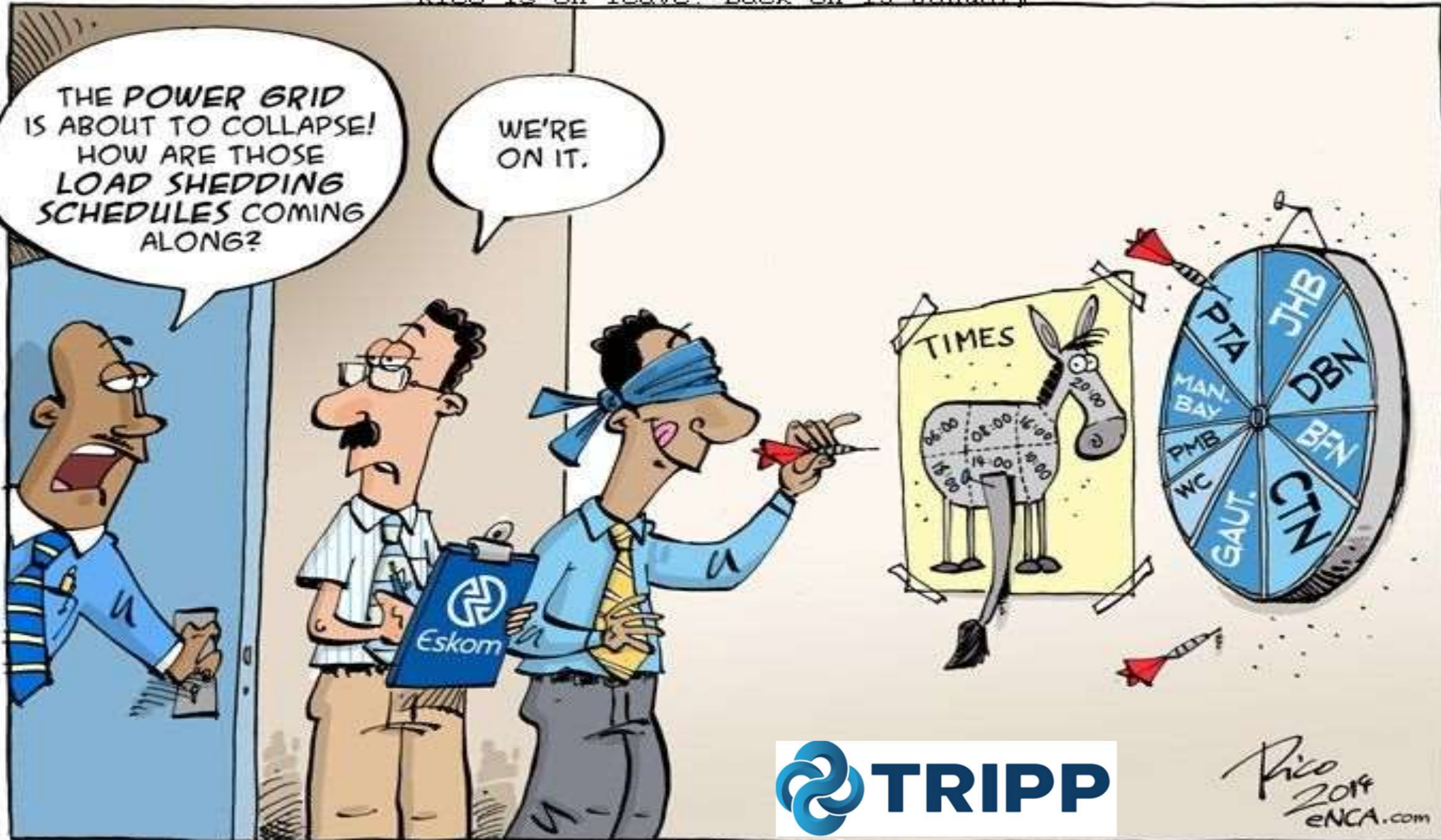
# Level Up ↑ Program



Presenter: Arnold Vlok (PhD Candidate)

# Diversity in the Biokinetic practice

Rico is on leave. Back on 15 January



# Diversity in the Biokinetic practice

**EXCELLENCE IS NEVER AN ACCIDENT**

---

It is the result of high intention, sincere effort, intelligent direction, skillful executions and the vision to see obstacle as opportunities.

A mind is like a  
parachute. It doesn't  
work if it is not  
open.

**FRANK ZAPPA**

@FixWillpower



# Aim of workshop

## Catalyst for Shared-Decision Making (SDM) within the Biokinetic Profession



# 10 Fields Of Rehabilitation in Biokinetics



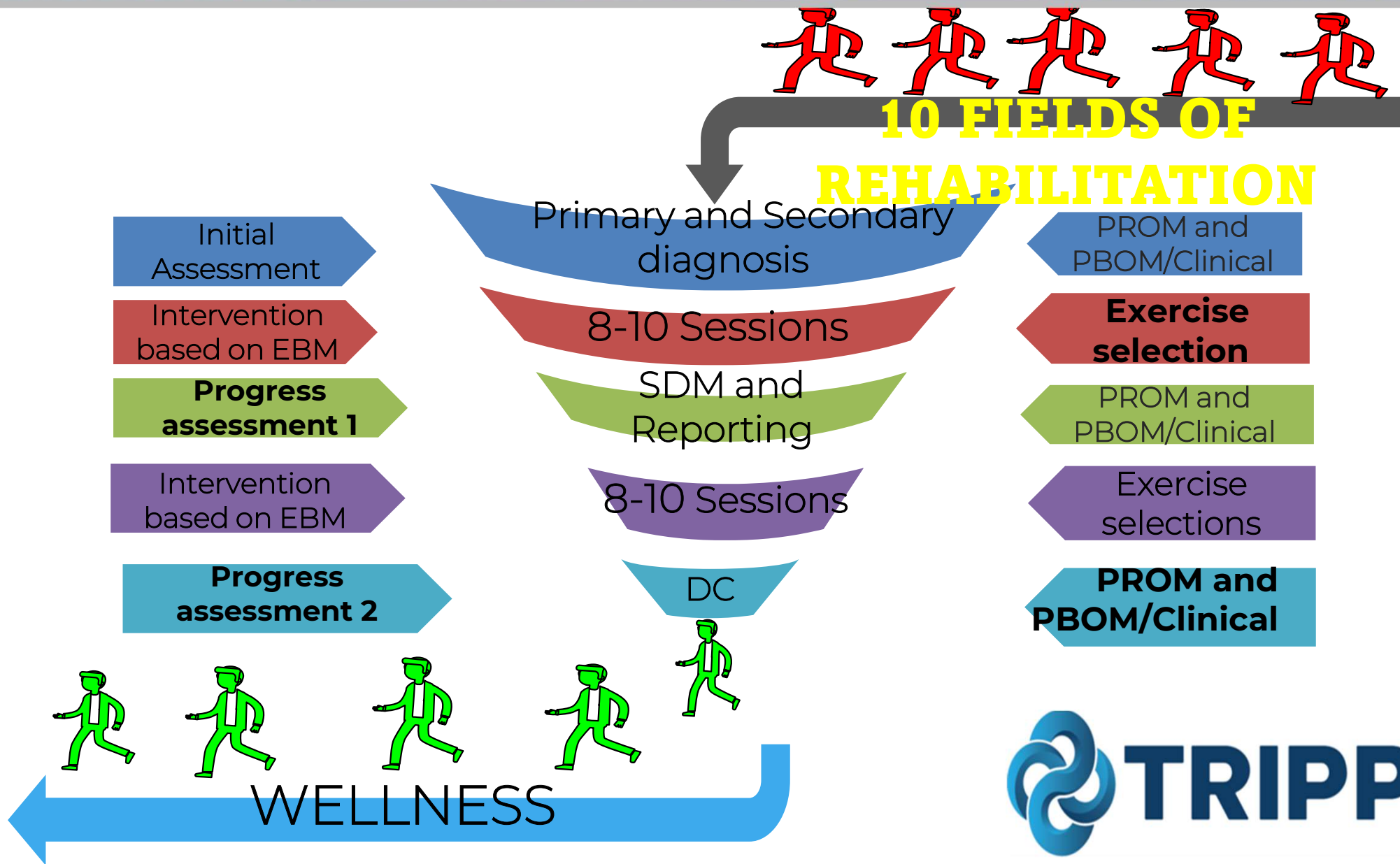
what's the  
opposite of  
generalization?

detail, reality, truth,  
specific, specificity,  
expulsion, rejection,  
blackballing, outcome, result



 Thesaurus.plus

# Where do we fit in..... (Patient Management)



# Thinking out of the Box

The dangers of a one sided story



**How can we  
be delivering  
better**

**Is it the  
complete  
answer**

**Are we honestly  
doing the job well  
enough to elicit  
lasting results**

**What does  
the  
evidence  
tell us**

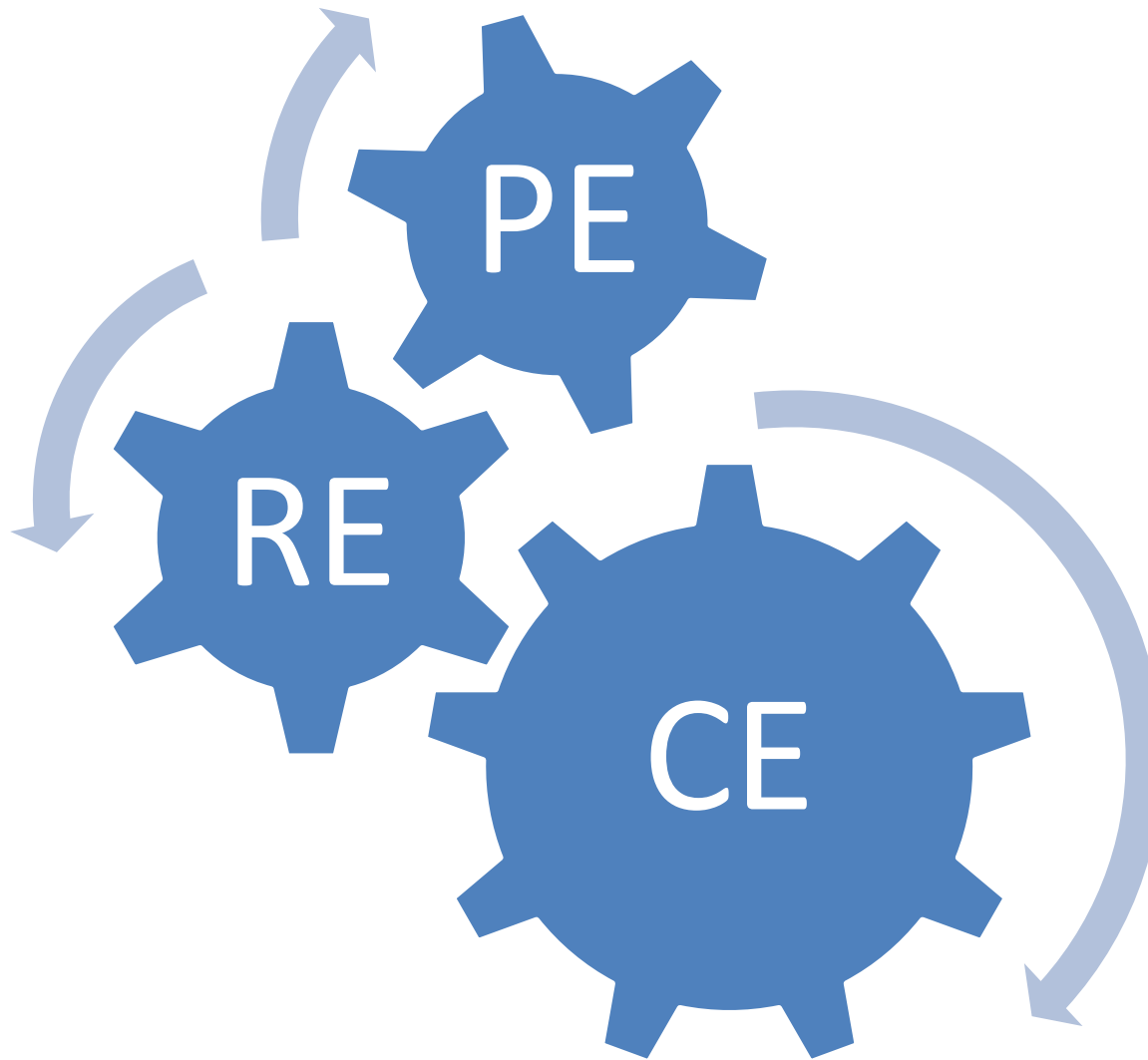
# Excellence AND Perfection

(Biokinetics: Moving from success to significance)



# EBM Defined

(Sacott et al.,2008)





**If you could change one thing in  
your practice today, what would it  
be?**

① Start presenting to display the poll results on this slide.

# Context and Perspective through the lens of EBM



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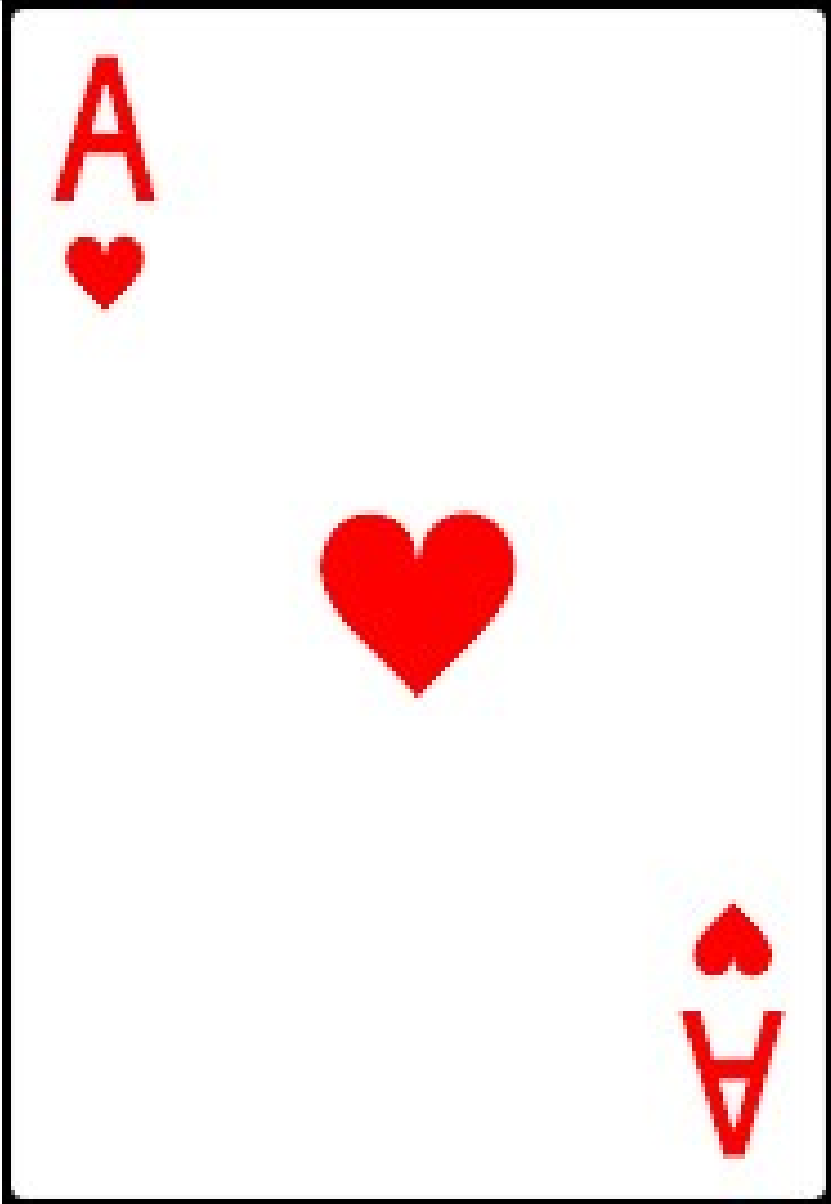
# Context and Perspective on exercise as a medicine



