STYLE GUIDELINES EHA HEMATOLOGY TUTORIALS EDUCATIONAL MATERIAL

When preparing a case for an EHA Tutorial, is it important that each case is developed according to the standard format, explained in the following guidelines.

In this document, you will find information on the general design of the lecture and clinical and self-assessment cases for the EHA Tutorial.

Please send your prepared cases before the given deadline to the EHA Executive Office (tutorials@ehaweb.org) and your case will be forwarded to the appointed tutorial editor to ensure clarity and consistency of style.

1. LECTURE

If you reference a paper in your presentation, please provide sufficient details so that those interested in finding the original paper can do so. Additionally, we encourage speakers to share their recent unpublished data.

2. CASES

Each Hematology Tutorial has two types of cases:

a. TUTORED CLINICAL CASES

The educational purpose of the 'tutored clinical cases' is to enhance the lectures by illustrating the theme of the lecture by reference to actual patients. The tutored clinical cases are in a fairly conventional format and some flexibility is possible. It helps to keep the audience alert and involved if you can pause periodically, for example, to present a diagnostic problem and seek suggestions from
the audience. At least one of your tutorial cases should represent the subject on which you lectured. The other could represent another aspect of the disease or another condition that enters into the differential diagnosis. The organizers will need to know your intended themes in order to avoid unnecessary duplication. Please provide a clear title for your case, explaining the disease and the specific topics covered (Example: "Treatment of inhibitor development in a hemophilia patient" or "Management of DVT in a pregnant woman")

General design of the cases

- Cases should be actual cases, not composites.
- Please do not include the patient's name or initials in your presentation and make sure that the patient's name is not shown on imaging or laboratory results.
- If you use an image that is NOT derived from the patient being presented please make this clear and give the source. However, it is much more informative if the actual images of the patient are used.
- Please state the patient's age rather than just saying 'born in 1981' as the case can be re-used and the age at the time the events occurred is relevant.
- If possible, provide some information about the case's overall context (geographical location, health system organization, drugs approved, etc.), as the availability of diagnostics and treatments can vary significantly. It is important for EHA clinical cases to

cover different realities, so we encourage all authors to provide cases that illustrate these variations.

- A text with a final comment/discussion on the case/disease and a list of references should be provided at the end of each clinical case.
- You can include images, tables, graphs – as many as you need. Images and tables illustrating some critical parts of the clinical case (such as classifications, prognostics indexes, and pivotal trials cited in the case) may be added and will improve the didactical value of the case and reinforce the links with the lecture.
- You should use conventional headings, e.g.
    - History
    - Physical examination
    - Blood count
    - Bone marrow aspirate,
    - Biochemical tests, etc.

b. SELF-ASSESSMENT CASES

The educational purpose of the 'self-assessment cases' differs. Self-assessment cases are intended to let the participants assess what they have learned. Feedback and discussion are required to discuss incorrect answers and understand the reasoning for the content of the cases. However, the self-assessment cases should not turn into mini-lectures. Feedback, explanatory images, and references are encouraged as educational tools but should be limited to explaining the correct answer. On the other hand, self-assessment cases must adhere to the template, as the format is concise and structured.
The required format is a case introduction followed by 6 questions with 5 answers each, only one answer being correct.

<u>Design of the Self-assessment Cases</u>

- Please use the template as the format is rigid.
- Each case should have 6 questions with 5 possible answers.
- It is ESSENTIAL that each question has one true answer and only one (or, in the alternative, if multiple correct answers are possible, clearly state it asking to "Select all that apply").
- Be careful not to use 'negative questions' followed by negative statements. These are confusing, even for English native speakers.
- Let the participants assess what they have learned. It is important to provide clear feedback so that if the participants selected the wrong answer, they know why another answer is preferred. Feedback can include images/tables illustrating the topic assessed.
- Don't present so much information that the participants will have forgotten it before they get to the question. After answering one question, the participants then move on to the next screen with further information and possibly more images plus an associated question.
- After each answer a slide with a comment discussing why it is the correct one, and why other options have to be discarded, should be provided.
- You can provide images, tables, graphs – as many as you need but bear in mind that these are not meant to be long presentations and please make sure that each will be legible from the back of the room.

