# Experiences in the use of information technology in medical education in Turku

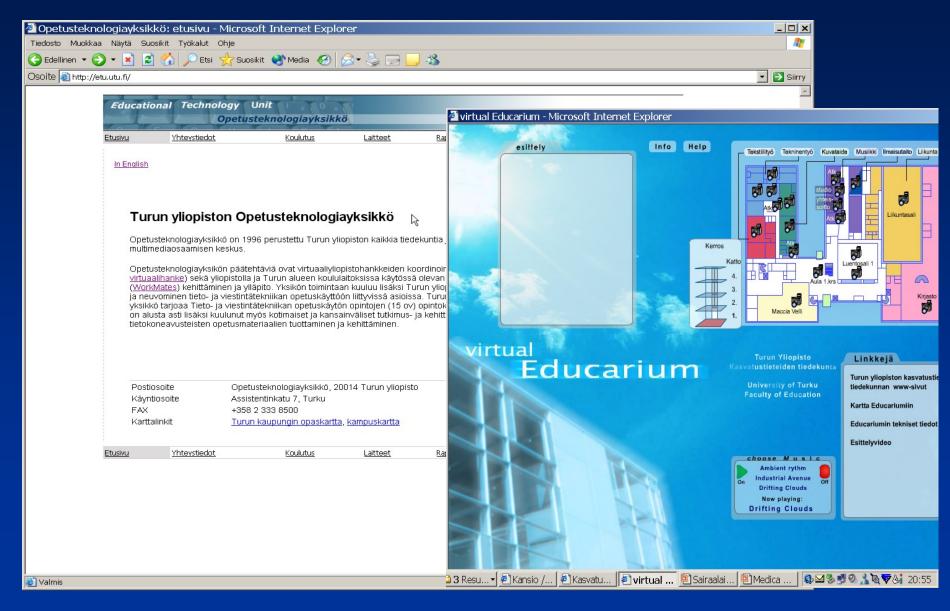
Professor Jussi Mertsola
Department of Pediatrics
Turku University

• Internet as a helping tool in basic education

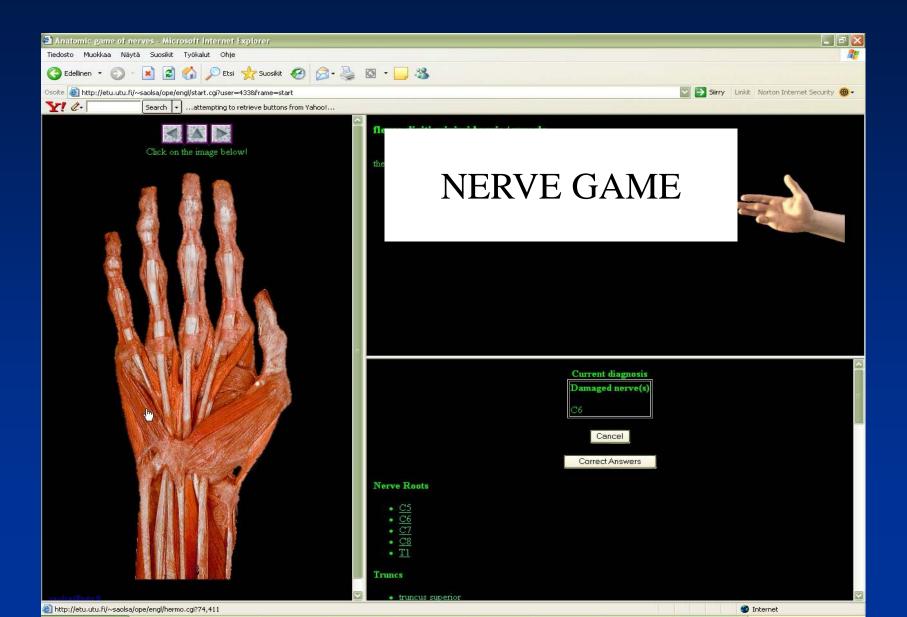
• Internet in training of medical specialists

 Internet in Continuos Professional Development

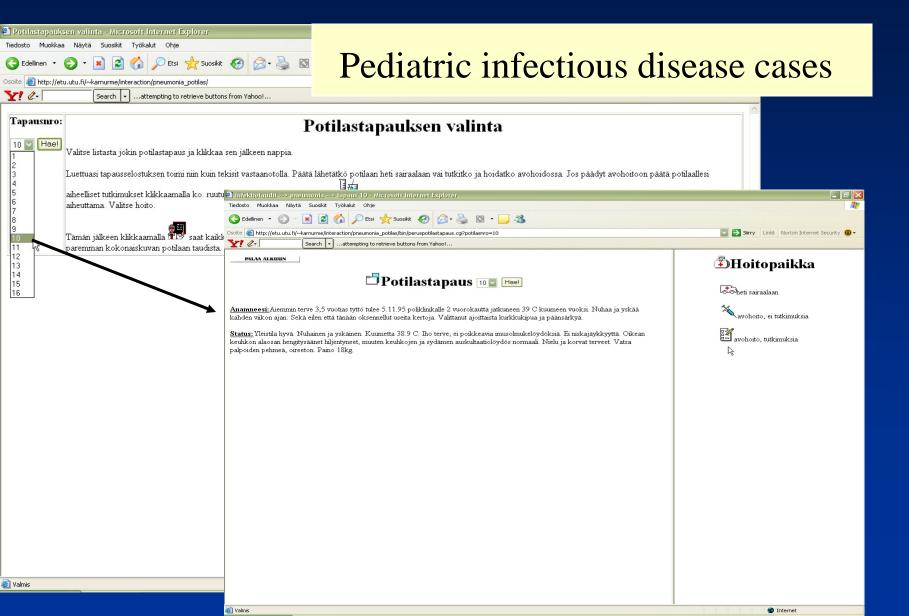
# Educational Technology Unit in Turku University (http://etu.utu.fi)

