



STUDENT FORUM 2016

VIRTUAL LIBRARY FOR CPD – A START UP



OVERVIEW

1. What is a Virtual Library?
2. Advantages of E-Learning
3. Types of E-Learning
 - a. Virtual microscopes
 - b. E-Learning courses
 - c. Webinars/Webcasts
 - d. Web pages of lab equipment companies
 - e. Applications for Smartphones/Tablets/...
4. Possible users for our virtual library
5. Reasons for use our virtual library
6. How to rate the quality/reliability of E-learning sources?
7. Setup for our virtual library
8. Categorization of data

1. WHAT IS A VIRTUAL LIBRARY?

A virtual library is an organized set of links to items (documents, software, images, databases etc.) on the network.

The purpose of a virtual library is to enable users of a site to find information that exists elsewhere on the network.

2. ADVANTAGES OF E-LEARNING

- Easy to access
- Can reduce costs (travel, hotel, ...)
- Can reduce absence of staff

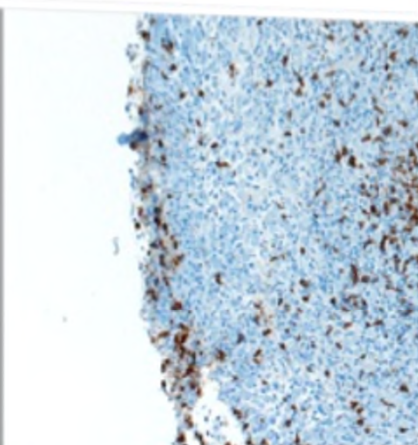
3. TYPES OF E-LEARNING

- Virtual microscopes
- E-Learning courses
- Webinars
- Web pages of lab equipment companies
- Applications for Smartphones/Tablets/...

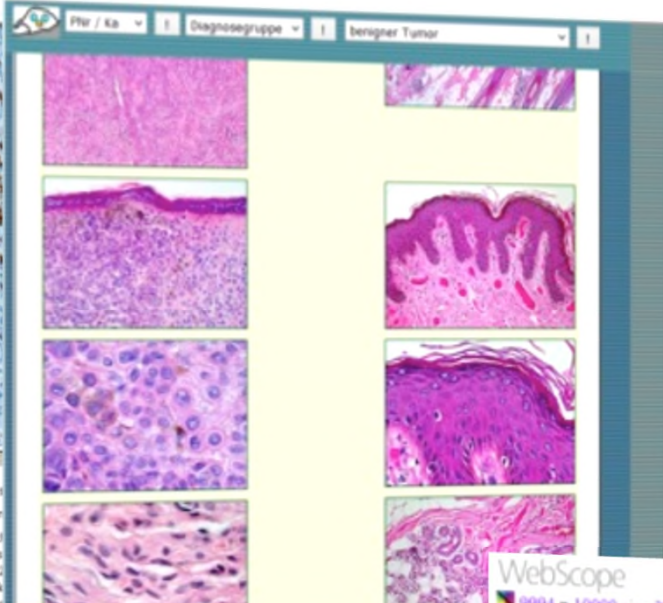
a. VIRTUAL MICROSCOPES

- Lots of web pages
- Shots of microscope slides
- Sometimes including explanations/tools
- Histology, haematology, urinary sediments, microbiology

a. VIRTUAL MICROSCOPES



Diagnose Akute nekrotisierende eosinophile Myokarditis
Beschreibung Myokard und Endokard mit dichten Infiltraten
Zusatzbefund Immunhistochemischer Nachweis von deutlich T-Lymphozyten im Myokard sowie von etwas B-Lymphozyten im Myokard und reichlich CD4 Endokard. Dichte intramyokardiale und endokardiale Infiltrate. Keine CD68-positive Zellen.



