



The Intensive Connection

European Diploma Intensive Care Medicine OSCE-Exam using tablet computers

The EDIC part 2 exam

◆ Two sessions per year in 8 European cities

- Amsterdam
- Copenhagen
- Dublin
- London
- Porto
- Prague
- Vienna
- Zürich

Exam setting

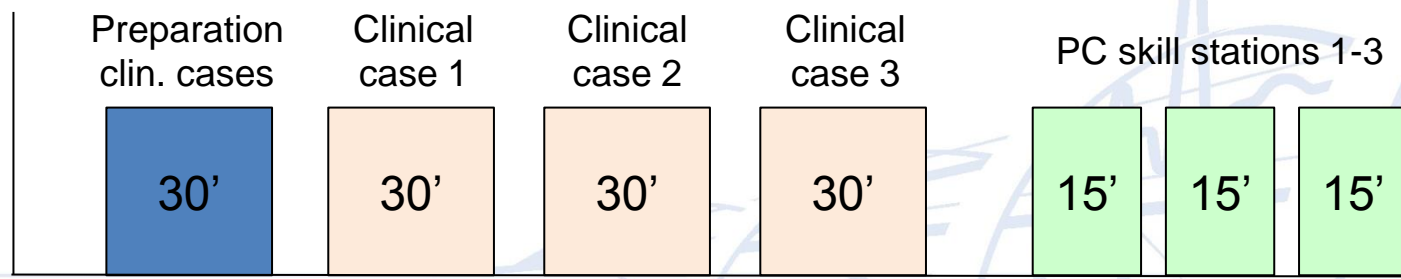


Maximal capacity 576 candidates/ year

The EDIC part 2 exam

◆ Objectives

- Assess skills, attitudes, competency, and knowledge in intensive care medicine at the end of a 2 years formal training
- The content of the exam is based on CoBaTrICE, the standard is set by the EDIC committee.
- Exam structure: Two hours and 15 minutes of active interaction with 9 experts testing candidate performance on 3 clinical case scenarios (2 expert/case) and 3 computer skill stations (1 expert/station)



EDIC part 2: Setting the Standard

◆ Exam station

- CCS: 12-18 questions including case evolution vignette
- CBS: 8-12 slides

◆ Answers/statement weighting:

- Factor = 5 if very important for the favorable evolution of the case
- Factor = 3 if it contributes for the favorable evolution of the case but is not essential
- Factor = 1 if it is good to know but does not add to the favorable evolution of the case