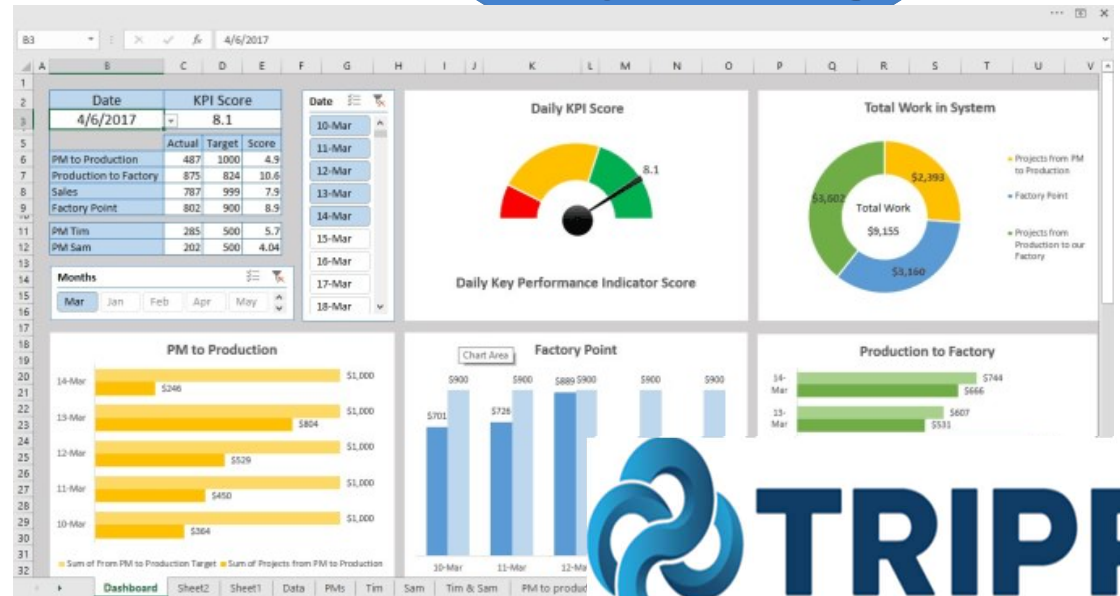
**What brings  
us  
together....**



# Game Changer

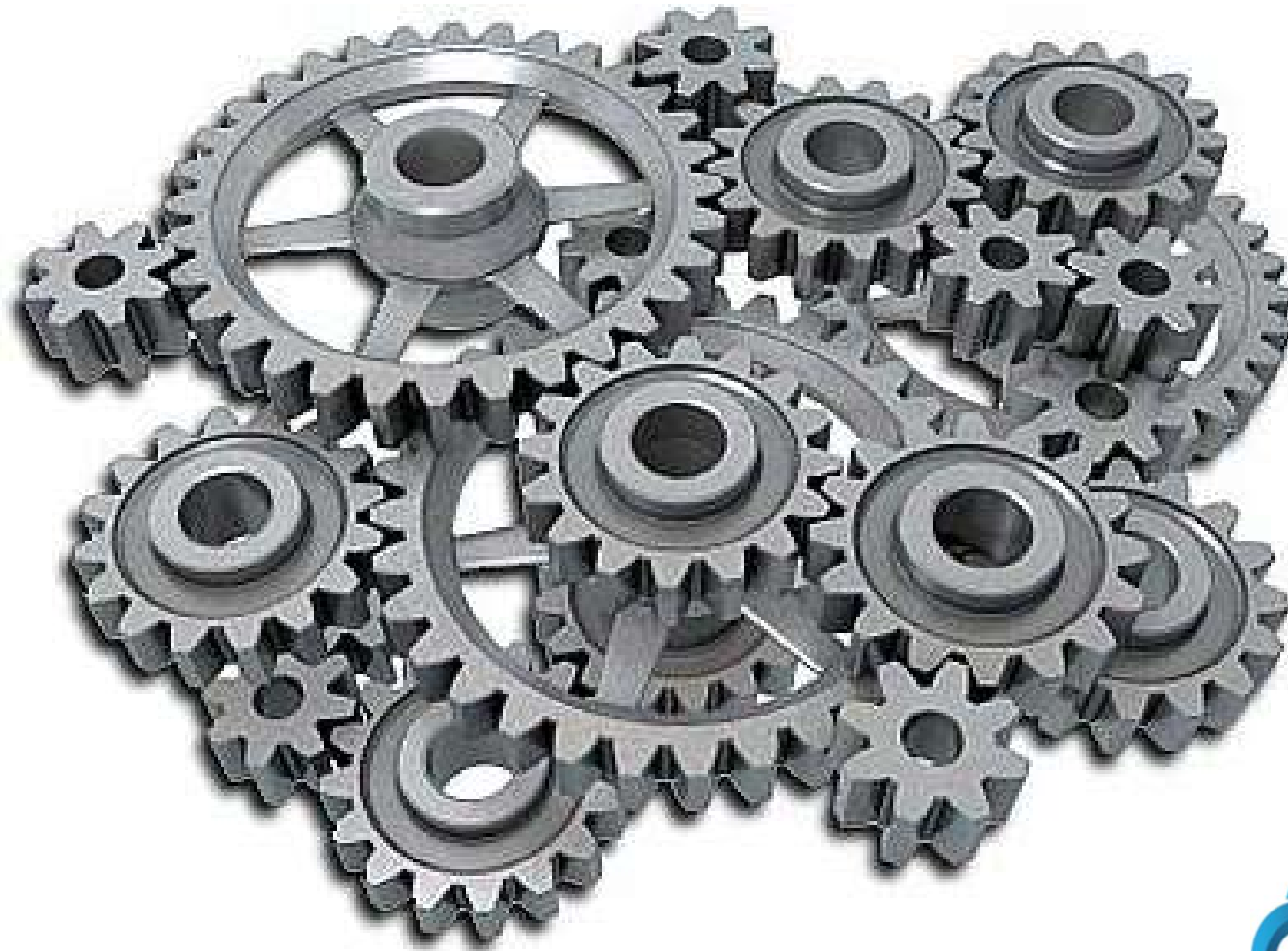


**Scientific  
Program  
Prescription  
and  
Reporting**



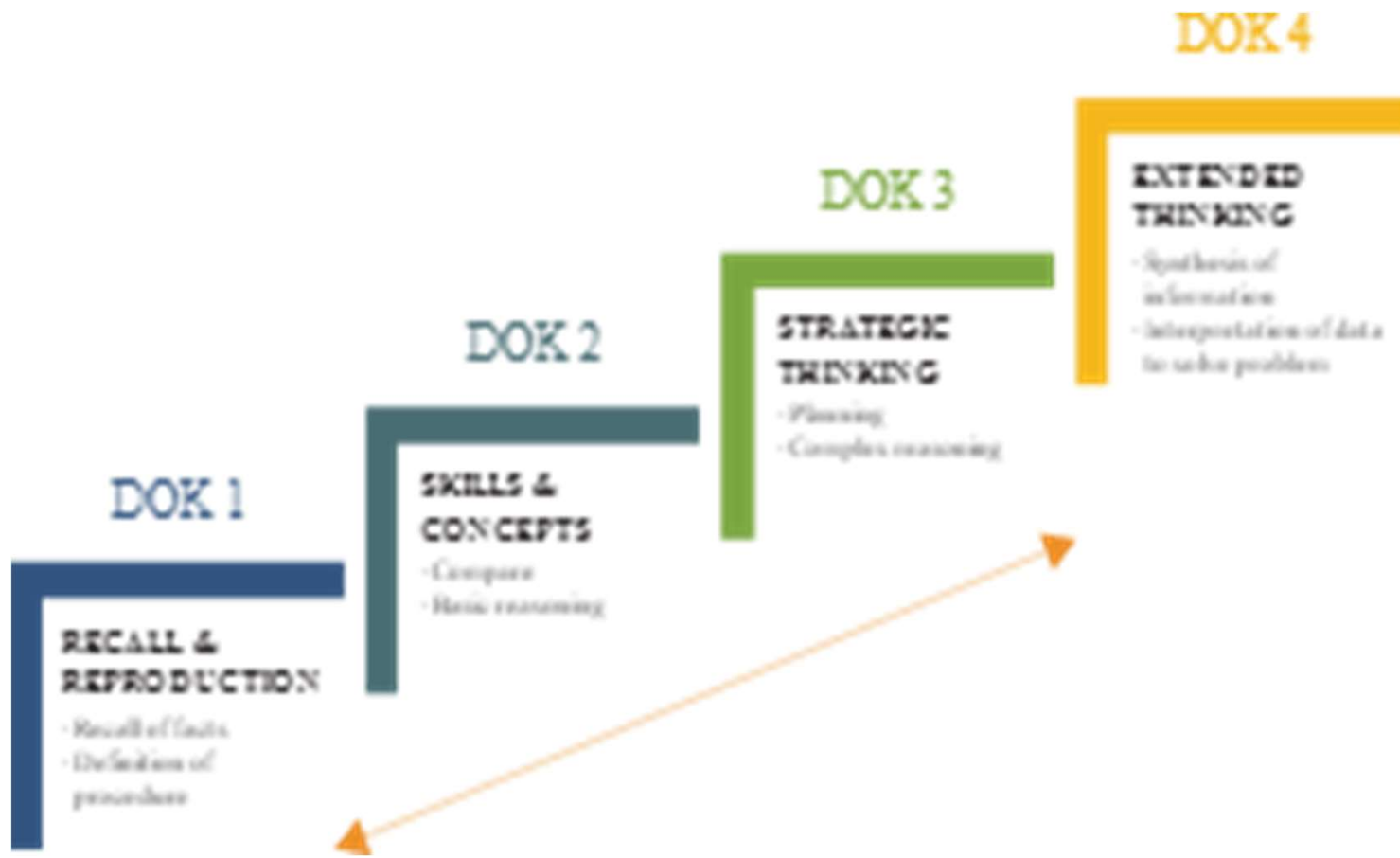
# Module 1-8

## Core value system



# Individual Presentation of Individual gears





# OVERVIEW OF MODULES 1-9 IN EXERCISE PRESCRIPTION

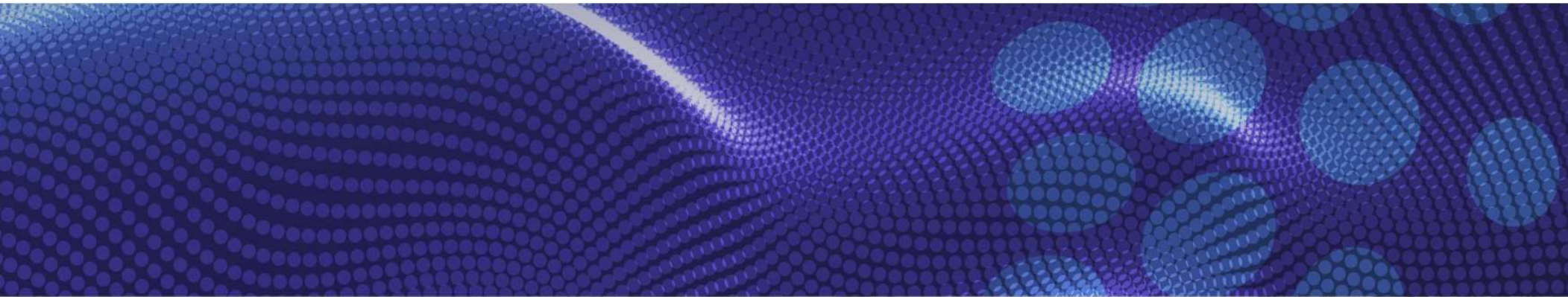
- Help practitioners critically debate clinical conditions through EBMPP.
- Drive new innovative thoughts in exercise planning and progressions.
- Practice clinical sport medicine through the scope of effective rehabilitation program prescription.
- Understanding the importance of optimal loading in a rehabilitation setting while considering clinical indicators.
- Increase the ability of clinicians to advance to the next level of scientific program development.



# (G1)

## Module 1:

### Systems thinking for Biokinetic health systems strengthening



# Module 1: Background





# Module 1: Systems thinking for Biokinetic health systems strengthening

"The responses of many health systems so far have been generally considered inadequate and naïve. ... a system's failure requires a system's solution – not a temporary remedy."

(WHO World Health Report, 2008).



And that is to makes things as simple as possible, but not simpler. Everything needs to have the right level of simplicity, that is not too simple, but not too complicated."

Prof. Michael Levitt  
(Nobel Prize Winner, 2013)



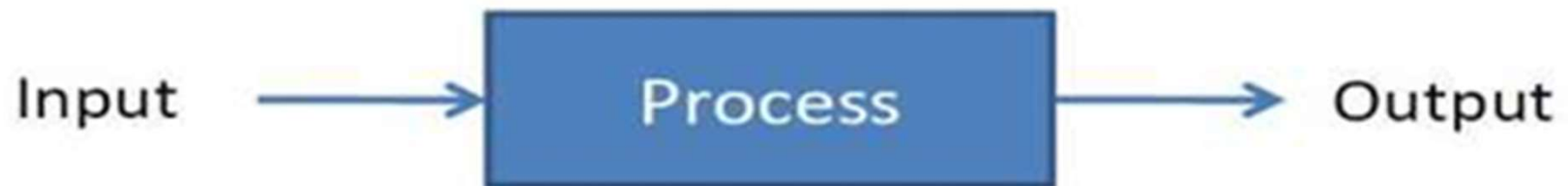
# Module 1: Systems thinking for Biokinetic health systems strengthening



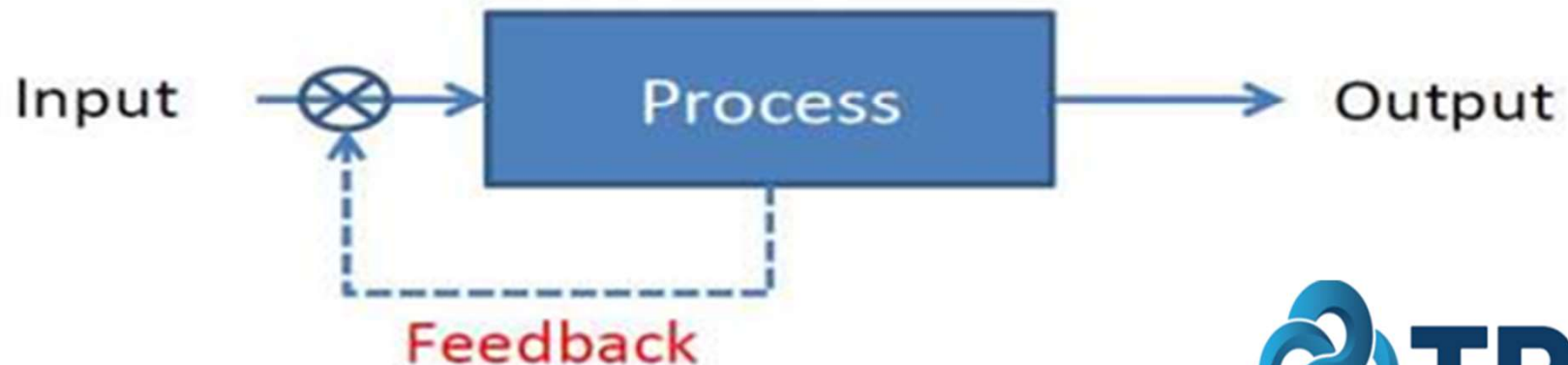
**In converting this analogue in the world of biokinetics: Exercise alone does not constitute a system, it is the functional micro and macro management of the different aspects of an exercise intervention within the conceptual framework of the clinician which resembles an optimal exercise intervention and the ultimate effect of it.**

# Module 1: Current system follow

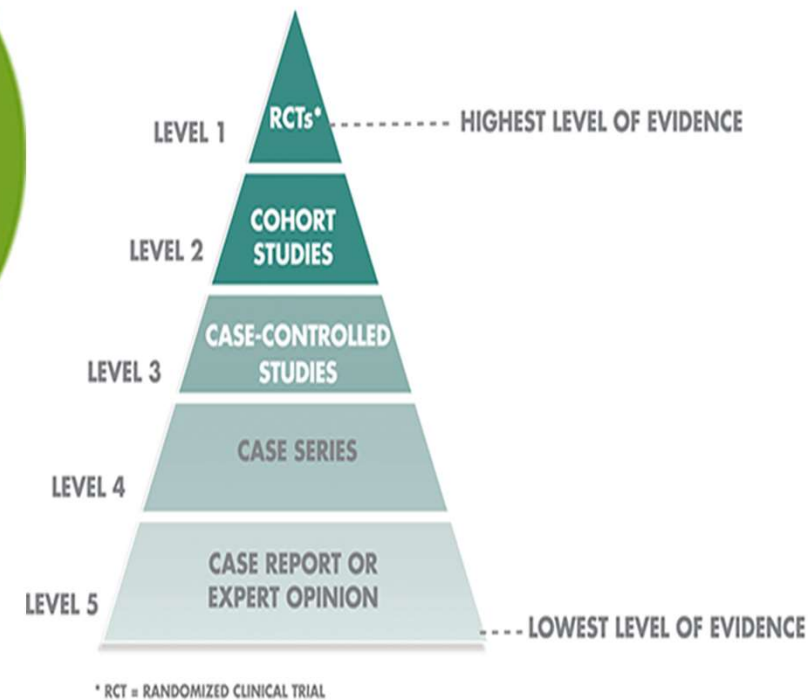
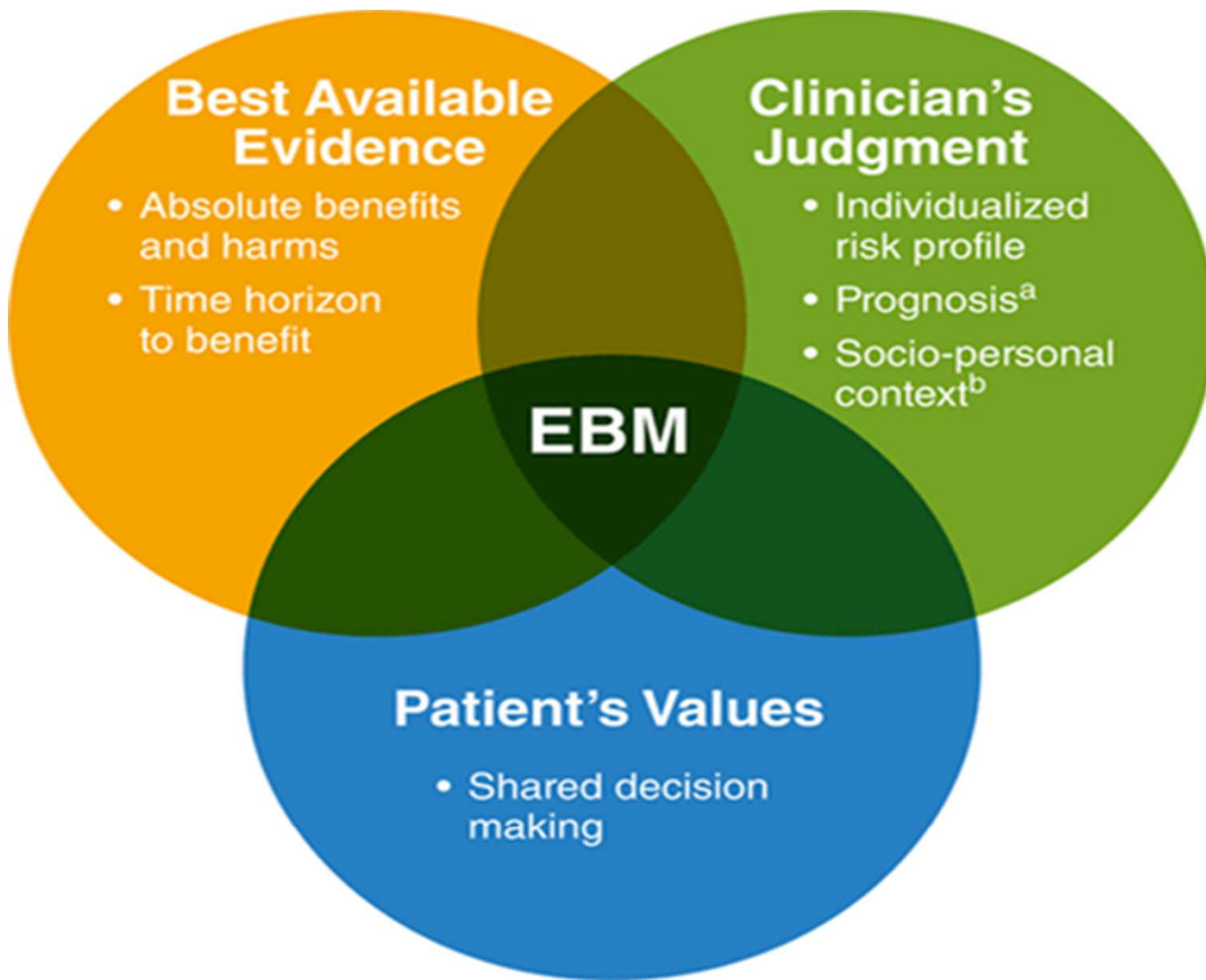
## OPEN FEEDBACK SYSTEM



## CLOSED-LOOP FEEDBACK SYSTEM



# Module 1: Evidence Based Practice





**I am a runner, have been struggling with AT  
(4/10 VAS pain) for 6 months.  
Can I run tomorrow?  
What would your recommendation be?**



# Continued Sports Activity, Using a Pain-Monitoring Model, During Rehabilitation in Patients With Achilles Tendinopathy

## A Randomized Controlled Study

Karin Grävare Silbernagel,<sup>\*††</sup> PT, ATC, PhD, Roland Thomeé,<sup>††</sup> PT, PhD,  
Bengt I. Eriksson,<sup>†</sup> MD, PhD, and Jon Karlsson,<sup>†</sup> MD, PhD

From the <sup>†</sup>Lundberg Laboratory of Orthopaedic Research, Department of Orthopaedics, Göteborg University, Sahlgrenska University Hospital, Göteborg, Sweden, and <sup>††</sup>SportRehab-Physical Therapy & Sports Medicine Clinic, Göteborg, Sweden



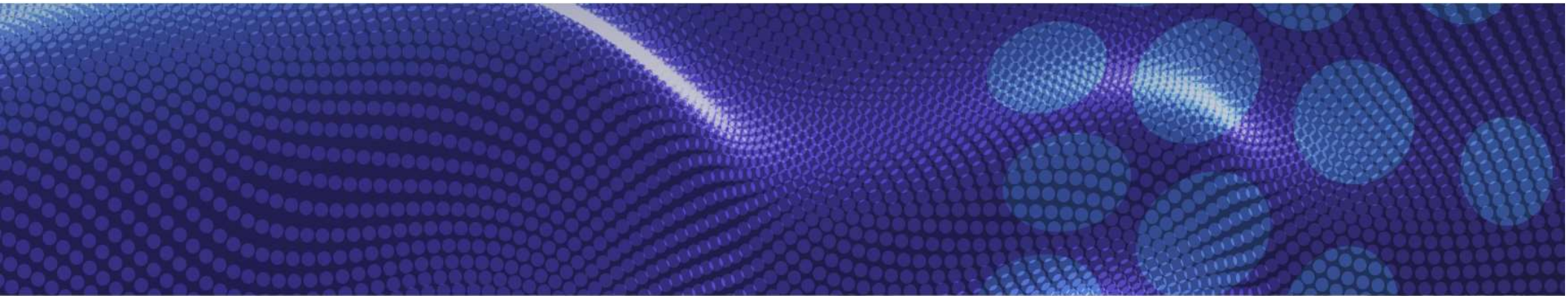
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# (G2)

## Module 2:

### Paradigm shift



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# Module 2

## Exercise prescription

However, exercise is under prescribed  
and frequently overlooked,  
often in favour of a pharmacologic or  
surgical interventional

(Hoffman et al., 2015)



# Module 2: Why under prescribed?

(Hoffman et al., 2016)

???

- Clinicians/patients lack in awareness of the POSITIVE effect of exercise interventions - reviews

Research

- Inadequate descriptions of exercise interventions in published trials and

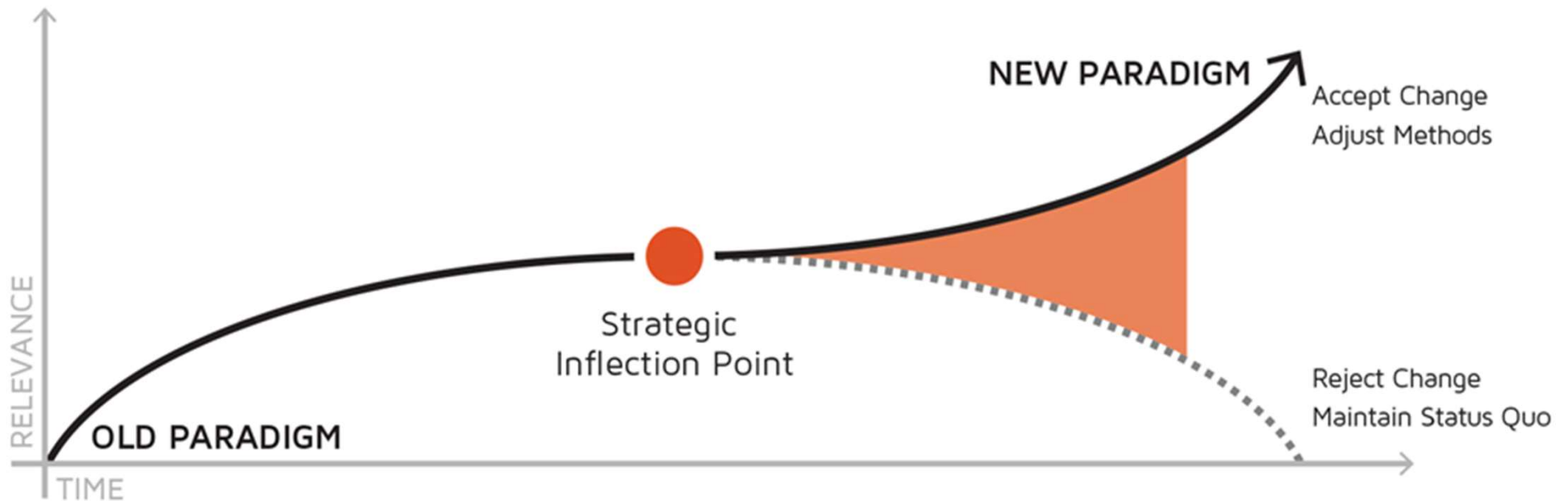
Bio

- Poor knowledge about what encompasses an effective exercise intervention

# Module 2: Over simplifying



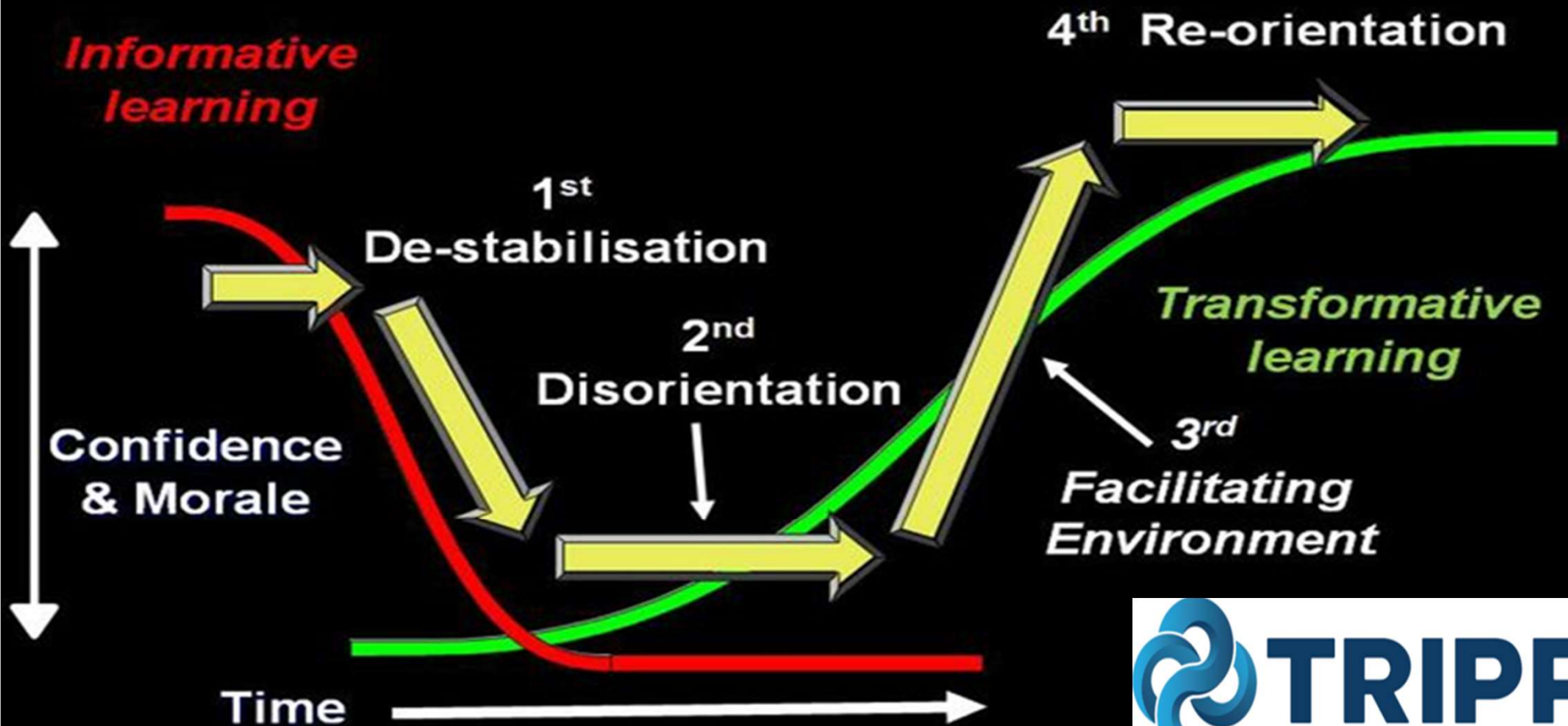
# Module 2: New Paradigm



**Facing an extraordinary demand or opportunity for which there are no easy answers often signals that the tide is turning—one phase is ending, while something new is struggling to emerge. In pursuing the new phase, a paradigm shift seems to be the answer.**

# Module 2: Proposed Paradigm Shift

## Sequence of paradigm shift process



# Module 2:

## Proposed Paradigm Shift

**A paradigm shift could be defined:  
a process which starts with some informative  
learning information.**

**Individual's current thinking process is challenged,  
confidence and moral is down & the candidate can  
sense some form of destabilisation and  
disorientation in this new environment.**

**Through time a new environment will be facilitated  
and the process will end where the learner will  
experience transformed learning skills  
that can be applied readily.**



# Theo Slide

- The paradigm shift talk

# **Module 2: General Program Prescription based on ACSM guidelines**

**In summary, general program prescription/design within the context of exercise therapy can be translated into general medical treatment provided to patients according to general ACSM guidelines and principals.**

**(Arnold Vlok, 2018).**

## Module 2

# Essence of scientific program prescription

**In summary scientific program prescription/design within the context of exercise therapy can be translated into exact medical treatment provided to patients through scientific methods and principals**

**(Arnold Vlok, 2018).**

Consensus on Exercise Reporting Template (CERT):  
Explanation and Elaboration Statement

Susan C Slade,<sup>1,2</sup> Clermont E Dionne,<sup>3</sup> Martin Underwood,<sup>4</sup> Rachelle Buchbinder<sup>1,2</sup>



# Module 2:

## Comparing General Program Prescription with Scientific Program Prescription

### General

- Low Level of Outcomes
- No Specific Format
- Low level of Specific Content (X<sub>1</sub>-X<sub>2</sub>)
- No Specific Time frame

### Scientific

- Specific Outcome Measures
- Specific format
- High Level of Specific Content(X<sub>1</sub>-X<sub>13</sub>)
- Specific Time frame



**(G3)**  
**Module 3:**  
**Load to withstand Load = Optimal Loading**



# Module 3: Solution To The Problem

“And that is to makes things as simple as possible, but not simpler. Everything needs to have the right level of simplicity, that is not too simple, but not too complicated.”