Plw / Ka | Diagnosegruppe | Benigner Tumor

RWTH AACHEN Alter Studiengang Patho/Allgemeine Pathologie

(return to previous directory)	AP_01 akutes intrazerebrales Linsenhämatom.aux 70017 x 33805 @ 20X	AP_02A chronische Blutung des Lungen PE.aux 42010 x 38726 @ 20X	AP_02B chronische Blutung des Lungen PE.aux 58014 x 43162 @ 20X	AP_03 chronische Blutung des Lungen.aux 34008 x 34259 @ 20X	AP_04 hyperplastische Lebernekrose.aux 52012 x 30300 @ 20X
AP_05 Schock der Niere.aux 48011 x 39983 @ 20X	AP_06 Karzinomartemektomie.aux 42010 x 35661 @ 20X	AP_07 frischer Myokardinfarkt.aux 44010 x 34046 @ 20X	AP_08 aneurysmatischer Myokardinfarkt.aux 52012 x 38408 @ 20X	AP_09 hämorrhagischer Lungeninfarkt.aux 48011 x 30530 @ 20X	AP_10 hämorrhagischer Lungeninfarkt.aux 48011 x 33382 @ 20X

Bloodline Home Topics Image Atlas

HistoNet Information Drawing Staining Knowledge

Specimen Nr. 04A
 Specimen: Ileon (Human being)
 Staining: van Gieson
 Magnification: 4x

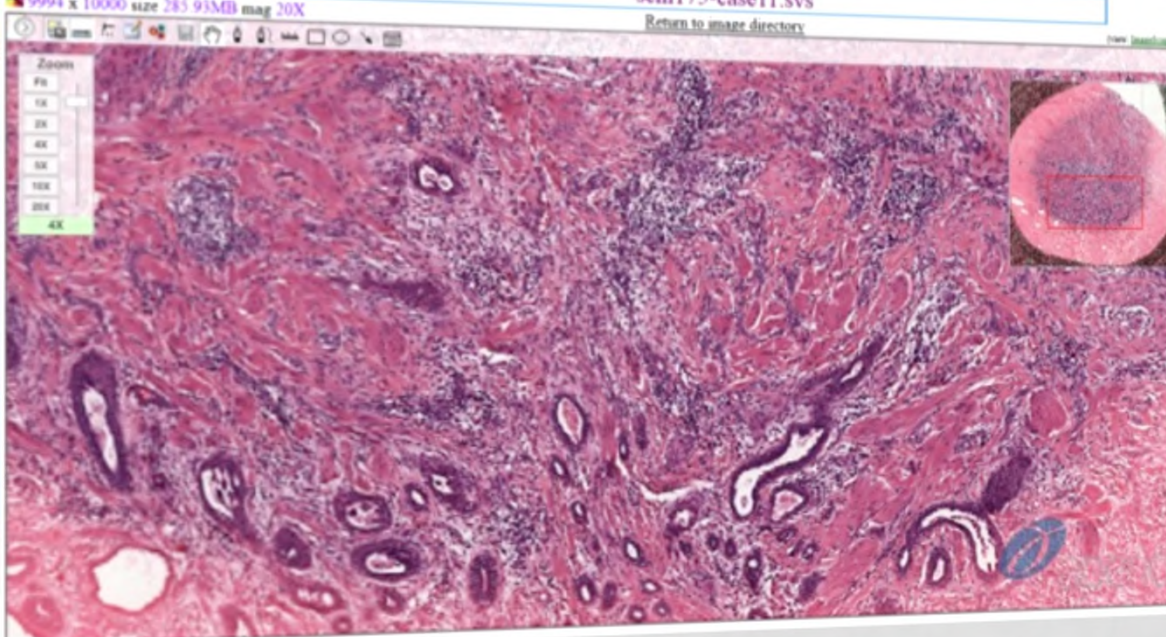
Important structures :

1. Plica circularis (Kerkring's valve)
2. Mucosa
3. Villi and crypts of mucous membrane
4. Submucosa
5. Muscular layer
6. Circular layer of the muscular layer
7. Longitudinal layer of muscular layer
8. Myenteric neural plexus (in connective tissue between two muscular layers)
9. Serosa
10. Blood vessel

Home Tutor Help Exit Boxes
 (H) (T) (?) (X) (B)

WebScope 9994 x 10000 size 285.93MB mag 20X

sem175-case11.svs
Return to image directory



Zoom: 1X, 2X, 4X, 8X, 16X, 32X, 64X, 128X, 256X, 512X, 1024X, 2048X, 4096X, 8192X, 16384X, 32768X, 65536X, 131072X, 262144X, 524288X, 1048576X, 2097152X, 4194304X, 8388608X, 16777216X, 33554432X, 67108864X, 134217728X, 268435456X, 536870912X, 1073741824X, 2147483648X, 4294967296X, 8589934592X, 17179869184X, 34359738368X, 68719476736X, 137438953472X, 274877906944X, 549755813888X, 1099511627776X, 2199023255552X, 4398046511104X, 8796093022208X, 17592186044416X, 35184372088832X, 70368744177664X, 140737488355328X, 281474976710656X, 562949953421312X, 1125899906842624X, 2251799813685248X, 4503599627370496X, 9007199254740992X, 18014398509481984X, 36028797018963968X, 72057594037927936X, 144115188075855872X, 288230376151711744X, 576460752303423488X, 1152921504606846976X, 2305843009213693952X, 4611686018427387904X, 9223372036854775808X, 18446744073709551616X, 36893488147419103232X, 73786976294838206464X, 147573952589676412928X, 295147905179352825856X, 590295810358705651712X, 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a. VIRTUAL MICROSCOPES