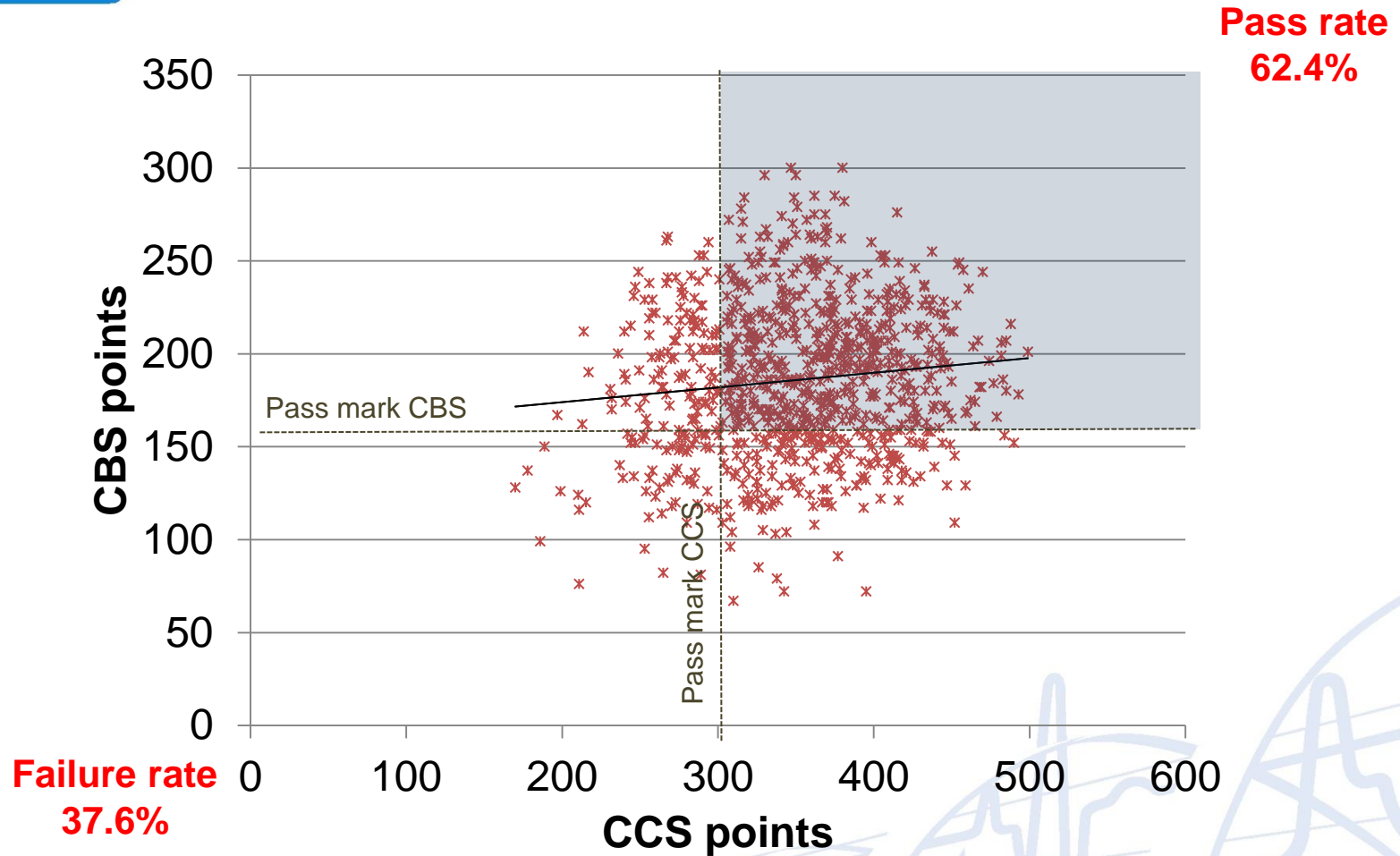
◆ Points per exam station

- Σ of question's answer/s marked with 5 points sets the standard (pass mark) → *need the consensus of the committee members*
- Σ of items marked with 1 & 3 points is \leq of the Σ of the items marked with 5 points
- The proportion of 5 point mark questions is 60 to 65%

EDIC part 2: Final pass mark

- ◆ **The “pass” mark for CCS** is obtained when the total score obtained by giving a correct answer to **all 3 CCS** questions divided the by sum of the points of all 5 point marked answers is more than 100%.
- ◆ **The “pass” mark for CBSs** is obtained when the total score obtained by giving a correct answer to **all 3 CBSs** questions divided the by sum of the points of all 5 points marked answers is more than 100%.
- ◆ **Final „pass“ mark for EDIC part 2**
 - The candidate pass EDIC part II exam when his or her final mark for all 3 CCS and all 3 CBAs is a “pass”.

EDIC part 2: Relationship between the total points obtained by candidates in CCS and CBS



Clinical Case Scenario



The Intensive Connection

Clinical Case Scenario

Start Vignette (pre Vignette 1:

Background: An 81 year old lady was admitted to the intensive care department, after a fracture of her right hip one month ago, she was started on warfarin. This visit one month ago showed normal. She has a smoking history of 30 pack years. On shortness of breath. Otherwise she is well. On short neurologic exam in the trauma bay. HR 105 b/min, BP 125/85 mmHg, RR 18. On auscultation silent rhonchi were heard. The following results:

Blood gas	
6l O ₂ Venturi Mask	
PaO ₂	85 mmHg (11,3 kPa)
PaCO ₂	60 mmHg (8 kPa)
pH	7.29
Bicarbonate	26,2 mmol/l
BE	2,5 mmol/l
Lactate	1,6 mmol/l
Sodium	140 mmol/l
Potassium	4,5 mmol/l

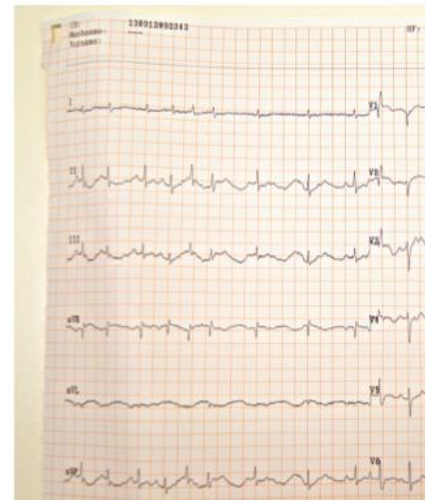
She received a spinal anaesthesia for surgery. After prothrombin complex concentration was two times 2mg morphine for comfort. HR 130 b/min, and BP 75/30 mmHg. A central venous catheter (CVC) was inserted. A central venous pressure (CVP) of 5 mmHg (22.1 kPa) and a PaO₂ of 50 mmHg were immediately started and after 1 hour. She was transported to the CT, which was admitted to the ICU.

Clinical Case Scenario

Follow Up - Vignette 2a Follow up

6 hours later, after two units of red blood cells transfused.

Chemistry			Haem
Na+	141	(136-145)	Haemoglobin
K+	4.7 mmol/l	(3.3-4.5)	Haematocrit
Urea	2,9 mmol/l	(2.86-8.21)	Platelets
Creatinine	65 µmol/L	(62-106)	Leukocytes
Albumin	26,9 g/l	(40-49)	Quick clot
Bilirubin	4 µmol/l	(<21)	INR
CRP	3,18 mg/dl	(<0,5)	
CK, total	199 µmol/l	(<190)	
CK MB (%)	8	(<10)	
GOT	30 U/l	< 35	
Troponin T	0.312µg/ml	(< 0.14)	
proNT-BNP	3754ng/l	(<376)	



EDIC Part II Exam, May 2014 – Amsterdam,

e-Answer sheet

Prüfung | Schildrüse | Prüflinge | H. | 17:34 Uhr

i Ein Hausarzt weist Ihnen in Ihre endokrinologische Praxis eine 28-jährige Patientin mit V.a. Schilddrüsenfunktionsstörung zur weiteren Abklärung zu.
Bitte lesen Sie die folgende Aufgabenstellung dem Studenten wörtlich vor:
Ein Hausarzt weist Ihnen in Ihre endokrinologische Praxis eine Patientin mit V.a. Schilddrüsenfunktionsstörung zur weiteren Abklärung zu.
Aufgabe 1: Bitte führen Sie eine schilddrüsen-spezifische Anamnese durch.
Aufgabe 2: Bitte führen Sie eine schilddrüsen-spezifische Untersuchung durch.

