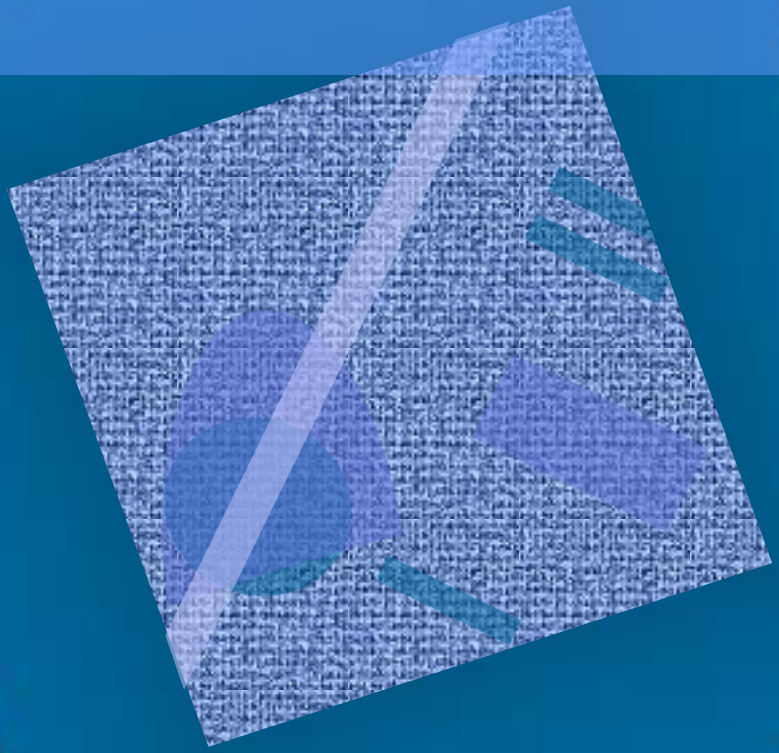
CLINICAL REASONING



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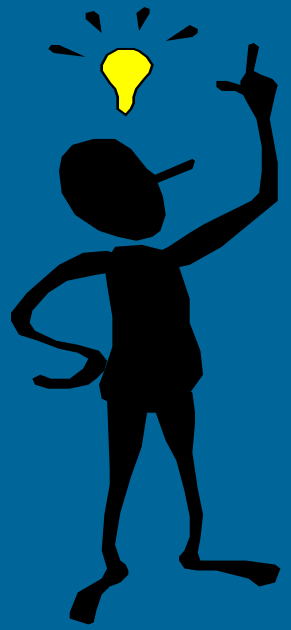
Clinical Reasoning

- The thinking processes associated in clinical practice to evaluate and manage patients
(Higgs 1992, Jones 1992)



Errors in Clinical Reasoning

1. Making assumptions
2. Not considering enough hypotheses
3. Failing to sample enough information
4. Biasing information collected