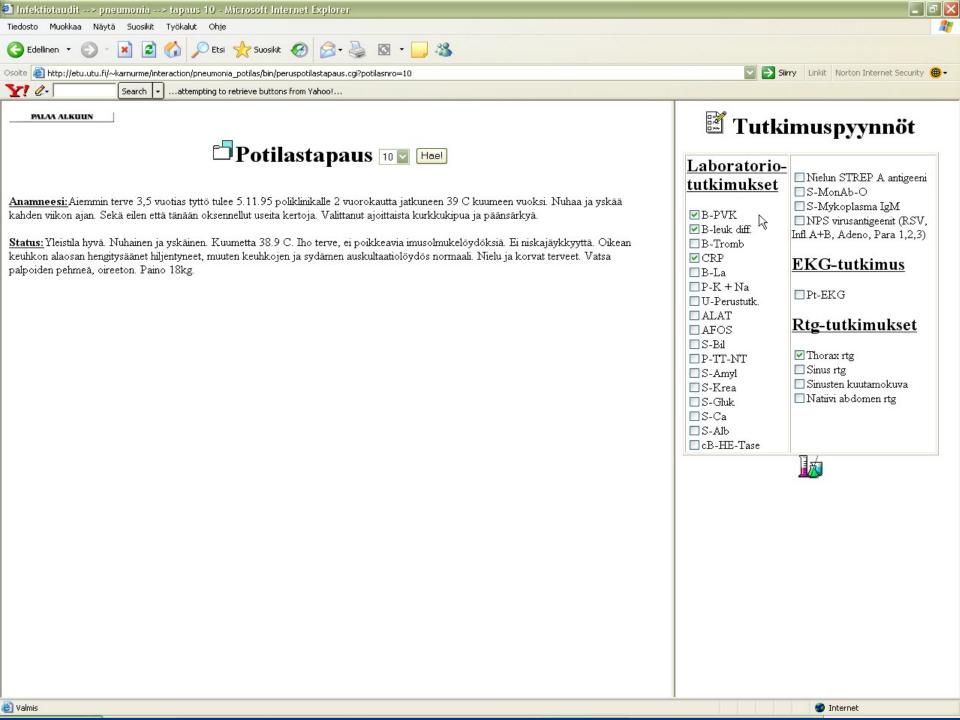


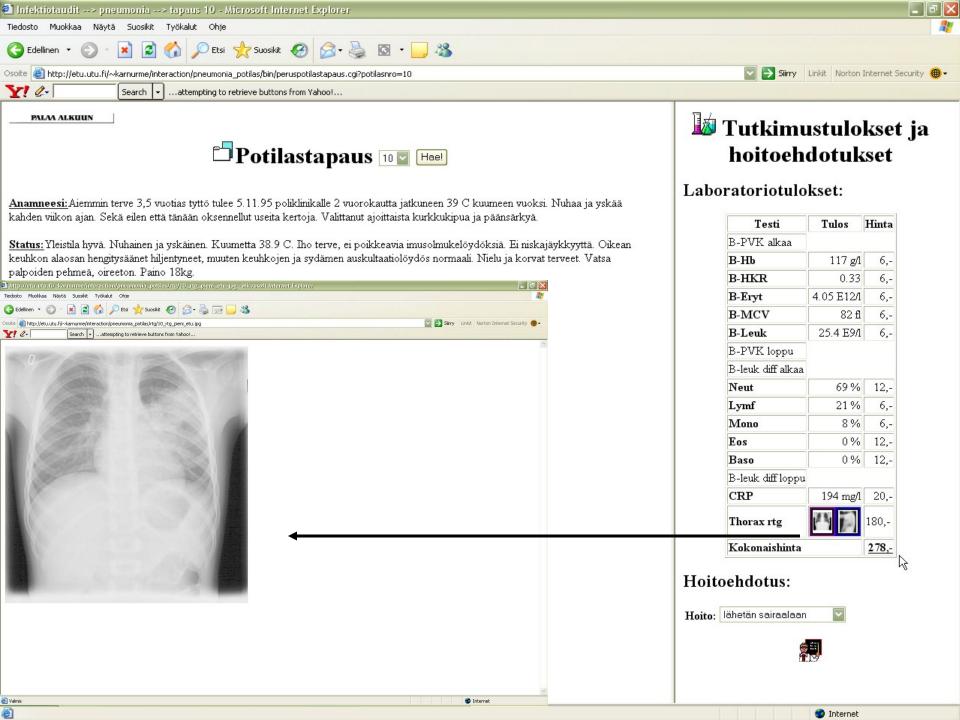
# Starting in late 1990s

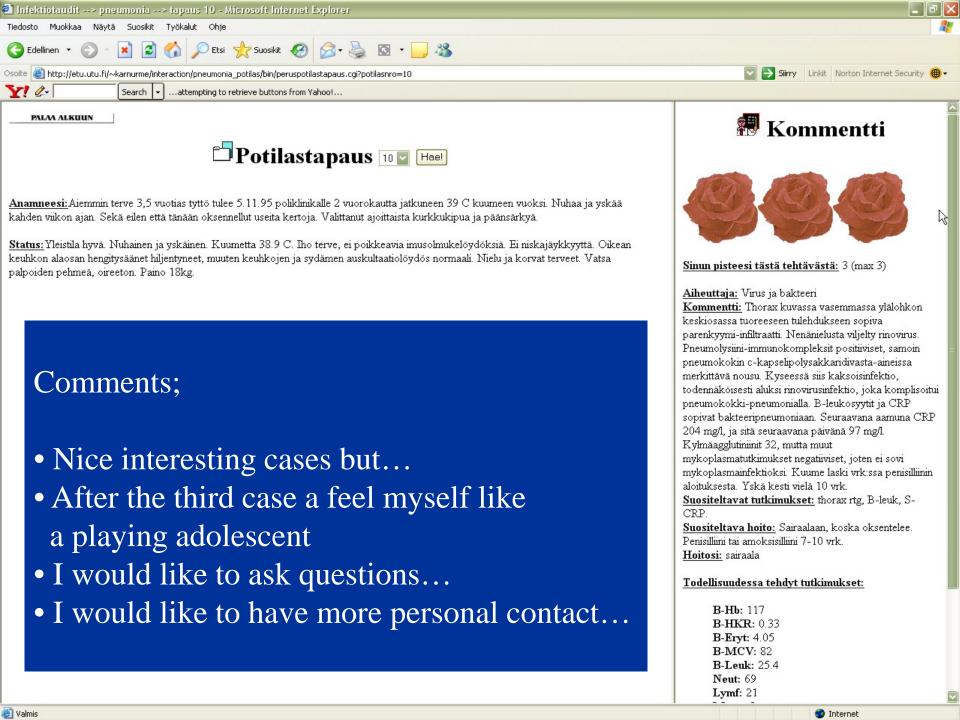


# Starting in late 1990s

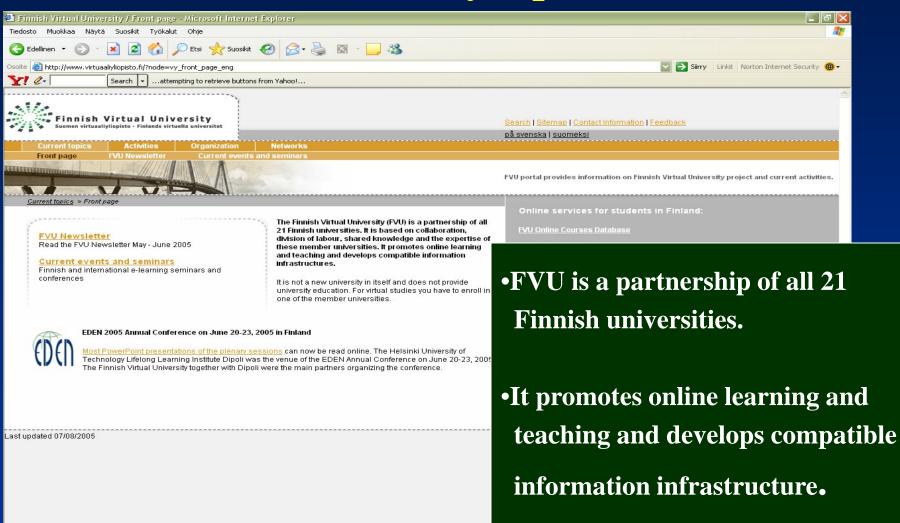








# The Finnish Virtual University (www.virtuaaliyliopisto.fi)



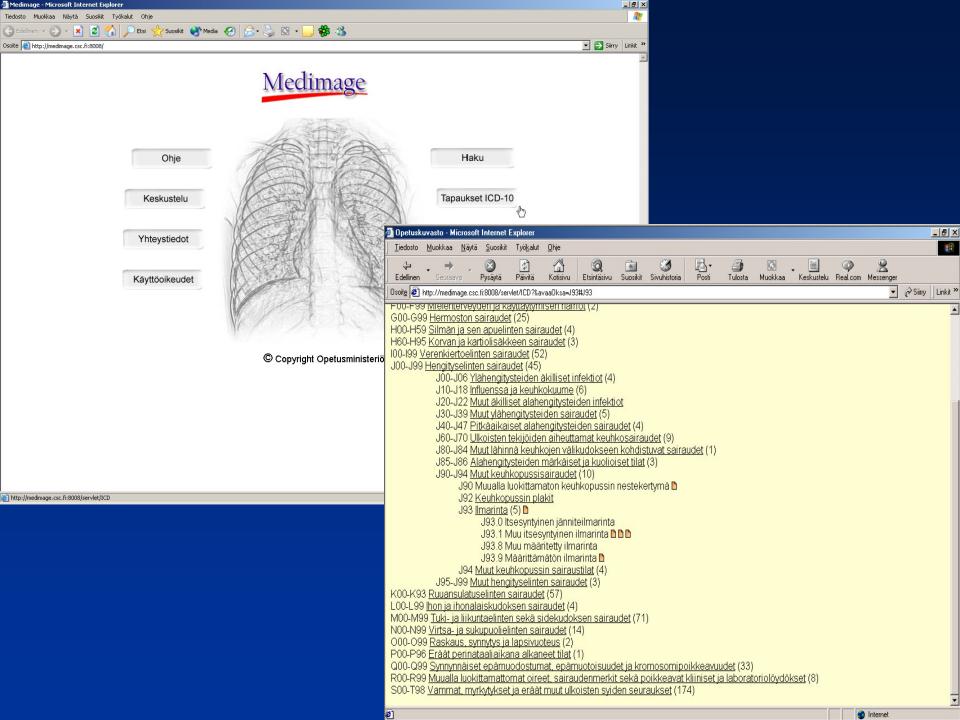
# MediNet 2004-6

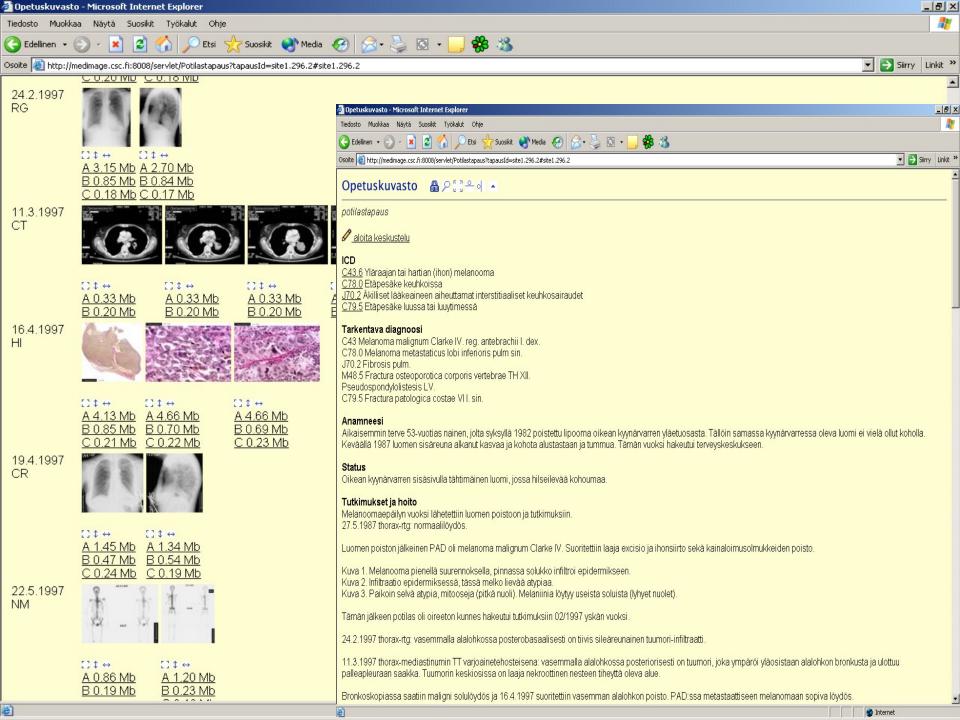
• Medimage Prof Martti Kormano

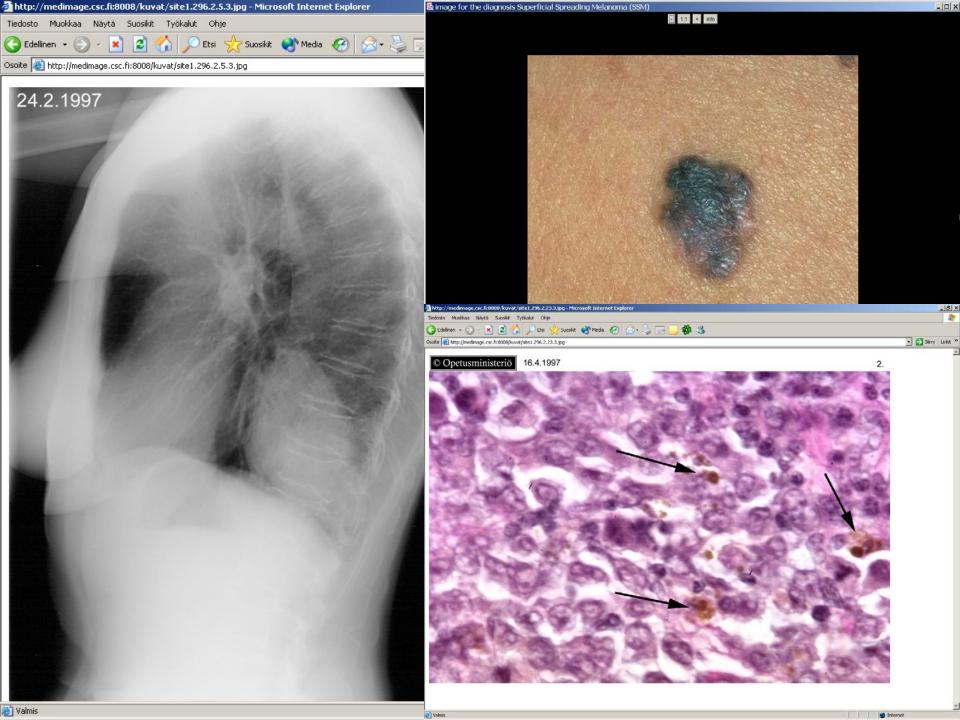
• Medica Prof Jussi Mertsola

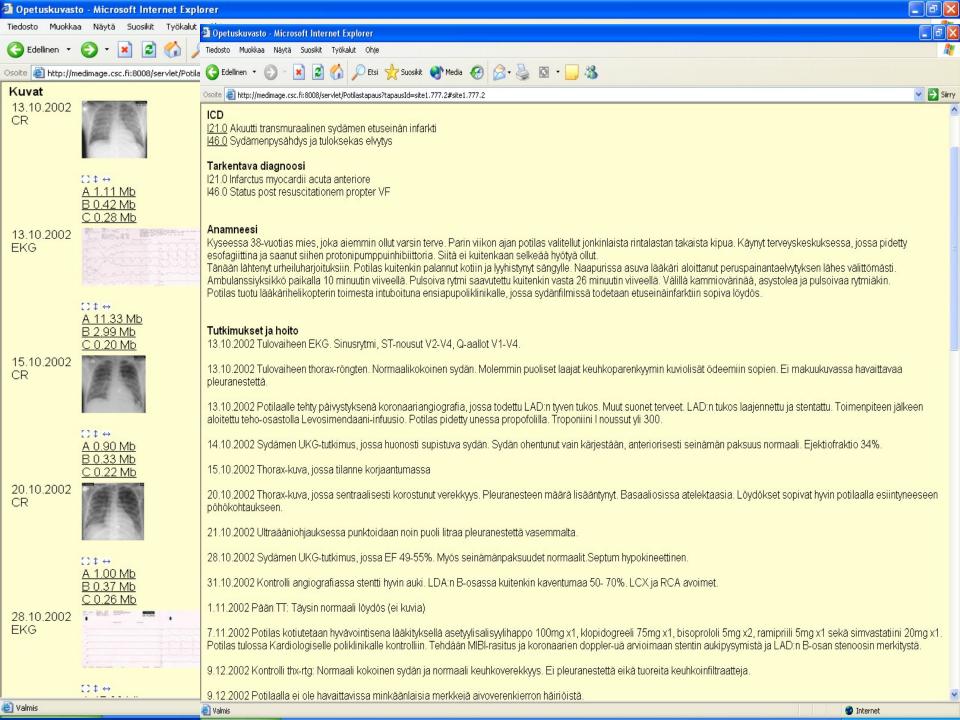
• IDUT

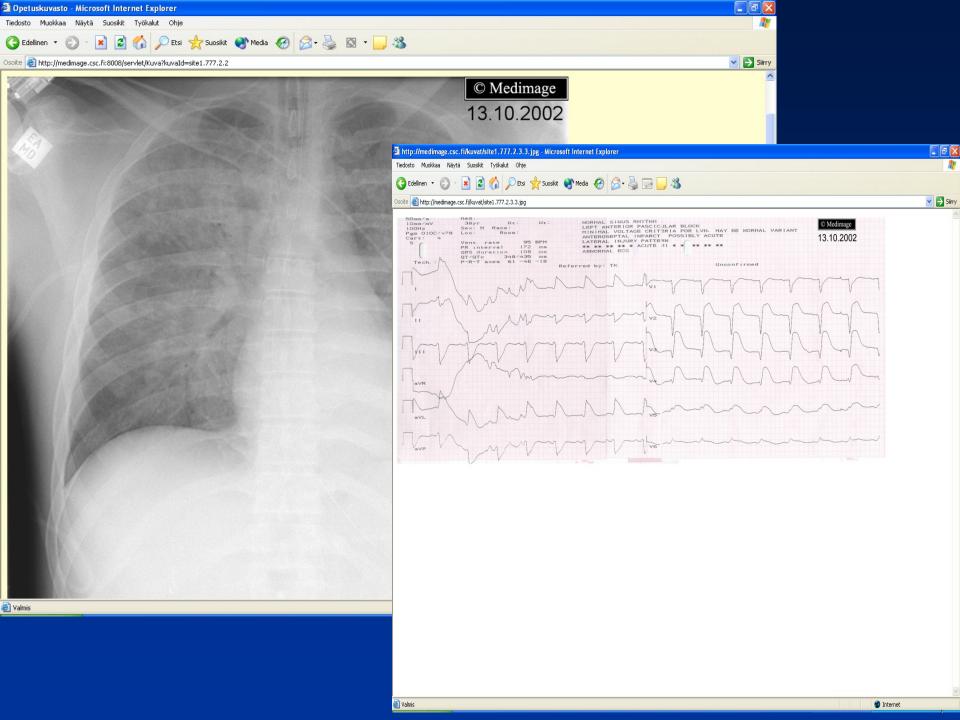
Prof Risto-Pekka Happonen











# WorkMates platform

#### One place for storage of all teaching material in the faculty

Very easy for the tutors and students to add new information (Word documents, Powerpoint presentations, videos) to the platform without a need for computer expertise.

