

ERNDIM Workshop SSIEM 2008

Creatine Synthesis Disorders

- | | | |
|---------------|---|-----------------|
| 11:00 – 11:15 | Update from the ERNDIM Board | Brian Fowler |
| 11:15 – 11:30 | Common DPT sample 2008 | Viktor Kozich |
| 11:30 – 11:40 | Performance in ERNDIM special assays for creatine synthesis disorders | Alberto Burlina |
| 11:40 – 12:10 | Clinical and Biochemical aspects of creatine synthesis disorders | S. Stöckler |
| 12:10 – 12:40 | Molecular genetic approaches for creatine synthesis disorders. | G. Salomons |

ERNDIM Workshop SSIEM 2008

Update from the ERNDIM Board

Brian Fowler, Basel

Current Activities of ERNDIM

- Current schemes and participant numbers
- New participation certificate for 2007 !!
- Participants questionnaire
- Web-site entry of results for the DPT schemes
- Accreditation of EQA schemes and ERNDIM
- Search for new central administrative office
- Establishment of Performance Assessment Criteria
- Directory of Laboratories
- Amino Acid Questionnaire 125 / 197 received (63 %)
- Training of Biochemists – SSIEM Academy Workshop
- Eurogentest
- Officers: Executive Committee, Trust Board, SAB

Current Activities of ERNDIM

- Current schemes and participant numbers

Current Schemes / Participants

Scheme	Number of participants 2005/2008	Total Participants 1994 / 2008
Quantitative amino acids	160/200	123 / 265
Special Assays in Urine	120/144	
Special Assays in Serum	140/182	
Quant. Organic Acids in Urine	55/ 80	
Quant. Purines and Pyrimidines	40/49	
Qualitative Organic Acids	120/166	
Proficiency Scheme 4 centres	86/	
Proficiency Scheme 5 centres	/104	
Acylcarnitines	61	
Cystine in WC	25 / 30	

Current Schemes / Participants (123 (1994) / 265)

Scheme	Number of participants 2005/2008	Cost 2005/2008
Quantitative amino acids	160/200	€161 /171
Special Assays in Urine	120/144	€102 /108
Special Assays in Serum	140/182	€102 /108
Quant. Organic Acids in Urine	55/ 80	€198 /210
Quant. Purines and Pyrimidines	40/49	€209 /221
Qualitative Organic Acids	120/166	€209 /221
Proficiency Scheme 4 centres	86/	€268 /284
Proficiency Scheme 5 centres	/104	
Acylcarnitines	61	€184 /196
Cystine in WC	25 / 30	€ ---- /221
Pilot schemes		
Lysosomal Enzymes		
CDG		

} 177

Current Activities of ERNDIM

- New participation certificate for 2007 !!

Certificate of Participation and Performance



This certificate is to confirm that **NAME of LAB** participated in the following external quality assurance schemes organised by ERNDIM in 2007 and has achieved performance in the individual schemes as shown. It is **important** that the laboratories' **detailed annual report** is referred to alongside this certificate.

Quantitative Schemes

	Subscribed	Number of Compounds		
		Included in the scheme	For which Results Submitted by lab	Satisfactory Performance
Amino Acids	✓	30	25	24
Organic Acids	✓	15	14	13
Purines/Pyrimidines	✓	17	15	14
Cystine in white Cells	✓	3	3	2

	Subscribed	Submitted Results	Satisfactory performance
Special assays Serum	✓		
3 OH Butyric acid		✓	✓
7-Dehydrocholesterol		✓	✓
C22:0 Behenic acid			

Annual Report

Amino acids 2005

Unità Operativa di Neuropsichiatria Infantile (BURRONI)

Analyte	Accuracy (Mean)		Precision (CV% duplicates)		Linearity (r)		Recovery (% added analyte)	
	Your Lab	All Labs	Your Lab	All Labs	Your Lab	All Labs	Your Lab	All Labs
Alanine	423	411	0.0%	4.7%	0.9984	0.9963	118%	98%
alpha-Amino adipic acid		123		6.6%		0.9975		109%
alpha-Amino butyric acid		13.3		9.8%		0.9445		103%
Arginine	116	125	16.7%	5.0%	0.9894	0.9979	90%	97%
Asparagine		28.4		10.6%		0.9850		93%
Aspartic Acid	25.8	27.3	10.5%	7.8%	0.9916	0.9906	90%	95%
beta-Alanine		50.5		11.8%		0.9914		95%
Citrulline	84.4	80.0	101.0%	6.4%	0.9972	0.9956	110%	98%
Cystine	49.0	34.6		11.8%		0.9826		74%
Glutamic acid	146	165	15.4%	7.6%	0.9319	0.9890	88%	110%
Glutamine	496	624	1.2%	6.9%	0.9987	0.9956	73%	94%
Glycine	287	305	10.0%	4.9%	0.9863	0.9968	93%	98%
Histidine	146	156		4.9%	0.9939	0.9964	99%	95%