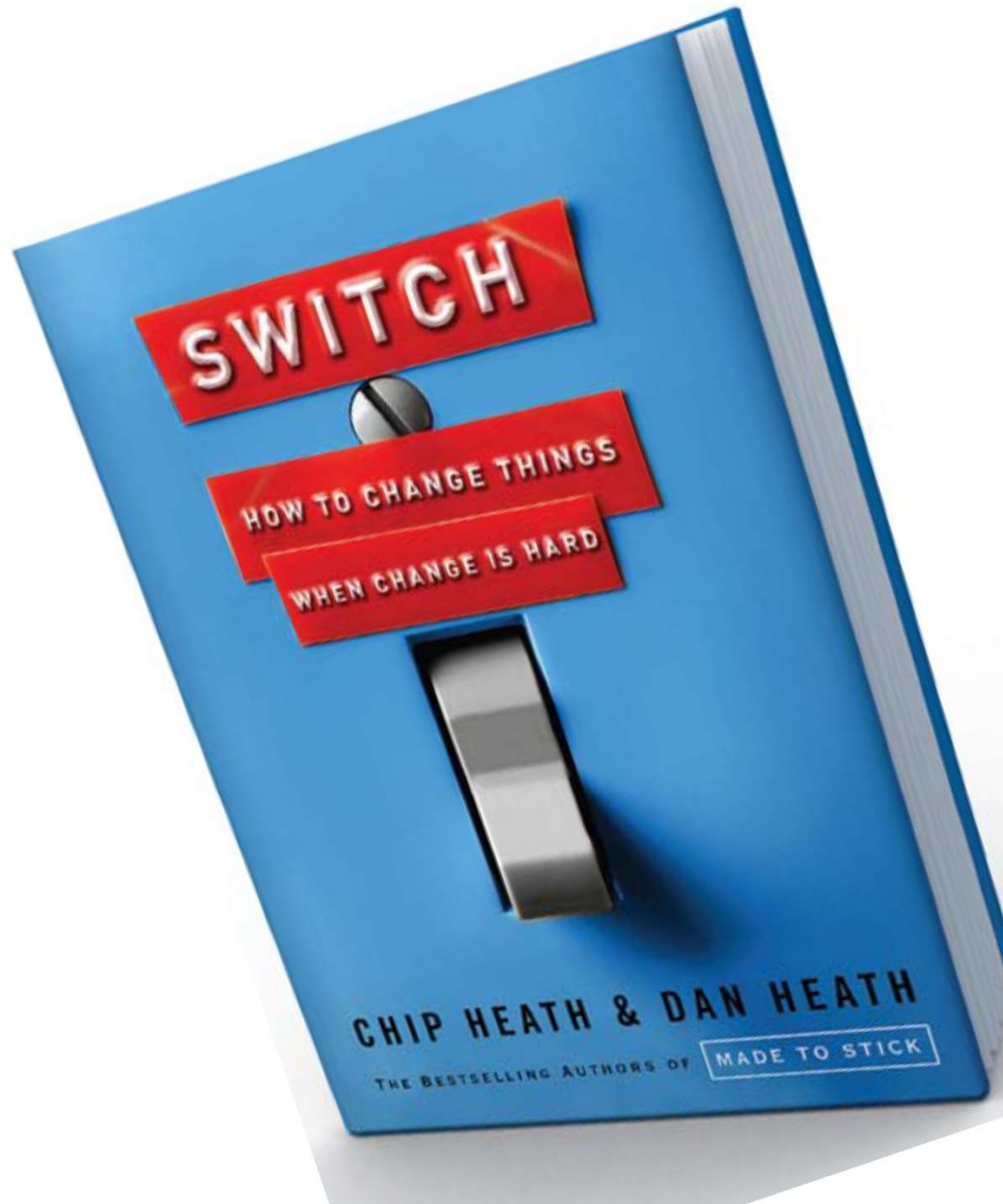
Prof. Michael Levitt  
(Nobel Prize Winner, 2013)

MISMATCH BETWEEN  
EXERCISE STIMULUS  
AND DESIRED  
OUTCOME



LOAD TO  
WITHSTAND  
LOAD

# Module 3: Solution To The Problem



# Module 3: Optimal Loading Defined

Optimal loading:

Load applied to structures

that maximises

physiological adaptation,

*(while maintaining internal systemic and  
non-systemic homeostasis)*

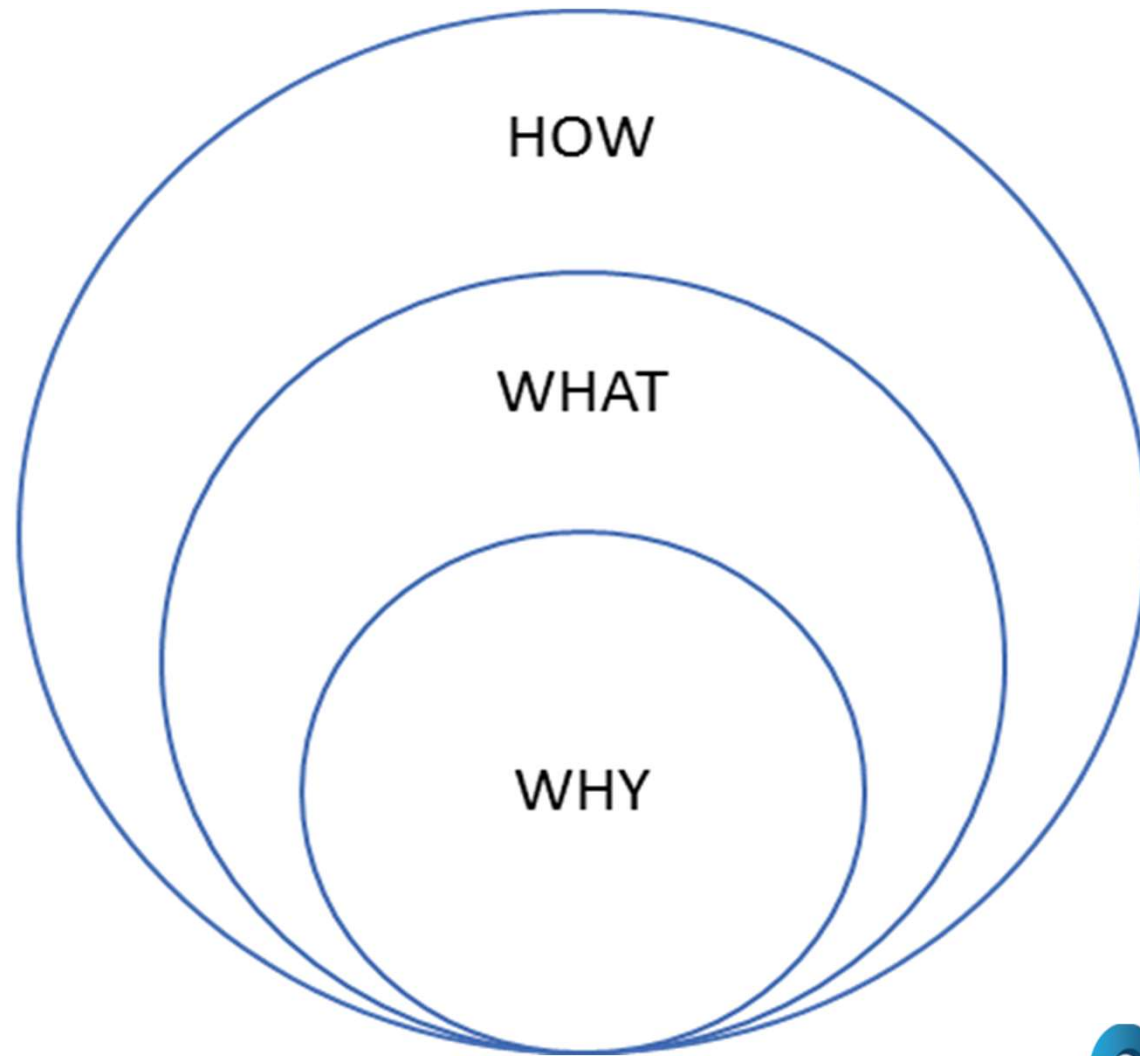
(Glasgow et al., 2015)



Optimal loading: key variables and  
mechanisms  
Philip Glasgow,<sup>1</sup> Nicola Phillips,<sup>2</sup> Christopher Bleakley<sup>3</sup>

Optimal loading: key variables and  
mechanisms  
Philip Glasgow,<sup>1</sup> Nicola Phillips,<sup>2</sup> Christopher Bleakley<sup>3</sup>

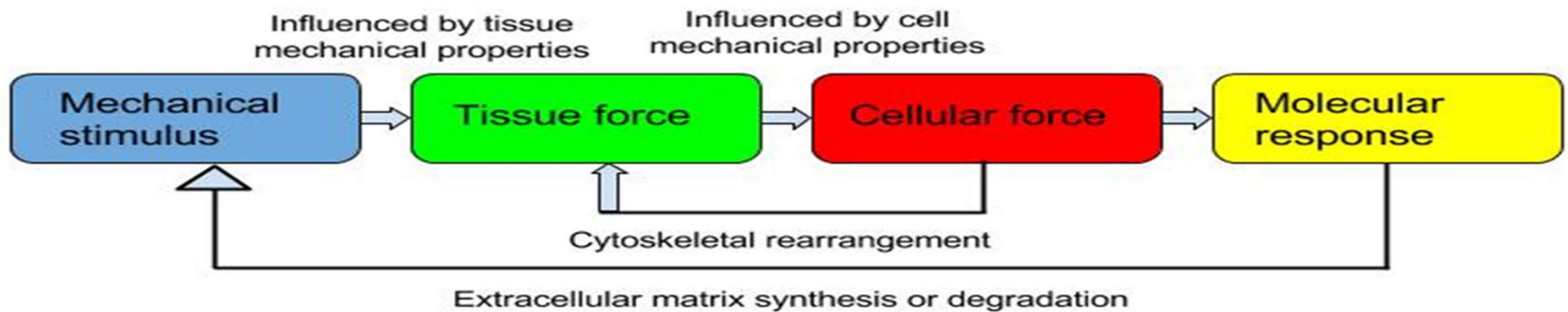
# Module 3: Optimal Loading Conceptualized



# Module 3: Optimal Loading Conceptualized

SINGLE SET/COMPOUND SET/TRI-SET														
				LOAD PROGRESSION										
AIM	EXERCISE	REST	MBD	WEEK 1	WEEK 2	WEEK 3	WEEK 4							
<b>"WHY"</b> (Optimal Loading Congress, 2017; Kent et al., 2017)	<b>"WHAT"</b> (Optimal Loading Congress, 2017)	↓	Repetition	<b>"HOW"</b> Optimal Loading Congress (Van Dyk and Khan, 2017; Slade et al., 2017; Kent et al., 2017)										
			Tempo(sec)											
			Sets											
			Intensiteit											
			Total Reps						0	0	0	0		
			TUT(Sec)						0	0	0	0		
			Total Sets						0	0	0	0		
			↓						↓	Repetition	12	15	15	20
			↓						↓	Tempo(sec)	8	6	6	3
			↓						↓	Sets	2	2	3	3
<b>FITT-VP</b> (American College of Sport Medicine) All MBD according to (Toige et al., 2006) Slade et al., 2014, 2017; Optimal Loading Congress, 2017)	One leg cone touches	↓	Intensiteit	BOSU	BOSU	Airex								
			Total Reps	24	30	45	60							
			TUT(Sec)	192	180	270	180							
			Total Sets	2	2	3	3							
			↓	↓	Repetition	4								
			↓	↓	Tempo(sec)									
			↓	↓	Sets									
			↓	↓	Intensiteit									

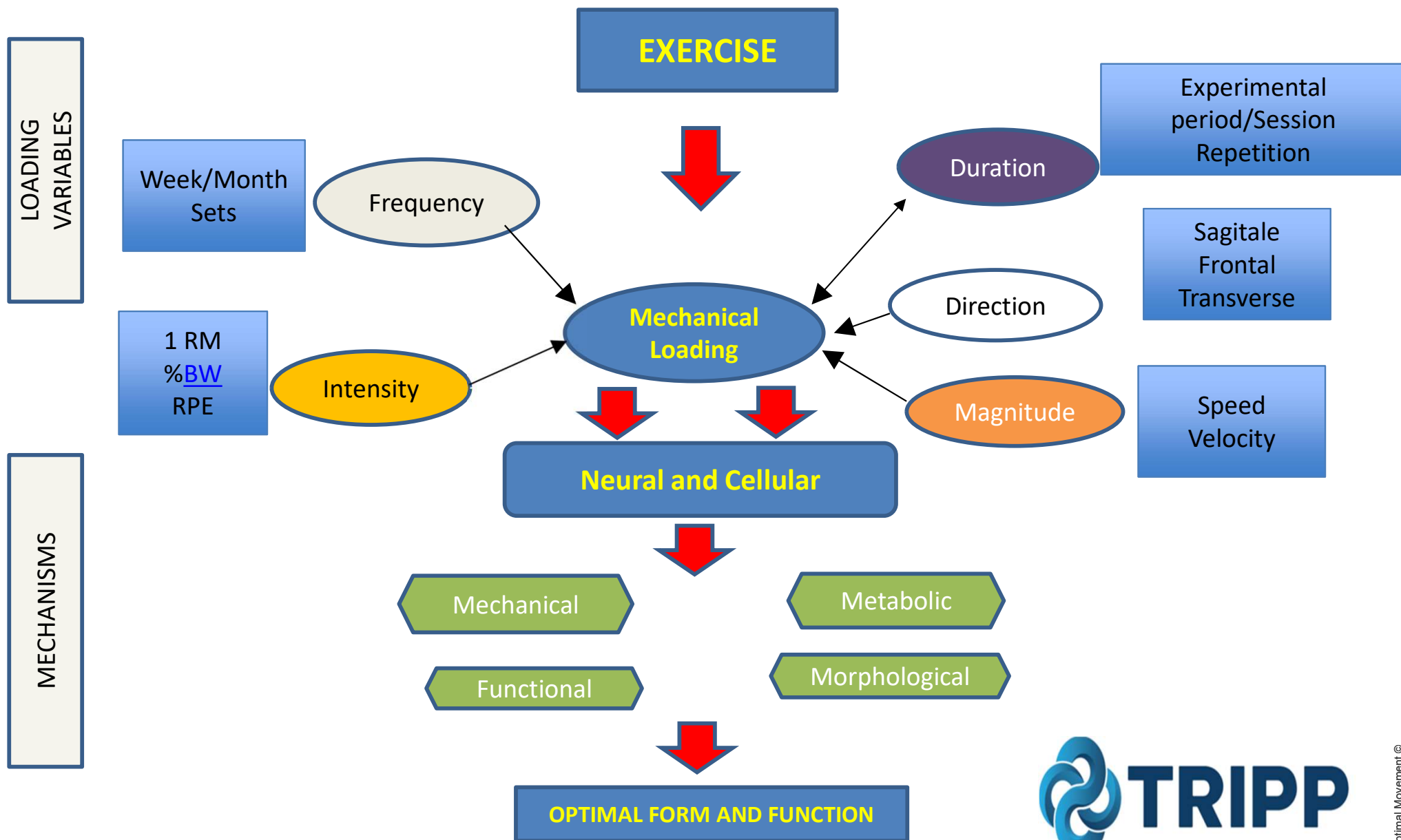
# Module 3: Mechano-transduction



After: Thompson 2016 Understanding Mechanobiology: Physical Therapists as a Force in  
Mechanotherapy and Musculoskeletal Regeneration Rehabilitation

# Module 3: Optimal Loading Within The Context Of Rehabilitation

(Glasgow et al., 2015)



# Module 3:

## Critical Debate Current Loading Descriptors



3\*10 Reps

- Physiotherapist
- Biokineticist
- Personal Trainer
- Pilatus Instructor
- Power Plate Instructor
- ACSM Level 1

# Module 3: The Biokinetic Rehab Trap

Over  
complicated

Under  
dosed  
(3\*10)

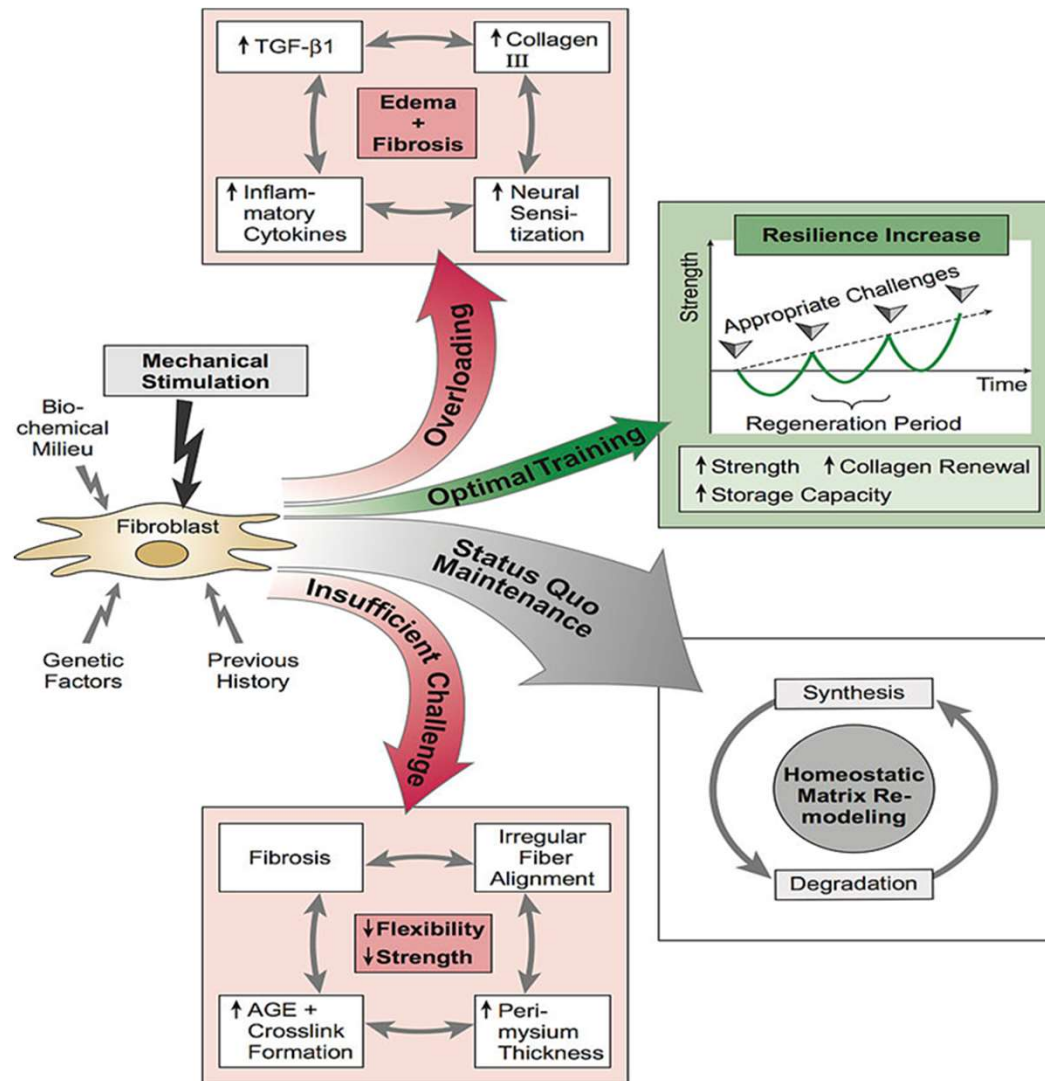
Constantly  
changing

No  
Outcomes  
Measures

Direct  
Translation

# Module 3: Mechanotherapy

Mechanotherapy/mechanical stimulus can be seen as the vehicle that will carry the stimulus for some form of adaptation.