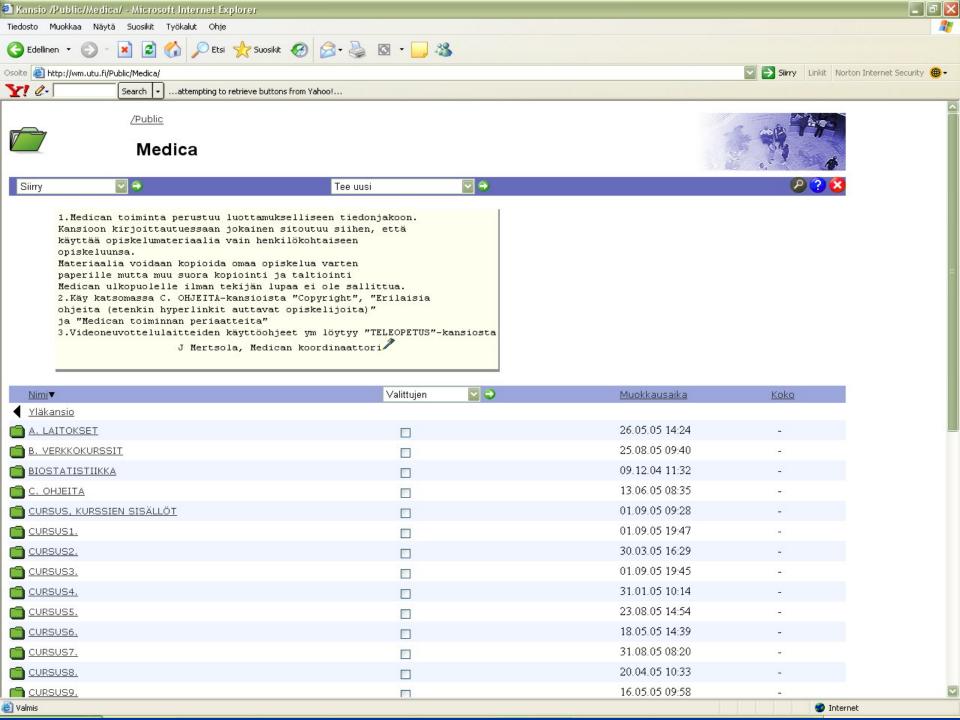
Organized in "folders".

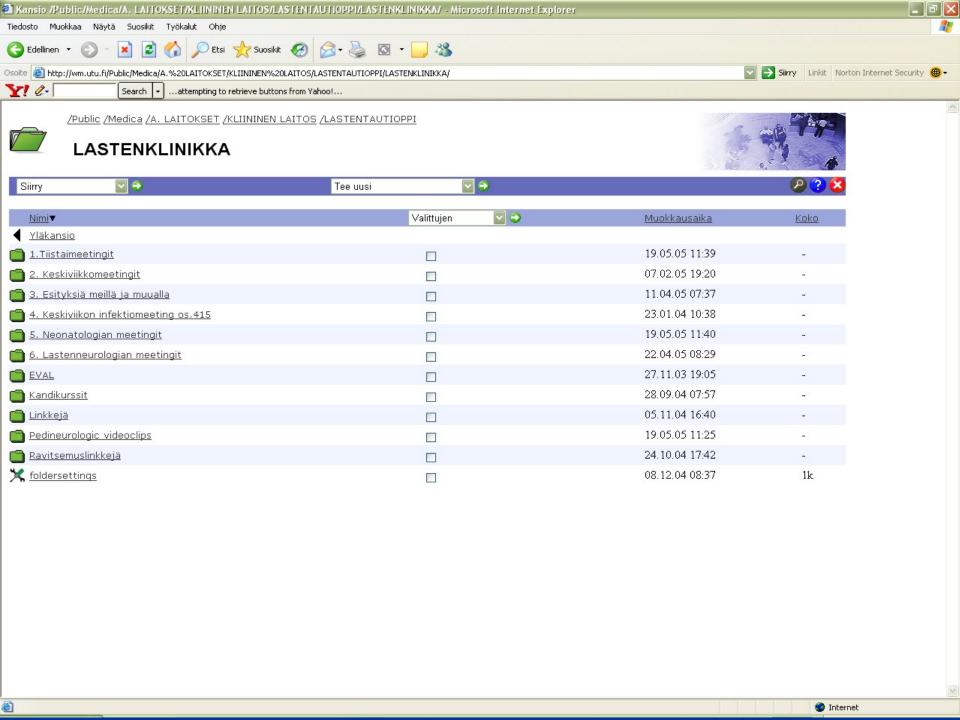
A new folder will be opened during each course.

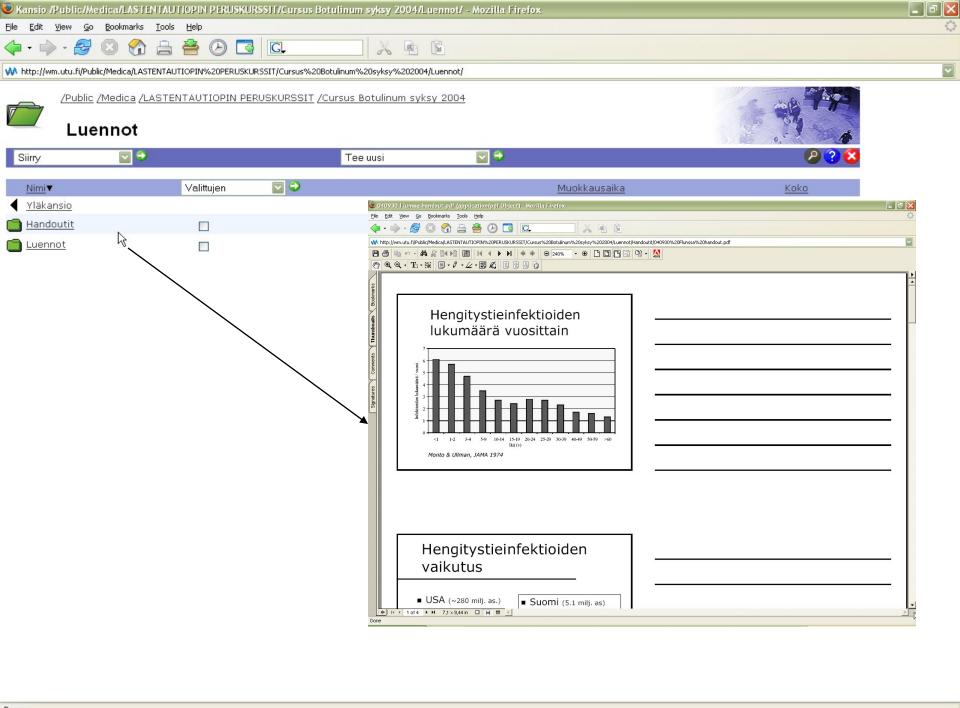
Same system through the whole curriculum.

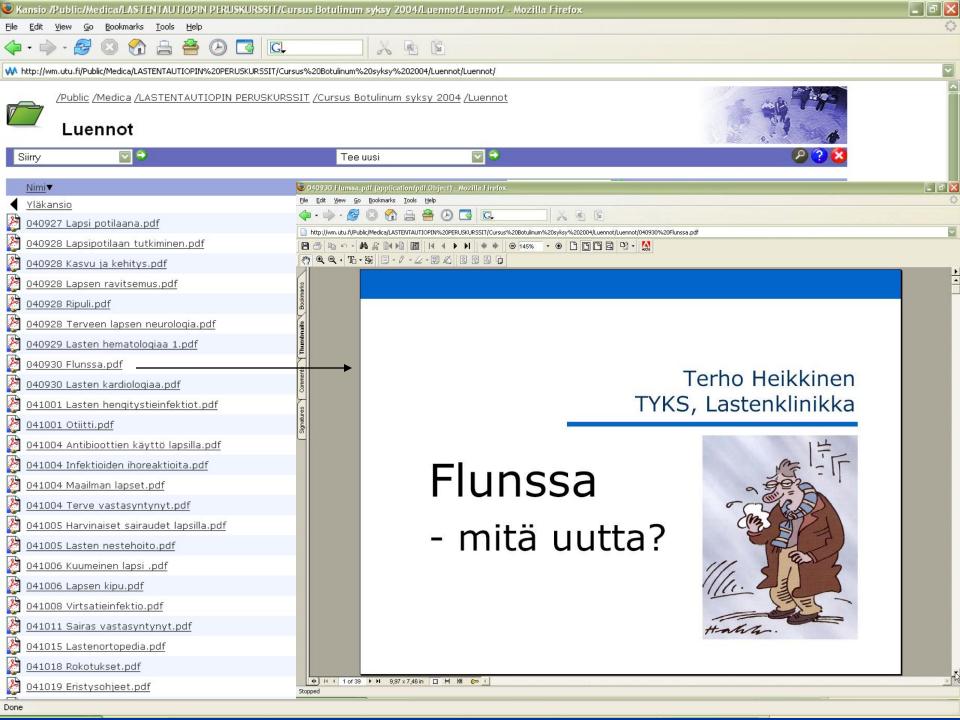
#### Computer Supported <u>Collaborative</u> Learning (CSCL).

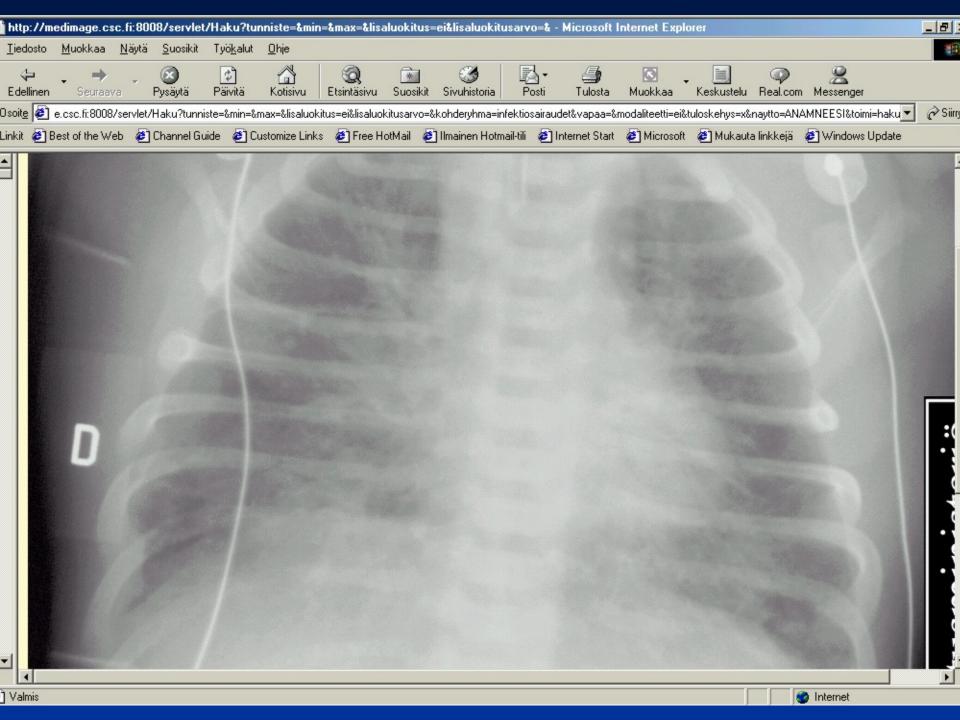
In this method the students are encouraged to collaboratively discuss, ask questions, generate their own intuitive theories and search for explanatory scientific information. This networked environment is providing a shared space for students and teachers to solve problems together and engage in joint building of knowledge. Thus a modified Problem Based Learning (PBL) methodology could be used.

