

# Should CESMA think about lifelong competence assessments?

Arthur G. Felice, MD, MSc, FRCS Ed, FEBS.

University of Malta

President of the UEMS Division of General Surgery

# CESMA-UEMS

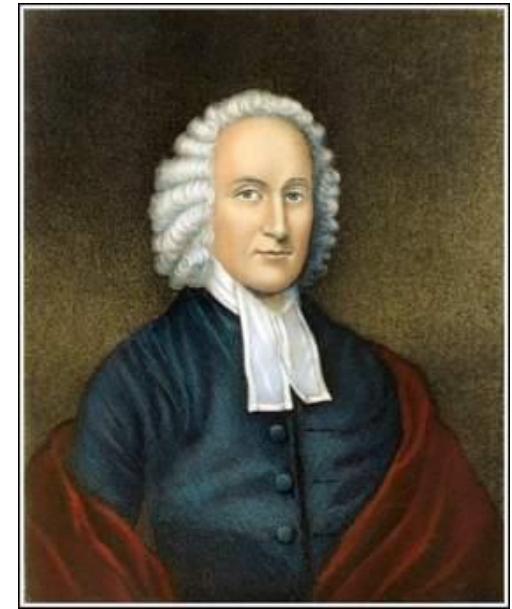
- The Council for European Specialists Medical *Assessment*
- “The CESMA is a Thematic Federation of the UEMS..... to provide recommendations and advice on the organisation of European *Examinations*.....”

*Assessments* ↔ *Examinations*

Are these two terms synonymous  
or perhaps synergistic?

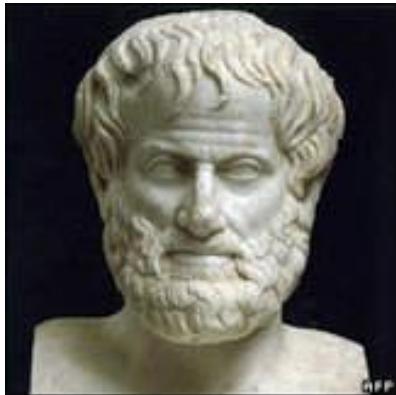
“Most controversies would soon be ended if those engaged would first *define* their terms”

*Tyron Edwards – American theologian 1809-1894*



# “...Define...” So, what is a definition?

*Aristotle 384 – 322 B.C.*



*Oscar Wilde 1854 - 1900*



*“A definition is an account that signifies the essence”*

*“To define is to limit”  
(exclude the non-essential)*

So some definitions are indicated:

# Assessment is a process that:

- Provides data on a person's learning or output
- Analyses this data
- Confirms and improves training and outcomes
- Produces evidence that one is learning and producing the outcomes intended
- Guides one in making educational and institutional improvements
- Evaluates whether changes made impact learning and outcomes
- Documents the learning, the outcomes and the process.

# Competence Assessment

- Definition: A *competence assessment* measures how well a clinician carries out his/her work in relation to performance standards.
- Competence is an individual trait that is task specific and inconstant

# Examinations are.....

- ..... tests of one's knowledge, skills and attitudes in a particular field

Thus, ‘Assessment’ is a wider term  
than ‘Examination’

# Need for competence assessment: A response to a constant state of flux

- The improving understanding of disease
- New technologies
- The evolution of disease
- The introduction of patient electronic record and establishment of benchmarks
- An aging and more complex population
- New requirements to remain in practice
- Shorter working hours and shorter period of training
- The increasing mean age of surgeons
- To ensure patient safety

# Goals of competence assessment

- Provide direction and motivation
- Narrowing the gap between desired and actual performance
- Patient safety (evidence of effectiveness indirect and scarce)
- Meet public expectation on self regulation
- Choosing the best material for further training

# Lifelong assessment of patient outcomes

More evidence needed because of:

- The extensive and heterogeneous setting makes measurement difficult
- Measures of health outcomes mainly negative e.g. mortality and morbidity
- Patient health records not always accessible due to regulatory issues

# Utility of competence assessment

- To judge when an individual becomes competent (summative)
- Track progress (formative and summative)
- To assure that competence is maintained (formative and summative)
- Implementation of new technologies (formative and summative)
- To provide evidence for selection of the best (summative)

# 5 main competencies to assess:

- Ability to provide patient-centred care
- Ability to work in interdisciplinary teams
- Employ evidence-based practice
- Apply quality improvement
- Utilise information and other technologies