Examples of questions

Q4) You expect DNA analysis to show
1. Deletion of one α gene
2. Deletion of two α genes
3. Deletion of three α genes
4. Deletion of four α genes
5. All α genes intact **(correct answer)**

Why is this a good question? The question itself is short and clear and there is no overlap between the answers. Only one can be correct.

Here is an example of a bad multiple-choice question for self-evaluation.
Q1 Which of these is **NOT** a correct statement?
1. Side scatter (SSC) and forward scatter (FSC) of the abnormal cells suggest that the abnormal population represents monocytes.
2. The reduced SSC of the CD34-positive cells suggests that there are hypogranular neutrophils **(correct answer)**
3. The distorted SSC & FSC characteristics suggest that the sample was stored for too long before processing
4. The CD7 expression on MPO-positive cells does not suggest that this is a mixed phenotype acute leukemia
5. There is aberrant lymphoid antigen expression on both myeloblasts and maturing myeloid cells.

Why is this a bad question? Each section of the question is long and complex. It is unlikely that the participant will be able to remember enough of the scatter plots to answer. There is also the added complexity of searching for an untrue answer rather than a true answer.

3. REFERENCES

Example

Richardson PG, Trudel S, Popat R, et al. Mezigdomide plus Dexamethasone in Relapsed and Refractory Multiple Myeloma. N Engl J Med. 2023;389:1009-1022.

Swerdlow SH, Campo E, Harris NL, Jaffe ES, Pileri SA, Stein H, Thiele J and Vardiman JW (eds) World Health Organization Classification of Tumours of Haematopoietic and Lymphoid Tissues. IARC Press, Lyon, 2008.

4. GENERAL

a. Abbreviations and Units

- Please keep abbreviations to a minimum as they often inhibit understanding, particularly if people are working in their second or third language. Whenever possible, the Units used

should be in accordance with the EHA Table of units (see Appendix below) and standard abbreviations of these should be used.

- The abbreviations recommended by the International Council for Standardization in Haematology can be used without definition. They are shown here, together with SI units:

	Unit	Example
WBC (Note: not WCC)	x 10^9/l	5.3 x 10^9/l
RBC	x 10^{12}/l	4.8 x 10^{12}/l
Hb	g/l	121 g/l
Hct	l/l	0.43 l/l
MCV	fl	83 fl
MCH	pg	27 pg
MCHC	g/l	346 g/l
Platelets	x 10^9/l	125 x 10^9/l
ESR	mm/h	34 mm/h

- Certain other very common and widely understood abbreviations can be used without definition, specifically
  - ➢ ALL
  - ➢ CLL
  - ➢ NHL
  - ➢ HD
  - ➢ FAB
  - ➢ WHO
  - ➢ PCR
  - ➢ RT-PCR
  - ➢ FISH
  - ➢ PT
  - ➢ APTT
  - ➢ CD (cluster of differentiation)

But even in this case it will help non-native speakers of English if you define the abbreviation when first used.

- Any other abbreviations should be defined when first used.
- Units should be given for all laboratory values.

b. Reference ranges

The reference range or normal range for your laboratory should be given, for all except the most common tests. This is particularly important for test results that vary greatly between laboratories, such as the serum B12 concentration or the activated partial thromboplastin time (APTT). The normal reference ranges in Appendix 1 can also be used for reference for common tests.

c. Decimal point
A decimal point should be used, not a decimal comma.

d. Cytogenetic Notation
Cytogenetic definitions and notation should be that of the International System of Cytogenetic Nomenclature (ISCN) [Standing Committee 1978], for example, inv(3)(q21q26) but t(3;3)(q21;q26).

e. Genetic notation
Genetic notation should be advised by the Human Genome Project. Specifically, upper case italics should be used for all human genes. For example, use *BCR::ABL1* not BCR::ABL or bcr::abl or *bcr::abl*. Lowercase italics should be used for viral genes, e.g. *v-abl*. Upper case regular script can be used for proteins, e.g. BCR-ABL1. Please use the correct up to date gene name, e.g. *ABL1* not *ABL*. This can be found in Online Mendelian Inheritance in Man, http://www.ncbi.nlm.nih.gov/sites/entrez?db=omim.