# Module 3: Characteristics Of Optimal vs Sub-Optimal Loading

## OPTIMAL LOADING

Directed to appropriate tissues

Loading through functional ranges

Appropriate blend of compressive,  
tensile and shear loading

Variability in magnitude, direction,  
duration and intensity

Includes neural overload

Tailored to individual  
characteristics and function

VS

## SUBOPTIMAL LOADING

Non-specific generalised loading

Loading through limited ranges of  
movement

Loading exclusively in a single manner

Constant, unidirectional load

Minimal neural stimulus

Generic, non-individualised

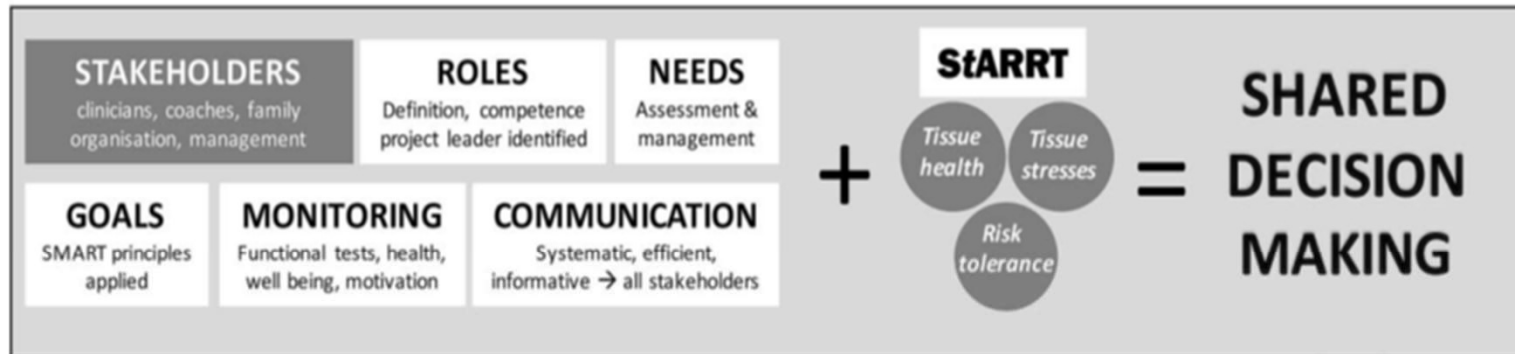
Non-functional, isolated segmental  
loading



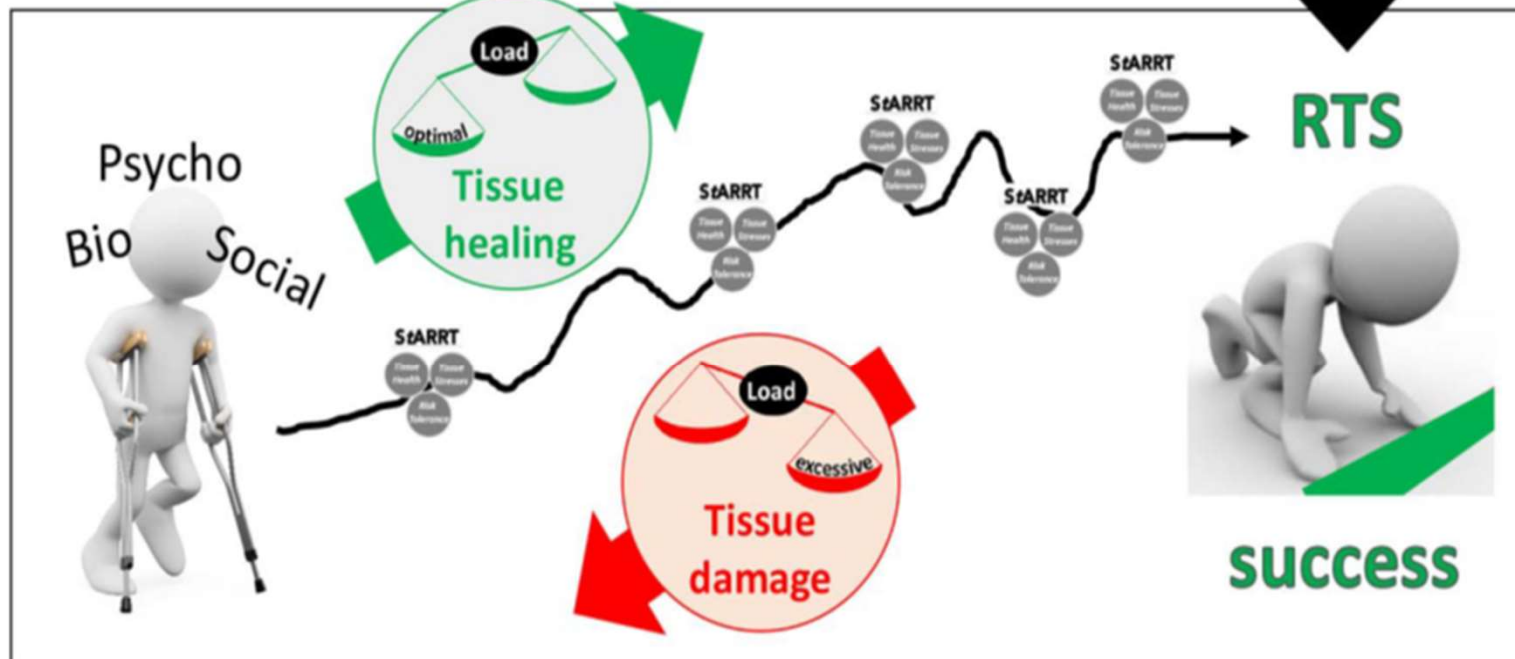
# Module 3: Consensus statement for RTS

(Ardern et al., 2016)

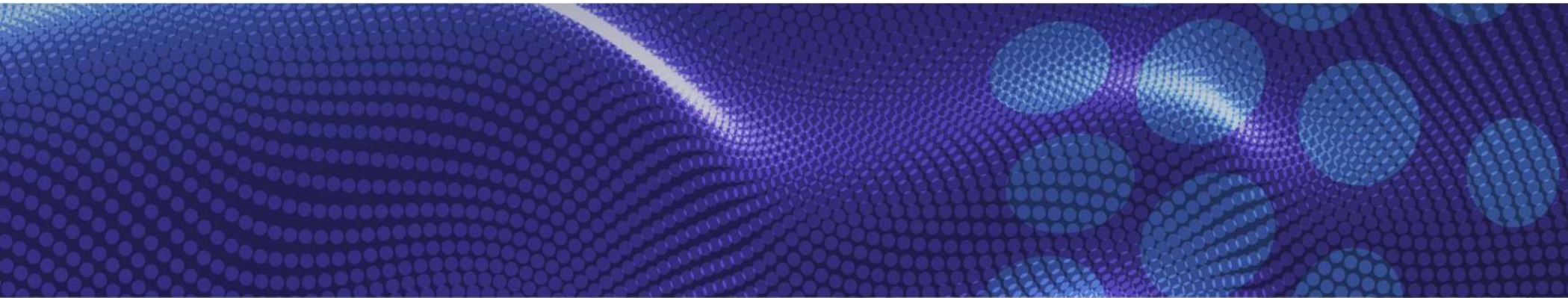
## 1. INJURY MANAGEMENT



## 2. CLINICAL REHABILITATION



# (G4) Module 4: Clinical Reasoning Algorithm (CRA)



Insert the future Bio PREZI

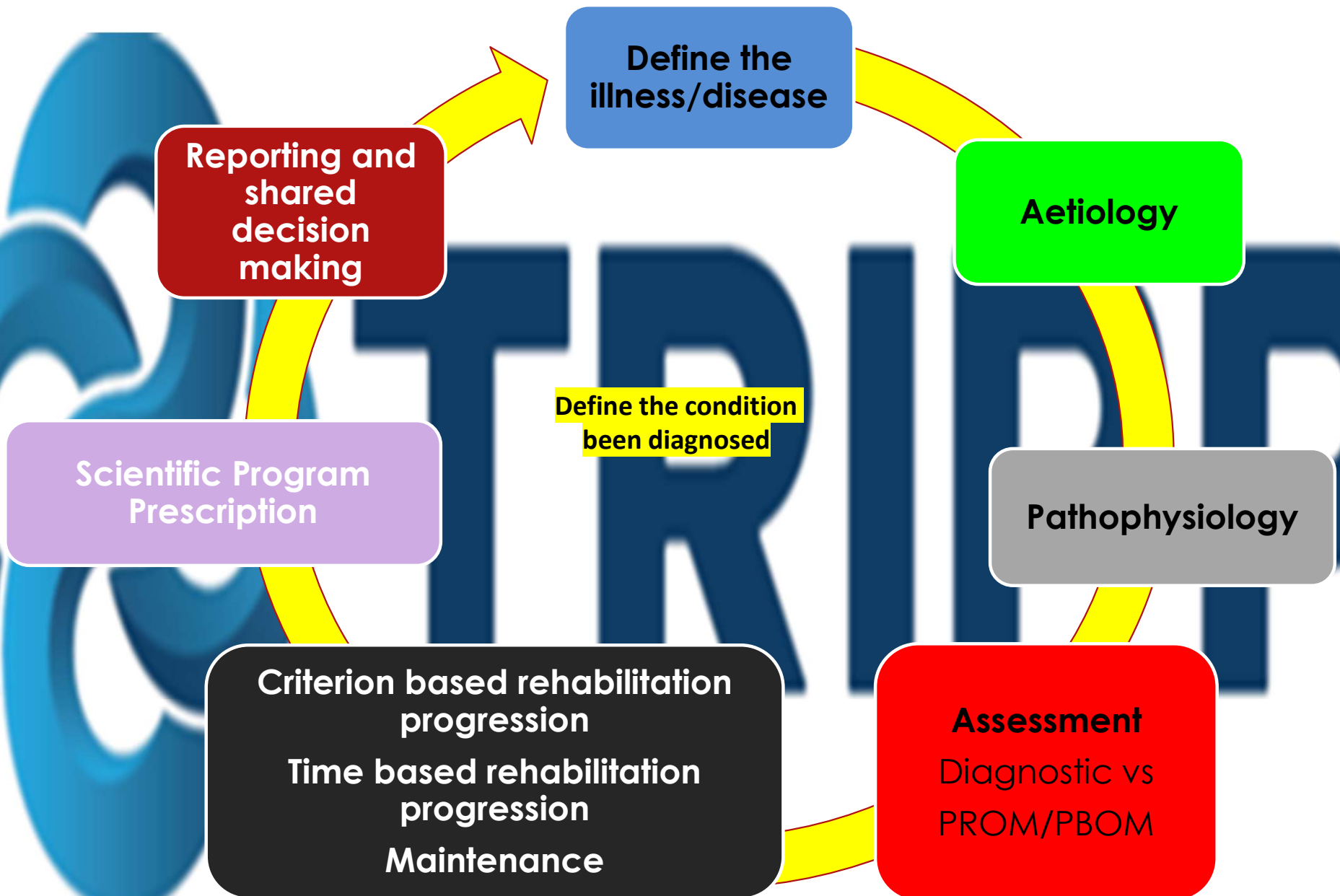
# Module 4:

## 9 Fields Of Rehabilitation (ACSM)

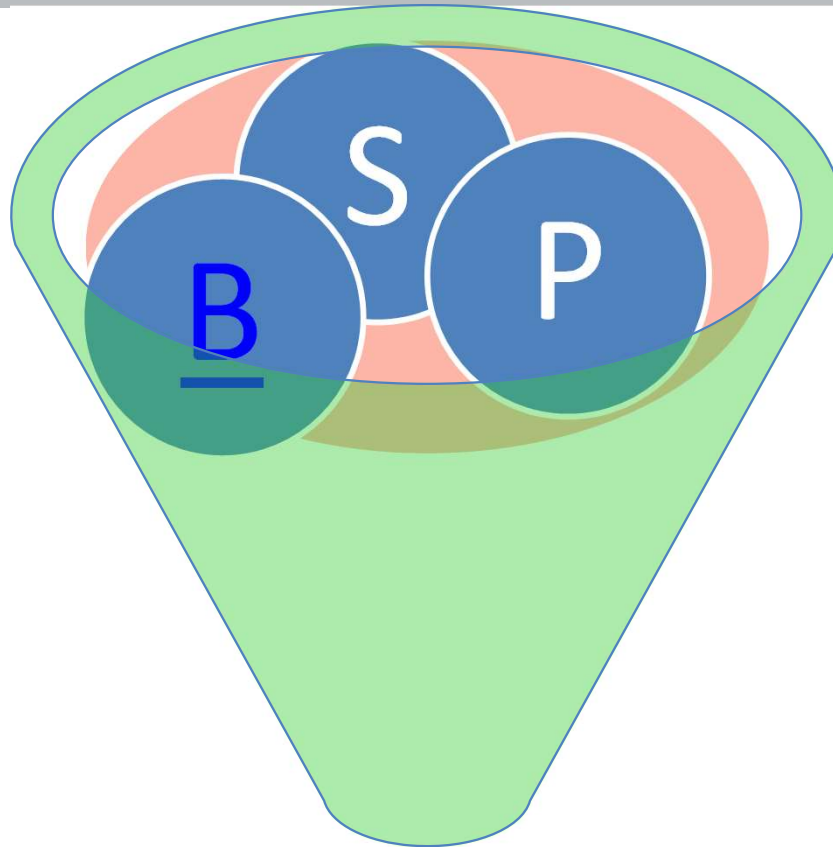
- **Orthopaedic Conditions**
- **Cardiovascular**
- **Pulmonary**
- **Immunological**
- **Musculo-skeletal**
- **Neurological**
- **Cognitive**
- **Cancer**
- **Special Populations.**



# Clinical Reasoning Algorithm



# Module 4: AETIOLOGY

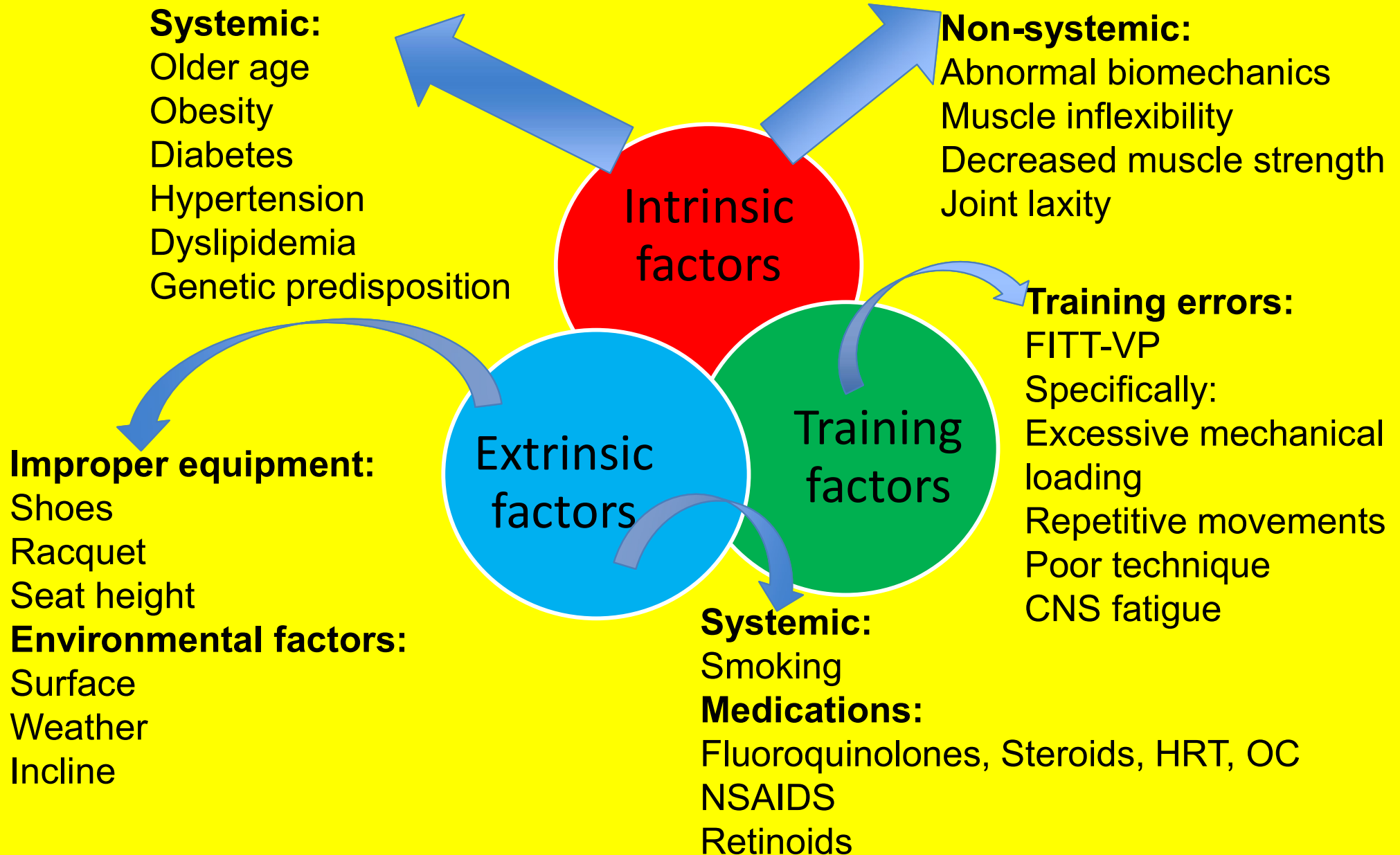


**MECHANISME**



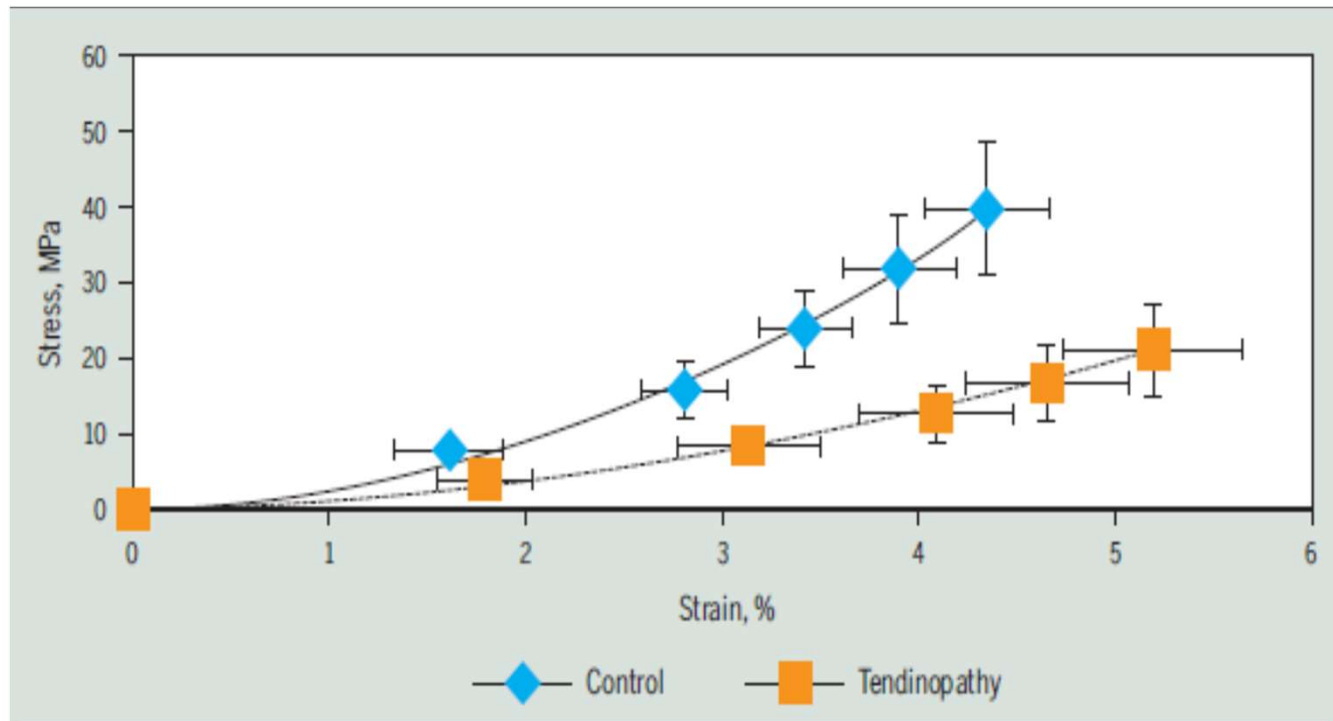
# Risk factors for Ortopaedic Conditions

(Adapted from Murtaugh 2013; Noakes 2001, Brukner & Khan 2012)



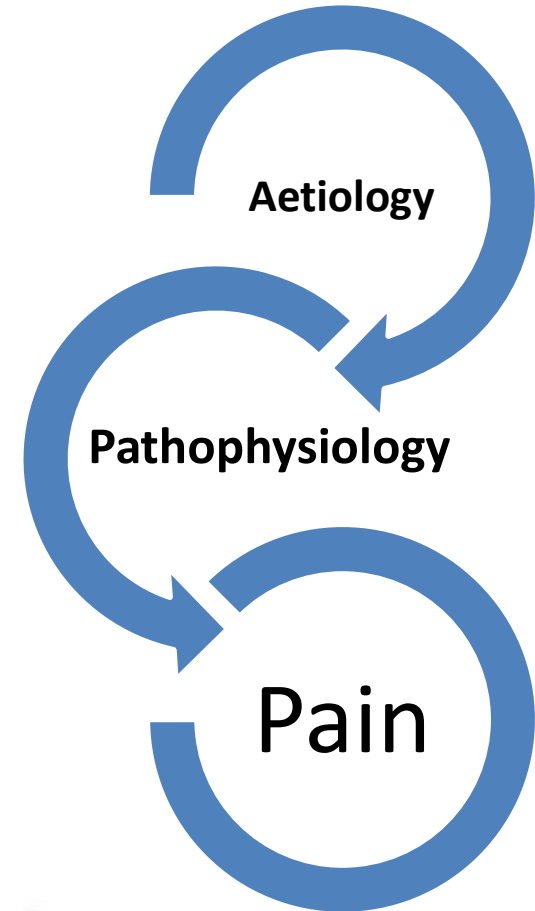
# Module 4: Pathophysiology

## Functional/Morphological/Structural changes caused by.....



**FIGURE 2.** Functional impairment in chronic human Achilles tendinopathy. The average stress-strain curve of tendinopathic Achilles tendons indicates a decline in material properties, including modulus and energy storage, compared to normal tendon. Reprinted from Arya and Kulig.<sup>8</sup> Reproduced with permission of the American Physiological Society.