5. Error in detecting relationships

6. Knowing a relationship occurs, deducing they're causally related

7. Deductive vs Inductive

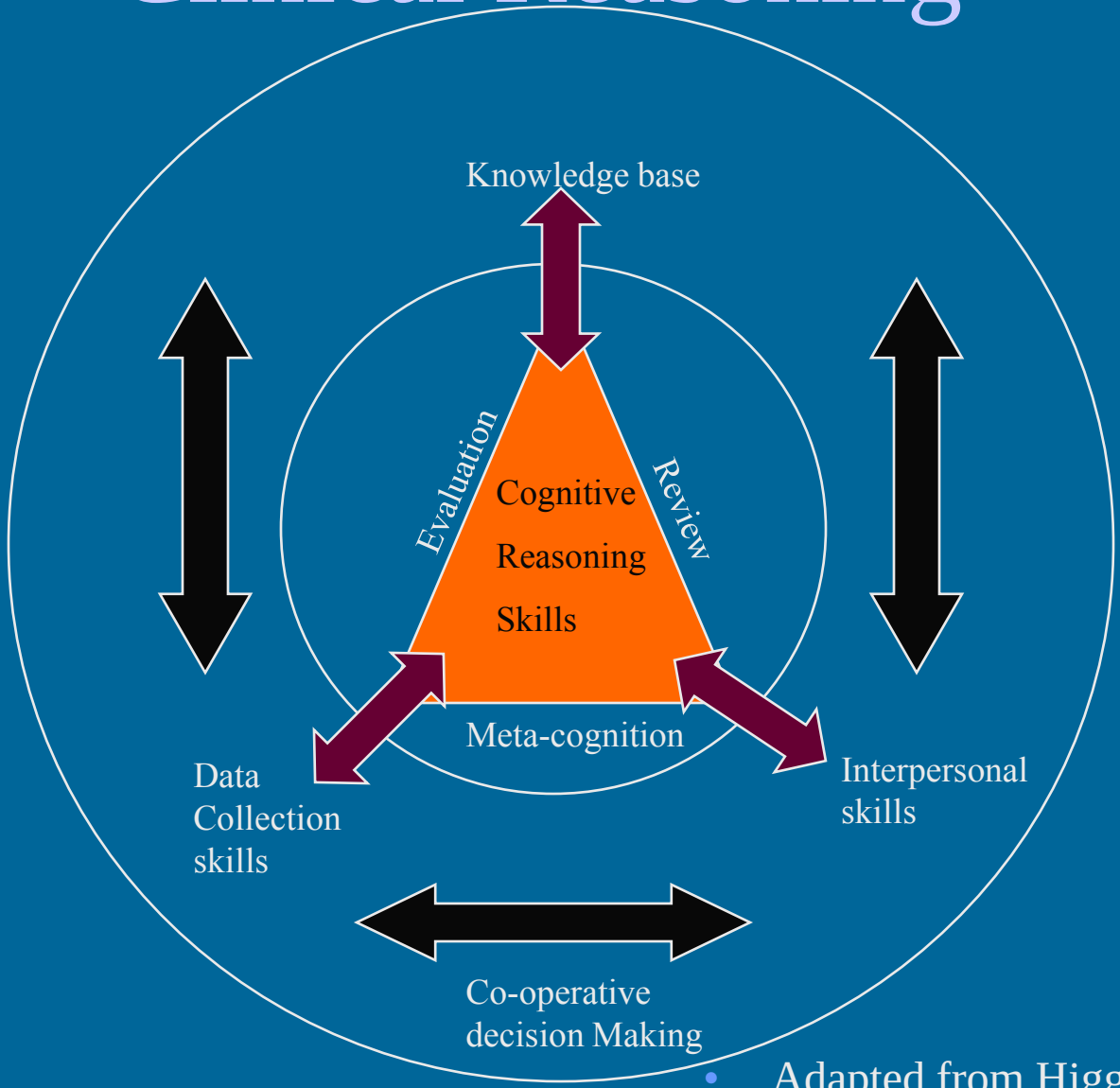
8. Reversing a statement of categorisation

(Jones 1992)

Possible Causes for Errors

- Insufficient knowledge base
- Poor cognitive skills
- Lack of meta-cognition
- Validity and Reliability of information collected (Jones 1992)

Clinical Reasoning



- Adapted from Higgs (1992)

Case Study

- 32 year old male
- Occupation
  - physiotherapist
- Sports
  - Squash 2-3 x week, competitively social
  - Kayaking
  - Cycling 20-30 mins/day

Body Chart

Current History

- Karate 5 years ago throwing over R shoulder and person fell on R knee.
- Knee- valgus, adduction and internal rotation and hit ground firmly onto patella.
- Nil cracks, snaps or pops
- Swelling- around knee over few hours
- Treatment by friend 4-5 days after incident

Current History cont

- Since has had problem with knee flex in weight-bearing position
- 6/12 ago trekking, 5-8 hours/day. Pain+++ on downhill>>uphill at anterior knee. Continue for 2/52 after end of trek with nil treatment
- Nil locking, clicking

Clinical Reasoning Errors

Error	Implication
• Giving way?	• Knee stability ie ACL
• *Exactly* where was swelling?	• Idea of what may be pathology
• *Exactly* how long for swelling?	• Time gives idea of pathology ie ACL
• Doctors visit?	• Dx- mild RSD
• Dx by physio?	• Hint to own Dx
• Rx by physio?	• Hint to effective Rx

Past Medical History

- No previous knee injury
- No surgery
- No previous treatment

24 hour behaviour

- PM
  - Nil problem
- AM
  - Nil problem normally
  - If has done squatting++, next am stiff approx 20-30 mins then OK
- DAY
  - Variable. If doing agg activities then worse

Aggravating Activities

- Squatting
  - Pa↑ to 4/10, with tightness. Settles immediately on return. Intensity of pain same if repeat squat
- Walking downhill
  - Pa↑ 6/10 after 40 mins. Will settle by next am
- Prolonged Sitting
  - Pa↑ 4/10 after 90 mins. Settles within 15 mins, once walking