Histology and Pathology



<http://www.vm.rwth-aachen.de>

<https://eliph.klinikum.uni-heidelberg.de/>

<http://pathorama.ch/>

<http://cancer.digitalslidearchive.net/>

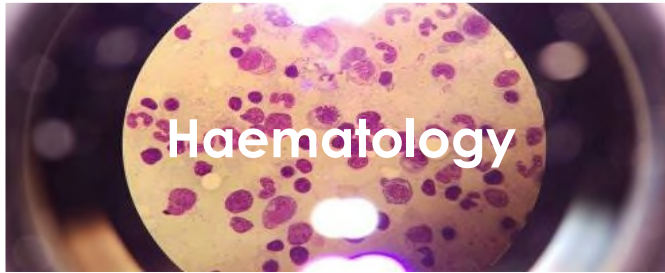
<http://rosaicollection.org/>

<http://alf3.urz.unibas.ch/hipaku/stud/start.cfm>

<http://www.histonet2000.com/>

<http://e-learning.studmed.unibe.ch/MorphoMed>

Haematology



<http://www.e-medicinimage.eu>

<http://www.bloodline.net/imageatlas/>

<http://hematologyatlas.com/>

<http://www.sysmex.de/akademie.html>

http://e-learning.studmed.unibe.ch/hemosurf_demo/Demo_E/settings.htm

Urinary Sediments



<http://elearning.wisplinghoff.de>

Other/combined fields:

<http://www.bu.edu/histology/m/index.htm>

<https://virtualmicroscope.iime.cloud/>

<http://www.lab.anhb.uwa.edu.au/mb140/>

<http://www.e-medicinimage.eu>

<http://bls-2.heteml.jp/e-l/index.html>

<http://library.med.utah.edu/WebPath/>

a. ...AN EXAMPLE:

A: Learning Modules



[White Blood Cells](#)

You will learn how to recognize normal and pathological leukocytes as well as toxic abnormalities of neutrophils and monocytes. You will then differentiate the leukocytes of fifteen different diseases.



[Red Blood Cells](#)

Here, you will learn how to recognize the qualitative abnormalities of red blood cells. You will then assess the red blood cells of eleven different diseases.



[Platelets](#)

You will learn step by step how to recognize the quantitative and qualitative abnormalities of platelets. You will then assess the platelets of five different diseases.



[Artifacts in the Blood Film](#)

In this module, you will learn to recognize and identify different artifacts.



[Normal Bone Marrow](#)

You will learn step by step how to recognize normal bone marrow cells as well as how to assess cellularity and iron content.

B: Reference Modules



[Gallery of Blood and Bone Marrow Films](#)

In this module, you can examine the blood pictures of more than 60 diseases. For some of them the bone marrow films are presented as well.



[All Informational Units](#)

You can access the list of all the available units found in the program here.



[Laboratory Techniques](#)

b. E-LEARNING COURSES

- Users attend several modules
- Different kinds of resources included
- Interactive
- Finishing often with assessment and certificate
- Long-term and short-term

b. E-LEARNING COURSES –EXAMPLE

home

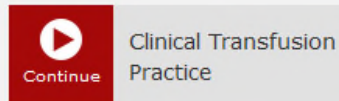


b. E-LEARNING COURSES –EXAMPLE

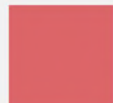
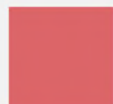
home
course offer

Transfusion Practice Courses

For direct access to the course or modules select the tab below. Further details on the course or module is available from [Our Courses](#)









Alternatively you may only need to access certain modules of the Clinical Transfusion Practice course.