# Assessment procedure must...

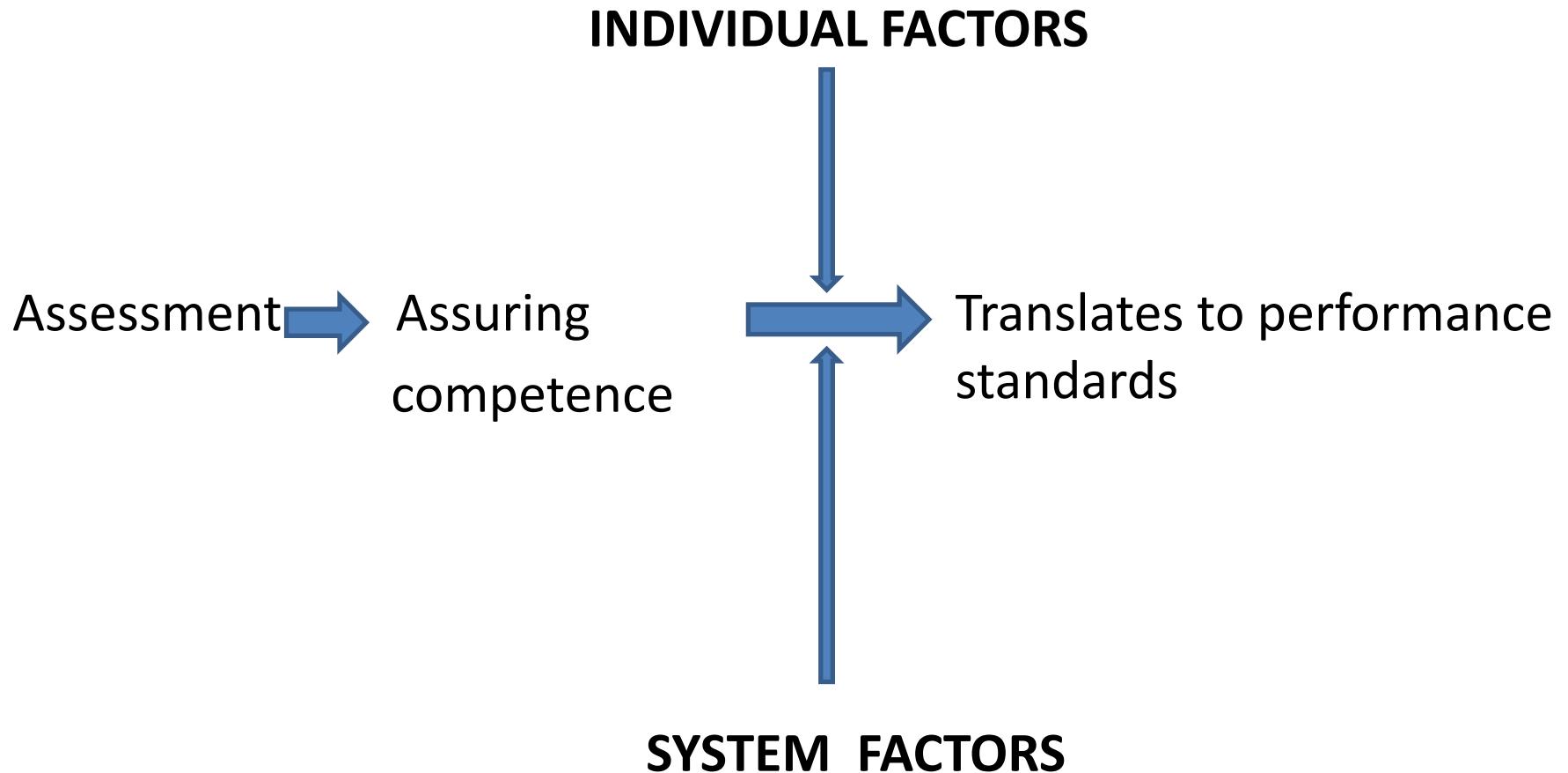
- Capture variation in performance
- Feasible
- Safe
- Reliable

# Assessment calls for psychometric analysis to test:

- Accuracy – scores are a valid measure of the person's performance
- Reliability – a measure of its reproducibility and consistency:
  - i. Inter-rater reliability – consistency of rating by different assessors
  - ii. Inter-case reliability – variation from task to task
- Reproducibility – Estimates of measurement error if the same assessment is performed under similar conditions
- Validity – How well the assessment succeeds in assessing the competencies for which it was designed
- Predictive value – Limited, especially regarding non-technical skills

This is where CESMA could help

# The objective



# Entrustable Professional Activities (EPA)

- One assesses performance and not just competence
- Ready for legislation in the Netherlands soon

# Difficulties in assessment of:

- Professionalism
- Teamwork
- Expertise (difficult to define)
- Communication (to some extent)
- Also, quantitative data, though giving an impression of accuracy, may not necessarily be more reliable and useful than qualitative data (*Not all that can be counted counts and not all that counts can be counted -A. Einstein*)

# Unintended effects of assessment

- Inducing cramming
- Inducing superficial learning instead of reflection
- Impinging on the dignity of surgeons, especially experienced ones

# Assessing performance of surgeons

- Self assessment – an aid to reflection and professional development. (Often inaccurate)
- Peer assessment – between surgical colleagues
- Multi-source feedback – 360 degree assessment involving colleagues, staff and patients

# This could be done at:

- Institutional (local) level
- National level (A few countries have adopted self assessment with or without peer assessment, but there has been little willingness to legislate on Lifelong Competence Assessment with a robust base)
- Trans-national level (? CESMA involvement)
- Combinations of the above

# Assessment tools

- Competence scheme frameworks involving credits
- Objective Structured Assessment of Technical Skills (OSAT)
- Surgical audit
- Peer review
- Performance review
- Review of adverse events, complaints and incidents
- Case review – usually a number of cases, over a wide range or in a specific field
- Multimedia technology ( integrating text, audio ,images, animation, video and interactive forms) – used in teaching as well as assessment.
- Multi source feedback
- Entrustable Professional Activities (EPA)

# Measures that can help

- Inducing a cultural shift
- Planning meaningful, outcomes and teamwork-oriented assessments
- Implementing performance and data-tracking systems at individual and system level
- Collaboration amongst professional organisations, higher education organisations, healthcare organisations and regulatory bodies.

