



The Role of Physical Competence in the 21st Century

Kelvin B. Giles MA CertEd

We....the people

Parents, teachers, coaches, doctors, physios

The progression to well-being

The progression to high performance

Context:

Community Well-Being

High Performance Sport



What is it?

The neuro-muscular process that puts the body parts in the right position, at the right time, all the time so it can efficiently:

Produce, Reduce and Stabilise all the forces required for:

Sitting, standing, walking, jogging, running, bending, twisting, lifting, carrying

Running, jumping, throwing, kicking, catching and striking.

As practitioners we are taught that for the athlete to improve.... they must progress

Speed up

Endure for longer

Greater resistance

Greater amplitudes

Frequency of Skills

Density of Skills

Complexity of Skills

Fatigue

Pressure

The individual is perceptive in 'reading' all aspects of the physical environment, anticipating movement needs or possibilities and responding appropriately to these, with **intelligence and imagination.**

Physical literacy can be described as the **ability and motivation to capitalise on our movement potential to make a significant contribution to the quality of life.**

Fundamental Movement Skills

+

Fundamental Sports Skills

=

Physical Literacy



Fundamental Sports Skills

(Running, Jumping, Throwing, Catching, Kicking, Hitting, etc)

Well resourced historically – Modified games rules, skills, drills, tactical elements – predominate coach education / resources.



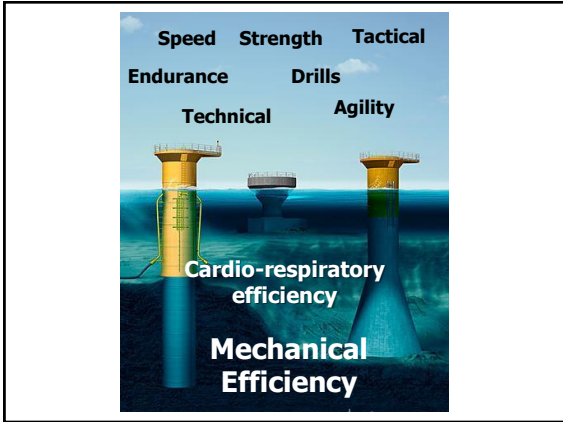
Fundamental Movement Skills

Our greatest weakness.

The unique relationship between Strength, Balance, Coordination and Stability along the entire kinetic chain.

“Function before force, speed and endurance”





For every sport specific posture or action the body has to:

**Produce Force, Reduce Force
Stabilise Force**

Multi-Joint

Multi-Plane

Multi-Directional

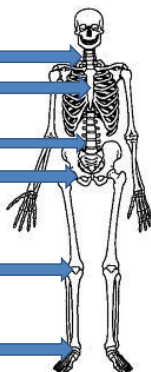
At exactly the right time
In exactly the right direction
With just the right amount of force

As one part of the body accelerates, another slows
As one part of the body stabilises, another must move.
As one part may Flex, another may rotate.



Stable →
Flexible →
Stable →
Flexible →

Stable →
Flexible →



All in microseconds based upon an integration of all the senses, all the neural feedback and all the neural signals...

...all the time.

All sports specific actions and postures require defined physical qualities for them to be executed correctly and repeatedly.

This is the way we coach!

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Simply repeating a skill without this physical competence may not only slow skill acquisition down but may see the development of unwanted compensatory movements **as the body struggles to find the physical answers to the task.**

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It takes great core-strength to do this . . .



. . . but if you think you will *create* great core-strength by doing this, you might destroy your arm or back before you make the team.

Tennis – “We don’t need all this athletic stuff – she will improve physically by spending time on the court”



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What do we want?

**Performance Enhancement
Injury Reduction**

**All-round athleticism – general
health & well-being**

We are often concerned about the Physiological Load e.g. Heart Rate training zones; distance run; speeds attained.