 Collecting Blood Specimens Transporting Blood

Patient Blood Management Courses

For direct access to the course or modules select the tab below. Further details on the course or module is available from [Our Courses](#)

 Critical Bleeding Patient Blood Management Critical Care Perioperative Iron Deficiency Anaemia Postpartum Haemorrhage Medical and Specialties

b. E-LEARNING COURSES –EXAMPLE

home
course offer
example of course

Introduction

1 Overview of iron deficiency anaemia

Overview

Causes of iron deficiency

Implications of iron deficiency

Stages of iron deficiency

Epidemiology

Iron metabolism

Dietary iron

Iron absorption

Recommended daily intake

Summary

Assessment 1

2 Diagnosis and investigation

3 Oral iron therapy

4 Parenteral iron therapy

References

Causes of iron deficiency

Iron deficiency results when iron losses or requirements exceed absorption and is often multifactorial. Likely causes vary according to age, sex and co-morbidities, and may be physiological or pathological. Factors contributing to negative iron balance include:

- Increased iron loss (gastrointestinal and non gastrointestinal)
- Iron malabsorption (e.g. coeliac disease)
- Inadequate dietary iron intake (e.g. vegetarians and vegans)
- Increased demand for iron (e.g. rapid growth or pregnancy).

Children

Iron deficiency is common in children during rapid growth and erythroid expansion, especially in premature or low birth weight babies, in toddlers and preschool children, and during adolescence.

Pregnancy

Pregnancy results in an overall additional iron requirement of about 1000 mg. Translated into daily needs, the requirement is around 0.8 mg iron in the first trimester, between 4 and 5 mg in the second trimester, and > 6 mg in the third trimester.¹ Breastfeeding removes 1 mg of iron per day, but losses are mitigated by lactation-induced amenorrhoea if present.

Adults

Blood loss is the most important cause of iron deficiency in adults. Each millilitre of blood loss (if Hb is 150 g/L) results in loss of around 0.5 mg of iron. Gastrointestinal (GI) blood loss is the most important cause in postmenopausal women and adult men. While menstrual blood loss commonly causes IDA in pre-menopausal women, co-existent GI lesions have often been identified.

Malabsorption of iron may occur due to intestinal mucosal disorders (most frequently, coeliac disease), *Helicobacter pylori*², impaired gastric acid secretion (may include prolonged use of proton pump inhibitors³) and gastric/intestinal

b. E-LEARNING COURSES – EXAMPLE

home
course offer
example of course
case study

1 Overview of iron deficiency anaemia

2 Diagnosis and investigation

Overview

Defining anaemia

FBE and iron studies

Laboratory investigation

Functional iron deficiency

Underlying cause of IDA

Algorithm

Case studies

Summary

Assessment 2

3 Oral iron therapy

4 Parenteral iron therapy

References

Case studies – test your knowledge so far

Below are **two** case studies for you to check your understanding of the diagnosis and investigation of IDA. It is important to remember that determination and treatment of the underlying cause(s) of IDA and iron therapy are concurrent components of management.



Select the icon to open the algorithm tool to assist with the case studies.

Case study 1

Case study 2

Case study 1. Mr Wakefield

i Consider the clinical information provided, then answer the series of questions.

Case study notes



Mr Wakefield is a 52 year old man who presented to the emergency department with vomiting and abdominal pain.

FBE results on initial presentation

Question 1 of 2

On further questioning, Mr Wakefield had a 3 month history of intermittent abdominal pain and altered bowel habit. He was discharged home after having an abdominal XRAY and blood tests.

The FBE results should have prompted:

- ☐ Repeat FBE in 3 months or sooner should anaemia become symptomatic
- ☐ Haematology outpatient referral for normocytic anaemia of unclear cause
- ☐ Ferritin level to confirm iron deficiency and referral for gastrointestinal assessment (endoscopy/colonoscopy)

Submit

b. E-LEARNING COURSES – EXAMPLE

home
course offer
example of cou
case study
assessment

Question 1

Not yet
answered

Marked out of 1

Flag question

Which of the following is NOT a consequence of IDA?

Select one:

- ☐ a. Impaired cognitive development in preschool aged children.
- ☐ b. Osteoporosis.
- ☐ c. Fatigue.
- ☐ d. Diminished work productivity in adults.

Question 2

Not yet
answered

Marked out of 1

Flag question

Mrs Duong, a 29 year old woman, is diagnosed with IDA. She is 6 weeks pregnant with her first child. Which of the following statements is correct?