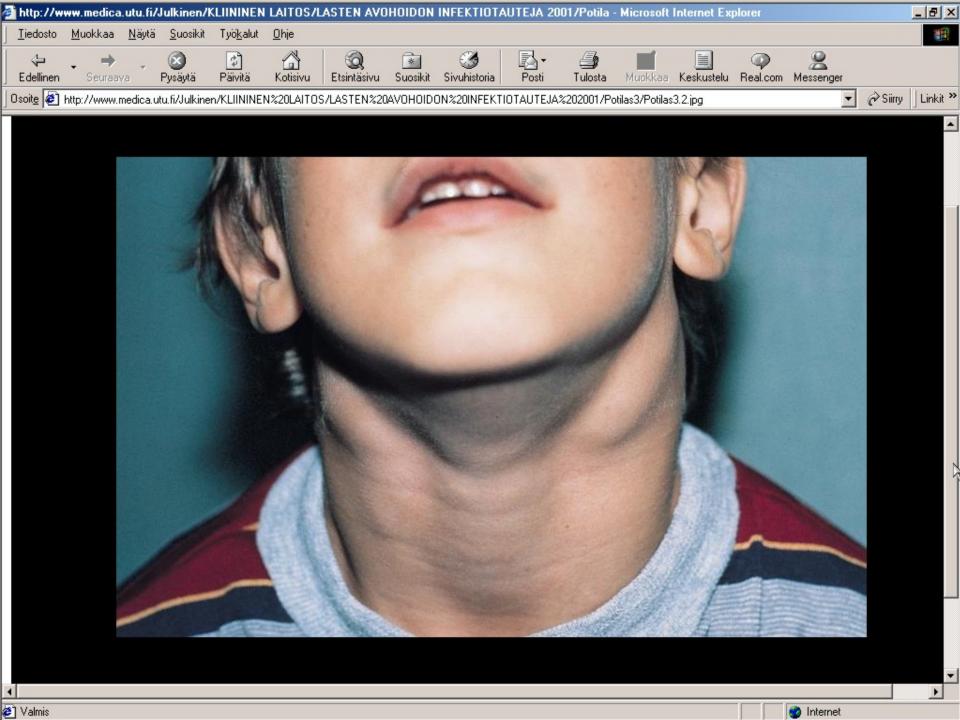


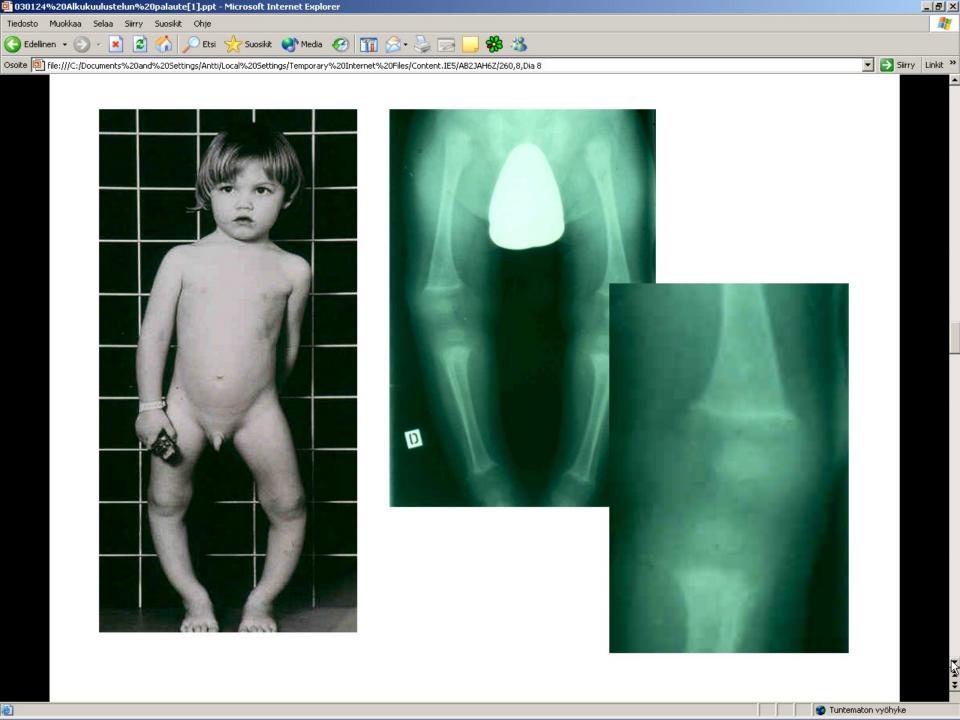


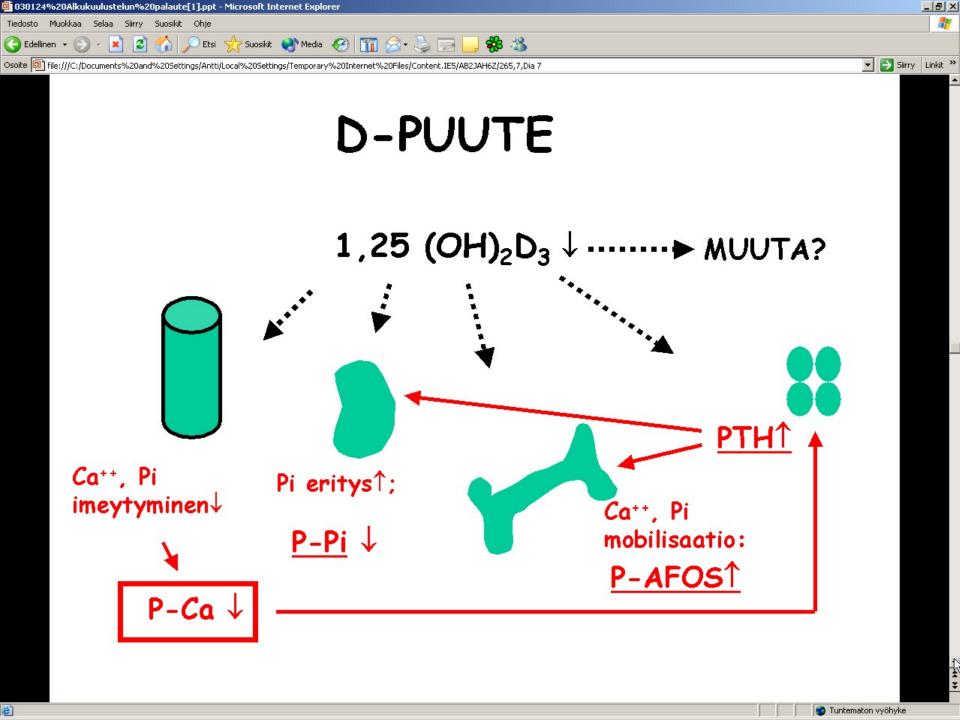








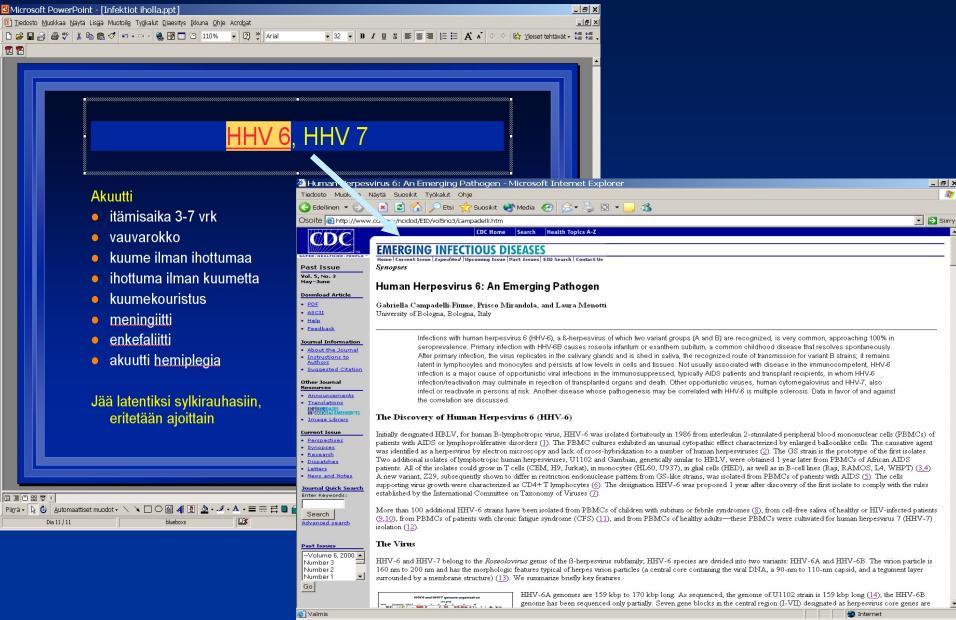


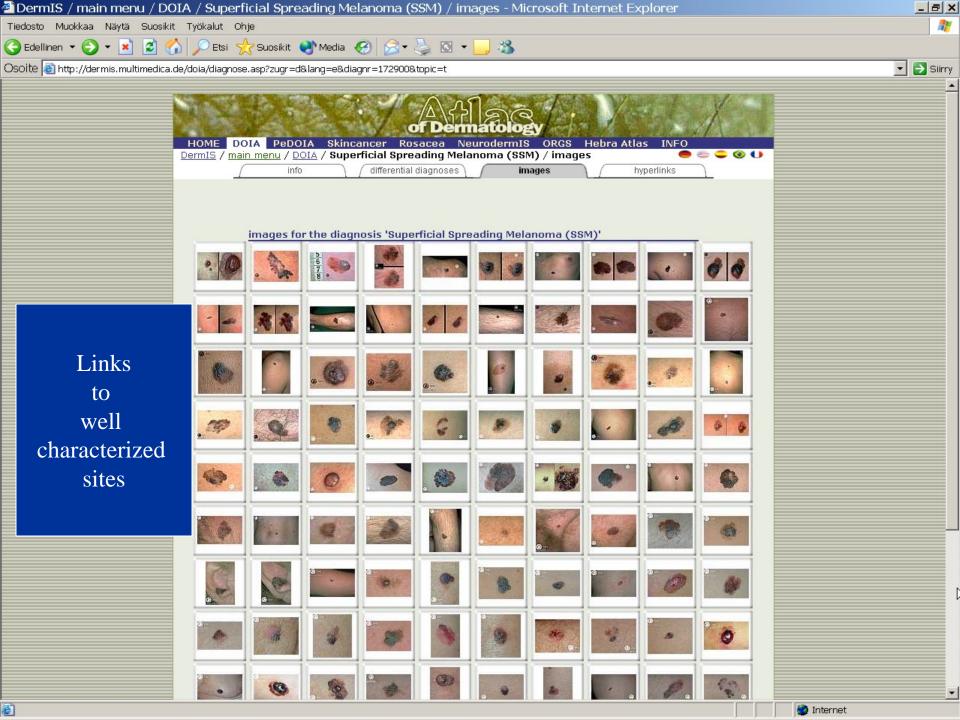


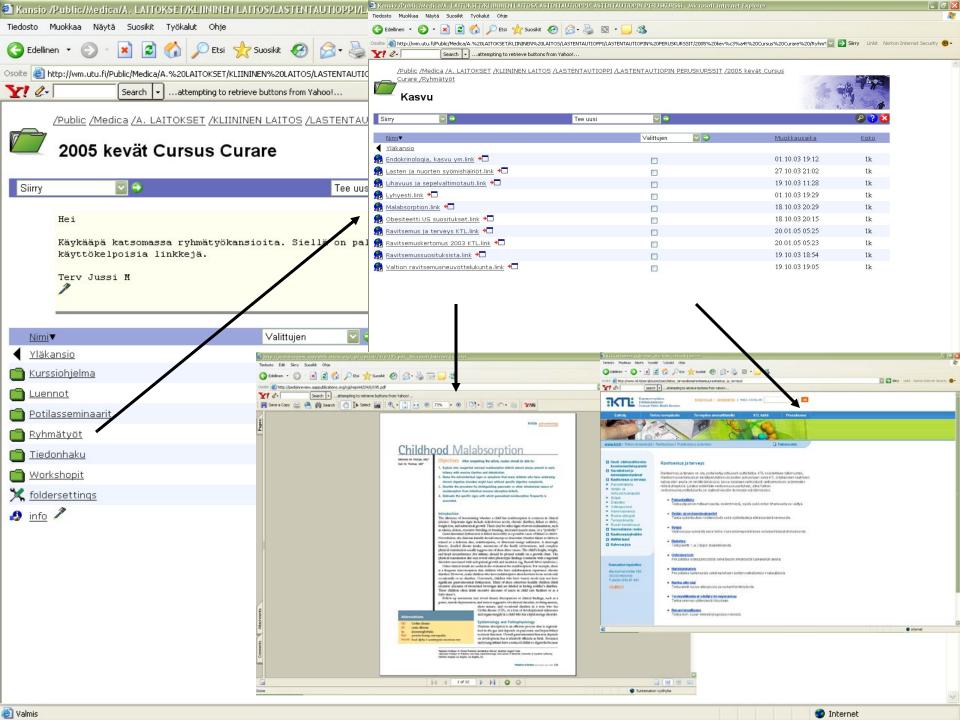


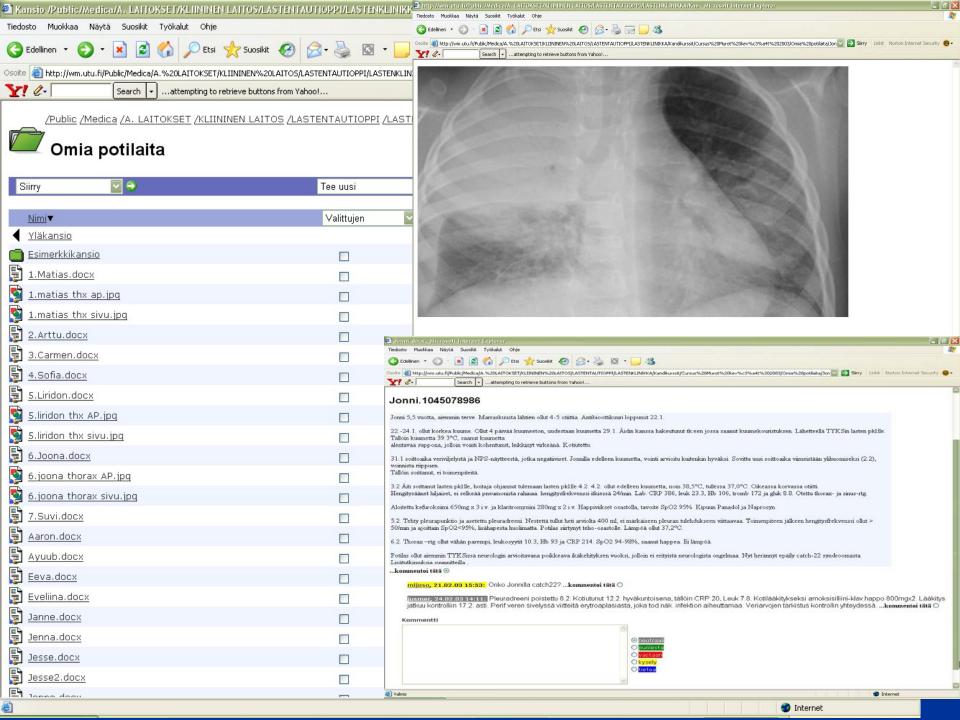


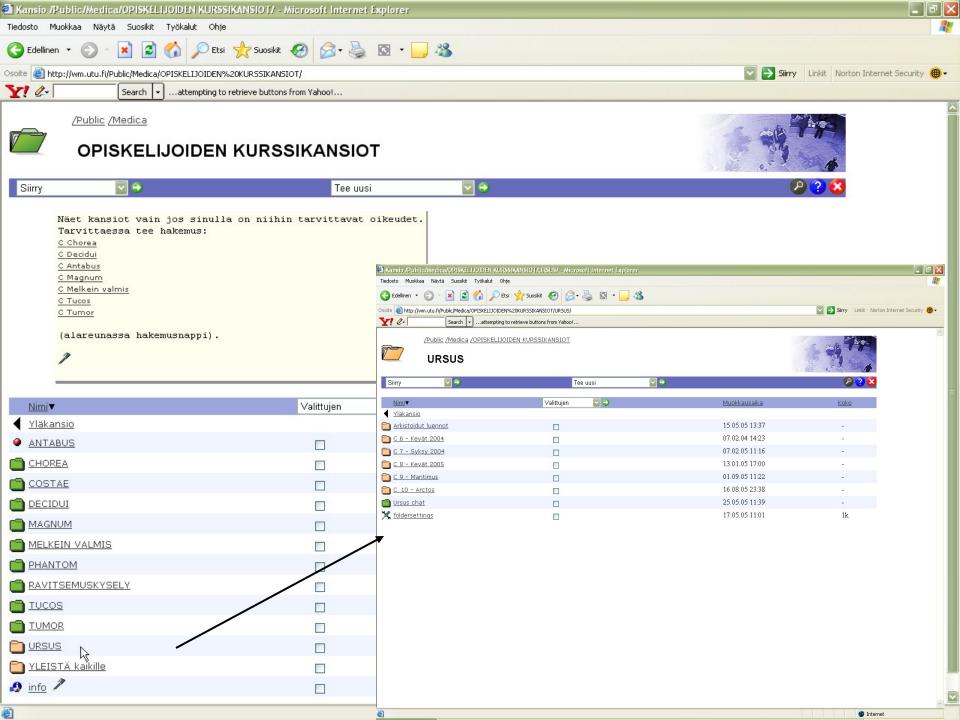
# Use of hyperlinks → direct connection to journals in electronic library of the university