Uric acid		✓	✓
Special assays Urine	✓		
5-OH-Indolacetic acid		✓	✓
Carnitine free		✓	✓
Creatine		✓	✓
Guanidinoacetate		✓	✓
Homovanillic acid (HVA)		✓	
Hydroxyproline		✓	✓
Lactic acid		✓	✓
Mucopolysaccharides		✓	
Orotic acid		✓	✓
Pipecolic acid		✓	✓
Sialic acid		✓	✓
Sodium thiosulphate		✓	✓
Succinylacetone		✓	✓
Uric acid		✓	
Creatinine		✓	✓
Proficiency Schemes			
Qualitative Organic Acids	✓	✓	✓
Qualitative Acyl Carnitines			
Diagnostic Proficiency Testing	✓	✓	✓

Signed on behalf of ERNDIM, date

Current Activities of ERNDIM

- Participants questionnaire

Design

- Frequency of samples
- Sample volume
- Appropriateness of analyte concentrations
- Adequacy of the report
- Website display
- Usefulness of annual report
- Value for money
- Billing arrangements

Responses

	<u>2007</u>	<u>2004</u>	<u>2001</u>
Total Participant	79	47	58
• Qualitative organic acids	50	(31%)	
• Quantitative organic acids	30	(39%)	
• Quantitative amino acids	65	(32%)	
• Special assays - urine	40	(31%)	
• Special assays - plasma	53	(30%)	
• Purine/pyrimidine	20	(39%)	
• Acyl carnitines	23	(31%)	
• Proficiency schemes	36	(35%)	
• Cystine in WBC	9	(32%)	

Scores	2007	2004	2001
Average in all aspects in all schemes	1.69	1.95	2.02
Qualitative organic acids	1.61	1.96	1.88
Quantitative organic acids	1.73	1.93	2.06
Quantitative amino acids	1.71	1.92	2.04
Special assays - urine	1.76	1.90	2.08
Special assays - plasma	1.73	1.84	2.03
Purine/pyrimidine	1.56	1.83	2.08
Acyl carnitines	1.99	2.27	-
Proficiency schemes	1.67	1.95	1.96
Cystine in white blood cells	1.43	-	-

Current Activities of ERNDIM

- Web-site entry of results for the DPT schemes

User profile - Microsoft Internet Explorer

Adresse: http://localhost/CSCQ_Web/ERNDIM/Apply/SelecProfil.php?act=sel&id=N1-0

User profile

User ID : 9997

Notice: Data entered on this page are taken into account by the CSCQ only if you click on the [Send to the CSCQ](#) button (at the bottom of this form), before changing pages (other survey or sample)

Specify methods used routinely in your laboratory for diagnosis inherited metabolic diseases in patient specimens

Preinvestigations

Analyte	Method	Selection	Cluster Lab	User-defined method / Remarks on the pre-defined method
Creatinine	Jaffe end-point	<input type="checkbox"/>	<input type="checkbox"/>	
Creatinine	Jaffe kinetic assay	<input type="checkbox"/>	<input type="checkbox"/>	
Creatinine	Dry chemistry	<input type="checkbox"/>	<input type="checkbox"/>	
Creatinine	HPLC	<input type="checkbox"/>	<input type="checkbox"/>	
Creatinine	enzymatic assay	<input type="checkbox"/>	<input type="checkbox"/>	
Creatinine	MS-MS	<input type="checkbox"/>	<input type="checkbox"/>	
Creatinine	LC-MS/MS	<input type="checkbox"/>	<input type="checkbox"/>	
Creatinine	Other	<input checked="" type="checkbox"/>	<input type="checkbox"/>	My specific method
pH	dip stick	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Nitriles	dip stick	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Glucose	dip stick	<input type="checkbox"/>	<input type="checkbox"/>	
Protein	dip stick	<input type="checkbox"/>	<input type="checkbox"/>	
Thiocyanate	dip stick	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
Sulides (Brandt reaction)	Qualitative	<input type="checkbox"/>	<input type="checkbox"/>	
Phenylketones (Foeling reaction)	Qualitative	<input type="checkbox"/>	<input type="checkbox"/>	

Terminé

Intranet local

User-defined method

User profile

- A list of analytes and methods is displayed. The user selects the ones used in his lab.
- If a specific method is used, it is noted in the “user-defined” method field. Only one “user-defined” method is available per analyte.

http://localhost/CSCQ_Web/ERNDIM/Applic/Saisie.php?action=res&id=N1-08&ee=1&gr=1 - Microsoft Internet Explorer

Diagnosis and treatment of Inherited disorders of Metabolism - Centre Suisse de Contrôle de Qualité