What we fail to understand is the

Mechanical Load:

It is this **mechanical load** that forms the basis for performance enhancement:

Acceleration / Deceleration

Agility (Stopping; Re-Starting; Change of Direction)

Endured Agility and Acceleration / Deceleration

Jumping / Landing

Kicking; Striking; Throwing; Pulling; Pushing; Contact

SUF - Skill under speed, fatigue and pressure

DUF - Decision making under speed, fatigue and pressure

RUF - Reaction under speed, fatigue and pressure

PUF - Power under speed, fatigue and pressure

.....Speed, Agility, Landing, etc

Acknowledgements to Ted Polglaze

It is this mechanical load that creates the injury scenario.

How?

The typical journey of the 'controllable injury'.

- Limited movement pattern / sequence.**
- Compensatory movements.**
- Change of muscle and joint tasks.**
- Inefficiency – micro-trauma.**

Add Speed, Fatigue and Pressure – acute and chronic.

- Inefficiency – macro-trauma**
- Catastrophic tissue failure**

It would be an advantage, therefore, to have the required...

MECHANICAL EFFICIENCY

MECHANICAL RESILIENCE

... to execute ALL the demands of the event(s)

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"...the physical competence to do the technical stuff and the technical qualities to do the tactical stuff.....in that order"

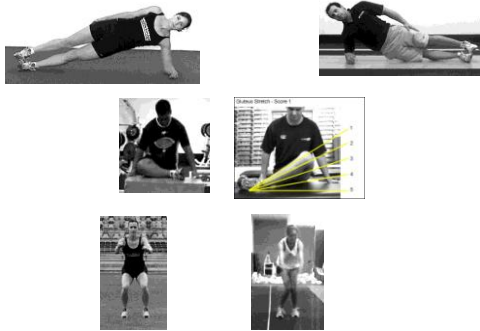
What do we often see?

...that's if we are actually looking...

Typical Movement Limitations



Typical Movement Limitations







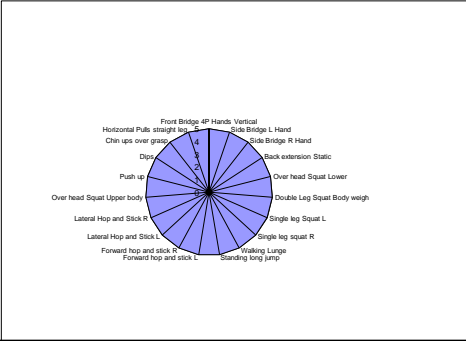
PCA Scoring Rationale

A score of 5 is seen as being 'normal' for the general population based upon Community, School, Institute and Academy screening results.

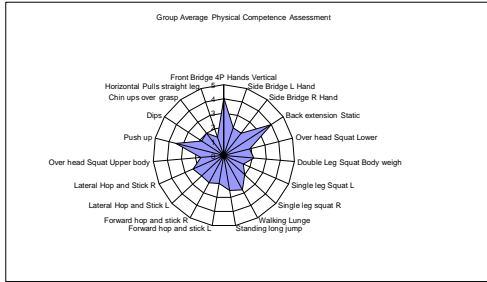
Example PCA results

Lateral Bridge-Head (L)	Lateral Bridge-Head (R)	60 Sit Up	Trunk Ext	Bwt Squat x10 1	Bwt Squat x10 2	SL Squat x5 (L)	SL Squat x5(R)	60cm Hop & Stick (L)	60cm Hop & Stick (R)	60cm Lateral Hop & Stick (L)	60cm Lateral Hop & Stick (R)
4	4	1	5	5	5	5	5	4	4		
3	3	5	3	5	5	5	5	4	4	4	4
3	3	5	3	5	4	5	5	5	4	4	3
3	3	5	3	5	3	1	1	2	4	3	2
5	5	5	5	5	5	3	4	4	4		
2	4	3	4	5	4	1	2	4	4		
4	4	4	2	5	2	1	1	3	1	3	3
4	4	5	4	5	5	5	4	5	5	4	3
2	2	5	2	5	3	1	5	3	3	2	3
5	5	5	3	5	3	1	1	2	4	3	4
5	4	5	4	5	5	5	5	2	3	4	3
4	3	3	3	5	4	5	5	3	3	3	4
3	3	3	2	1	3	1	1	2	2	2	2
3	3	3	3	1	2	1	1	2	2	2	2

Physical Competence Screening What the coaches expected



What they got...