Aufgabe 1: Bitte führen Sie eine schilddrüsen-spezifische Anamnese durch. Punkte (max. 11)

Schwitzen	(1 Punkt)	6,0
Antriebsarmut, Müdigkeit, Abgeschlagenheit ↔ Nervosität, Unruhe	(1 Punkt)	
Gesteigerte Kälteempfindlichkeit ↔ gesteigerte Wärmeempfindlichkeit	(1 Punkt)	
Gewichtszunahme ↔ Gewichtsabnahme	(1 Punkt)	
Verdauung: Obstipation ↔ Durchfall	(1 Punkt)	
Niedriger Puls und Blutdruck ↔ Herzrasen, Tachykardie, hoher Blutdruck	(1 Punkt)	
Auffälligkeiten Haut: trocken, kühl, teigig, schuppig	(1 Punkt)	
Auffälligkeiten Haare: trocken, brüchig	(1 Punkt)	
Vorerkrankungen und Voroperationen (speziell Schilddrüse)	(1 Punkt)	
Familienanamnese bzgl. SD-Erkrankungen	(1 Punkt)	
Medikation	(1 Punkt)	

Aufgabe 2: Bitte führen Sie eine körperliche Untersuchung auf eine Schilddrüsenfunktionsstörung durch. Punkte (max. 5)

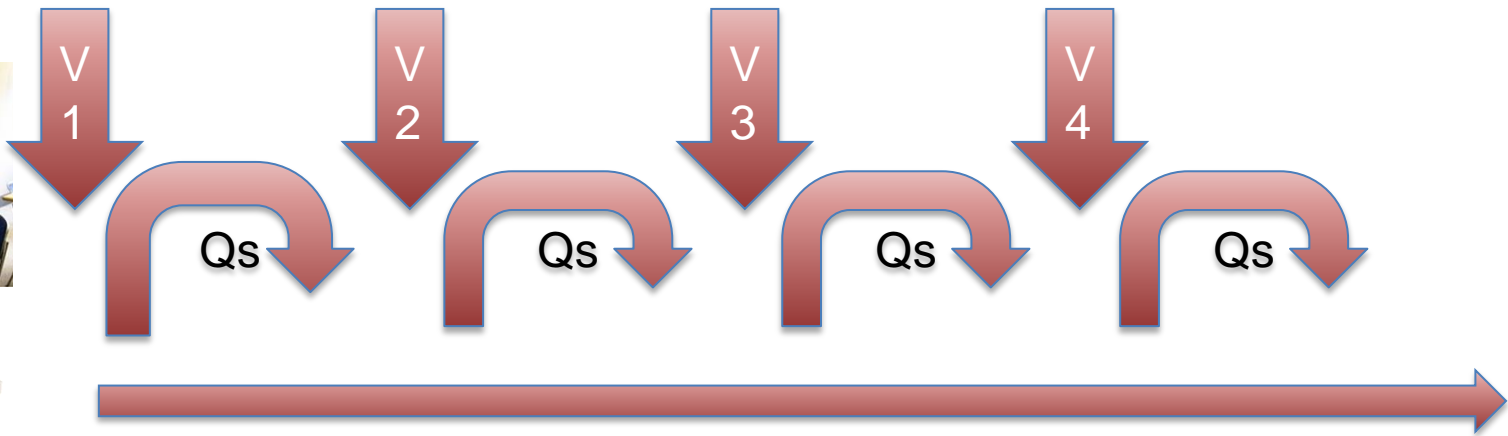
Inspektion + Palpation inklusive Schluckverschieblichkeit	(1,25 Punkte)	?
Auskultation der SD	(1,25 Punkte)	
Blutdruckmessung & Puls	(1,25 Punkte)	

Gesamt: 6/21

04:48 min | 17:34 Uhr



Clinical Case Scenario



◆ Examiners

- Two examiners: Interviewer + Recorder (iPad)
- Dialogue fluently, hand out vignettes, ask predefined questions
- Prompting 1-2 times