# Medica

## Basic education

- Course information
- Lectures in Powerpoint, hand-outs, links to the electronic library
- Group work material
- Own cases
- Special internet courses, usually for 2-3 weeks

# Training of specialists

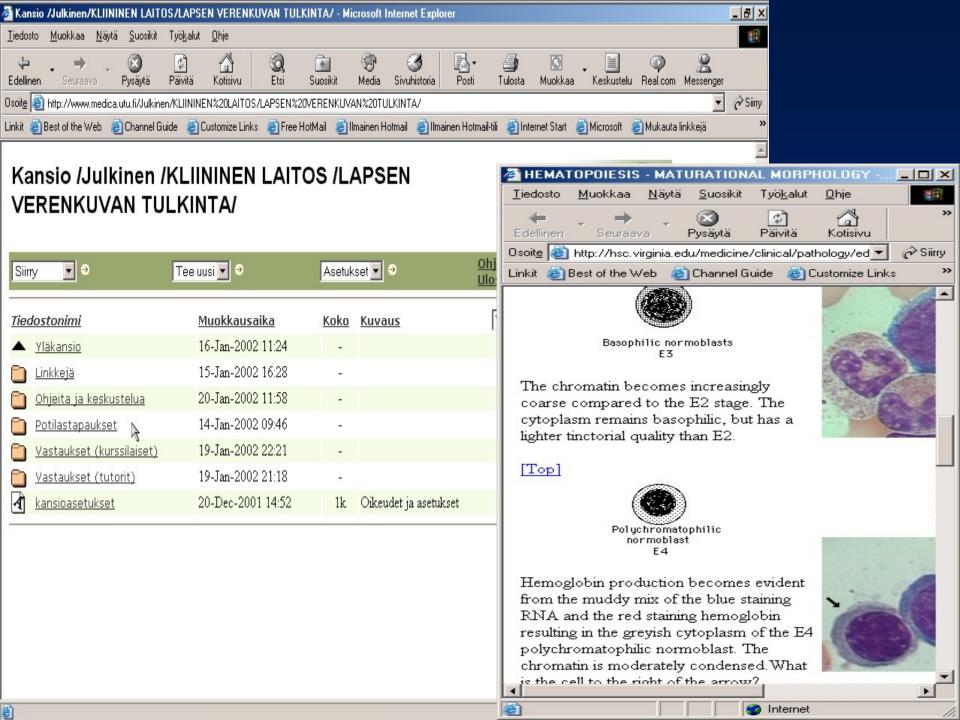
- Contact between university hospital and local hospitals
- National courses
- Usually for 2 weeks
- 20-30 students
- National Case Rounds

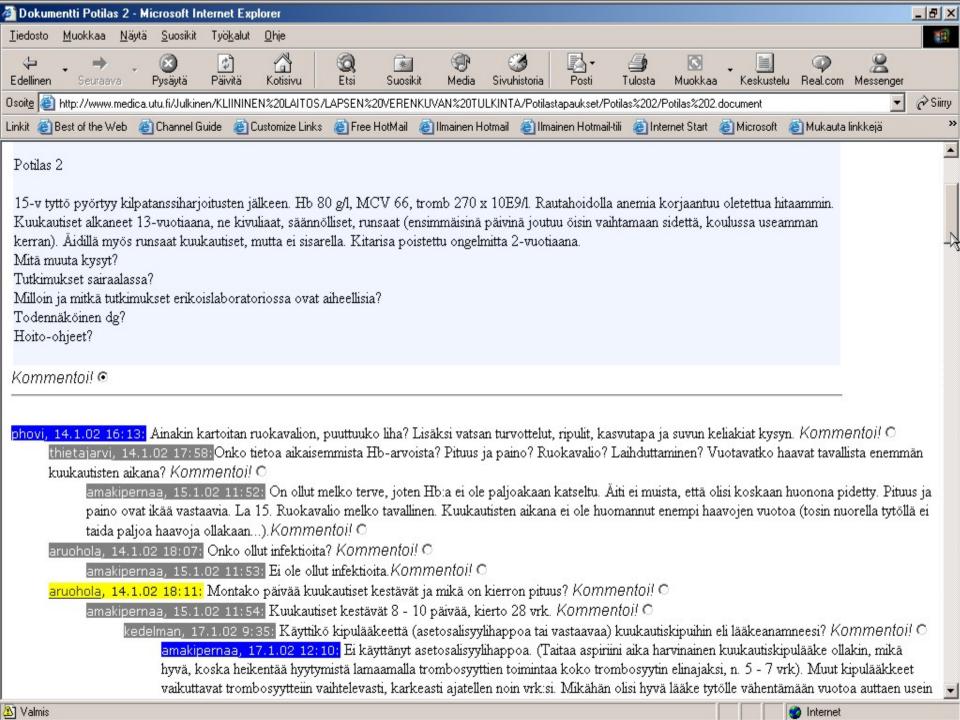
## Internet courses

### Computer Supported Collaborative Learning (CSCL)

#### Clinical cases

- Group work (discussion but not real time chatting) during the first week
- Students will give individual answers to own folders at the end of the week
- After that the tutor will give answers and comments
- No exams





## Internet courses

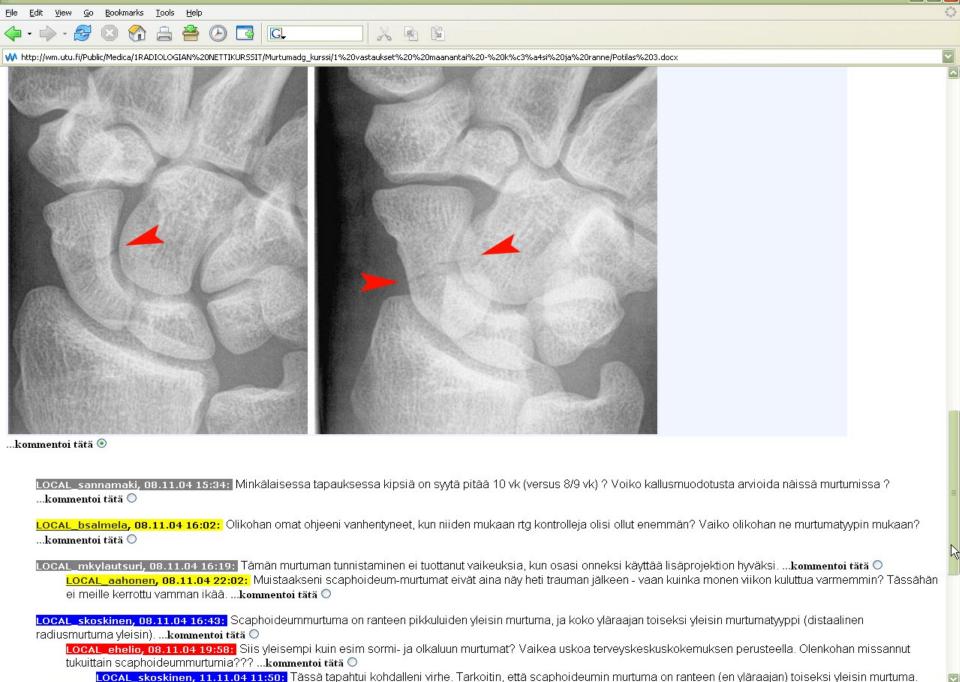
#### Computer Supported Collaborative Learning (CSCL)

#### Clinical cases

- Group work during the first week
- Individual answers to own folders at the end of the week
- Answers from the tutor

#### Radiological cases

- Individual answers during first week
- Group discussion during the second week



🕙 Potilas 3. docx - Mozilla Firefox

Done

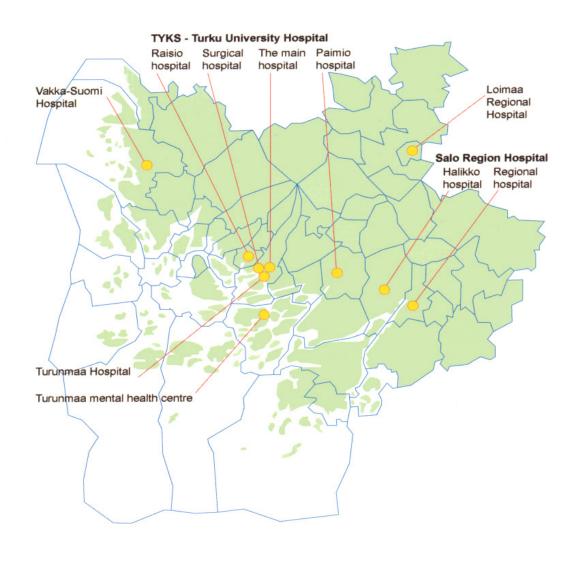
# Turku CPD Continuing professional development

- 1.To create a systematic continuous professional development program in southwestern Finland
- 2.Main focus on primary care

- 3. Close collaboration between the
- Faculty of Medicine
- Hospital district
- Finnish Medical Society Duodecim in Turku

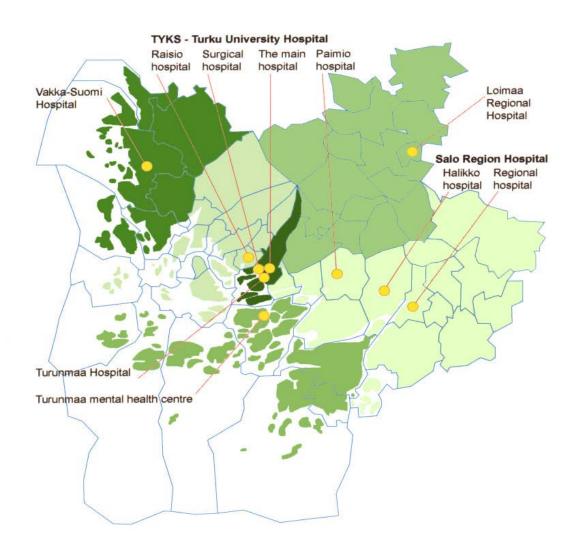
4.Use of information technology

#### Hospital District of Southwest Finland



- •Federation of 58 towns and municipalities
- •453.000 inhabitants
- •26 Health centres
- 1 University hospital
- 4 Regional hospitals
- •5400 employees
- •3300 nurses
- 670 doctors
- •TYKS
- 3870 employees
- 2370 nurses
  - 540 doctors
  - 100 in academic research

#### Hospital District of Southwest Finland



- Close connection between the hospital district and Turku University
- Modern technology
- Systematic continuos training

3000 students and teachers are using the system and in 2005 Turku CPD was started

## **MEDIMAGE**

hundreds of patient histories with Xrays and other material

## **MEDICA**

- •lectures
- •meetings, seminars
- •virtual courses

Turku CPD
Continuing Professional Development

## Tr@inforPedHIV

A new training model for Paediatric HIV initiative in Europe

#### In collaboration with:

- ESPID
- Paediatric European Network in Treatment of AIDS (PENTA)
- Department of Paediatrics
   University of Padova, Italy
- Medkeik srl, Padova, Italy
- Department of Paediatrics and Educational Technology Unit University of Turku, Finland

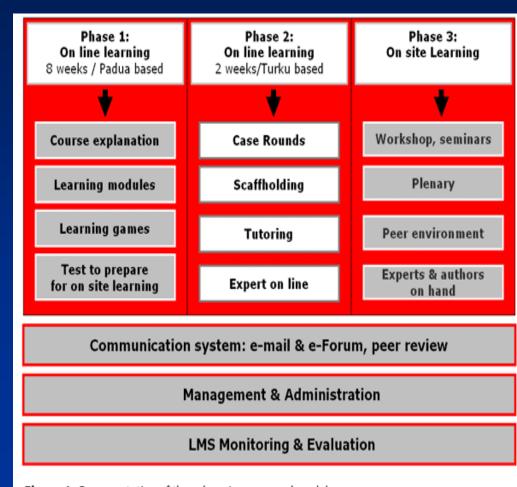


Figure 1: Representation of the e-learning proposed model

### Tr@inforPedHIV

#### A new training model for





#### Pediatric HIV initiative in Europe

#### PENTA - ESPID Course Tr@inforPedHIV 2008

Online course opens 6th May

Part 1 – 8 weekly online modules Part 2 - online interactive cases for discussion Residential Course: Roma 22<sup>nd</sup> -24<sup>th</sup> October

Online modules cover the following topics:

- Epidemiology, virology and immunology
- Mother to child transmission and prevention programmes
- Antiretrovirals: Principle of ART treatment and strategies, guidelines, toxicity and resistance
- Opportunistic infections, management and prevention (including Hepatitis & TB co-infection)
- HIV and nutrition
- Psychosocial aspects: including family issues, learning about HIV, adolescents with HIV

#### Registration fees:

Online & Residential Course: ESPID/CHIVA members: €650 NON ESPID/CHIVA members: €900

(Registration includes: individual password for online parts 1 & 2, participation in the 3 day symposium, final CME certificate.

