



Accurate results
for patient care

Resources to explain scientific concepts

Elvar Theodorsson

JCTLM Working Group for Traceability: Education and Promotion (WG-TEP)

The overall task of the JCTLM Working Group for Traceability: Education and Promotion (WG-TEP)

- “To produce and promote educational materials to demonstrate the value of traceability in laboratory medicine as a means to reduce between method variability in the interests of improved clinical outcomes and patient safety.”

JCTLM Working Group on Traceability, Education and Promotion (WG.TEP) Membership: October 2015

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The JCTLM Working Group for Traceability, Education and Promotion (WG-TEP)

- The aim of WG-TEP is to produce and promote educational materials to demonstrate the value of traceability in laboratory medicine as a means to reduce between method variability in the interests of improved clinical outcomes and patient safety.
- The specific roles of WG-TEP are:
 - Organisation of the two-yearly JCTLM Members Meeting
 - Organisation of JCTLM scientific and educational meetings, symposia and conferences
 - Assessment of applications for meetings to be held with JCTLM auspices
 - Production of educational materials to promote the value of traceability in laboratory medicine
 - In conjunction with the JCTLM Secretariat production of the annual JCTLM e-newsletter
 - Production and maintenance of a 'traceability' website, which contains information, resource material and regular news items about the role of traceability in laboratory medicine. This website will link to the JCTLM database and will be available to link to the websites of all JCTLM members

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Traceability: the key to accurate laboratory results for patients

LATEST NEWS

News - 29 November 2017

11/29/2017

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JCTLM membership reaching across the globe

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News - 26 September 2017

09/29/2017

JCTLM workshop December 2017: invitation to attend

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The working group for Area 2

- Mini-presentations to explain scientific concepts” is to make graphical illustrations and appropriate corresponding texts for ten topics explaining traceability
 - Vincent Delatour (FR)
 - David Ducroq (UK)
 - Anja Kessler (DE)
 - Jeanita Pritchett (USA)
 - Marta Torres (AR)
 - Elvar Theodorsson (SE) (convener)

Topics and authors

- Basics of traceability applied to laboratory medicine. **Anja Kessler** (DE).
- Basic traceability chains. **Jeanita Pritchett** (USA).
- Examples of reference materials. **Jeanita Pritchett** (USA).
- Examples of reference measurement procedures **Jeanita Pritchett** (USA).
- Commutability explained. **Vincent Delatour** (FR).
- Commutability – why it matters. **Vincent Delatour** (FR).
- Traceable and commutable calibrators. **David Ducroc** (UK).
- The pillars of standardization. **Elvar Theodorsson** (SE).
- Standardization and harmonization. **Elvar Theodorsson** (SE).
- All results are made and interpreted by comparison. **Elvar Theodorsson** (SE).

JCTLM webinars:

The JCTLM has produced a series of webinars on traceability in laboratory medicine and method standardization / harmonization. Each webinar last for ~20 minutes and each addresses a specific topic. All the webinars are published on the IFCC e-academy and are freely available.

To access the series of webinars, go to: <http://eacademy.ifcc.org/events/jctlm-webinars>

The individual webinars are listed below together with direct links to the individual webinars.

- **Traceability in laboratory medicine: a driver for accurate results for patient care. 20 questions and answers for trainees in laboratory medicine. Graham BEASTALL (UK).** January 2017. Access the webinar at: <http://eacademy.ifcc.org/authors/b/dr-graham-beastall/?ctype=1154&cid=1759>
- **All results are made and interpreted by comparison. Elvar THEODORSSON (SE).** Access the webinar at: <http://eacademy.ifcc.org/authors/t/prof-elvar-theodorsson/?ctype=1154&cid=1844>
- **The pillars of standardization. Elvar THEODORSSON (SE).** Access the webinar at: <http://eacademy.ifcc.org/topics/other-areas-of-laboratory-medicine/traceability-in-laboratory-medicine/?ctype=1154&cid=1813>
- **Basic traceability chains. Jeanita PRITCHETT (US).** Access the webinar at: <http://eacademy.ifcc.org/topics/other-areas-of-laboratory-medicine/traceability-in-laboratory-medicine/?ctype=1154&cid=1839>
- **Basics of traceability applied to laboratory medicine. Anja KESSLER (DE).** Access the webinar at: <http://eacademy.ifcc.org/authors/k/anja-kessler/?ctype=1154&cid=1840>
- **Standardization and harmonization. Elvar THEODORSSON (SE).** Access the webinar at: <http://eacademy.ifcc.org/events/ifcc-webinars/?ctype=1154&cid=1812>
- Commutability explained. Vincent Delatour (FR). *In preparation*
- Commutability – why it matters. Vincent Delatour (FR). *In preparation*
- **Traceable and commutable calibrators. David DUCROQ (UK).** Access the webinar at: <http://eacademy.ifcc.org/topics/other-areas-of-laboratory-medicine/traceability-in-laboratory-medicine/?ctype=1154&cid=1841>
- **Examples of reference materials. Jeanita PRITCHETT (US).** Access the webinar at: <http://eacademy.ifcc.org/topics/other-areas-of-laboratory-medicine/traceability-in-laboratory-medicine/?ctype=1154&cid=1838>