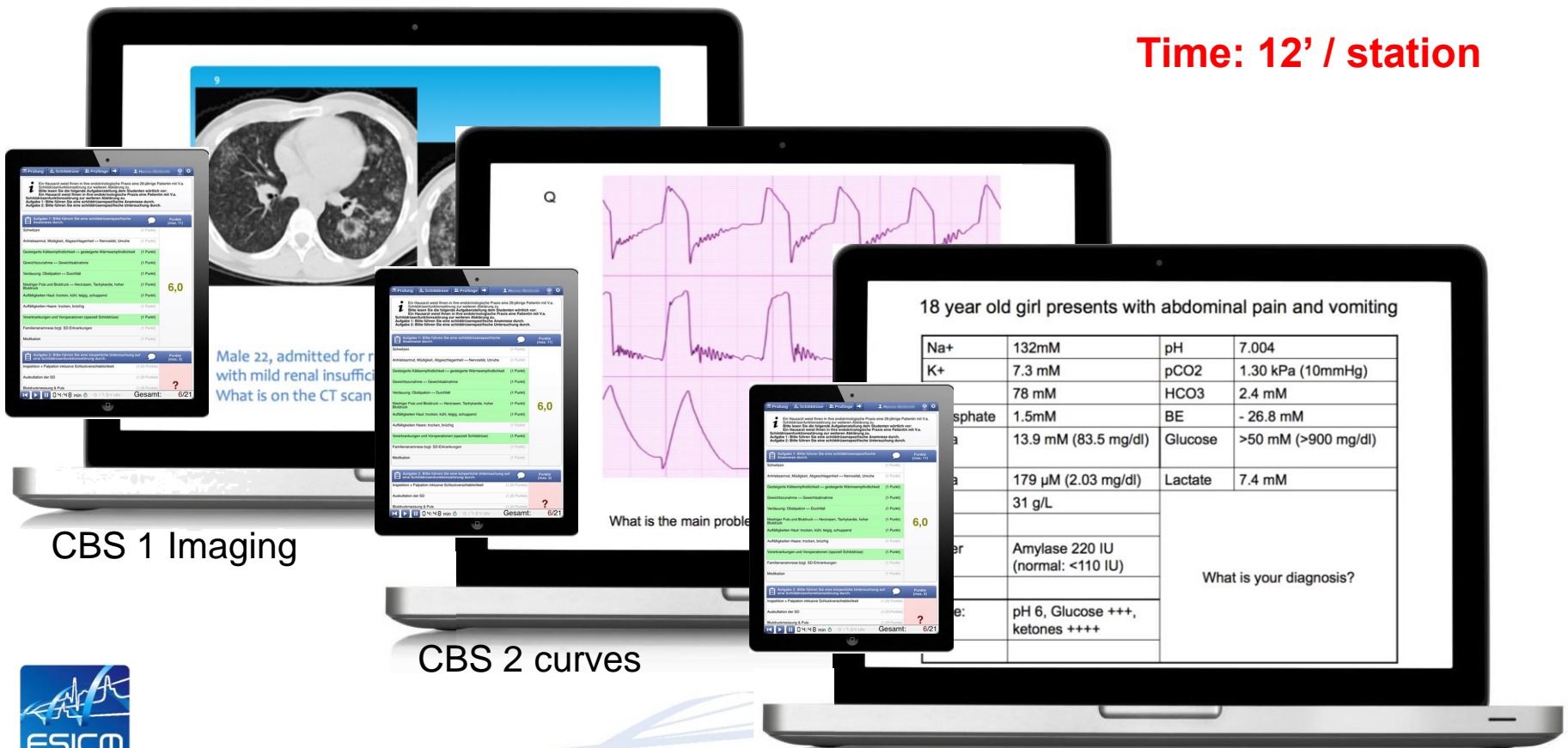
◆ Examinee

- Summarize the case upfront (1 min.)
- Answer questions, focus on question content, come to the point
- At the end the examinee **can't** go back on missed questions

Computer Based Scenarios

- ◆ **Three OSCE stations** each one with a power point presentation including either images, curves or biochemical scenarios and an iPad for recording

Time: 12' / station



CBS 1 Imaging

CBS 2 curves

CBS 3 biochemistry



The electronic answer sheet (iPad)

◆ Strengths

- User friendly layout
- QR-code scanning for fast and easy identification of students and OSCE stations
- Easy overview of candidate performance and exam result
- Reduction of errors rate due to automatic export of the results
- Harness the full potential of an app by integrating it with a central data management system



Closing the loop within the the Exam Process

Items Management System (IMS)

Creation of items and exams

Item Pool

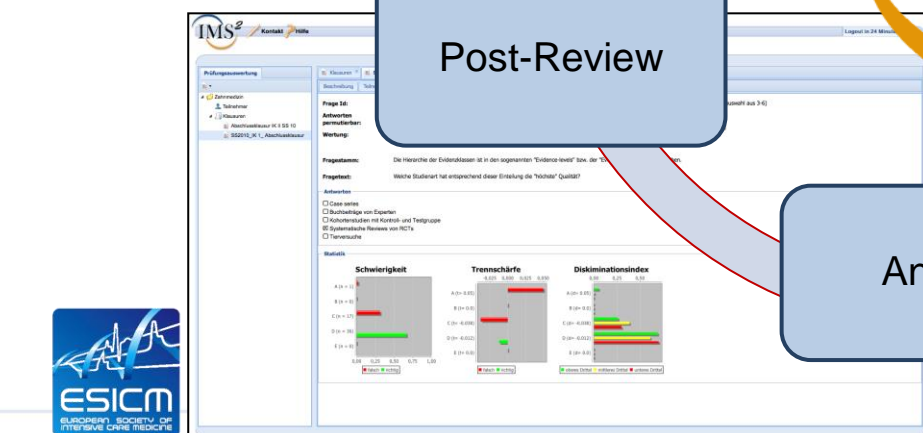
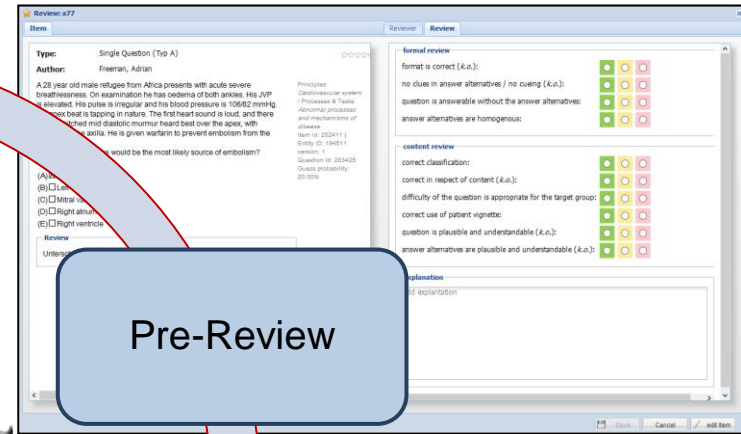
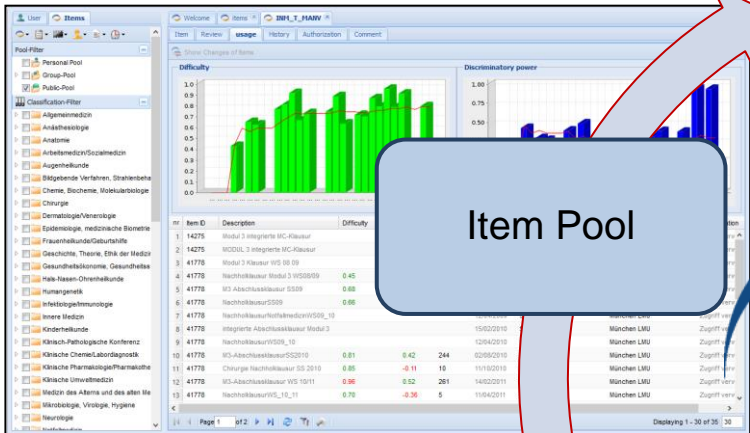
Pre-Review