Travel & accommodation not included)

Online Course, alone: €450

For further information please see: PENTA www.pentatrials.org or ESPID www.espid.org

Or contact: sandras@pediatria.unipd.it or Patricia.Hicks@imperial.nhs.uk



Delegates at the 2007 Tr@inforPedHIV course found it a very useful update and a practical approach to managing HIV in children.

The course is designed for paediatricians, specialist nurses and pharmacists working with children with HIV.



### Tr@inforPedHIV

### Roma 2011

A new training model for

Pediatric HIV initiative in Europe



#### PENTA - ESPID Course Tr@inforPedHIV 2011

Course Registration opens 1st March 2011, Online course opens 3rd May 2011

Online course 2 starts 12th September 2011

Part 1 - 11 weekly online modules Part 2 - online interactive cases for discussion

Residential Course: Roma 24th - 26th October 2011

Online modules cover the following topics:

- ·Epidemiology, virology and immunology
- Mother to child transmission and prevention programmes
- The Immunology of paediatric HIV, and malignancy in paediatric HIV
- Antiretrovirals: Principle of ART treatment and strategies guidelines, toxicity and resistance
- Opportunistic infections, management and prevention (Hepatitis and TB co-infection)
- Nutrition and HIV
- Psychosocial aspects
- Sexual health in adolescents with HIV, and Post exposure Prophylaxis
- · African-specific module

#### Registration fees:

Online & Residential Course: ESPID/CHIVA members: € 700

NON ESPID/CHIVA members: € 950

(Registration includes: individual password for online parts 1 and 2, participation in the three-day residential course (with meals), and a final CME certificate. Travel & accommodation not included.)

Online Course only: € 480

For further information please see: PENTA www.pentatrials.org or ESPID www.espid.org

Or contact: Sandra Settin sandras@pediatria.unipd.it or Christina Spencer-Drake csd@ctu.mrc.ac.uk



Delegates at the 2010 Tr@inforPedHIV course found it a very useful update and a practical approach to managing HIV in children. The course is for paediatricians, specialist nurses and pharmacists & others working with children with HIV.

The course is part of the

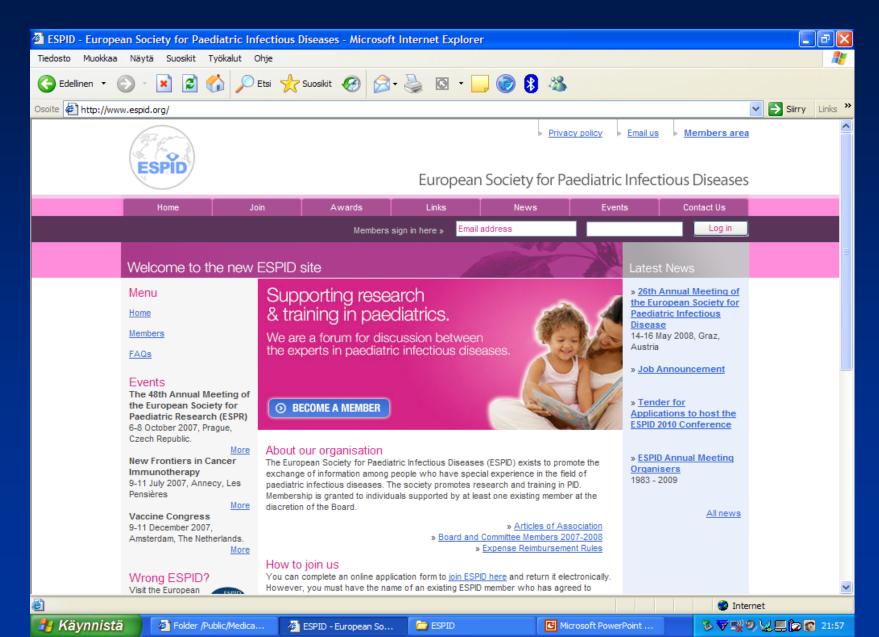
Diploma in Paediatric Infectious Diseases

from Oxford University,

to find out more visit →

http://www.conted.ox.ac.uk/pid

## **ESPID Case Rounds**

























#### **European Society for Paediatric Infectious Diseases**

Tutored by Emmanuel Grimprel, Duration: November 15th 2004 - November 22nd 2004

ESPID Case Rounds 09 **Tutor** Emmanuel Grimprel

#### Child with multiple warts

#### History of Present Illness

This 9 years old boy comes to the pediatric consultation because of multiple "warts" which appeared on his face and scalp two weeks ago (images 1, 2 and 3)

Six weeks before, he presented simultaneously two skin lesions at the lower extremity of the right leg and at the extremity of one toe, under the nail, for which he did not receive any antibiotics. These two lesions did not heal at the time of the consultation (images 4 and 5).

#### Past Medical History

Few data are available since his mother did not see her son during the

His vaccination status is unknowm, but a BCG scar is visible on his right

He does not complain from any chronic symptom or disease.

He had several acute fever episodes during the first years of life treated as acute malaria with intramuscular injections.

He has frequently impetigo skin lesions of the extremities after mosquito bites during the rainy season which usuallyn heal after an antibiotic

No disease in the family. The mother is healthy.

#### Family and Social History

This boy was born in Ivory Coast and lived in Ivory Coast since his mother decided to take him with her to France, six weeks ago. He was cared by his grand parents during the last 5 years, his mother living in France. He is a single child.

#### Physical Examination

At examination, the child looks healthy, weight 26 kg, size 130 cm. He is afebrile, pulse rate 95 / min, blood pressure 104/56, respiratory rate 25 / min.

He is eupneic, his cardio-respiratory auscultation in normal.

No jaundice, no spleen or liver enlargement, no lymphadenopathy.

Neurological examination: normal.

The face and scalp lesions are itchy and the lesions of the leg and the toe are sensitive and generate a mild claudication. Another lesion is discovered on the left foot (image 6).

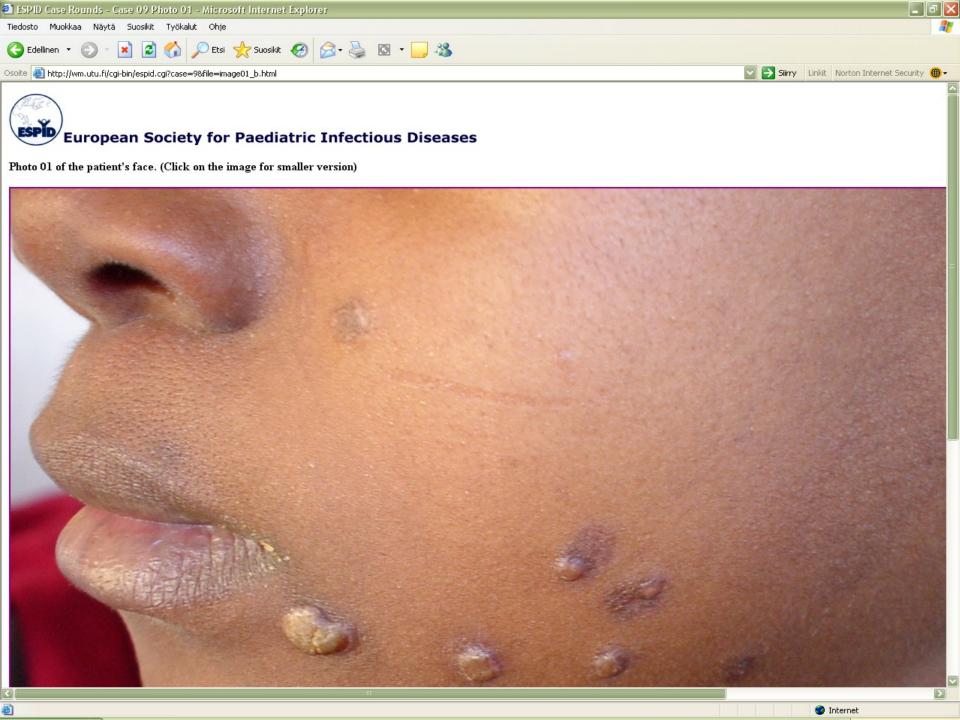
No abnormalities seen in the oral cavity