# Module 4: Assessment



# Module 4: Assessment

**Continuum**



Patello femoral pain example

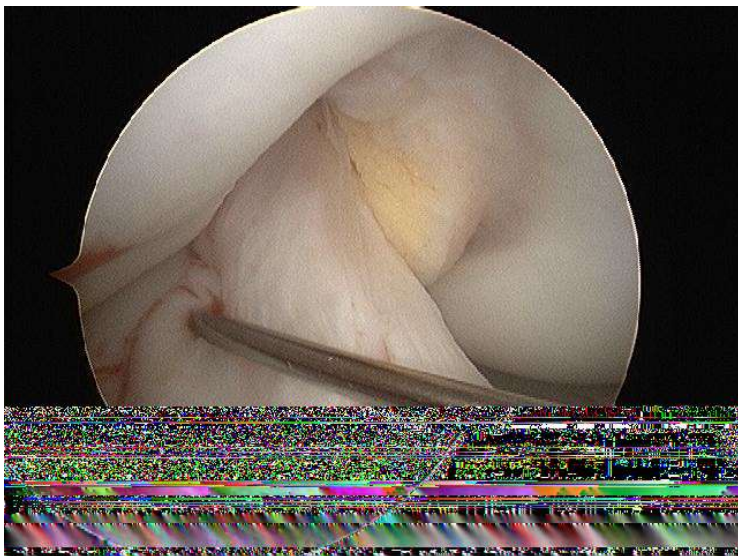
**Biokineticists need to be flexible  
without losing the plot.**

# Module 4: Time vs Criterion based rehabilitation

Medical School  
of thought  
=  
Time to Healing

VS

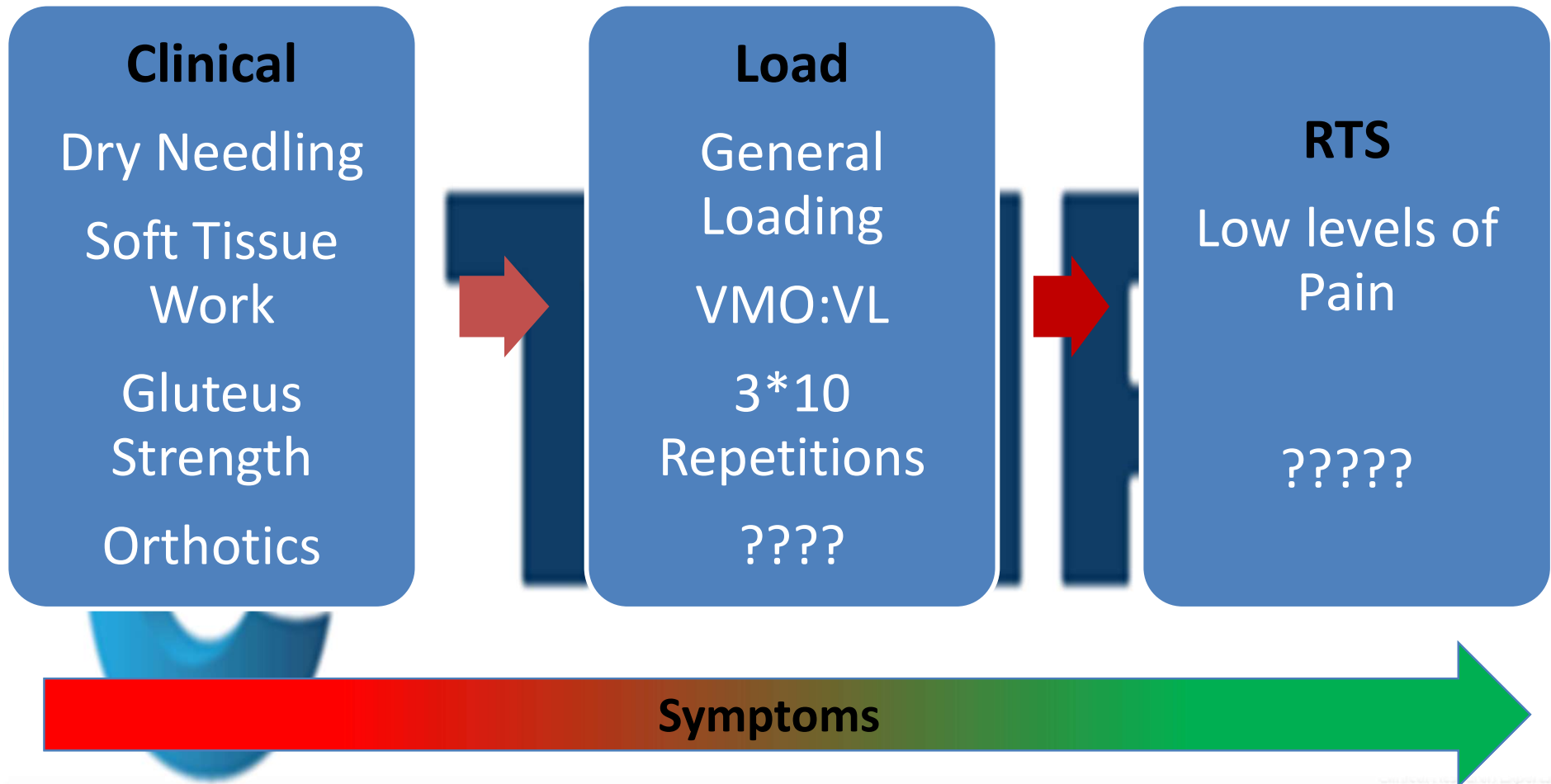
NEW:  
Criterion based  
rehabilitation  
progression  
model



# Time Based Rehabilitation Progression (Open Loop Clinical Assessment)



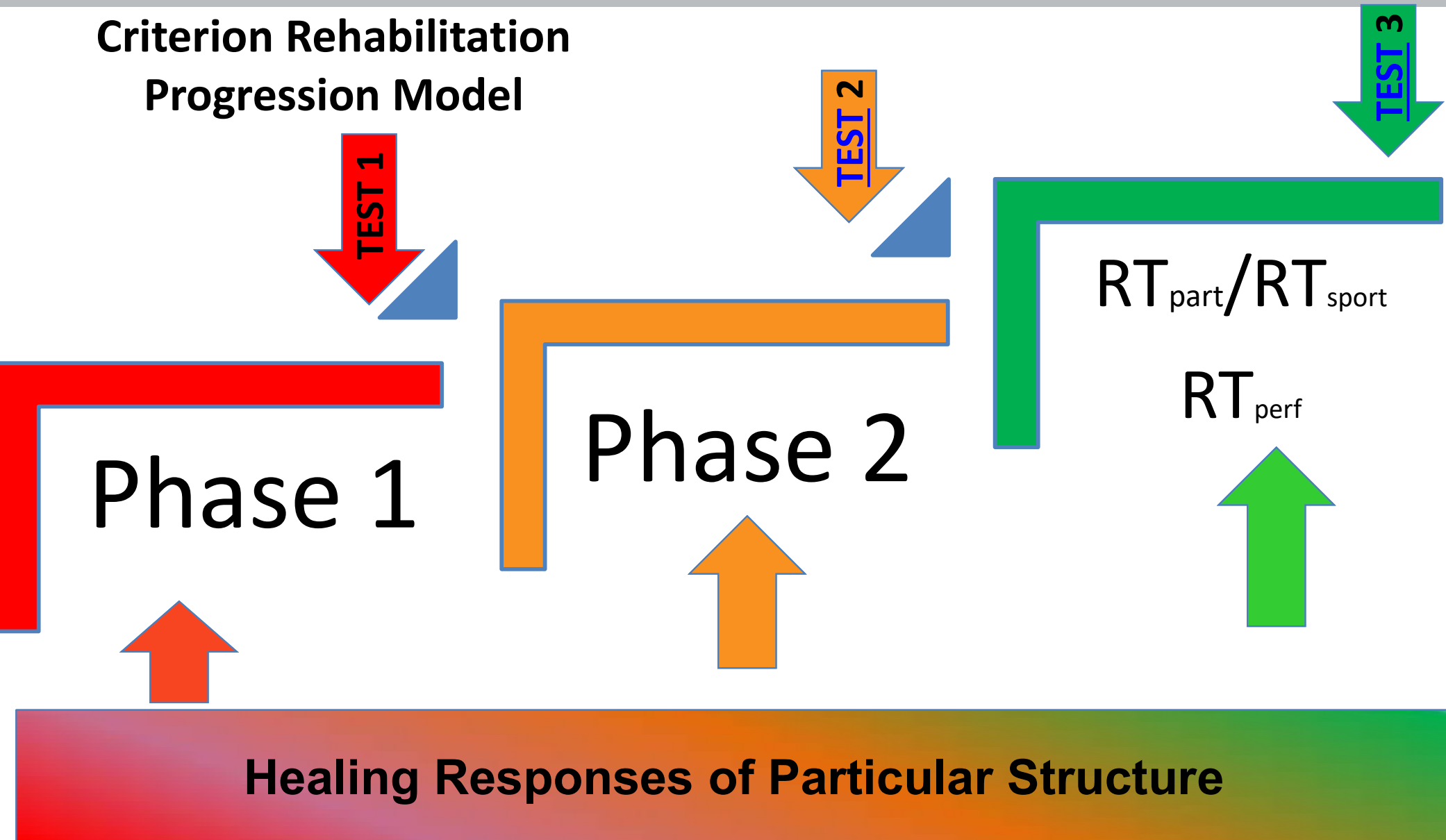
Primarily based on the healing responses of tendon



# Module 4:

## Current thought processes on RTP considerations

Criterion Rehabilitation  
Progression Model



# Module 4: Time vs Criterion based rehabilitation

Medical  
School of  
thought  
=  
Time to  
Healing



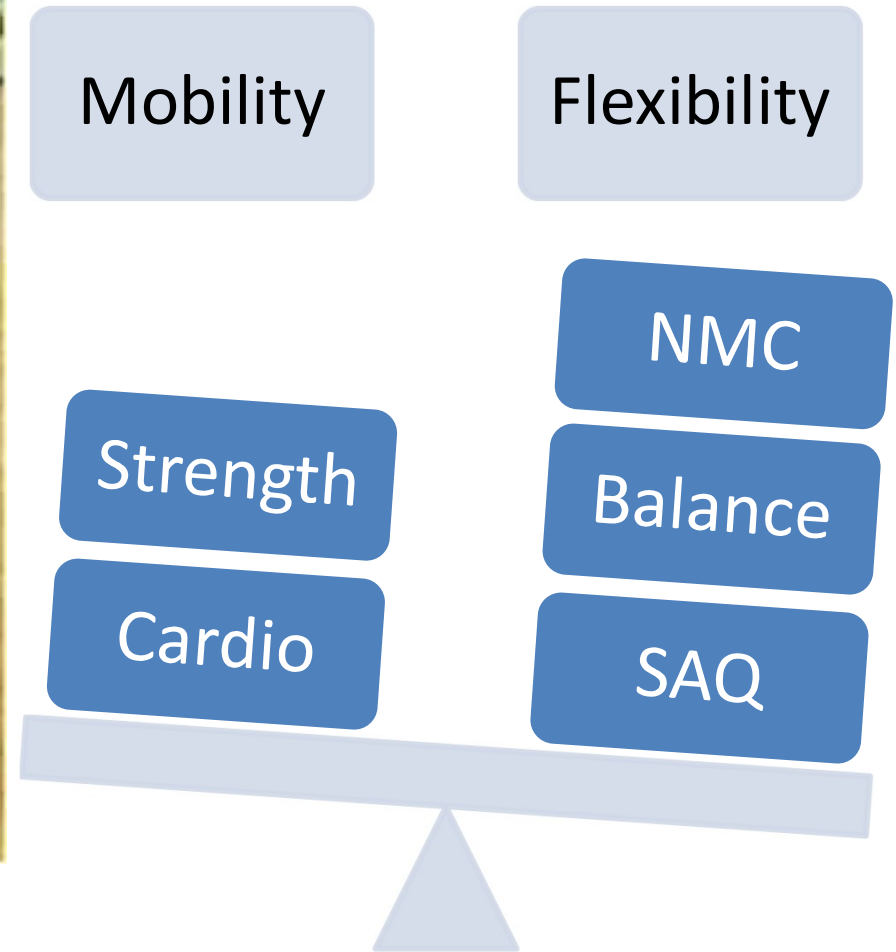
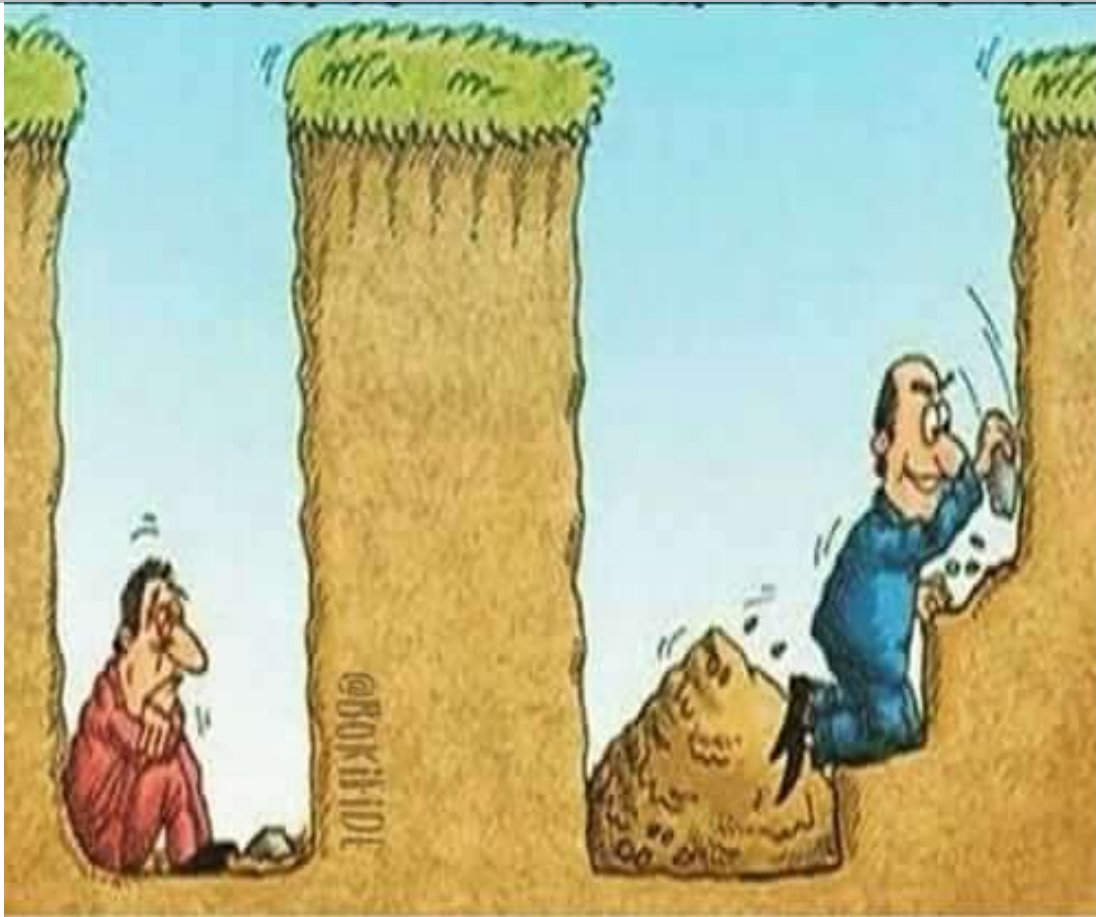
NEW:  
Criterion  
based  
rehabilitation  
progression  
model



If you can't measure you  
can't Manage



# Module 4: Programme prescription and exercise dosage confusion



# Module 4:

## Reporting in the MD team

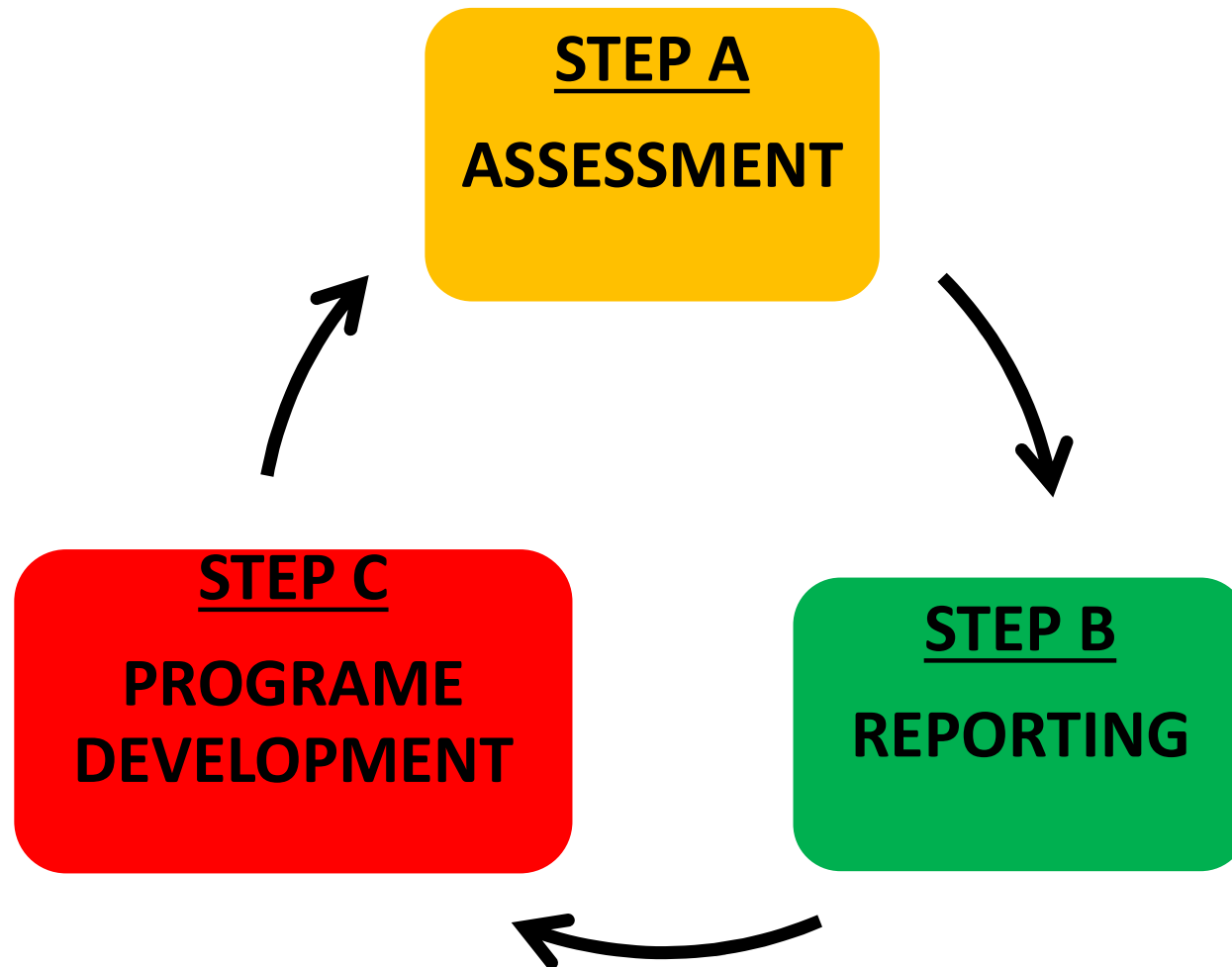
### Chapter 9



# Different types of reporting

- 1** Referral reporting
- 2** Initial reporting
- 3** Progress or Discharge reporting

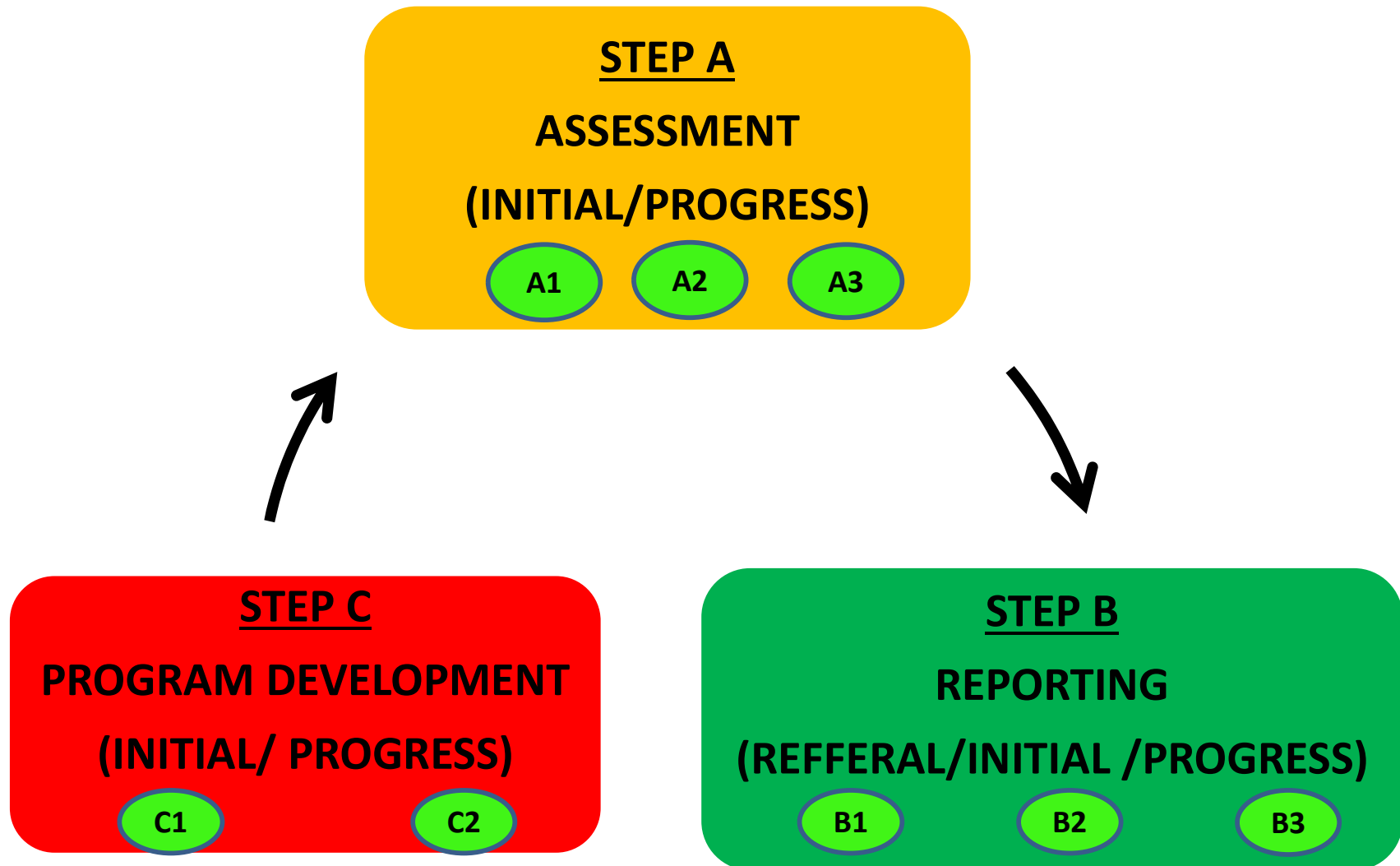
# Module 4: Practical Application-The ABC system