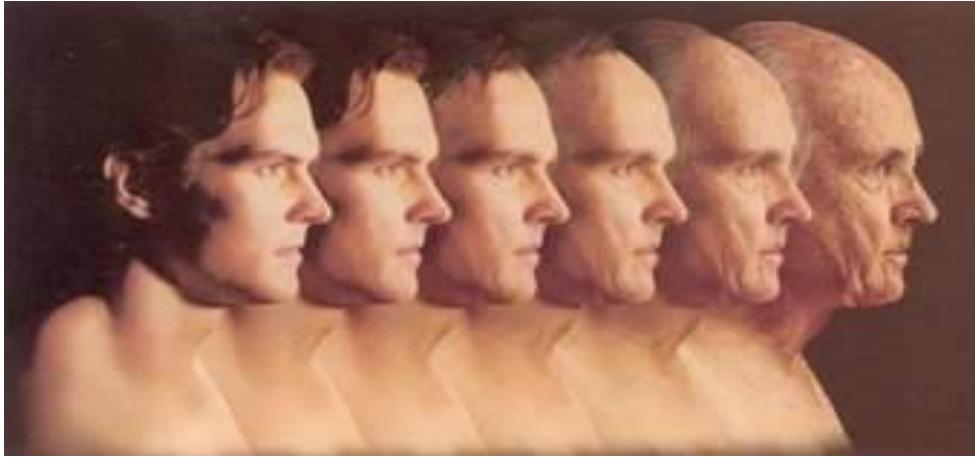
# Objective assessment of surgeons' technical skills and decision-making

Using Clinical Skills labs, in addition to use for training:

- Live animal surgery or cadavers (not very practical – logistics problems)
- Computer-generated “virtual reality” simulation (very useful)
- Robotic systems involving haptics, telepresence and possibly telementoring (Futuristic assessment tool, but possible)



Holding the haptic device with pressure sensor



The population ages.....  
.....Surgeons age as well

# Presumed effects of aging

- Cognitive decline
- Physical decline
- Deterioration of skills

*There is a fair amount of objective evidence that this occurs*

# Factors impacting knowledge in the older surgeon

- Quantity of education
- Remoteness of education
- Obsolescence of the content of the education
- Rapid pace of ‘progress’ and information overload



# Proposed periodic assessments

- **Modalities**
  - i. Physical examination
  - ii. Cognitive screening – Tests not validated for surgeons and results do not correlate with surgical performance.
  - iii. Peer assessment of clinical performance
  - iv. Objective assessment of surgeons' technical skills and decision-making
- **Threshold:** Range from 62 to 75 years
- **Utility:** May identify potential red flags in aging surgeons

# In practice: Capacity for work

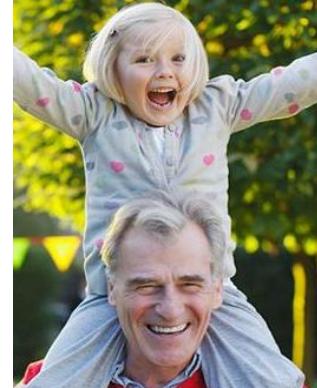
- The variation between individuals is large
- Can be affected by lifestyle factors:
  - i. Extraneous stress
  - ii. Availability of occupational health support.

Thus, Competence Assessments *must*  
be lifelong

# Problems

- Assessments must be validated
- Balance patient safety and liability risk with respecting the dignity of surgeons and their value to society.
- Wide individual variation requiring an individualized approach
- There are no published best-practice guidelines on how to deal with poor performance
- Surgeon workforce sustainability may produce a bias

# Summing-up:



- Lifelong assessment of competencies is necessary, possible and desirable, because of the goals outlined.
- There are, however difficulties of accuracy and predictive value, even when results are presented quantitatively.
- Assessing performance rather than competence may be more useful (EPA)
- The impact of lifelong assessment on patient safety outcomes needs further and better investigation
- Lifelong assessment needs input from certified skills labs, the operating theatre and allied environments to maximise validity

# Conclusion:

*Is it feasible for CESMA to become involved?*

- With the present structure this would probably be too onerous – Would need some re-structuring
- CESMA could start thinking now and position itself towards this very important objective

# Question time

Thank you.

# More definitions

- **Haptics** is any form of interaction involving touch
- **Telepresence** – The surgeon's console may be any distance from the 'slave' robotic arm and is linked by a telecommunication system e.g. SOCRATES
- **Telementoring** – Both the expert surgeon and the other surgeon in the lab at any distance, share the same view of the surgical field, can both control the robotic system and are able to communicate verbally. There is clear potential for both training and assessment.