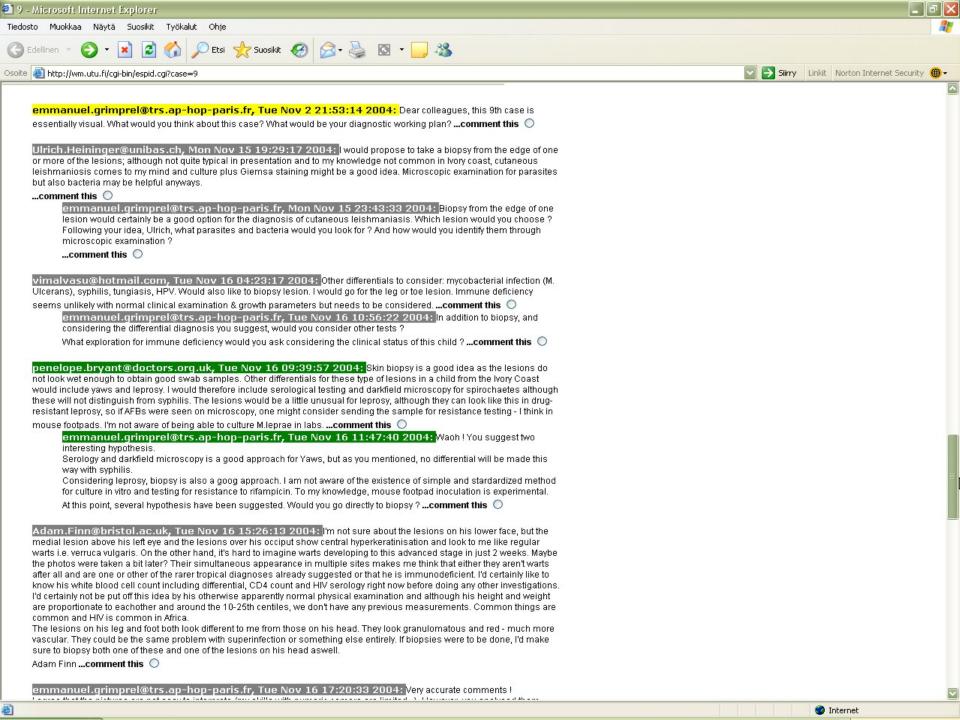
#### Laboratory and Imaging Data

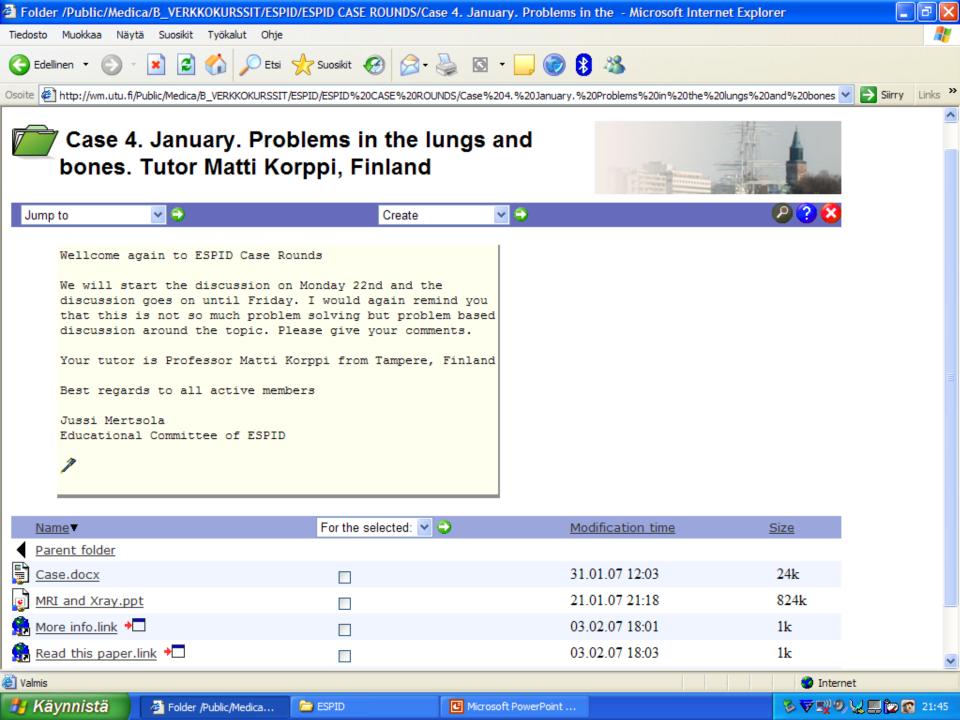


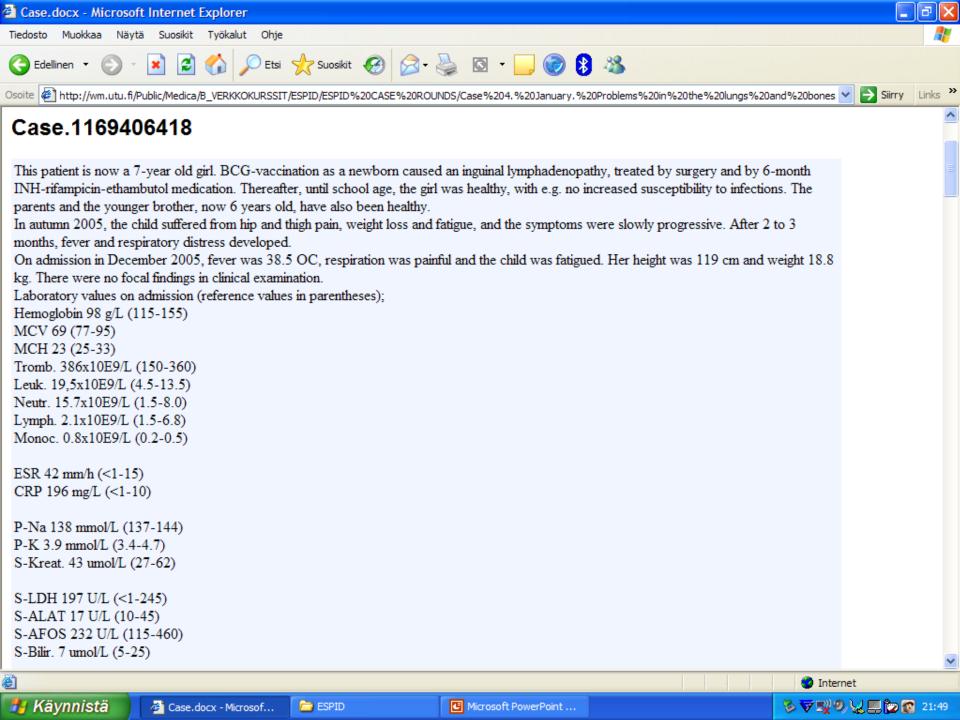


Siirry Linkit Norton Internet Security 📵 🕶

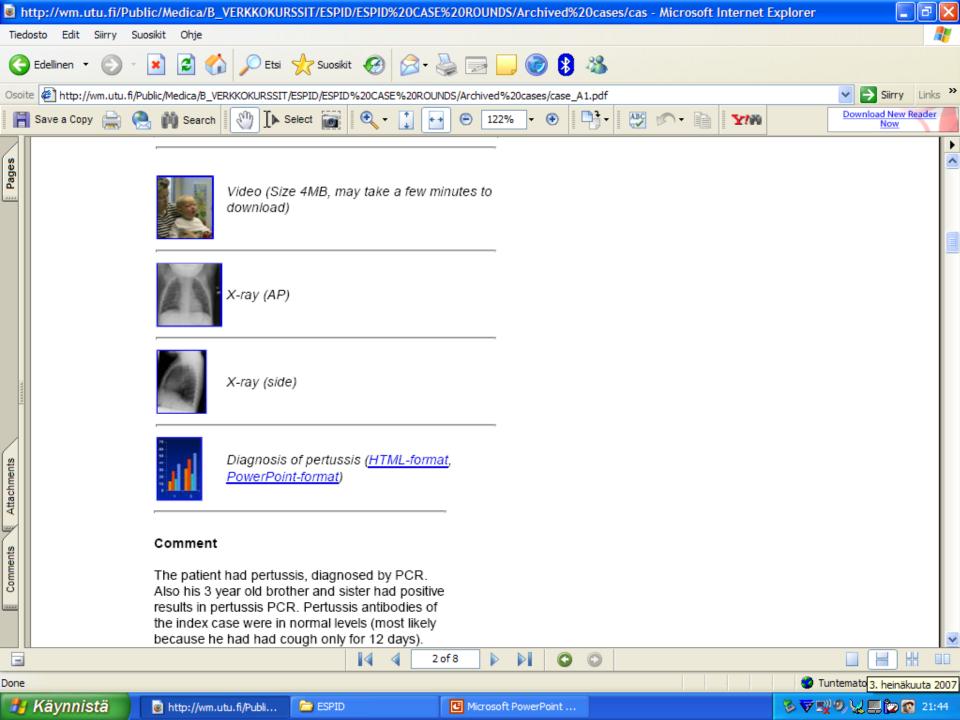


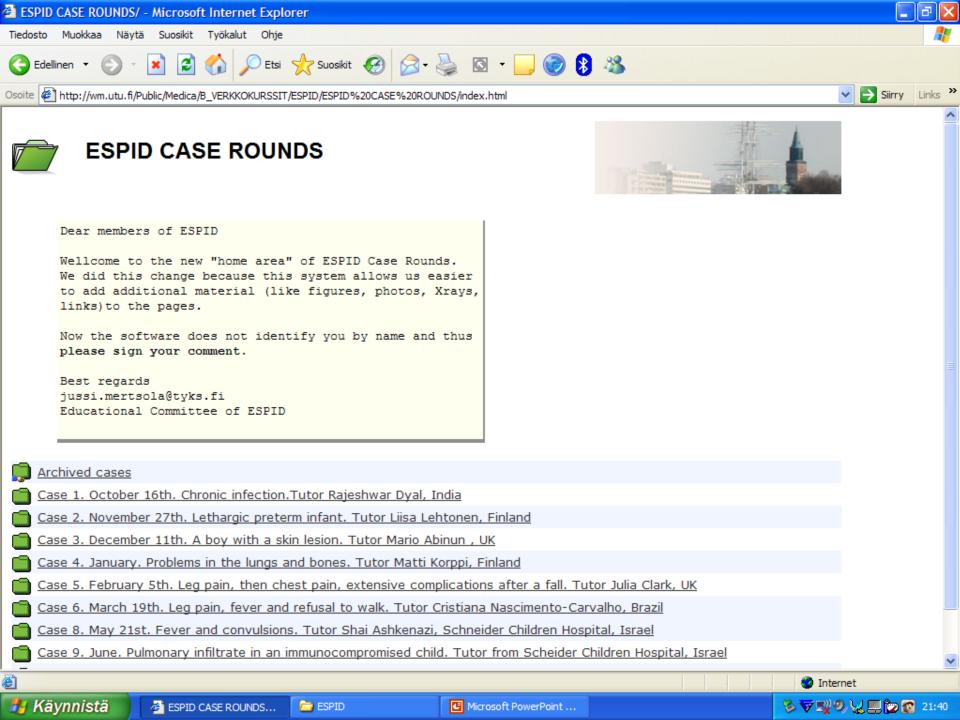


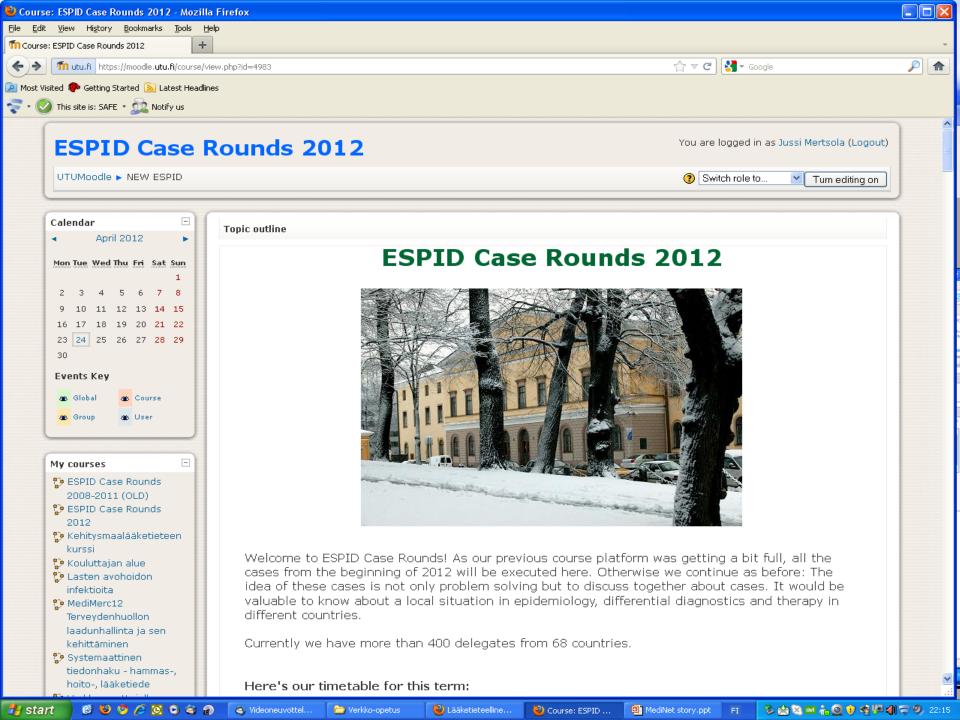










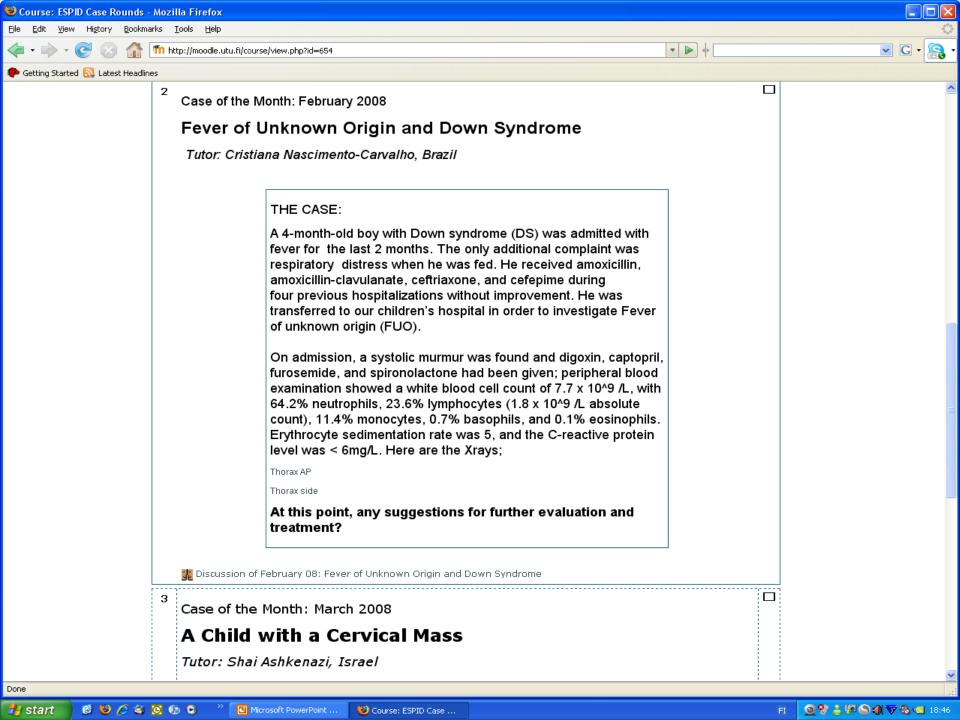


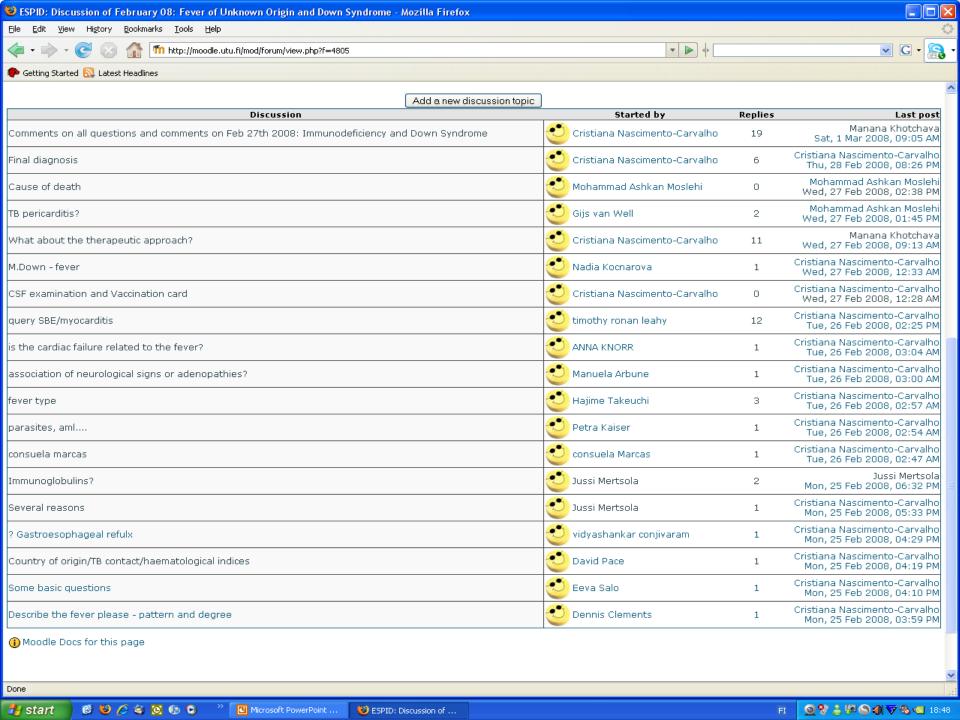
#### **ESPID Case Rounds**

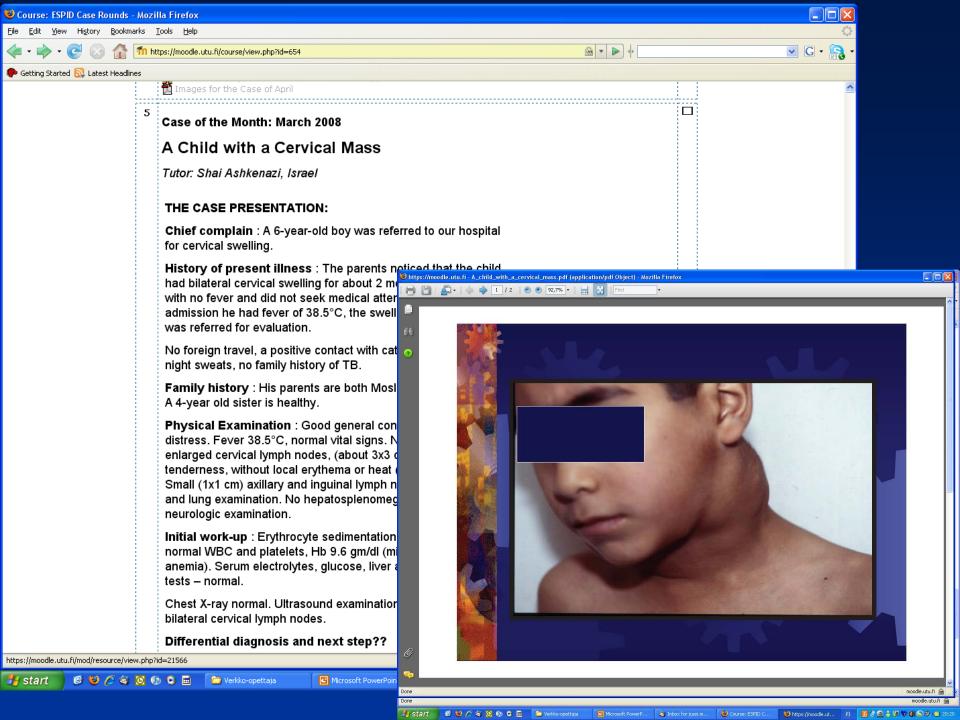
The delegates of ESPID	Case Rounds come from:		
Albania	1	Latvia	1
Angola	1	Lebanon	1
Argentina	1	Lithuania	4
Australia	8	Malaysia	1
Austria	5	Malta	1
Belarus	2	the Netherlands	18
Belgium	6	New Zealand	2
Bosnia-Herzegovina	1	Nigeria	5
Brazil	10	Norway	1
Bulgaria	1	Pakistan	3
Canada	1	Paraguay	2
Croatia	1	the Philippines	1
the Czech Republic	1	Poland	6
Cyprus	1	Portugal	15
Denmark	7	Romania	11
Ecuador	1	Russia	1
Egypt	1	Saudi-Arabia	1
Estonia	3	Singapore	1
Finland	9	Slovakia	1
France	4	Slovenia	4
Georgia	6	Repl. of South Africa	1
Germany	9	Spain	25
Ghana	1	Sweden	5
Greece	33	Switzerland	11
Hungary	2	Syria	1
Iceland	1	Taiwan	1
India	3	Thailand	1
Indonesia	2	Turkey	5
Iran	8	Uganda	2
Ireland	6	Ukraine	2
Israel	10	United Arab Emirates	2
Italy	8	United Kingdom	129*
Japan	1	USA	8
Jordan	1	Zambia	1

#### 430 delegates from 68 countries, Updated on 24 th of April 2012

<sup>\* =</sup> includes also participants of PID programme (Oxford University)





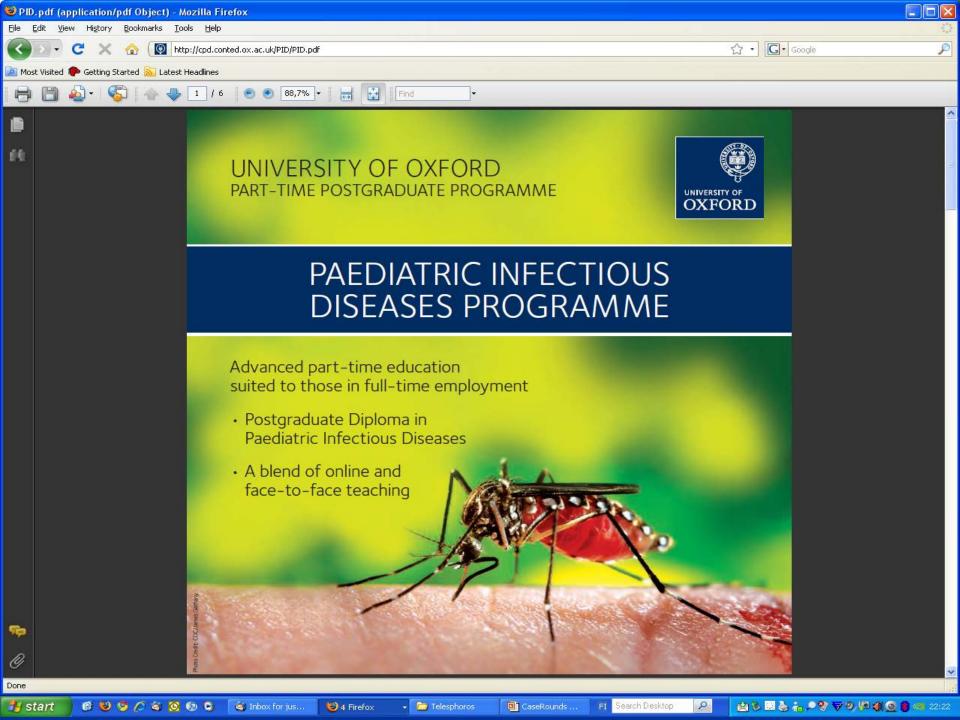




#### **ESPID Case Rounds 2011**

415 registered participants from 67 countries	Total	Active	No. of comments
January; A 10 year old boy with fever and reduced exercise tolerance and weight loss Tutor: Dr. David Pace, Malta Final dg: Invasive pulmonary Aspergillosis	48	28	76
February; Wheezy coughing infant - its bronchiolitis of course! Tutor: Dr. Hermione Lyall, UK Final dg: Severe pertussis	58	26	57
March; An eleven year old boy with pharyngitis and cough Tutor: Dr. Fernanda Rodrigues, Portugal Final dg: Lemierre's syndrome	58	31	58
April; Chronic skin lesion Tutor: Dr. Gilat Livni, Israel Final dg: Cutaneous Leishmaniasis	58	38	94
May; Unusual rash in a young child Tutor: Prof. Vytautas Usonis, Lithuania Final dg: Kawasaki disease	60	32	79
September; Young boy with pneumonia Tutor: Prof. Jussi Mertsola, Finland Final dg: Listeria pneumonia and meningitis	66	34	104