INJURY/ILLNESS RISK MANAGEMENT ALGORITHM  
FROM INITIAL ASSESSMENT TO PROGRESS  
ASSESSMENT



# Module 5: Rehabilitation Framework

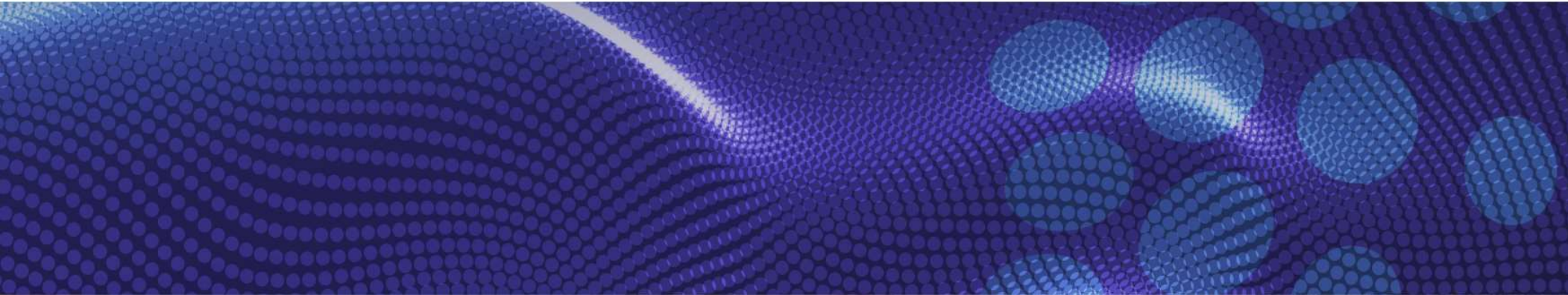


INJURY/ILLNESS RISK MANAGEMENT ALGORITHM FROM INITIAL ASSESSMENT TO PROGRESS ASSESSMENT





**(G5)**  
**Module 5:**  
**If you fail to plan, you plan to fail....**



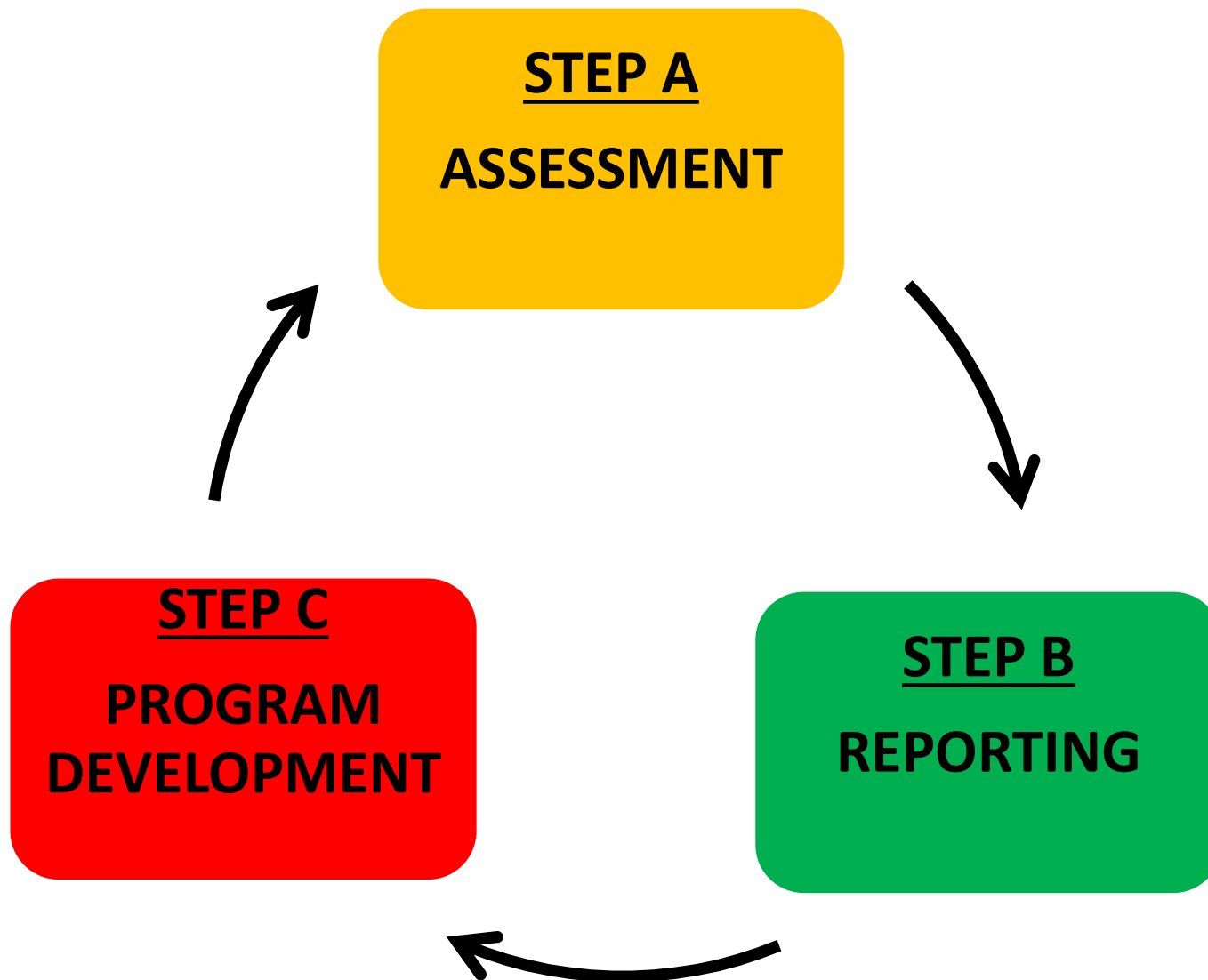
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**What rehabilitation framework  
do you currently use**

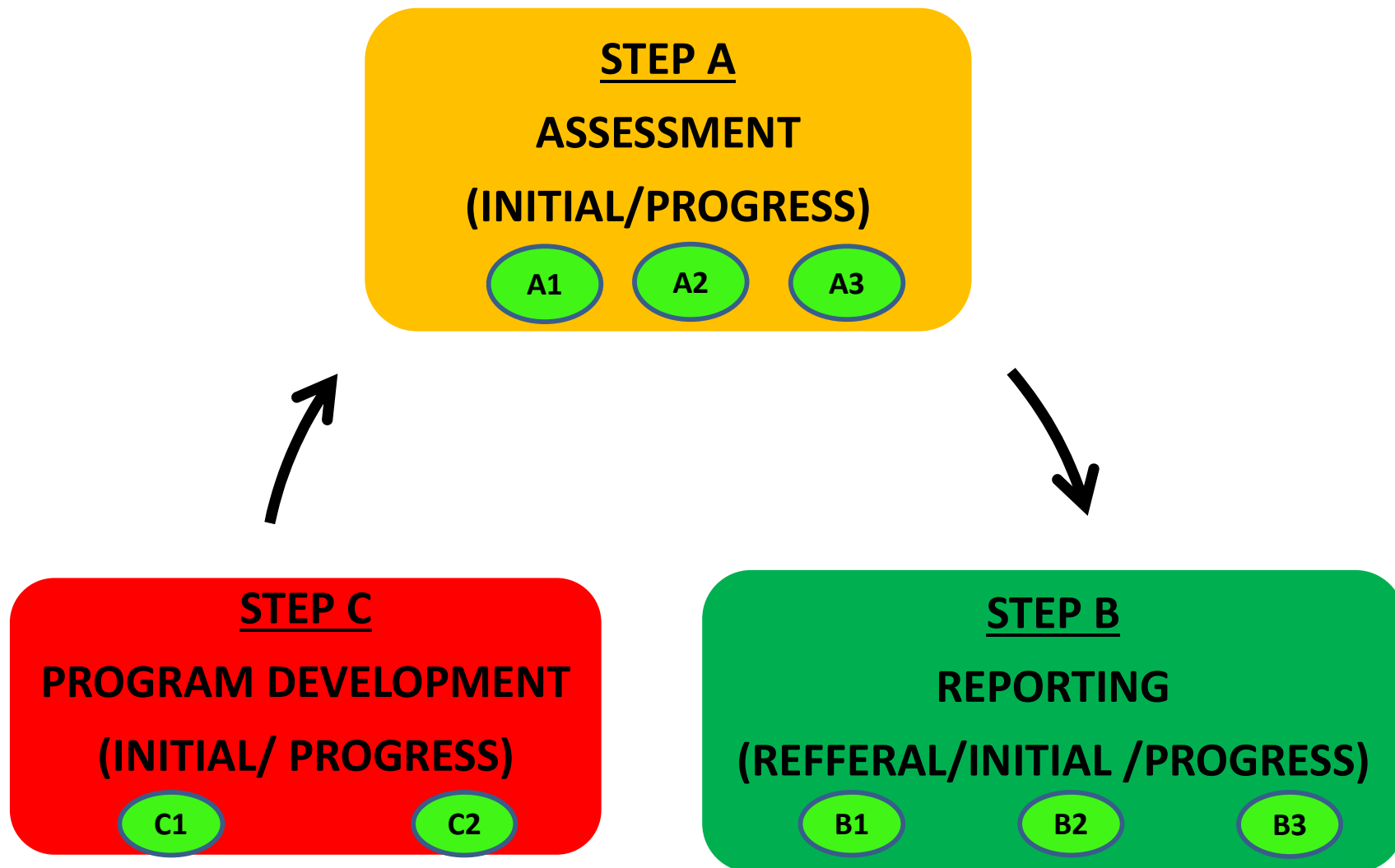
# Module 5: Rehabilitation Framework



INJURY/ILLNESS RISK MANAGEMENT ALGORITHM FROM  
INITIAL ASSESSMENT TO PROGRESS ASSESSMENT



# Module 5: Rehabilitation Framework

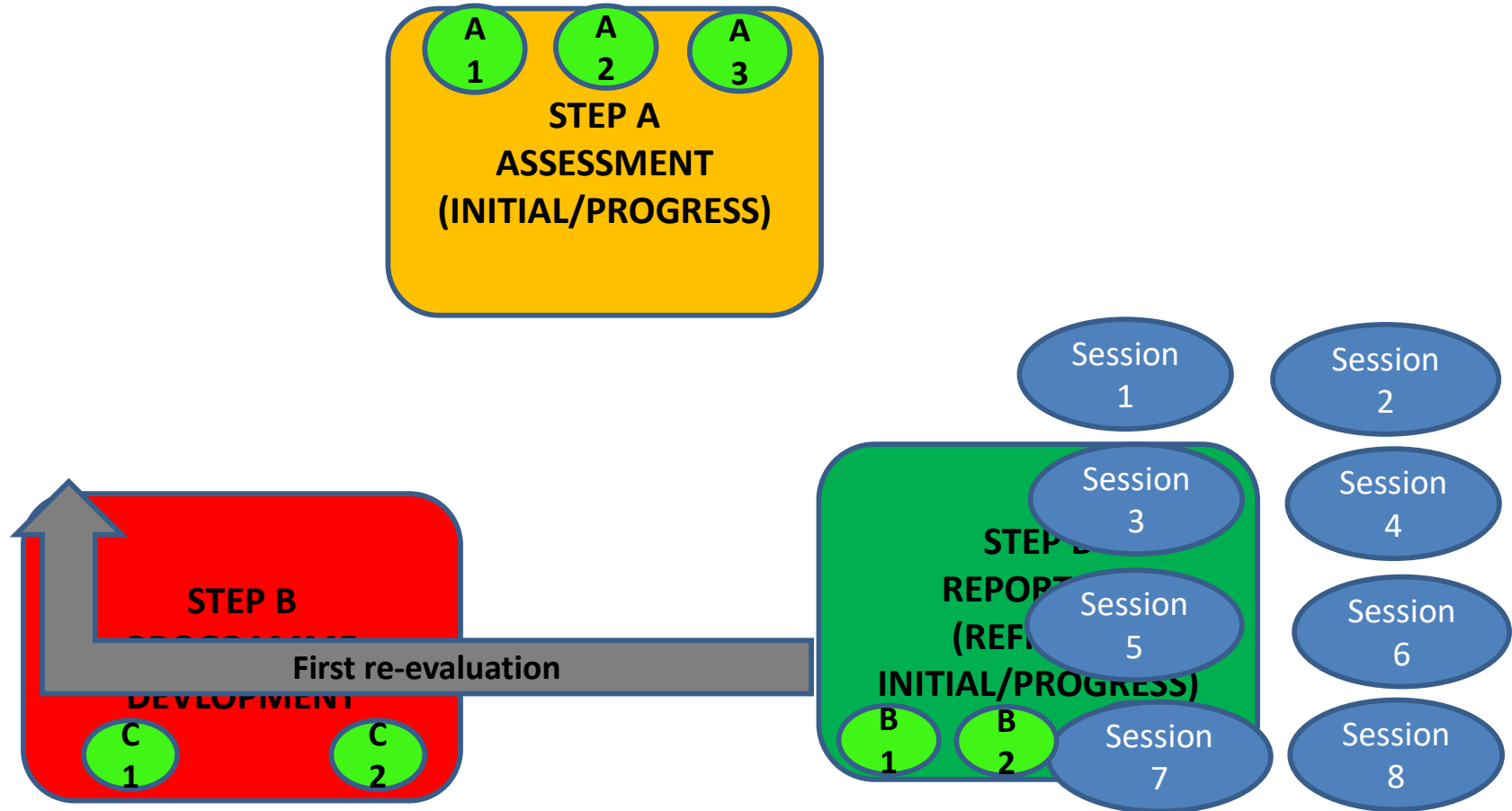


INJURY/ILLNESS RISK MANAGEMENT ALGORITHM FROM INITIAL ASSESSMENT TO PROGRESS ASSESSMENTS





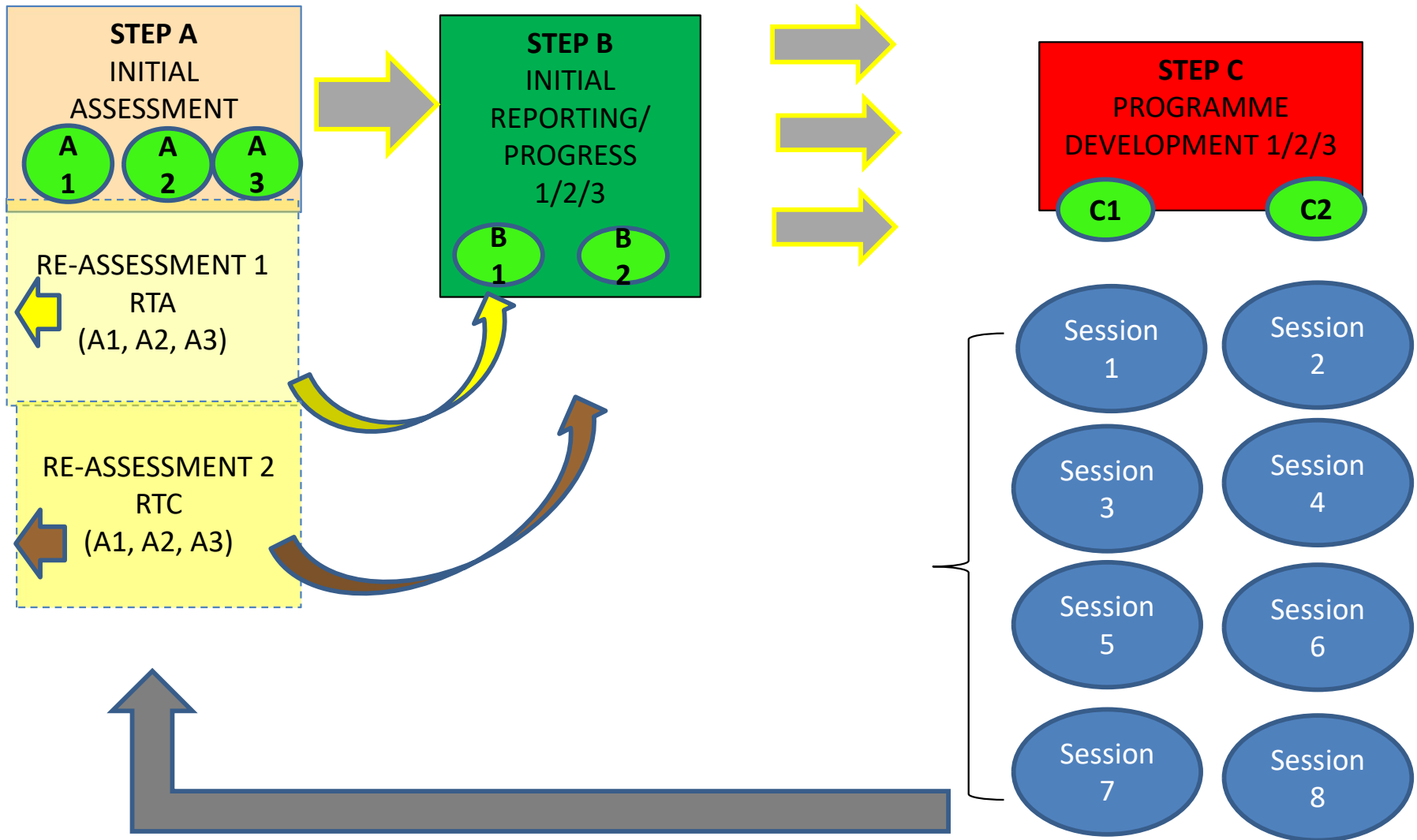
# Module 5: Rehabilitation Framework



INJURY/ILLNESS RISK MANAGEMENT FRAMEWORK FROM INITIAL ASSESSMENT TO PROGRESS ASSESSMENTS

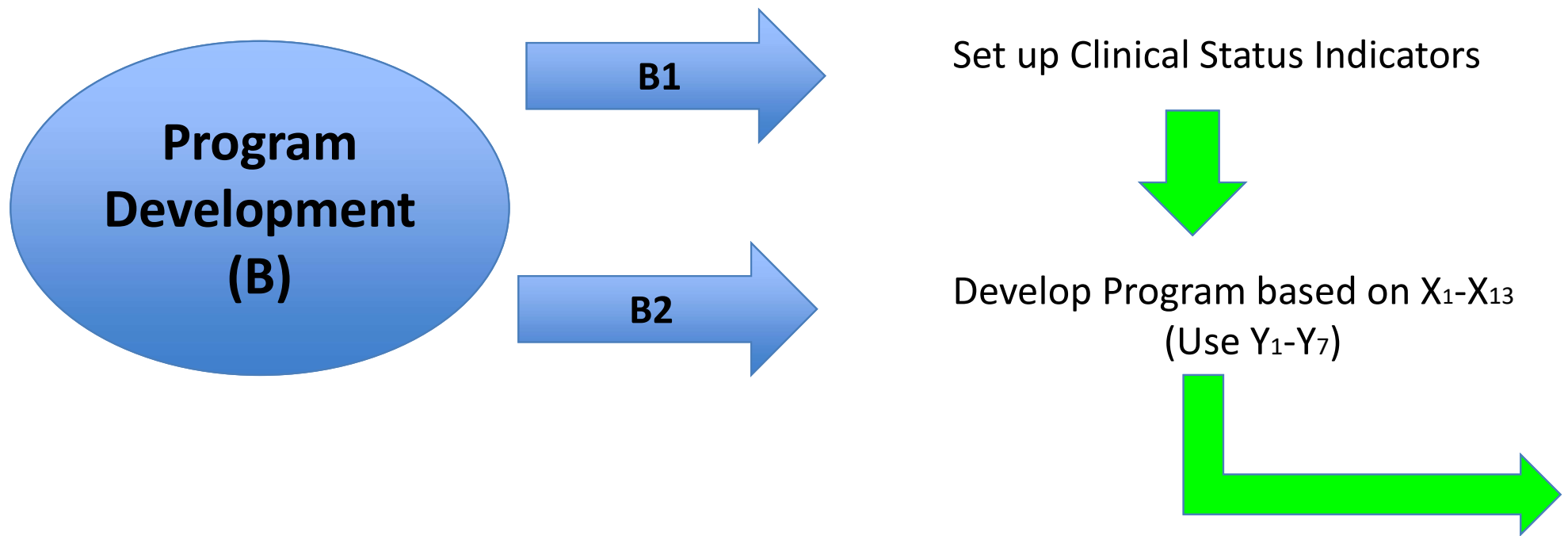


# Module 5: Rehabilitation Framework

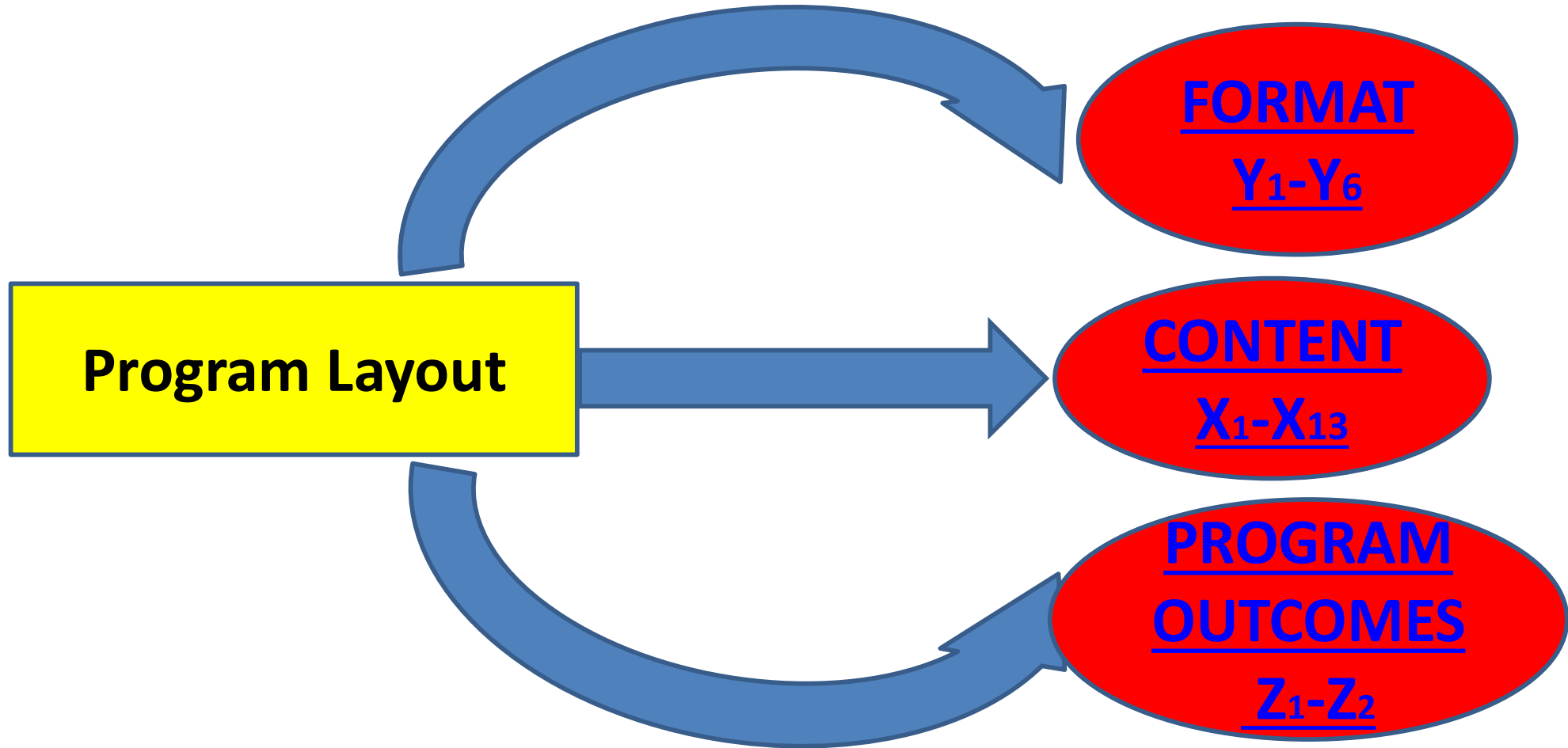


INJURY/ILLNESS RISK MANAGEMENT FRAMEWORK FROM INITIAL ASSESSMENT TO PROGRESS ASSESSMENTS

# Module 5: Rehabilitation Work Frame (Scientific Program Prescription)



# Take It To The Clinical- Practical



**OPTIMAL LOADING = CORRECT EXERCISE  
DOSAGE=STRUCTURED PROGRAM DESIGN**

# Exercise Components

=

## Program Format

FORMAT  
Y1-Y6

### COMPONANTS

Y <sub>1</sub>	Range of motion (Neural/Myofascial-Flexibility/Structural/Trigger Points)
Y <sub>2</sub>	Neuromuscular Control Training(Proprioception/Dynamic Joint Stability/Reactive NMC Training/Functional Movement Patterns)
Y <sub>3</sub>	Strength Training (Endurance BW or Endurance RS /Hypertrophy/Maximum Strength/Power/Functional Strength, RFD)
Y <sub>4</sub>	Cardiovascular Training (Aerobic/Anaerobic)
Y <sub>5</sub>	Plyometric Training (Slow/Medium/Fast)
Y <sub>6</sub>	Speed/Quickness/Agility

**CONTENT**  
**X1-X13**

Program Variables

=

Program Content

	DESCRIPTORS
X <sub>1</sub>	Load magnitude
X <sub>2</sub>	Number of repetitions
X <sub>3</sub>	Number of sets
X <sub>4</sub>	Rest in-between sets [(s) or (min)]
X <sub>5</sub>	Number of exercise interventions [per (d) or week]
X <sub>6</sub>	Duration of experimental period [(d) or weeks]
X <sub>7</sub>	Fractional and temporal distribution of contraction per repetition(C;I;E)
X <sub>8</sub>	Rest in-between repetitions [(s) or (min)]
X <sub>9</sub>	Time under Tension [(s) or (min)]
X <sub>10</sub>	Volitional Muscular Failure
X <sub>11</sub>	Range of motion
X <sub>12</sub>	Recovery time in-between sessions[(h) or (d)]
X <sub>13</sub>	Anatomical definition of the exercise (exercise form)