Select one:

- ☐ a. Her iron requirements during the remainder of this pregnancy will still be met by mobilising existing iron stores.
- ☐ b. IDA among pregnant women has been associated with increased risks of low birth weight, prematurity and maternal morbidity.
- ☐ c. The recommended daily intake of iron for pregnant women is similar to that of non-pregnant premenopausal women.
- ☐ d. The cause of iron deficiency in this case is increased physiological iron requirements associated with pregnancy.

Question 3

Not yet
answered

Marked out of 1

Flag question

Ginny, a 14 year old student, has decided to no longer eat meat and her mother is concerned about her becoming iron deficient. She will eat fish and eggs. Which of the following statements is correct?

Select one:

- ☐ a. Non-haem iron (from plant sources) is absorbed better than haem iron (from animal sources).
- ☐ b. Drinking tea, coffee, cola or cocoa with meals will increase non-haem iron absorption.
- ☐ c. Good sources of iron include fish, eggs, legumes, nuts and fortified cereals.

c. WEBINARS/WEBCASTS

- many suppliers
- recorded public presentations or professional tutorials
- available content: depends, different topics

Webinar	Webcasts
e.g. The New York Academy of Science	e.g. TheSimpleClub (YouTube)
Interactive	video

d. WEB PAGES OF LAB EQUIPMENT COMPANIES

- Clinical resource
- Includes analyser info, SOPS, instructions and guidance for result interpretation
- Up to date and relevant sources

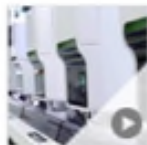
d. WEB PAGES OF LAB EQUIPMENT COMPANIES



Digitale Bildverarbeitung – eines neues Kapitel in der Hämatologie

In unserem Film berichtet Dr. Jürgen Riedl, Klinischer Chemiker aus dem Albert Schweizer Hospital in Dordrecht (NL), von seiner Praxiserfahrung mit dem digitalen Bildverarbeitungsgerät DI-60 und seiner Vision zur Verbesserung der medizinischen Versorgung für den Patienten.

Podcast



XN-9000 Maximum Workload – von der Projektplanung bis zum Routinebetrieb

Die Hämatologie-Straße im Labor der Medizinischen Versorgungszentren Dr. Kramer und Kollegen in Geesthacht ist europaweit eine der ersten Installationen in einer XN-9000 Maximum Workload Konfiguration. Begleiten Sie das Projekt und erfahren Sie, wie die Anforderungen des Kunden an den Workflow und die diagnostische Performance realisiert wurden.

Hämatologie, XN-Serie, Podcast



Stimmen zum 6. Europäischen Hämatologie-Symposium in Lyon

Podcast, Englisch



Digital Imaging with DI-60

SP-10 & DI-60

d. WEB PAGES OF LAB EQUIPMENT COMPANIES


pep.siemens-info.com


Cork Institute of Technology Login HemoSurf - Demo! https://pep.siemens-info.com/en-us... Siemens logo | Logok