October; A girl with back pain Tutor: Prof. Shai Ashkenazi, Israel Final dg: Vertebral osteomyelitis	64	30	111
November; A case of otitis media Tutor: Prof. Adam Finn, UK Final dg: Osteomyelitis of the petrous bone and meningitis	73	37	85
December; A girl with pneumonia Tutor: Prof. Chen-Hsun Chiu, Taiwan Final dg: Severe adenovirus pneumonia	59	33	61

Total = all the delegates who logged in during the case Active = all the delegates who posted comments during the case



## Oxford PID Diploma

# Hot Topics in Infection and Immunity in Children 2005



The Oxford Course

A course covering topics in paediatric infection for Paediatric Infectious Diseases trainees and trainers and for all those who manage children with infections.

Organised by Andrew J Pollard, Ronald De Groot Ron Dagan, & Adam Finn

Monday 27<sup>th</sup> June – Wednesday 29<sup>th</sup> June 2005 A residential course at St Catherine's College, Oxford

Supported by the European Society for Paediatric Infectious Diseases (ESPID)

In association with the British Paediatric Infection , Immunity and Allergy Group (BPAIIG) the Department of Paediatrics, University of Oxford.

CPD approved by the Royal College of Paediatrics and Child Health



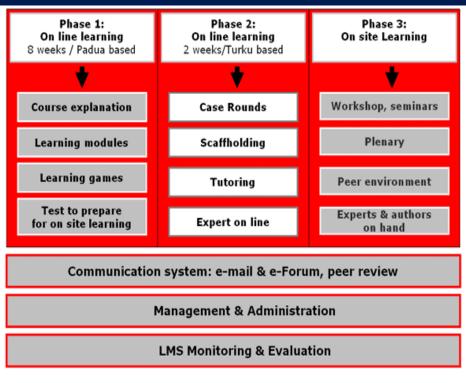
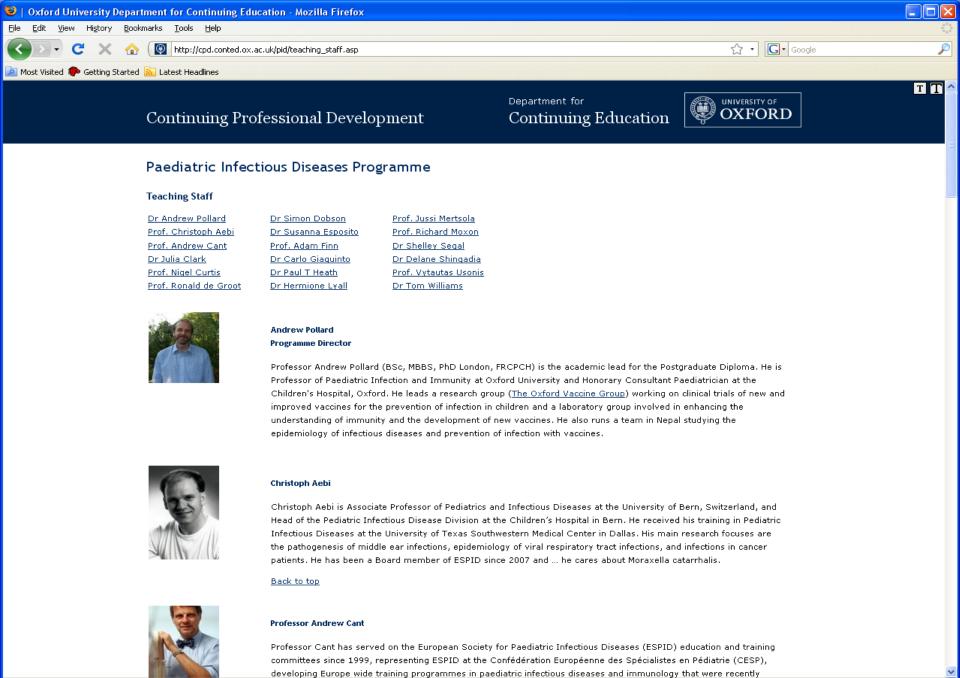


Figure 1: Representation of the e-learning proposed model

## ESPID Case Rounds 7 cases/yr x 2yr



Done







































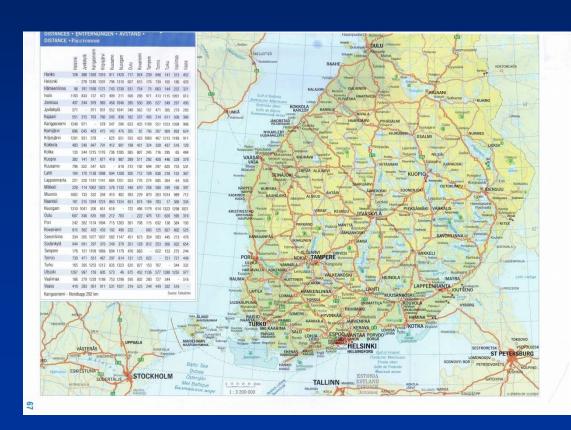
## Videoconferencies - lectures

- Bridges (multiple connections)
  - TY, Polycom MGC-50 (12 places in contact)
  - VSSHP ja SatSHP, Codian
     MCU 4215 (30 places)
- Totally 45 videoconference units
- Turku University Hospital
  - 21 lecture or seminar rooms with videosystems
- Turku University, Faculty of Medicine
  - 10 lecture rooms with videosuystems
- Pori
  - 14 lecture or seminar rooms with videosystems

• 2009; 2850 connections

• 2010; 2956

• 2011; 3204



- Consultations
- -Demonstrations
- -Documents pictures videos
- -Meetings
- Lectures



## Finally

- Internet is a valuable aid in medicine but can not replace clinical teaching
- New way of using lecture material
- New interest to use library
- New way for international collaboration
- "Human touch" / interaction important
- Computer supported collaborative learning