Do these results bother you?

What are the implications?

Restricted movement causes 'energy leaks' - more energy being used to perform a required task = faster fatigue

Body will get 'stiff' in the absence of appropriate stability - it will get the stability from somewhere!!

Tension / stiffness in the body causes premature fatigue

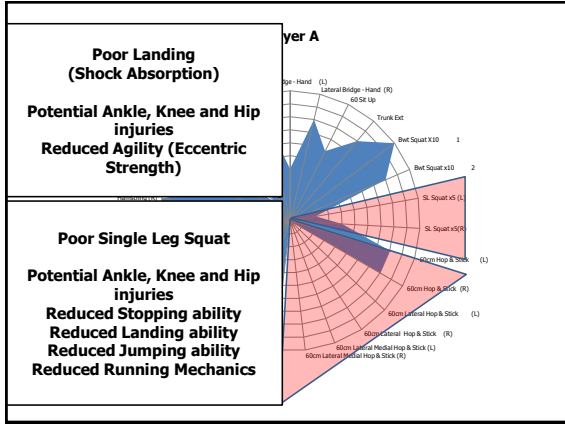
Restricted movements can interfere with technical development

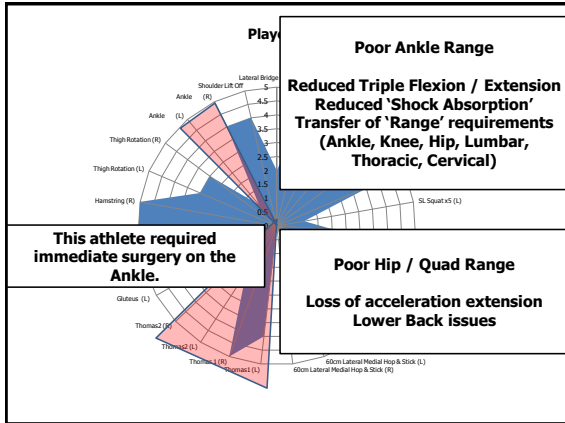
Restricted movements, over time, can curtail a career.

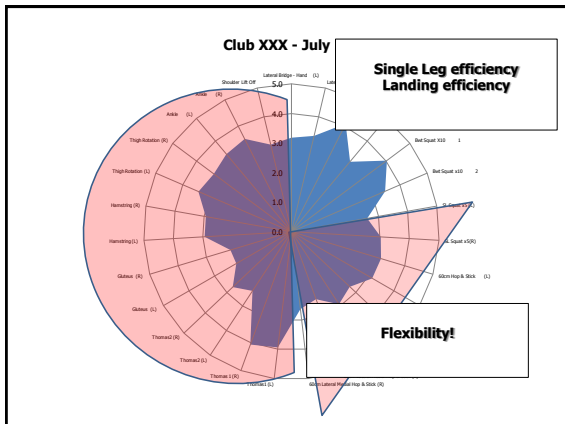
Why?

Never load a poor movement!

....and certainly never consistently do it!







The Strategy

Where are they now?
What is the player's current physical & skill status?

What are their progressive destinations?
...relative to their maturation stage?

What is the systematic, sequential, progressive journey for the individual player?
...eradicating their limitations to future success –
Physical, Technical, Tactical, Psychological

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Where are they now?

Example Screening Tests

Thank you for listening.

Kelvin B. Giles MA CertEd

kbgiles@gmail.com

www.movementdynamics.com

+44 7792 307 619