# OUTCOMES

Z<sub>1</sub>-Z<sub>2</sub>

## Program Outcomes

	OUTCOMES measures
<b>Z<sub>1</sub></b>	Primary Outcomes(PROM's-Questionnaires, VAS, RPE)
<b>Z<sub>2</sub></b>	Secondary Outcomes (Musculoskeletal Outcomes)

# (G6)

## Module 6:

### Consistency is the ultimate currency



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# Outcomes

- 1. Why progressive overloading?**
- 2. What is progressive overloading?**
- 3. Measurement of progressive overloading**
- 4. How to do progressive overloading of the different exercise components within a rehabilitation program**



# What is Progressive Overloading?



# Module 6: Progressive Overloading

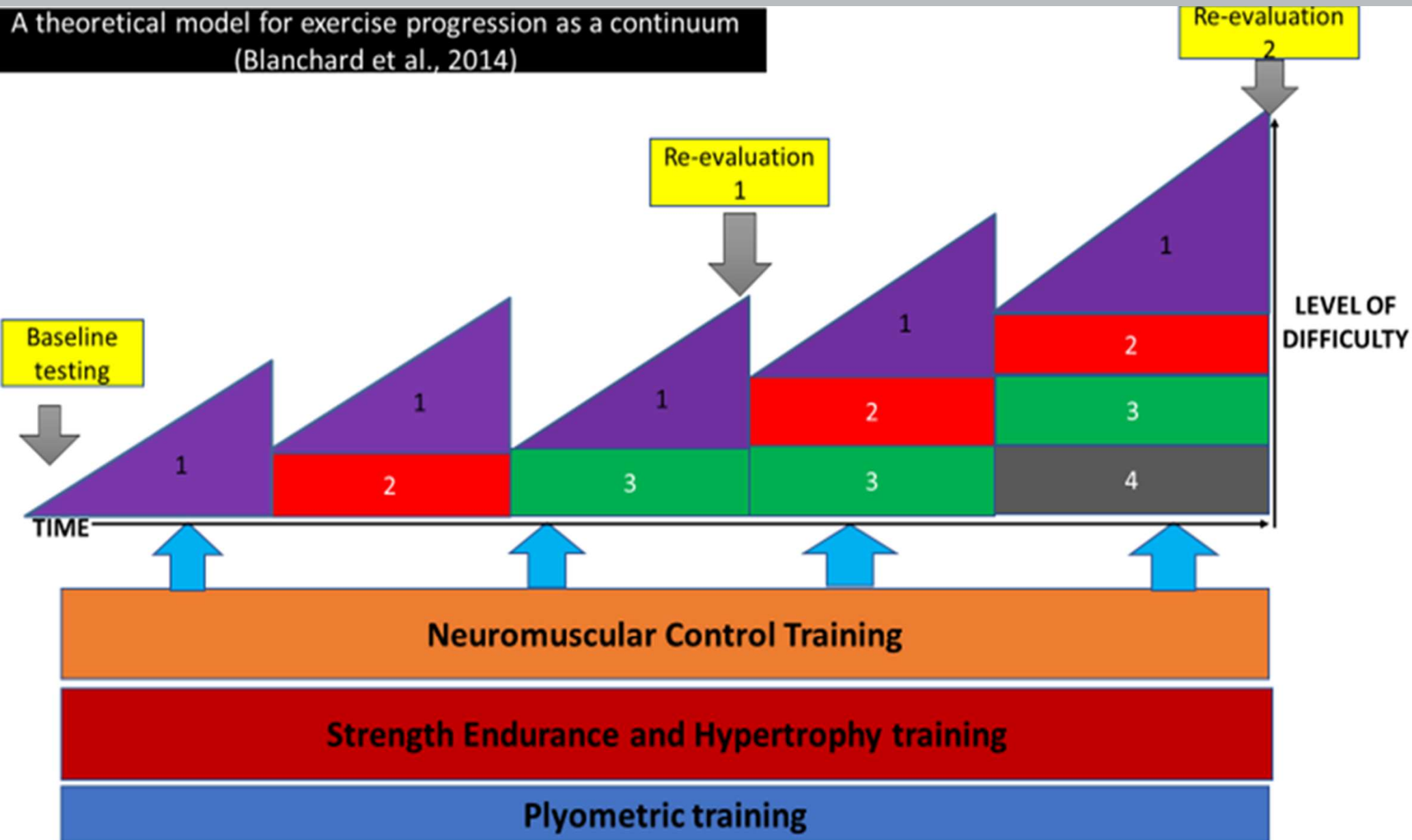
PO is the ability to manage a rehabilitation program in such a way that the **maximum adaption** responses will flow from it, while maintaining the **internal homeostasis** of that particular system/systems.

When applying the PO principle with special considerations within the biopsychosocial model, it could improve the outcomes measure vividly in most illnesses/diseases or injury driven conditions.



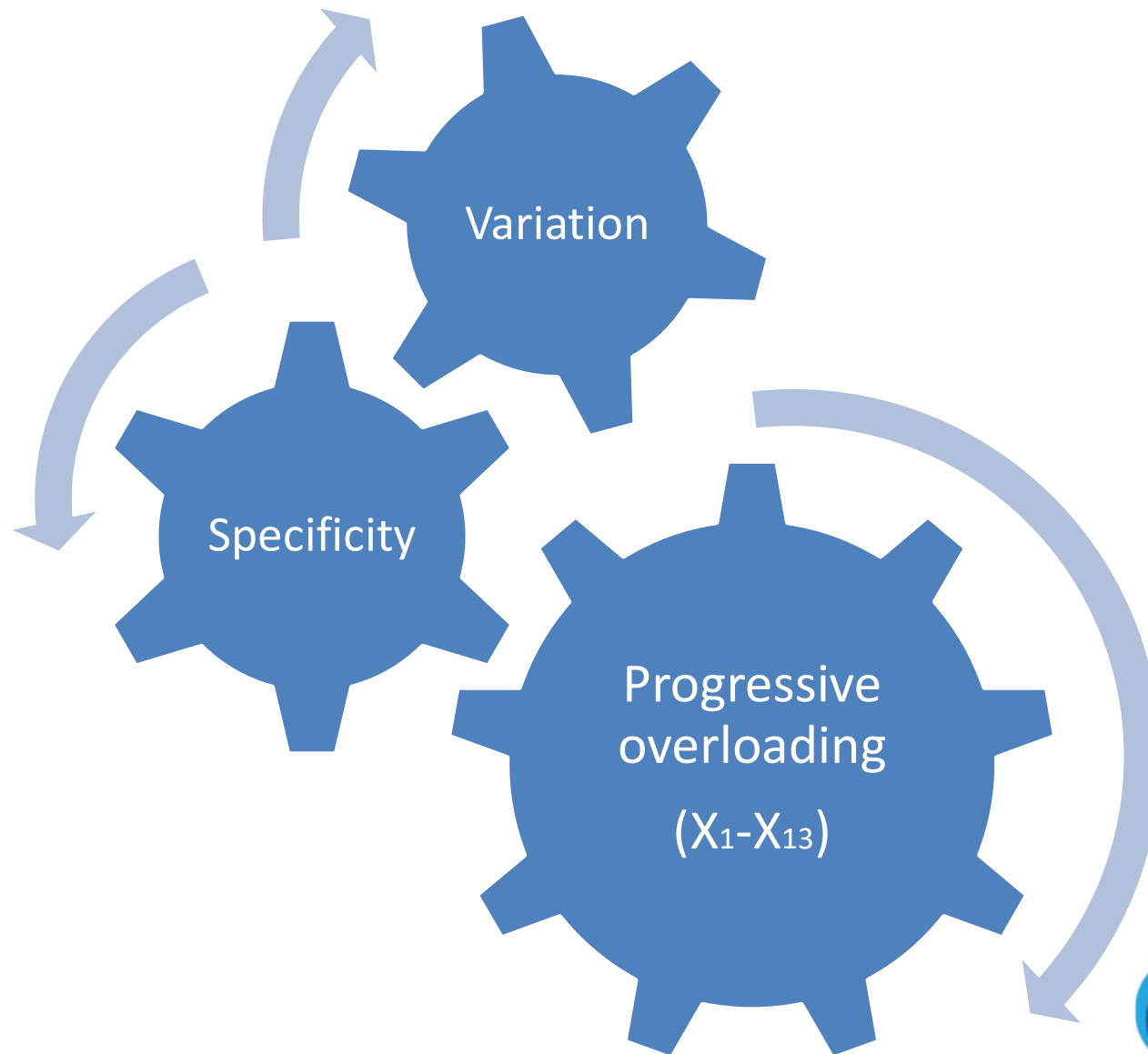
# Module:6

A theoretical model for exercise progression as a continuum  
(Blanchard et al., 2014)



# Module 6:

## Three general principles of progression in strength training



# Module 6: Video Examples of NMC progressive over loading

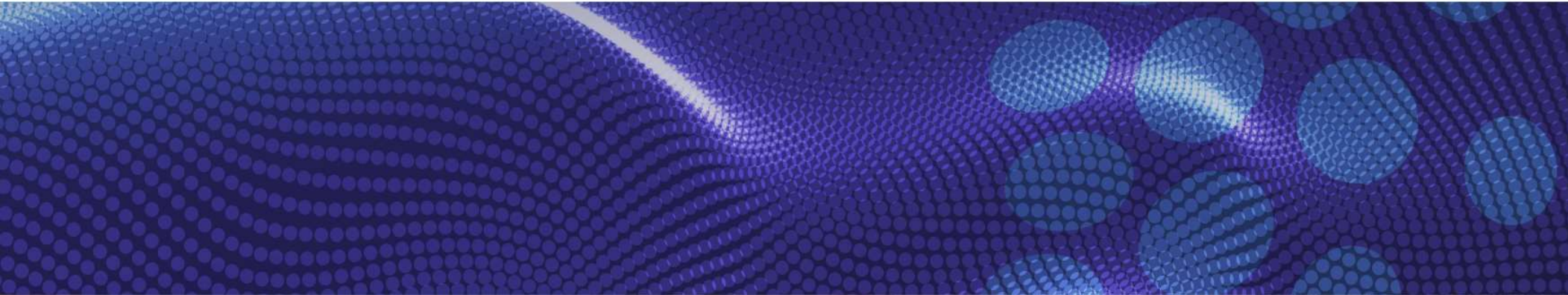


# Module 7: Video Examples of strength training progressive overloading

# (G6)

## Module 7:

### Start with the end in mind....



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# Module 7:

# Physiological Healing Thermostat

## 1. Envelope of function

(Dye et al., 1996)

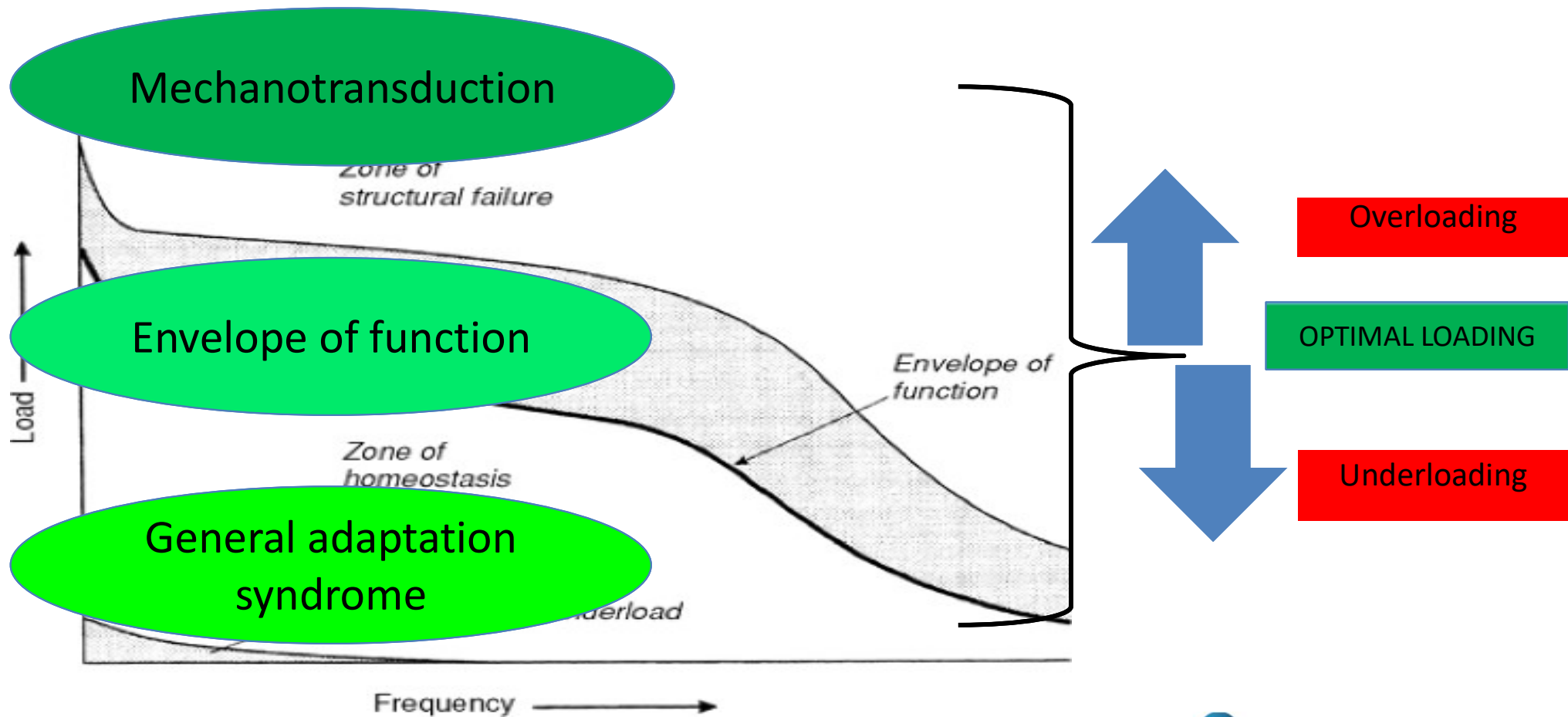
## 2. Mechanotransduction

(Khan et al., 2009)

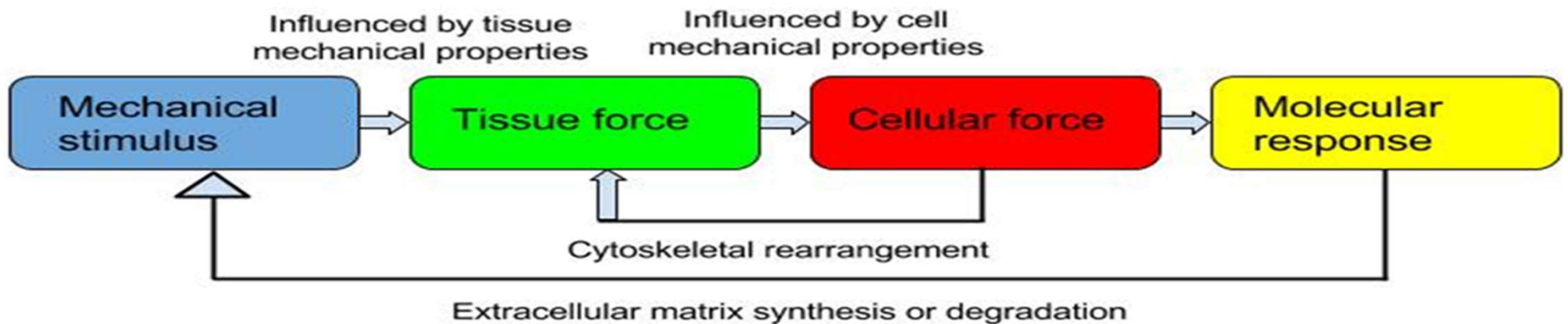
## 3. General Adaptation Syndrome

(Seyle et al., 1960)

# Module 7: Envelope of function (Dye et al., 1996)



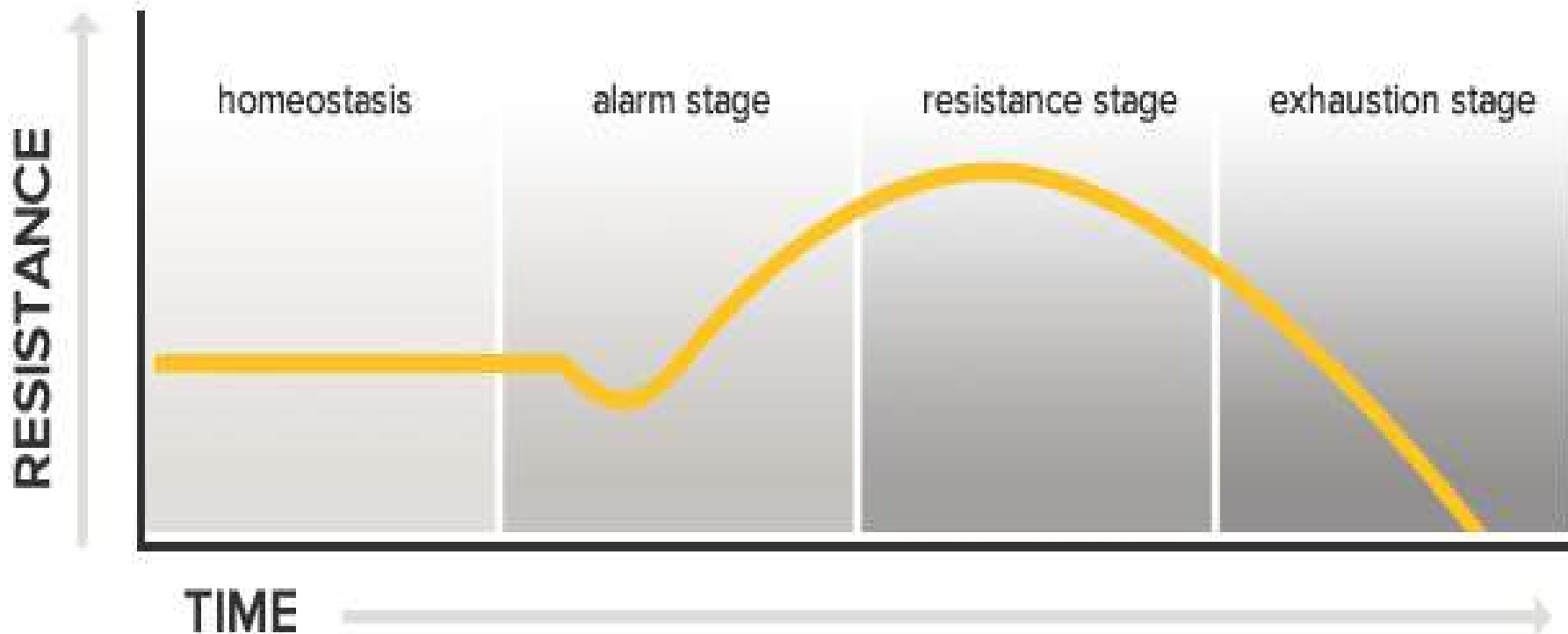
# Module 7: Mechanotransduction (Khan et al., 2010)



After: Thompson 2016 Understanding Mechanobiology: Physical Therapists as a Force in  
Mechanotherapy and Musculoskeletal Regeneration Rehabilitation

# Module 7: General Adaptation Syndrome

Selye's General Adaptation Syndrome



# Module 7: Program layout for rehabilitation and load progression purposes

Program layout section in booklet



# Module 7: Definitions

**Program Components/Format**  
**(Y<sub>1</sub>-Y<sub>6</sub>)**

**Program Variables/Content**  
**(X<sub>1</sub>-X<sub>13</sub>)**

**Program Outcomes**  
**(Z<sub>1</sub>-Z<sub>2</sub>)**

## Optimal Loading Exercise Guidelines

Loading Variables (X <sub>1</sub> -X <sub>13</sub> )	Different Training Modes		
	Neuromuscular Control/Activation Exercises	Strength Endurance	Strength Hypertrophy
Load Magnitude	< 30 %RM	30-70%RM	> 70% RM
Number of repetitions	> 20 or 30-60 sec	12-15	8-12
Number of sets	3-5	3-5	2-4
Rest in - between tri-sets [(s) or (min)]	Rest=Work	Rest= 1.5 Work	Rest= 2 Work
Number of Exercise Interventions (per session [d] or week)	5 days in 7-day week	3-5 per week	2-3 per week
Fractional and temporal distribution of the contraction modes per repetition and duration (s) of one repetition	Isometric/concentric/ eccentric	4 sec con;4 sec ecc	1 Sec Con:4 Ecc
Rest in - between repetitions [(s) or (min)]	N/A	N/A	N/A
Time under Tension [(s) or (min)]	90-320 Sec per Exercise	Sets*Repetitions * Contraction mode per rep (280-600 sec)	Sets*Repetitions* Contraction mode per rep (80-240sec)
Volitional Muscular Failure	Yes	Yes	Yes
Range of motion	Mid-Inner Range	Full	Full
Recovery time in-between exercise sessions [(h) or (d)]	12-24h	48 H	48H
Anatomical definition of the exercise (Exercise Form)	Pictures	Picture	Picture

Adapted from Rathleff et al., 2016



## Training Program Design Principles

### Principal

### Definition

#### Individuality

Treating the individual patient according to their special needs.

#### Progressive overloading/Load Progression

Progressive overload is the gradual increase of stress placed upon the body during exercise training.

#### Specificity

All training adaptations are specific to the stimulus applied and tailored to the demand.

#### Periodization of Rehabilitation

The rehabilitation process is driven by the manipulation of training variables that elicit specific adaptations in order to meet established goals.

#### Training Volume

Training volume is a summation of the total number of repetitions performed during a training session multiplied by the resistance used (kg) and is reflective of the period of which muscles are being stressed.

#### Compound sets

This training modality consists of performing two different exercises of the same muscle group in alternating fashion with little to no rest between exercises.

#### Tri-set

Three different exercises performed one after another, without any rest in between.

#### Single set

One exercise set been performed for a certain amount of repetitions.