Exam delivery

Analysis

Post-Review

IMS

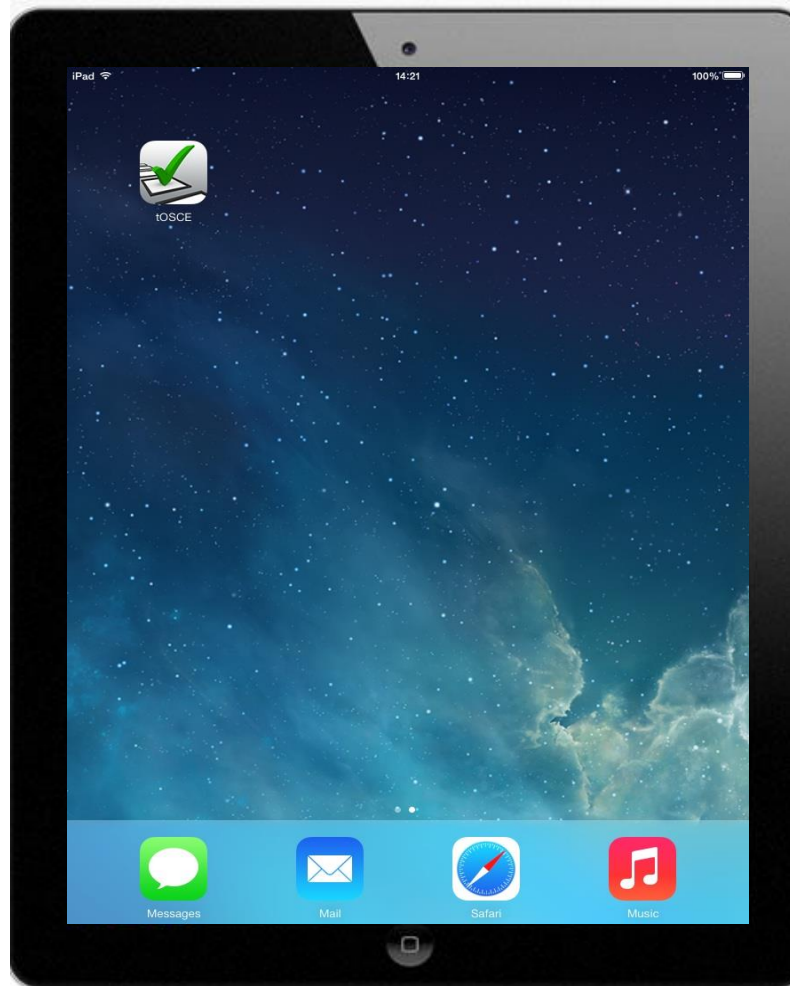


EDIC part 2: the electronic answer sheet

- ◆ Allows a high quality and standardized exam using a web based fully integrated data management system
- ◆ Grants high process safety decreasing the likely hood for errors and hence regress opportunity for candidates
- ◆ Helps to lower process costs → low exam fee



Using iPad App (tOSCE)



◆ tOSCE app:



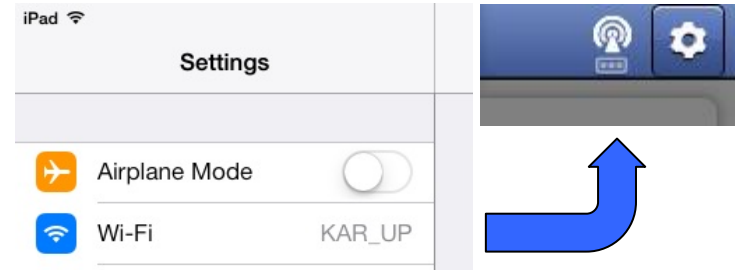
- Tablet-based Objective Structured Clinical Examination

Import an Exam missing the Examinees

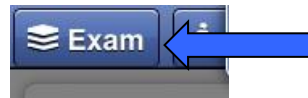
Start the app



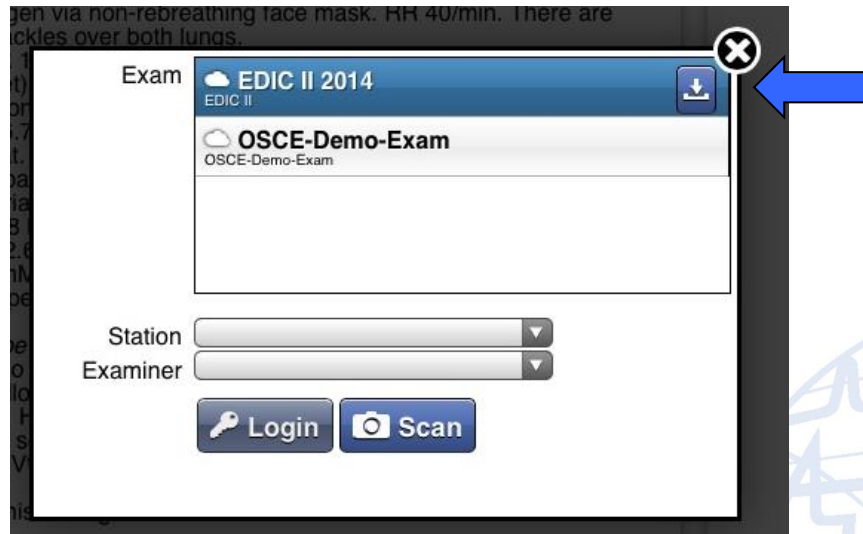
Make sure you are connected to the Internet