f. Drug names
If you need to refer to a drug, whenever possible please use the generic name, preferably the recommended international non-proprietary name as advised by the relevant WHO specialist panel. For example, use 'rituximab' not Mabthera or Rituxan. Trade names differ between countries and some will be completely unintelligible to many participants. Consider the context of the case, the availability of drugs in different realities, and the possible alternative treatments for middle-low-income countries.

g. Size of file
For practical reasons try to keep your file size under 10 MB.

h. Language
Please, use American English (e.g. leukemia, not leukemia)

APPENDIX 1. Units and Normal ranges table

Hematology	
hemoglobin	
men	g/L (<130)
women	g/L (<120)
red blood cell count	
men	$\times 10^{12}$/L (4.3–5.9)
women	$\times 10^{12}$/L (3.5–5.0)
hematocrit	
men	(0.40–0.52)
women	(0.36–0.47)
MCV	fL (80–96)
MCH	pg (28–32)
MCHC g/L (320–350)	
white blood cell count	$\times 10^{9}$/L (4–11)
neutrophil count	$\times 10^{9}$/L (1.5–7.0)
lymphocyte count	$\times 10^{9}$/L (1.5–4.0)
monocyte count	$\times 10^{9}$/L (<0.8)
eosinophil count	$\times 10^{9}$/L (0.04–0.40)
basophil count	$\times 10^{9}$/L (<0.1)
platelet count	$\times 10^{9}$/L (150–400)
reticulocyte count	$\times 10^{9}$/L (25–85)
reticulocyte count	% (0.5–2.4)
erythrocyte sedimentation rate	
under 50 years:	
men	mm/1st h (<15)
women	mm/1st h (<20)
over 50 years:	
men	mm/1st h (<20)
women	mm/1st h (<30)
Coagulation	
international normalized ratio	(<1.4)
prothrombin time	s (11.5–15.5)
activated partial thromboplastin time	s (30–40)
thrombin time	s (15–19)
fibrinogen g/L (1.8–5.4)	
bleeding time	min (3–8)
Coagulation factors	
factors II, V, VII, VIII, IX, X, XI, XII	IU/dL (50–150)
von Willebrand factor	IU/dL (45–150)
von Willebrand factor antigen	IU/dL (50–150)
protein C	IU/dL (80–135)
protein S	IU/dL (80–120)
antithrombin	IU/dL (80–120)

activated protein C resistance	(2.12–4.00)
fibrin degradation products	mg/L (<100)
D-dimer concentration	mg/L (<0.5)

Hematinic

serum iron µmol/L (12–30)	
serum iron-binding capacity	µmol/L (45–75)
serum ferritin	µg/L (15–300)
serum transferrin	g/L (2–4)
transferrin saturation	% (20–50)
serum vitamin B_{12}	ng/L (160–760)
serum folate	µg/L (2–11)
red cell folate	µg/L (160–640)
serum haptoglobin	g/L (0.13–1.63)
methemoglobin	% (<1)

Blood

C-reactive protein (CRP)	mg/L (<3.0)
serum sodium	mmol/L (137–144)
serum potassium	mmol/L (3.5–4.9)
serum urea	mmol/L (2.5–7.0)
serum creatinine	µmol/L (60–110)
estimated glomerular filtration rate (MDRD)	mL/min (>60)
serum corrected calcium	mmol/L (2.2–2.6)
serum ionized calcium	mmol/L (1.13–1.32)
serum phosphate	mmol/L (0.8–1.4)
serum creatine kinase	
men	U/L (24–195)
women	U/L (24–170)
serum creatine kinase MB fraction	(<5%)
serum troponin I	µg/L (<0.1)
serum troponin T	µg/L (<0.01)
fasting plasma glucose	mmol/L (3–6)
hemoglobin A_{1c}	% (3.8–6.4)
serum total protein	g/L (61–76)
serum albumin	g/L (37–49)
serum globulin	g/L (24–27)
serum total bilirubin	µmol/L (1–22)
serum conjugated bilirubin	µmol/L (<3.4)
serum alanine aminotransferase	U/L (5–35)
serum aspartate aminotransferase	U/L (1–31)
serum alkaline phosphatase	U/L (45–105)
serum gamma glutamyl transferase	
men	U/L (<50)
women	U/L (4–35)
plasma lactate	mmol/L (0.6–1.8)
serum angiotensin-converting enzyme	U/L (25–82)
serum amylase	U/L (60–180)
serum brain natriuretic peptide	pg/ml (<100)