Eases

- Cycling
  - If doesn't cycle, within couple of days knee sorer
  - Anti-inflams some help if sore due to increase activity

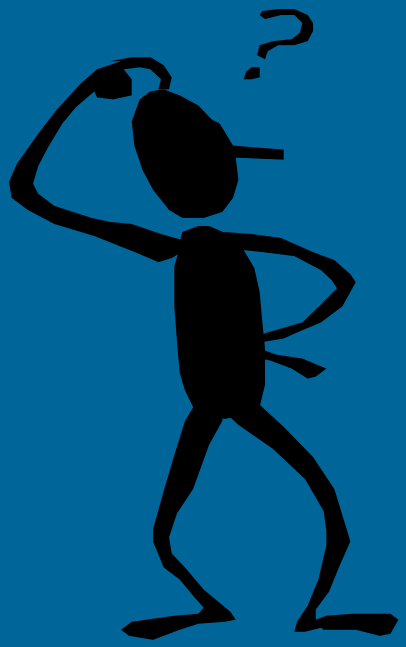
Clinical Reasoning Errors

Error

- Why does cycling ease the pain?
- Cleats on pedals?

Implication

- Activity is close chain thus increased stability
- Increase hami's activity



Special Questions

- General health- good, nil problems
- Steroids- nil
- Tabs- nil
- Anti-inflams- celebrex or voltaren, x2 every 3/12
- Weight loss- nil

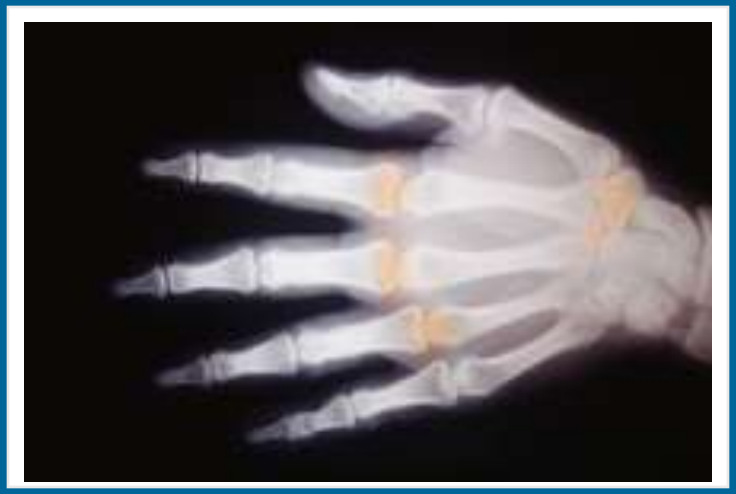
Clinical Reasoning Errors

Error

- X-rays?

Implication

- Possible ACL avulsion
- Bone scan revealed mild p/f RSD



Objective Assessment

- Obs
  - Muscle atrophy R thigh. VMO++
  - Pronated foot R > L
- Quick test
  - Squat- P1 100˚, P2R'130˚. P 4/10. With medial glide P 3/10, P2 140˚
- ROM
  - Flex- P' 160˚, P 2/10. With OP, P 3/10 EOR.
  - Ext- OK

- Palpation
  - Tender over medial pat and femoral facets
  - Nil effusion
  - Ligs, pat tendon, jnt line, fat pad all OK
- Patella
  - Med glide restricted +++
  - Lat tilt +++
  - Compression sl pain
- Thomas test
  - ITB, Rec Fem tight +++ R > L

Clinical Reasoning Errors

Error	Implication
• Ligament tests?	• ACL would have revealed a positive test

Errors Performed

1. Making assumptions
2. Not considering enough hypotheses
3. Failing to sample enough information
4. Biasing information collected
5. Deductive vs Inductive

Diagnoses

- MINE
  - Patello-femoral dysfunction due to lateral structure tightness
- REAL
  - ACL rupture with ongoing knee instability leading to p/f joint dysfunction

Implications to Treatment

Would have solved the problem short term but not long term

Summary

- Clinical reasoning imperative
- Clinical reasoning will affect our treatment and outcome
- Skills must be perfect

References

Higgs J (1992): Developing clinical reasoning competencies. *Physiotherapy*. 78(8): 575-581.

Jones MA (1992): Clinical reasoning in manual therapy. *Physical Therapy* 72(12): 875-884.