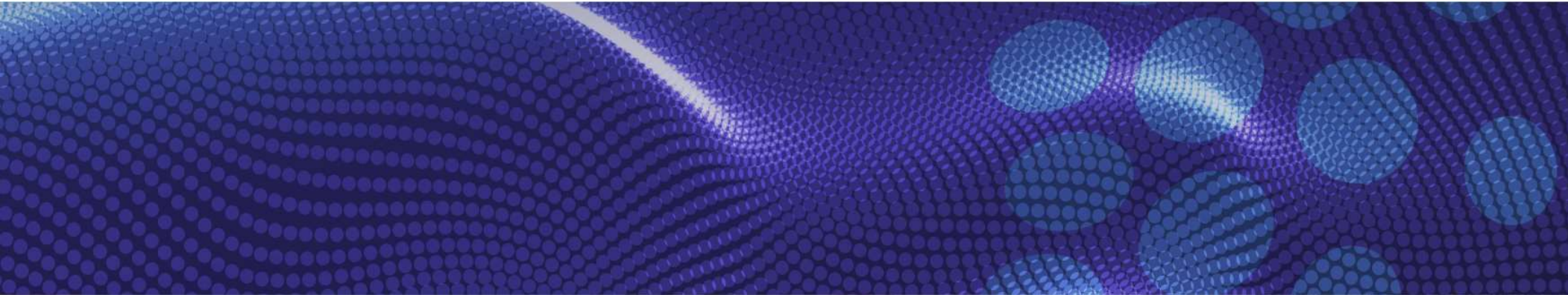
#### Superset

A superset is when two or more exercises hitting different muscle groups are performed in a row without rest between them

# (G7)

## Module 8:

### Planning for return to activity



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# Module 8: Consensus statement for RTS

(Ardern et al ., 2016)

2016 Consensus statement on return to sport  
from the First World Congress in Sports Physical  
Therapy, Bern

Clare L Ardern,<sup>1,2,3</sup> Philip Glasgow,<sup>4,5</sup> Anthony Schneiders,<sup>6</sup> Erik Witvrouw,<sup>1,7</sup>  
Benjamin Clarsen,<sup>8,9</sup> Ann Cools,<sup>7</sup> Boris Gojanovic,<sup>10,11</sup> Steffan Griffin,<sup>12</sup>  
Karim M Khan,<sup>13</sup> Håvard Moksnes,<sup>8,9</sup> Stephen A Mutch,<sup>14,15</sup> Nicola Phillips,<sup>16</sup>  
Gustaaf Reurink,<sup>17</sup> Robin Sadler,<sup>18</sup> Karin Grävare Silbernagel,<sup>19</sup> Kristian Thorborg,<sup>20,21</sup>  
Arnlaug Wangensteen,<sup>1,8</sup> Kevin E Wilk,<sup>22</sup> Mario Bizzini<sup>23</sup>

**RETURN** TO  
**PARTICIPATION**

**RETURN** TO  
**SPORT**

**RETURN** TO  
**PERFORMANCE**



# Module 8:

## Return to pre-injury level of activity participation = Start on day 1

RETURN TO PARTICIPATION

RETURN TO SPORT

RETURN TO PERFORMANCE

Dr

Physio

Bio

Coach

Let's keep them on track so that they can be on the "track"



# Module 8: Outcomes

- **Understand shared decision making (SDM) within the context of multi-disciplinary communication**
- **StaRRT model as a starting point**
- **Importance of Functional testing in clinical practice**
- **Interpreting the program outcomes measuring methods**
- **Biokineticist role within MD decision-making**

# Module 8: Understand shared decision making (SDM)

## The three key steps in SDM are:

- ✓ **Choice:** making the athlete and coach aware that reasonable options exist;
- ✓ **Option:** providing more detailed information about the different options;
- ✓ **Decision:** guiding the athlete and coach to consider their preference and decide what is best.

# Module 8: Define RTS success

(Glasgow, Optimal Loading 2017)

Athlete's performance on  
return  
**(Performance Focus)**



Phil Glasgow Optimal Load  
Belfast 2017



**Context**  
**Outcome**

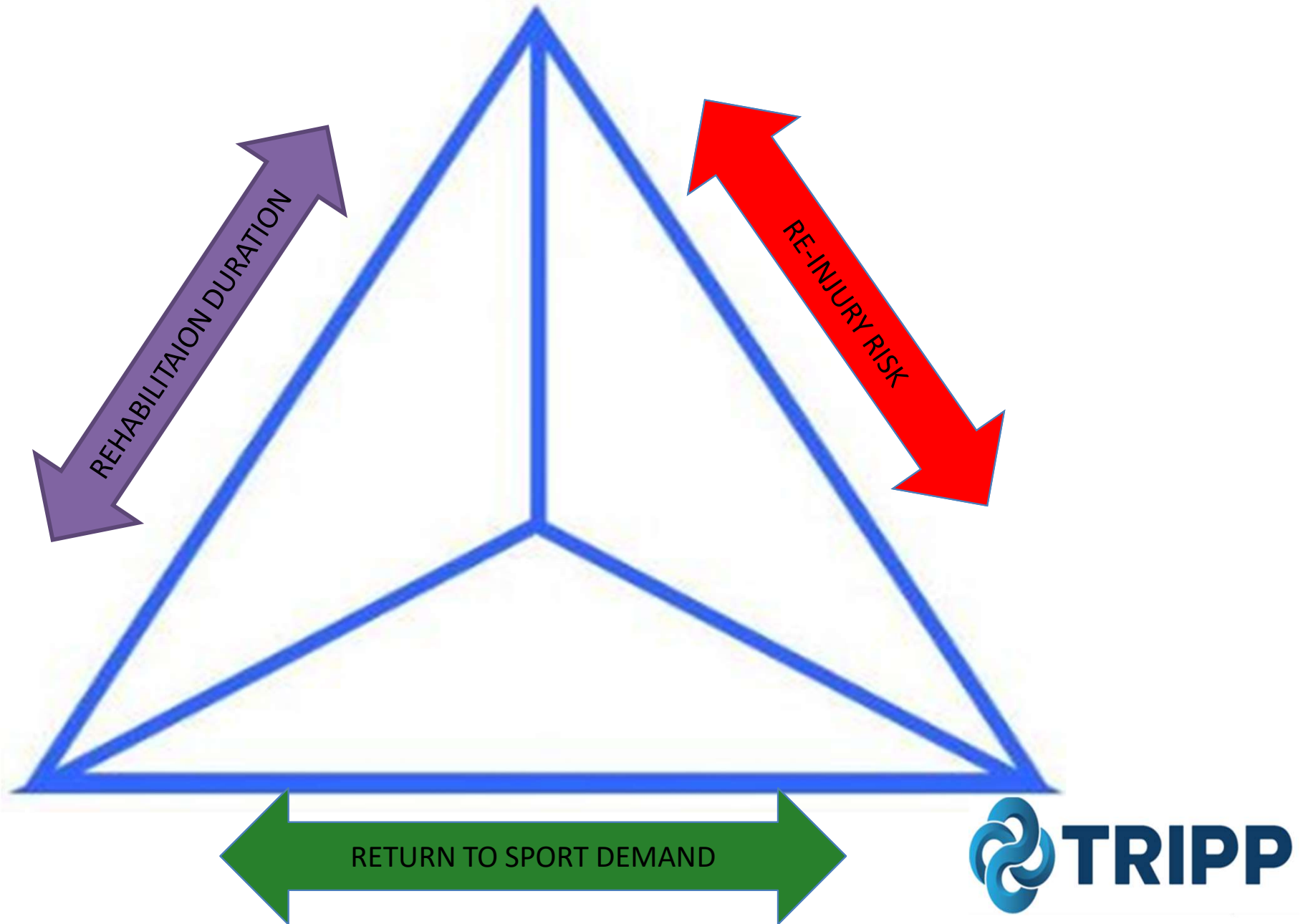
Return to sustained  
participation in the  
shortest possible time  
**(Goal Focus)**



Prevention of new (or  
recurring) injuries  
**(Outcome Focus)**

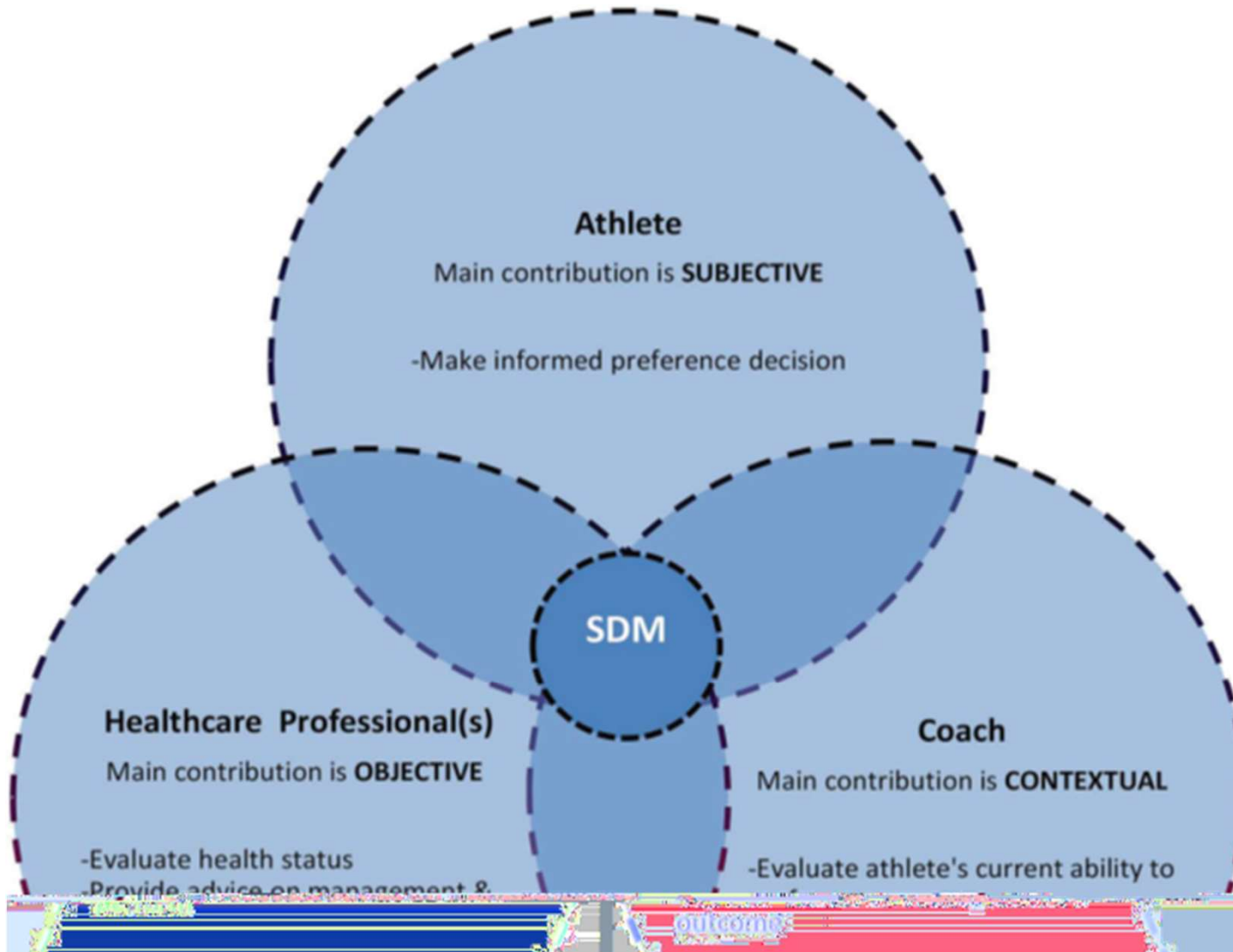
# Return to activity within the context Of EBM

(Rod Whiteley et al., 2017)



# Module 8: Current Challenges in the MD Team

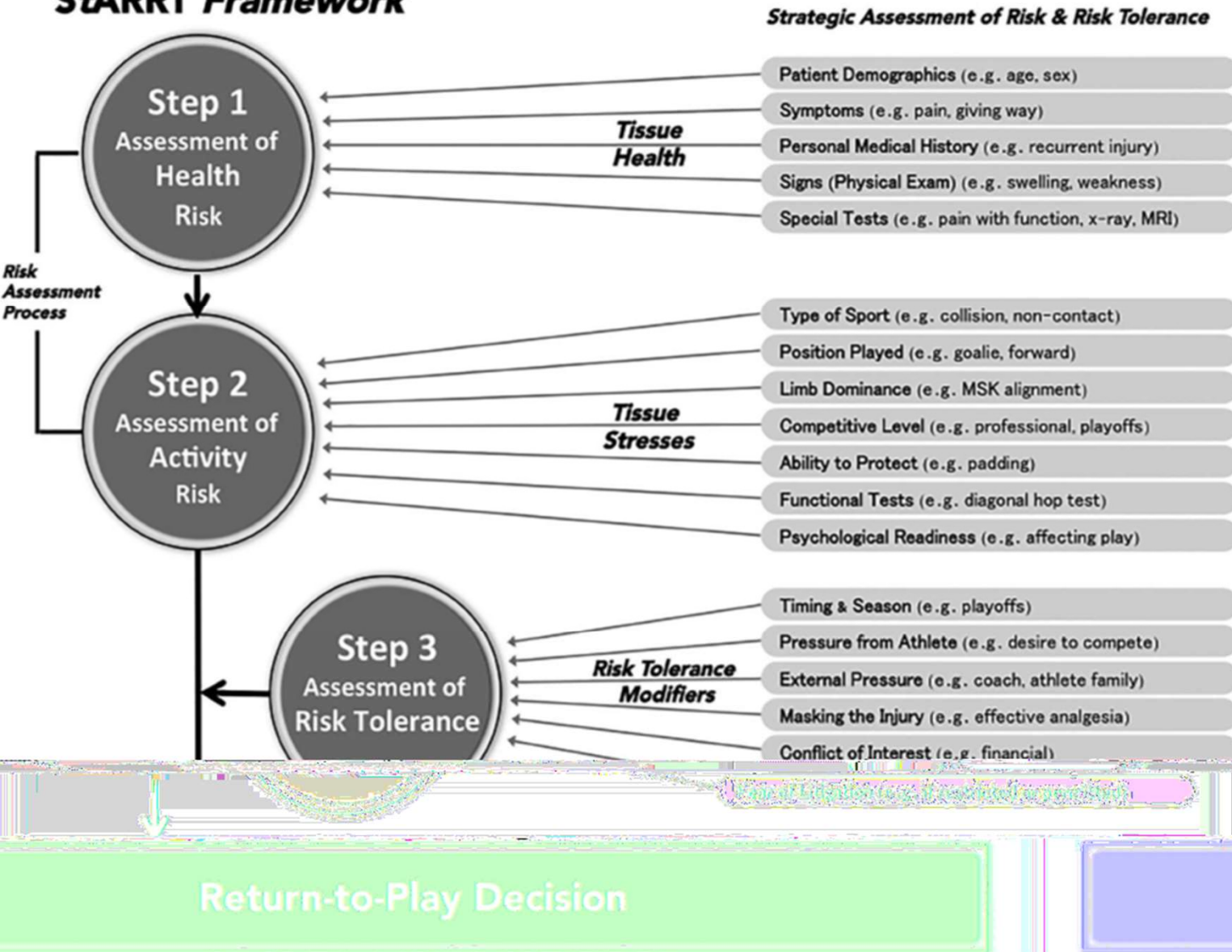
(Dijkstra et al., 2017)



# Module 8: StARRT Framework

(Creighton et al., 2010)

## StARRT Framework



# Module 8:

## Importance of Functional testing in Clinical Practice

**Clinical interpretation of the intervention data and the transfer of the most relevant contextual information to the appropriate stakeholders in the SDM process should be a mandatory characteristic of any **Biokineticist!!!****

# Module 8: Levels of Testing (Validity and Reliability)

Laboratory  
testing

Manual  
Muscle  
Testing

Oxford Scale



# Module 8:

## Why do we need to do functional testing in clinical practice?

1. Restore functional performance
2. Get patient back to pre-injury levels
3. Prevent a subsequent injury
4. Improve wellness and health

# Module 8:

## Interpreting the program outcomes measuring methods.

1. LSI (Injured compare to uninjured\*100/1)
2. Benchmark
3. Progression/regression
4. Performance Indicator

# **Module 8: Role of Biokineticist within the MD decision-making.**

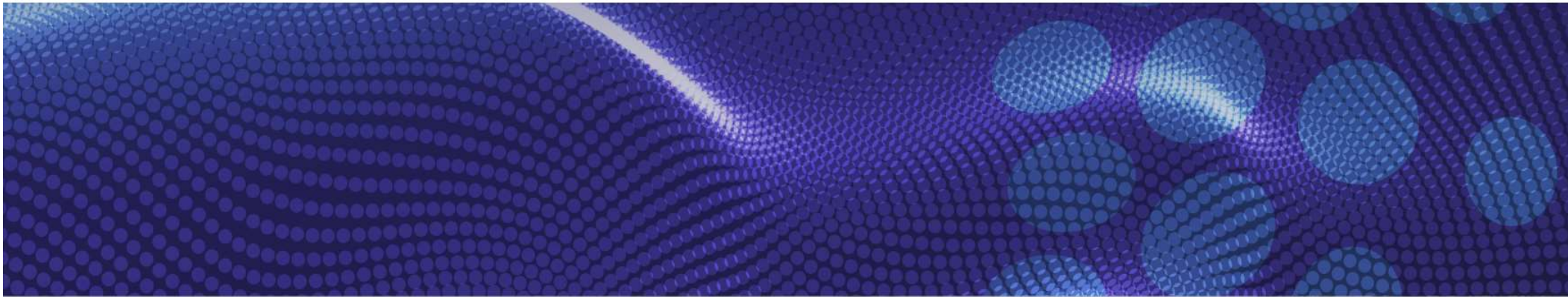
**The primary role of the biokineticist within the MD team is to enable the clinical council with its case manager to make better decisions for better patient management and return to activity considerations.**

(G8)



## Module 9:

**Simplicity is the ultimate sophistication... but not simpler!!**



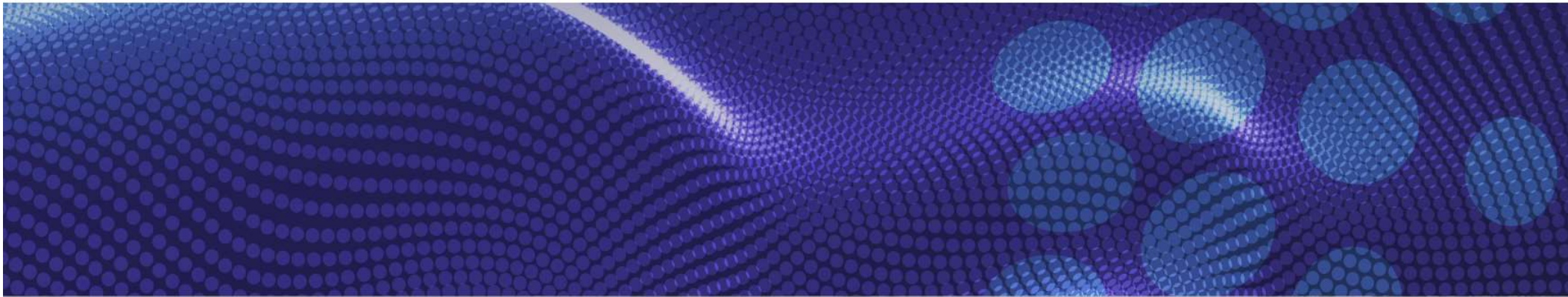
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# (G9)

## Module 9:

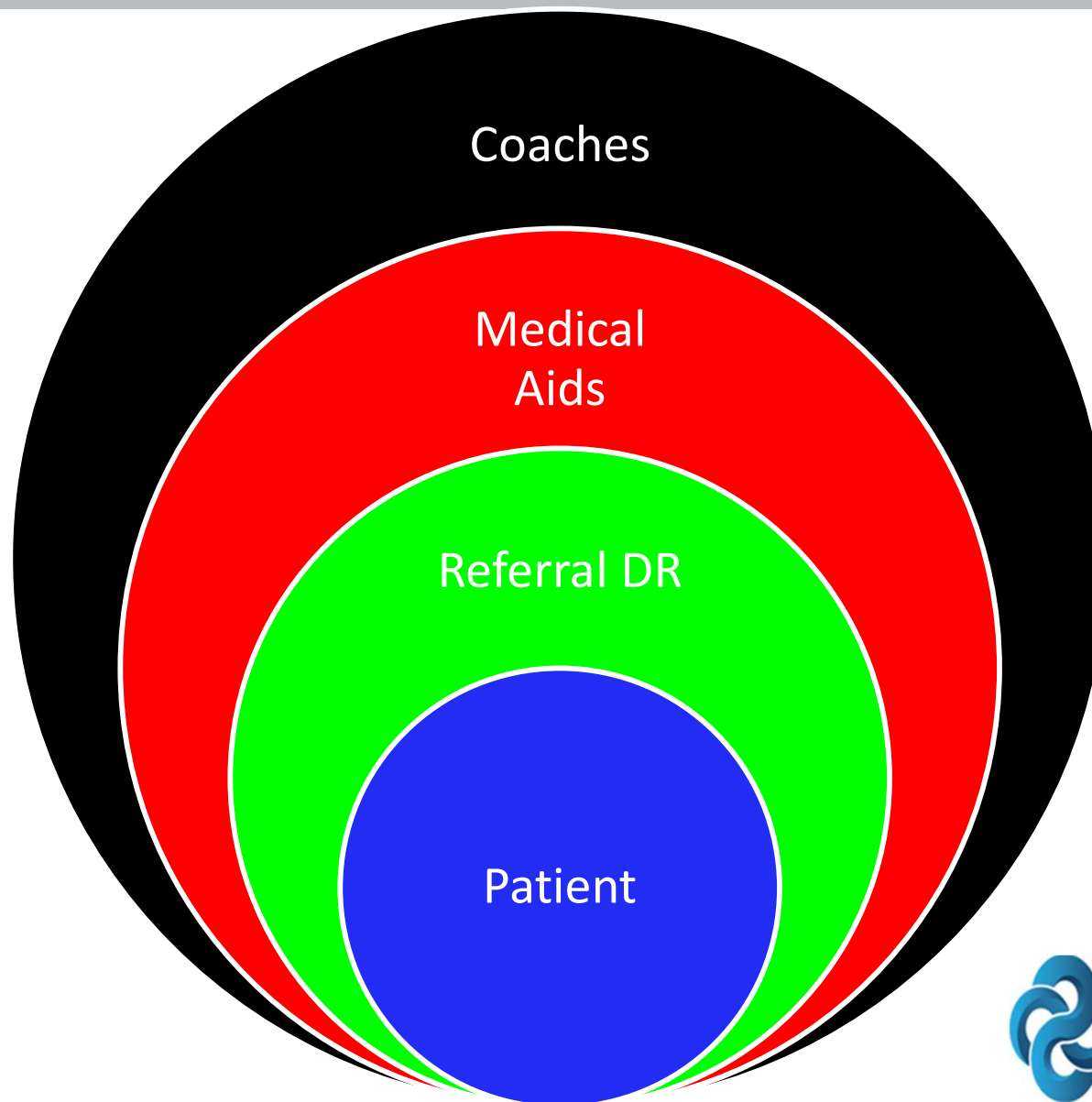
### Why Outcomes, Why Now?



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# Module 9: Everybody wants to know...



# Module 9: Benefits of Reporting

1. Biokinetics will be outside the 'radars' of physiotherapy in terms of scope of practice
2. We will provide effective interventional data to Medical Aids on progression/regression.
3. We will give EBM feedback to insurance brokers and other team management staff on when players are ready for activity/return.
4. We will be able to educate the patient about re-injury risk and possible performance inhibitors and provide objective patient feedback.
5. We will be able to provide sensible information to inter-professional management like orthopaedic surgeons along with quality information which could lead to quality decision making for further intervention.

# Module 9

INSERT EXCEL SPEADSHHET

- Purpose of reporting (Why)
- What to report  
(Depend on the what type of report)
- How to report  
(Format)

## Introduction

- **Diagnosis, Intervention type and time, Current Clinical Status, Concerns**
- **Level of activity wants to return (Patient goal)**

## PROM

- **Subjective scoring sheets (Patient value expressed in Benchmark)**
- **VAS/RPE (Level of improvement in Progress report)**

## PBOM

- **LSI (Injured vs Uninjured %)**
- **Benchmark (Performance Rating)**
- **Progression/Regression (% progress)**

## Limitations

- **Compliance to the intervention (%)**
- **Other complications**

## Conclusion

- **Summary of results**
- **GROC Indicator (Only in Progress Reports)**