serum N-terminal pro brain natriuretic peptide	
<75yrs	pg/ml (<125)
>75yrs	pg/ml (<450)

Urine

24-h urinary total protein	g (<0.2)
24-h urinary albumin	mg (<30)
24-h urinary creatinine	mmol (9–18)
urinary albumin: creatinine ratio	
men	mg/mmol (<3.5)
women	mg/mmol (<2.5)
urinary protein: creatinine ratio	mg/mmol (<15)
urine microscopy:	
white cells	/µL (<10)

Lipids and Lipoproteins

serum cholesterol	mmol/L (<5.2)
serum LDL cholesterol	mmol/L (<3.36)
serum HDL cholesterol	mmol/L (>1.55)
fasting serum triglycerides	mmol/L (0.45–1.69)

Arterial blood gases, breathing air

PO_2	kPa (11.3–12.6)
PCO_2	kPa (4.7–6.0)
pH	(7.36–7.44)
H^+	nmol/L (35–45)
bicarbonate	mmol/L (19–24)
base excess	mmol/L (±2)
lactate	mmol/L (0.5–1.6)
carboxyhemoglobin:	
non-smoker	% (<2)
smoker	% (3–15)
oxygen saturation	% (94–99)

Endocrinology

Adrenal steroids (blood)

plasma aldosterone (normal diet)	
(supine after 30 min)	pmol/L (135–400)
(upright after 4 h)	pmol/L (330–830)
plasma angiotensin II	pmol/L (5–35)
plasma renin activity	
(supine)	pmol/mL/h (1.1–2.7)
(upright after 30 min)	pmol/mL/h (3.0–4.3)
serum cortisol (09.00 h)	nmol/L (200–700)
serum cortisol (22.00 h)	nmol/L (50–250)

overnight dexamethasone suppression test (after 1 mg dexamethasone)	
serum cortisol	nmol/L (<50)
low-dose dexamethasone suppression test (2 mg/day for 48 h)	

serum cortisol	nmol/L (<50)
high-dose dexamethasone suppression test (8 mg/day for 48 h)	
serum cortisol	nmol/L (should suppress to <50% of day 0 value)
short tetracosactide test (250 µg)	
serum cortisol	nmol/L (>550 and 200 nmol/L greater than baseline)
24-h urinary aldosterone	nmol (14–53)
24-h urinary cortisol	nmol (55–250)
plasma adrenocorticotrophic hormone (09.00 h)	pmol/L (<18)
plasma antidiuretic hormone	pmol/L (0.9–4.6)

Thyroid hormones

plasma thyroid-stimulating hormone	mU/L (0.4–5.0)
plasma thyroid binding globulin	mg/L (13–28)
plasma thyroxine (T4)	nmol/L (58–174)
plasma tri-iodothyronine (T3)	nmol/L (1.07–3.18)
plasma free T4	pmol/L (10–22)
plasma free T3	pmol/L (5–10)

Catecholamines (urine)

24-h urinary vanillylmandelic acid	µmol (5–35)
24-h urinary dopamine	nmol (<3100)
24-h urinary adrenaline	nmol (<144)
24-h urinary noradrenaline	nmol (<570)

Catecholamines (blood)

adrenaline nmol/L (0.03–1.31)	
noradrenaline	nmol/L (0.47–4.14)

Therapeutic Drug Concentrations

plasma digoxin (taken at least 6 h post dose)	nmol/L (1–2)

Pulmonary Function

transfer factor for CO	% (80–120)
transfer coefficient (K_{CO})	% (100)