SIEMENS Healthineers PEPconnect


Explore Search PEPconnect Home My Plan 2 Caoimhe Lynch


Hematology

 ADVIA® 120/2120 Systems

 ADVIA® 2120i Hematology System


 ADVIA® 360 Hematology System


 ADVIA® 560/560AL Hematology System


 CellaVision® DM


TOP ^


Hemostasis


 BCS® XP System

 INNOVANCE® PFA-200 System

 PFA-100® System

 Sysmex® CA-1500 System

 Sysmex® CA-500 Series System

 Sysmex® CA-600 Series Analyzer

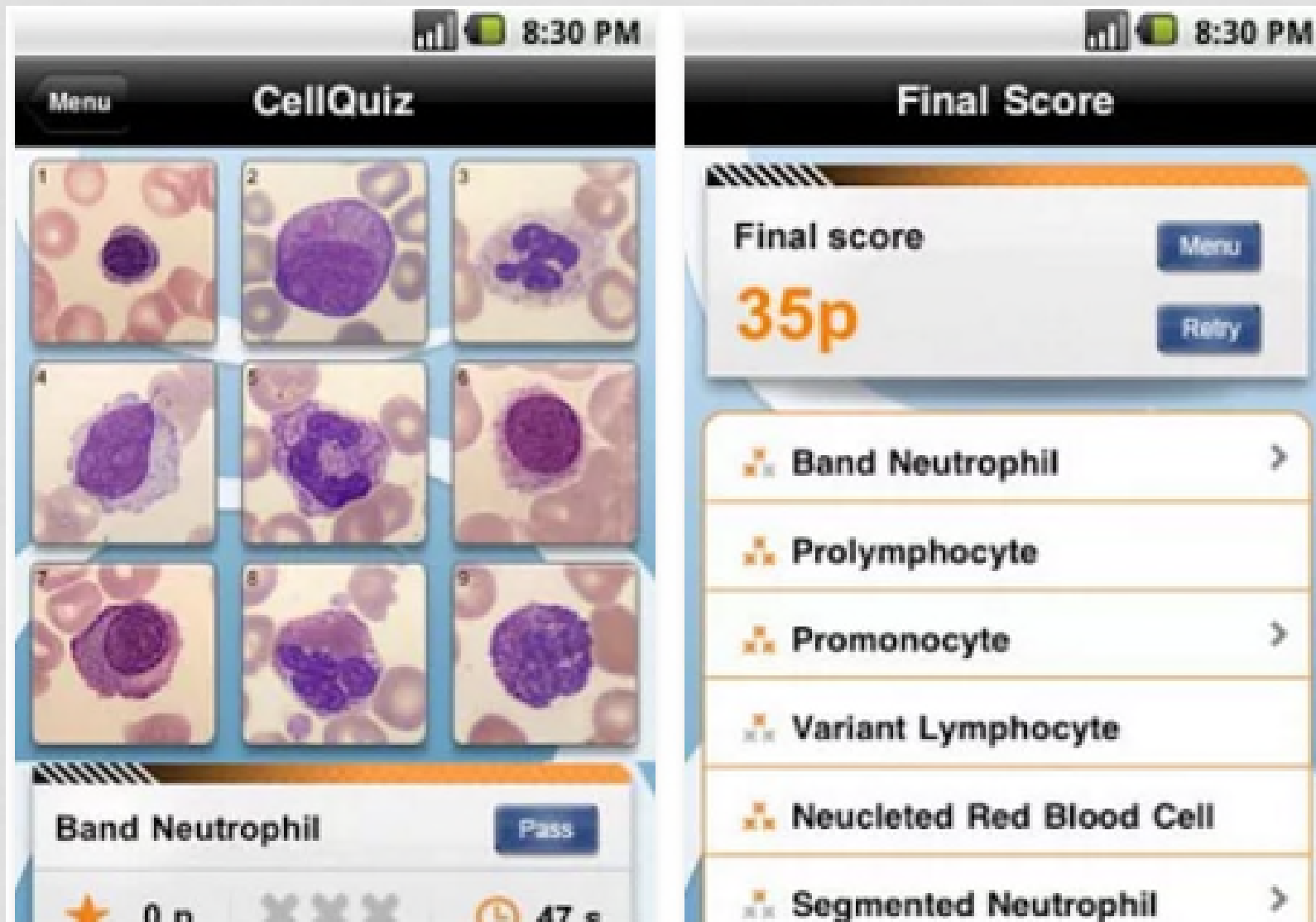
e. SMART PHONE APPLICATIONS

- Quick and easy access via smart phone
- Access anywhere
- Quizzes, articles, database, cell atlas...