Method

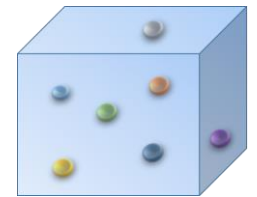
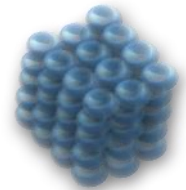
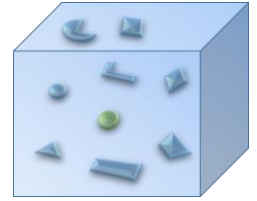
- Skype meetings documented with minutes
- Google Drive Cloud services
- EndNote library of almost 600 papers on the topic of traceability in PDF – format
- A library of 86 Powerpoint traceability- related illustrations
- Review of presentations within the group
- Aid from the IFCC central office in publishing the webinars etc.

The product

- PowerPoint presentation
- Text-file of the presentation
- Video-recording of the PowerPoint presentation
- Multiple choice questions and corresponding answers
- Publication on IFCC server aided by IFCC personnel

Influence quantities 1(2)

- The presence of “matrix factors”
- Inability to produce the substance in a pure form that can be weighed
- Molecular heterogeneity, e.g. transferrin, LH, FSH, TSH
- Detection of different epitopes



Commutability of the materials

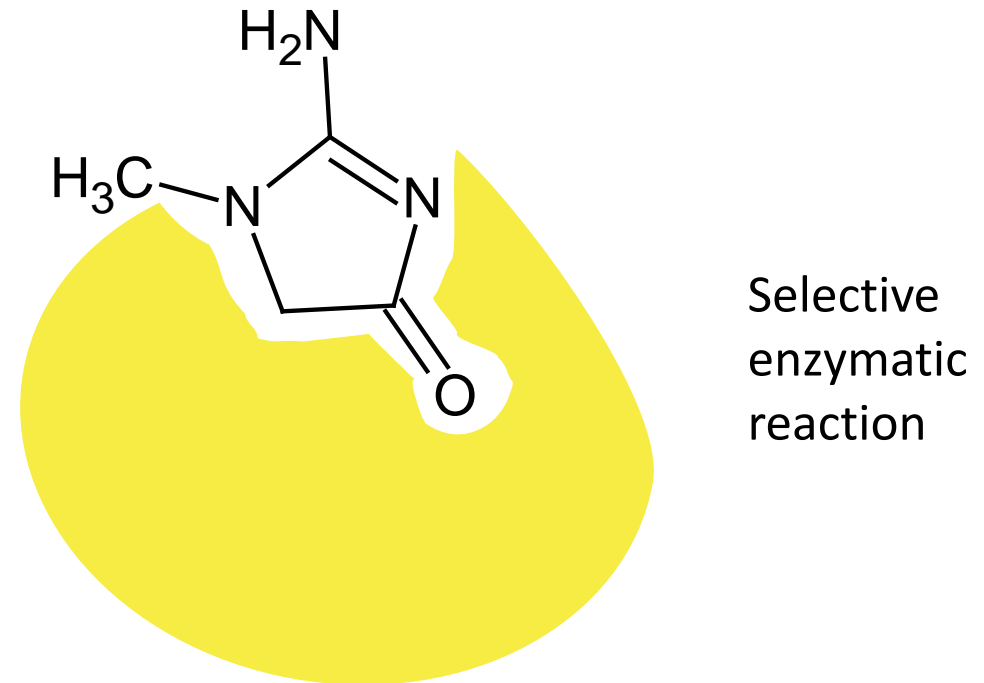
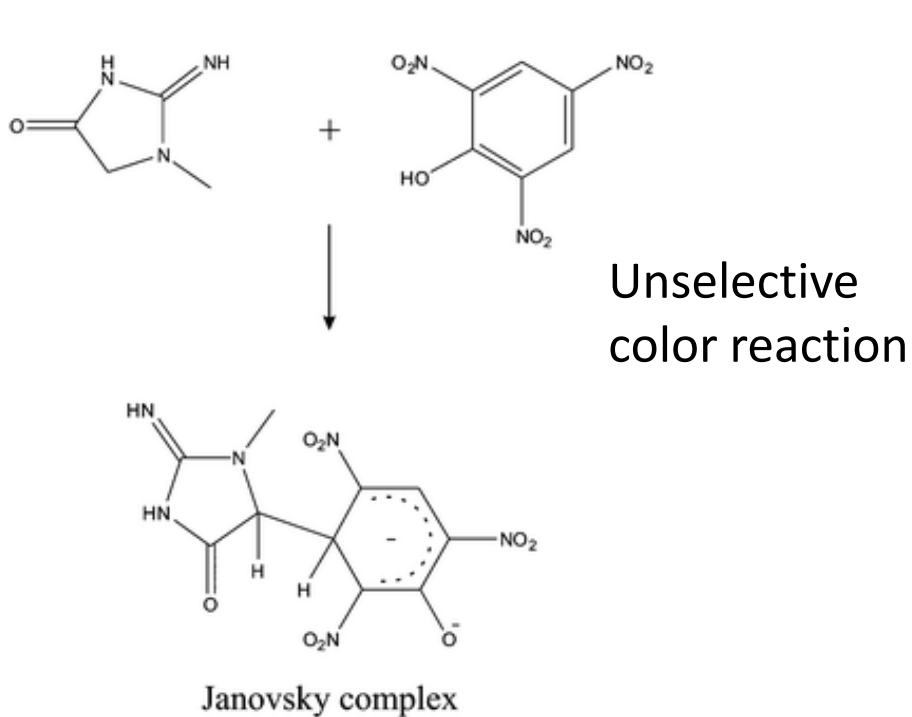
Material	Primary reference	Secondary reference	Working calibrator	Product calibrator	Patient sample
	Commutable?	Commutable?	Commutable?	Commutable?	Commutable!
Measurement procedure	Primary reference measurement	Secondary reference measurement	Manufacturers measurement		Routine measurement in a clinical laboratory
Provider	BIPM, National metrology institutes, accredited reference laboratories	National metrology institutes, accredited reference laboratories	Manufacturers laboratory		End user
Uncertainty for commutable material					
Uncertainty for noncommutable material					

Patient result



Selectivity VIM 3 - 4.13

”Property of a measuring system used with a measurement procedure, whereby it provides measured quantity value for one or more such that the values of each measurand are independent of other measurands or other quantities in the phenomenon, body, or substance being investigated.”



Phases of an ideal process

- Proposal phase
- Writing phase
- Review phase
- Recording phase
- Publishing phase

Actual process

- Proposal phase (already done)
- Writing phase (individual)
- Review phase (suboptimal)
- Recording phase (suboptimal)
 - Help of company/institution
 - Using private equipment
- Publishing phase (sufficient)

Private equipment and software

- Recording environment
- Microphones
- Software
 - PowerPoint
 - ScreenFlow (Mac)

Lessons learnt

- BIPM documents including the VIM and GUM are designed to be as general as possible and therefore need to be put into proper contexts of particular fields of metrology. This must be done within each field by itself, including laboratory medicine and its individual disciplines.
- Webinars constitute a very useful pedagogic tool
- It takes pedagogic skills and experience to make good webinars
- A proper, iterative review process is essential
- The quality of the recording is important – the microphone and the recording environment are especially important



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