Go to "Exam,"



Click on the exam "EDIC II 20...." to download it



Select the exam station and the examiner

Click on the station bar

The screenshot shows the ESICM exam software interface. At the top, there are tabs for 'Exam', 'CCS 2 - Sep...', and 'Examinees'. A 'Stations' menu is open, listing various exam stations: 'Scan examiner', 'CBS 2 - Curves', 'CCS1 - GBS', 'CBS 1 - Imaging', 'CCS 2 - Sepsis', 'CCS 3 - Aortic Dissection', and 'CBS 3 - Biochemistry'. A blue arrow points to the 'Scan examiner' option. Below the menu, a notification bar displays 'New examiner: Tero ALA-KOKKO'. A pink callout box points to this notification with the text 'Name of the interviewer pops up for a few seconds'. At the bottom, a camera icon is visible, and a text overlay says 'Please choose an examinee'.



- Double click on scan examiner
- **Scan Interviewer's QR-code**

Please choose an examinee

- **Repeat this each time the interviewer change**

Select the correct examinee

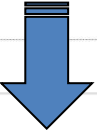
Scan QR code of examinee


 

The Intensive Connection




Group G1 – Candidate Nr 5



Oscier Chris


 **Check!**



OSCIER,
Chris
(ZRH25665)

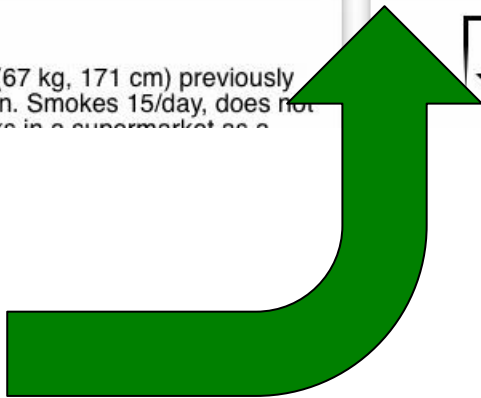
 Exam  CCS-1 Sepsis  Examinees

OSCIER, Chris  



VOIGT,
Ingo
(PRG25698)

an, (67 kg, 171 cm) previously
children. Smokes 15/day, does not
works in a supermarket as a



Check!

Selectection of the correct answer

Click on the correct answer/s if given

 **Task 1: 19 y.o. with TBI**
What is the diagnosis? How do you manage this patient?

Cerebral salt-wasting syndrome

Replace NaCl (anyhow: i.v.)

Fludrocortisone

 **Task 1: 19 y.o. with TBI**
What is the diagnosis? How do you manage this patient?

Cerebral salt-wasting syndrome

Replace NaCl (anyhow: i.v.)

Fludrocortisone

 **Task 1: 19 y.o. with TBI**
What is the diagnosis? How do you manage this patient?

Cerebral salt-wasting syndrome

Replace NaCl (anyhow: i.v., NG)

Fludrocortisone

To remove or correct click on the correct answer/s again

 **Task 1: 19 y.o. with TBI**
What is the diagnosis? How do you manage this patient?

Cerebral salt-wasting syndrome

Replace NaCl (anyhow: i.v., NG)

Fludrocortisone



This warning sign indicates that there are no information for this examinee on how he/she performed in this task.

 **Task 1: 19 y.o. with TBI**
What is the diagnosis? How do you manage this patient?

Cerebral salt-wasting syndrome

Replace NaCl (anyhow: i.v., NG)

Fludrocortisone

The examiner cannot finish the exam if there is a warning sign on minimum one task!



During the Examination: warning signs



Task 1: 19 y.o. with TBI
What is the diagnosis? How do you manage this patient?

Cerebral salt-wasting syndrome

Replace NaCl (anyhow: i.v., NG)

Fludrocortisone



In the case, that the examinee has given no answer select and then deselect an answer

Task 1: 19 y.o. with TBI
What is the diagnosis? How do you manage this patient?

Cerebral salt-wasting syndrome

Replace NaCl (anyhow: i.v., NG)


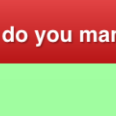
Fludrocortisone

Task 1: 19 y.o. with TBI
What is the diagnosis? How do you manage this patient?

Cerebral salt-wasting syndrome

Replace NaCl (anyhow: i.v., NG)

Fludrocortisone



Click **twice** on an answer!

Once to activate and once to remove → this will remove the warning sign



Click on the bubble!

Task 1: 19 y.o. with TBI
What is the diagnosis? How do you manage this patient?


Cerebral salt-wasting syndrome

Replace NaCl (anyhow: i.v., NG)

Fludrocortisone

Text Sketch Save comment

Write „zero“ and
→ save comment



Exam screen shot

The screenshot shows the exam interface. At the top, there are navigation icons and the text 'Exam', 'CBS 1_ Imag...', 'Examinees', and 'Abdulaziz, AL ALAWI'. Below this is a rating task: 'Task 19: How would you rate this candidate?'. The rating options are 'Very poor', 'Good pass', 'Borderline', and 'Failure'. A red button at the bottom of the rating task says 'Close and get next examinee'. Below the rating task is a timer showing '10:30 min' and a 'zZz' icon. To the right, there is a list of examinees with their names and task details. A green arrow points from the 'Close and get next examinee' button to the text 'After you, push the button at twice!'. Another green arrow points from the text to the right side of the interface.

Very poor

Task 19: How would you rate this candidate?