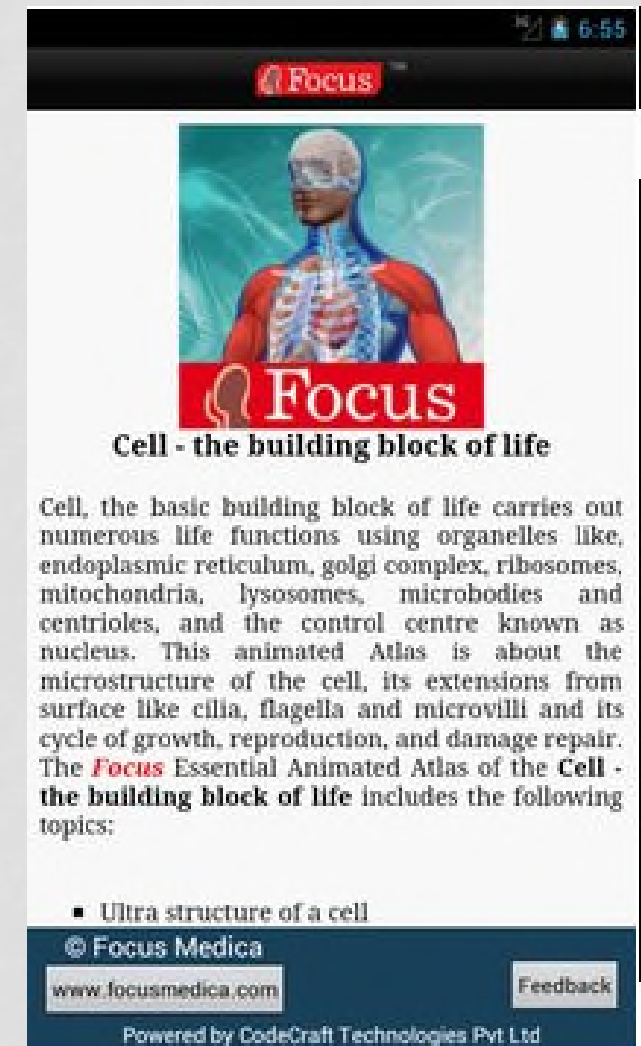
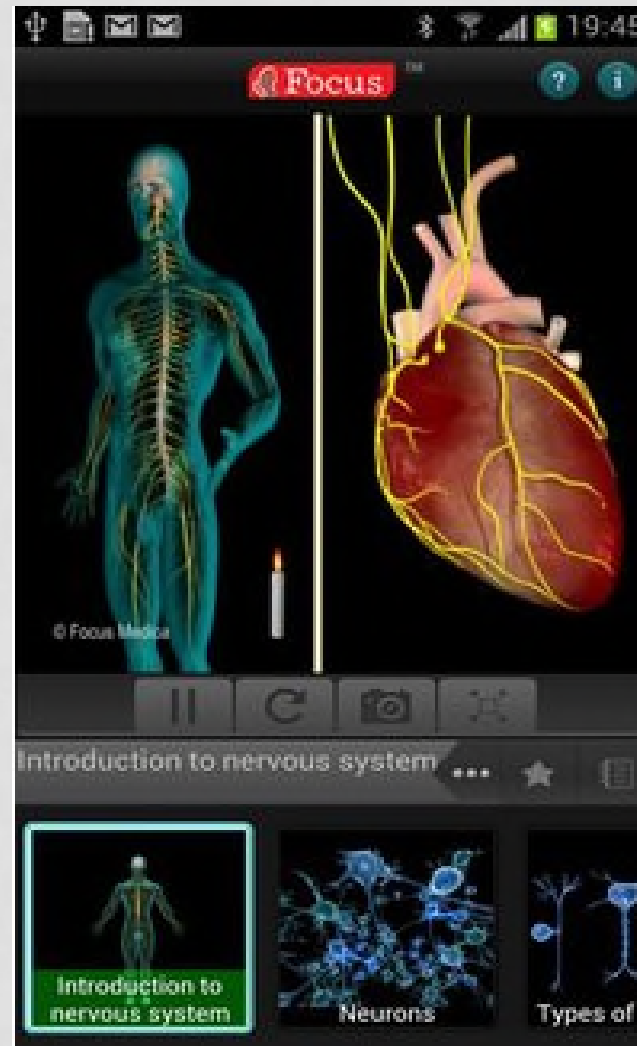
e. SMART PHONE APPLICATIONS



e. APPLICATIONS – EXAMPLE: GAME



e. APPLICATIONS – EXAMPLE: ATLAS



4. POSSIBLE USERS

- BMS
- Students, teachers, lab managers, employers
- Useful for other scientific fields
- Pupils (to attract for the profession)

5. REASONS FOR USE

- Quick information
- Refresh knowledge
- Advanced knowledge (news in the field)
- Enhanced learning process
- Preparing exams
- Writing a paper or SOP
- Personal interest / Fun
- As part of their (mandatory) CPD
- Difficult cases in practice
- backgrounds for interpretation
- Re-entry in profession (maternity leave, ...)
-

6. HOW TO RATE THE QUALITY AND RELIABILITY?

- By qualified experts (peer review)
 - Specialized for each field
 - Preferably more than one
 - Detailed evaluation (author, content ...)
- By users
 - Optional
 - Kept simple
 - 1-5 stars
 - Free comment
 - Questions (Did you get the information you searched for? Was it easy to use?)