Good pass

Borderline

Failure

Close and get next examinee

10:30 min

zZz

Task 1: Picture 1: Plain film abdomen
Diaphragm: main roof: clear (healing or healed)
Diaphragm of concern: bowel subcutis
Immediate: hepatomegaly
Hemidiaphragm elevation

Task 2: Picture 2: CXR (Chest) - Fluoro
Left lower lobe consolidation
Chest: focal consolidation (not large) and possibility of left lower lobe volume loss
Bilateral hilar enlargement (pericardial and possible hepatomegaly) (small) (small)

Task 3: Picture 3: CXR (Chest) - Multisystem Fluoro
CXR: focal consolidation (not large) and possibility of left lower lobe volume loss
CXR: focal consolidation (not large) and possibility of left lower lobe volume loss
Bilateral hilar enlargement (pericardial and possible hepatomegaly) (small) (small)

Task 4: Picture 4: CT Abdomen
Liver: moderate hepatomegaly
Focal: wedge-shaped consolidation (not large) and possibility of left lower lobe volume loss
Consider: hepatomegaly (not large) and possibility of left lower lobe volume loss

Task 5: Picture 5: CT Abdomen
Liver: moderate hepatomegaly
Focal: wedge-shaped consolidation (not large) and possibility of left lower lobe volume loss
Consider: hepatomegaly (not large) and possibility of left lower lobe volume loss

Task 6: Picture 6: CXR (Chest) - Fluoro
CXR: focal consolidation (not large) and possibility of left lower lobe volume loss
CXR: focal consolidation (not large) and possibility of left lower lobe volume loss
Bilateral hilar enlargement (pericardial and possible hepatomegaly) (small) (small)

Task 7: Picture 7: CXR (Chest) - Fluoro
CXR: focal consolidation (not large) and possibility of left lower lobe volume loss
CXR: focal consolidation (not large) and possibility of left lower lobe volume loss
Bilateral hilar enlargement (pericardial and possible hepatomegaly) (small) (small)

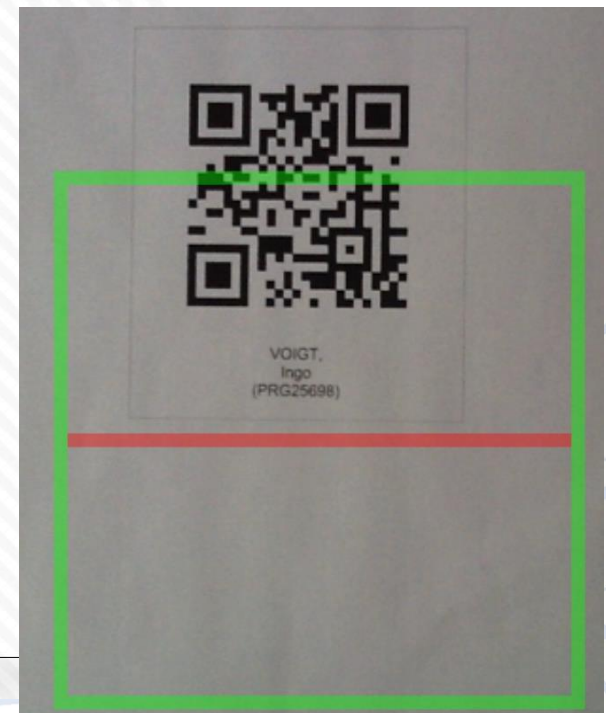
Task 8: Picture 8: CXR (Chest) - Fluoro
CXR: focal consolidation (not large) and possibility of left lower lobe volume loss
CXR: focal consolidation (not large) and possibility of left lower lobe volume loss
Bilateral hilar enlargement (pericardial and possible hepatomegaly) (small) (small)

Task 9: Picture 9: CXR (Chest) - Fluoro
CXR: focal consolidation (not large) and possibility of left lower lobe volume loss
CXR: focal consolidation (not large) and possibility of left lower lobe volume loss
Bilateral hilar enlargement (pericardial and possible hepatomegaly) (small) (small)

Task 10: Picture 10: CT Brain and image of Abdomen
Right: moderate hepatomegaly
Bilateral hilar enlargement (pericardial and possible hepatomegaly) (small) (small)

Close and get next examinee

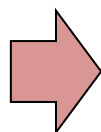
Thereafter, iPad activates automatically scan window. Choose the next examinee



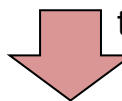
Transmission of the data to the tOSCE server

- ◆ While the iPad is connected to the internet connection data are continuously transmitted to the exam server located in Heidelberg

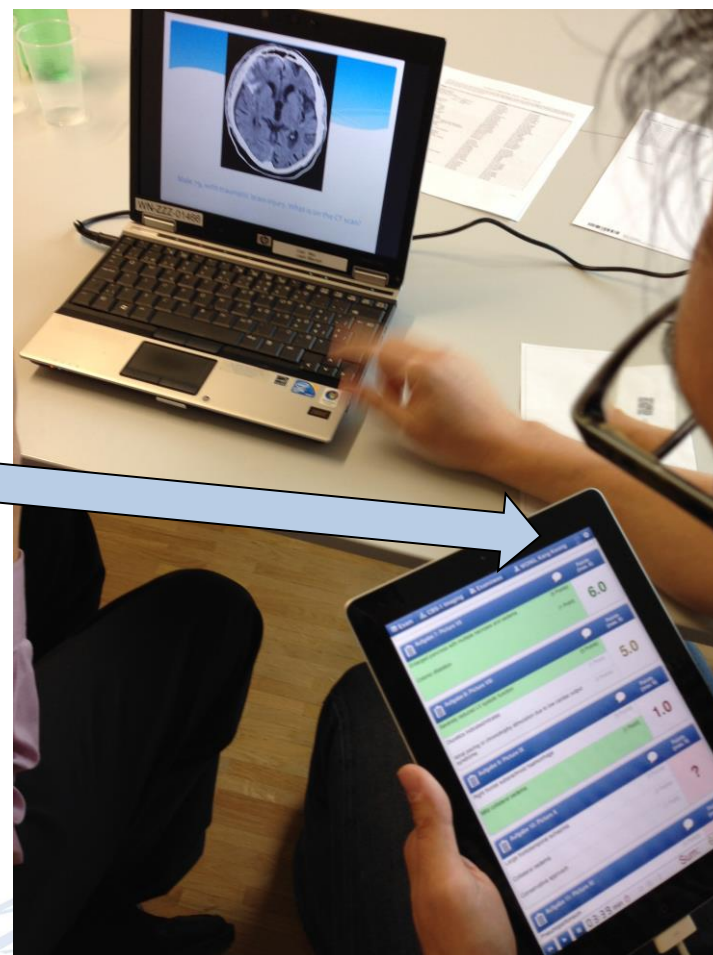
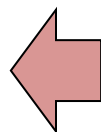
Number of packages to be transmitted



transmission



All packages have been transmitted



Transmission of back up screen shots to the tOSCE server

- ◆ Back up screenshots are manually transmitted to the server at the end of the exam

Next button:

RFID device name:

Scan mode:

Countdown times:

Host:



Exam CBS 1_ Imag... Examinees Abdulaziz, AL ALAWI

Question list:

- Task 1: Picture 1: Plain Film Abdomen
- Task 2: Picture 2: CDR Crystals Urine
- Task 3: Picture 3: CDR and CT Medullary Mass
- Task 4: Picture 4: CT Abdomen
- Task 5: Picture 5: CT Abdomen
- Task 6: Picture 6: Chest X-ray
- Task 7: Picture 7: CT Throat
- Task 8: Picture 8: CT of Chest
- Task 9: Picture 9: CT Brain and Image of Ringers

Progress bar: 23:39 min

Martin Anhorn @ Marcos iPad (2015-11-05 11:54:43)

Solving Problems

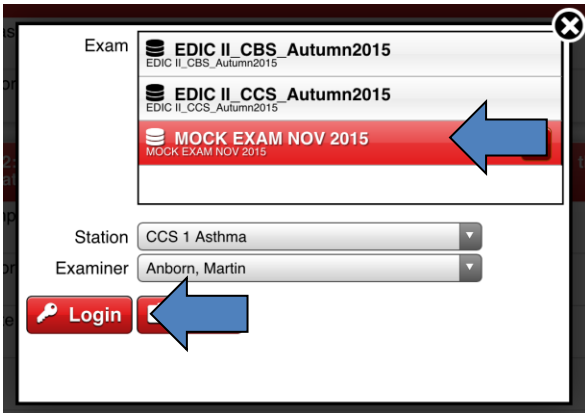
iPad without energy, totally unresponsive or any other problem which does not allow to use the iPad anymore:

In that case please use the reserve answer sheets.

Station no. 1: CBS 1_Imaging_Nov2015	
Checklist	
Please do not lose this checklist!	
Name of examiner	
Name of student	
Date	
Task 1: Picture 1: Plain Film Abdomen	
Dilated caecum main most relevant finding (or megacolon)	
Diagnosis of concern: bowel ischaemia	
Immediate laparotomy	
Needs CT abdomen	
Task 2: Picture 2: CXR Cystic Fibrosis	
Left lower lobe atelectasis	
Cystic bullae visible throughout left lung field and possibility of left lobe abscess	
Bronchoscopy and Lavage (sample and possible opening up lower	
Right lung infiltrate	
CT scan thorax	
(3 Points)	
Task 3: Picture 3: CXR and CT Mediastinal Mass	
Points (max. 14)	

EDIC II, Seite 1 von 6	
Reserve answersheet for: Nr. 61	
EDIC II	
1. <input type="checkbox"/> CAP	<input type="checkbox"/> Severe Sepsis
<input type="checkbox"/> Acute Respiratory Failure	
2. <input type="checkbox"/> Intubate	<input type="checkbox"/> Cultures and antibiotics
<input type="checkbox"/> Fluids	<input type="checkbox"/> Insert Central Venous Catheter
3. <input type="checkbox"/> Controversial in CAP (higher failure rate compared to COPD and pulmonary oedema)	<input type="checkbox"/> Indicated in immunocompromised patients
<input type="checkbox"/> Unlikely to succeed in shocked patients	
4. <input type="checkbox"/> Lactate dynamics	<input type="checkbox"/> Urinary output

Training with MOCK EXAM



Using this document you can test all your OSCE-app features with the exception of the QR-code to select the appropriate CCS or CBS or examinee

Stations

- Scan examiner
- CBS 3_Biochemistry_Nov2015
- CBS 1_Imaging_Nov2015
- CBS 2_Curves_Nov2015

Examinees

- Scan examinee
- Aage, CHRISTIANSEN
- Abdulaziz
- Abhishek, JHA
- Abrar, AHMAD
- Achim, EHRT
- Ahmad, ALSALAMEE
- Ahmed, ABDELSALAM
- Ahmed, AWAD

Double click

Double click

Scan MOCK examinee

Please choose

Task 1: Background

Task 2: Background

Task 3: 29 y.o. girl with PE

Task 4: Crohn's girl BMI 15

Task 1: 18 y.o. with TBI

Task 2: 32 y.o. vodka lady

Task 3: 29 y.o. girl with PE

Task 4: Crohn's girl BMI 15

EDIC part 2: An OSCE-exam using iPads



EDIC part 2
Zürich 2014

Thank you for your attention