7. SETUP

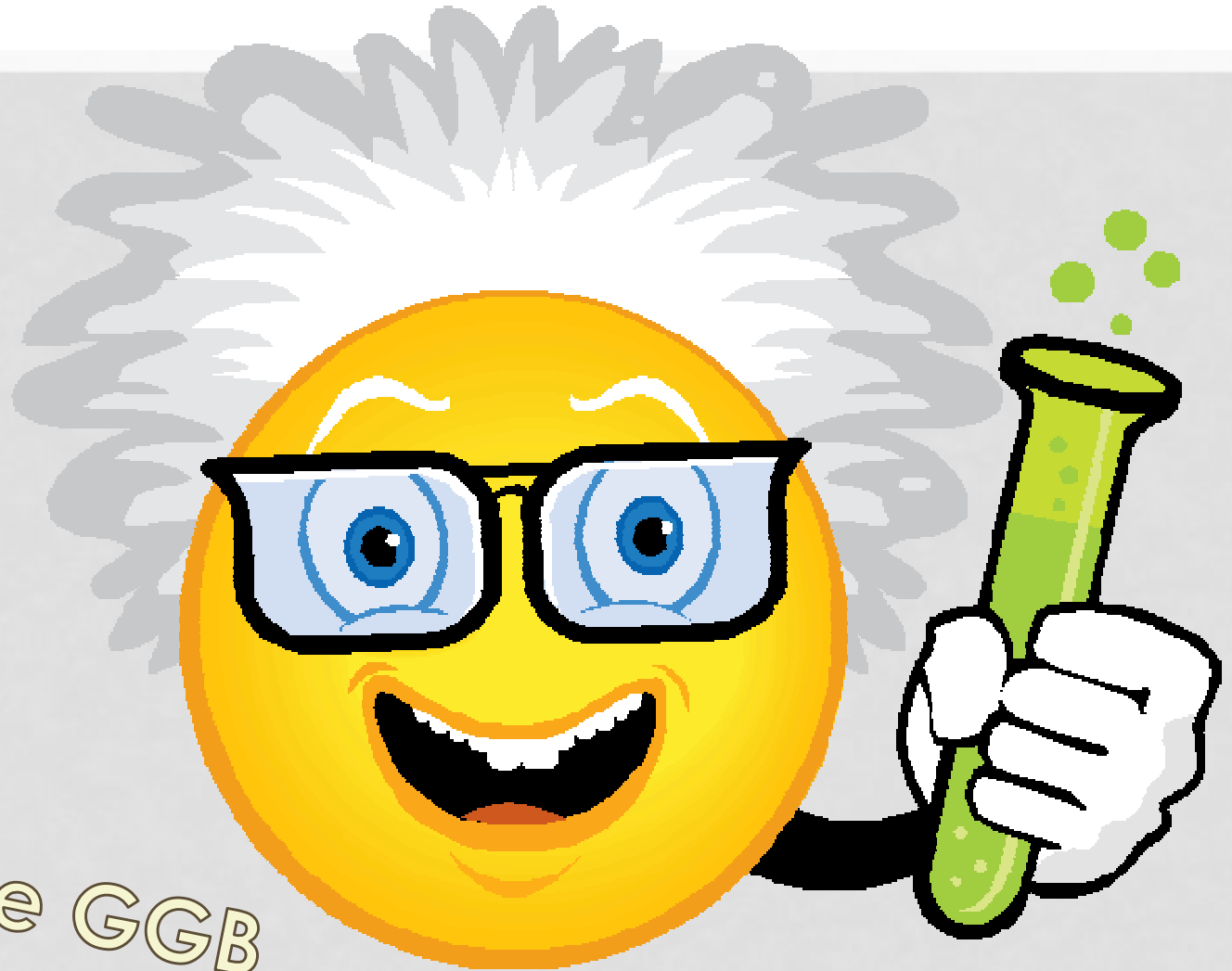
- Easy to use
- Complete list
 - Categorized by field
- Searching tool
 - Key words
 - Filter
- Log in optional
 - Features:
 - History
 - To-do-list
 - Favourites

8. CATEGORIZE DATA

Sorting options by:

- Fields (e.g.: ...)
- Languages
- Costs
- Certificate
- Rating/feedback of users
- Registration necessary?
- Clicks
- Level of knowledge (basics, advanced, experts)
- Kind of source

NOW ITS YOUR TURN! ☺



Quiz for the GGB

<http://www.sysmex.de/akademie/wissenszentrum/cellspotting.html>

THANK YOU FOR YOUR ATTENTION!



BEHIND THE SCENES...