Logged in on 2008-06-01 10:21:30

Results entry : Preinvestigations

Survey 08-07-DIM, sample A of the laboratory 9997

Select sample → A B C

Remember: Data entered on this page are taken into account by the CSCQ only if you click on the *Send to the CSCQ* button (at the bottom of this form), before changing pages (other survey or sample)

Information importante

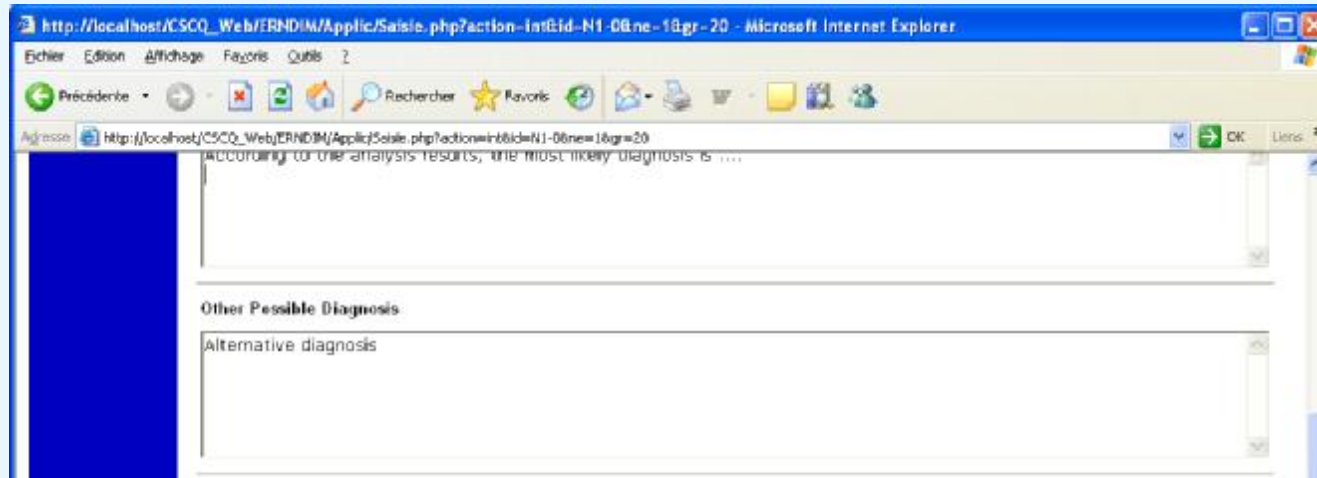
Analyte	Method	Essential Deviation	Result	Unit
Creatinine	Jaffe kinetic assay	Normal	142.69	mmol/l
pH	-	Do not enter	9.1	--
Nitrites	-	Elevated	Do not enter	Do not enter
Glucose	-	Grossly elevated	Do not enter	Do not enter
Acetone	-	Elevated	Do not enter	Do not enter
Protein	-	Not evaluated	Do not enter	Do not enter
Blood	-	Not evaluated	Do not enter	Do not enter
Reducing substances	-	Not evaluated	Do not enter	Do not enter

Comments:

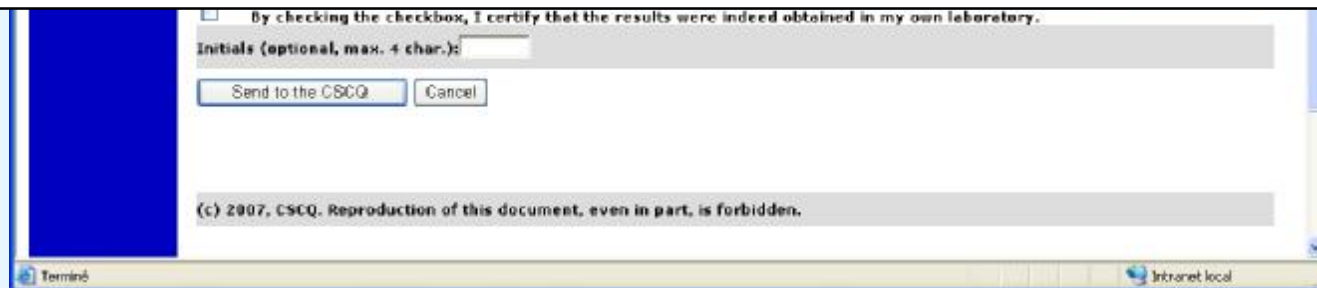
Terminé Intranet local

Results entry (cont'd)

- In step 2, the user enters the results for the analytes and methods defined in step 1.
 - The parameter can be quantitative and/or with discrete values



Available for labs to test 10.10.08-31.10.08
aim to use in 2009



Results entry (cont'd)

- The diagnosis code can be entered in the OMIM diagnosis field
- The diagnosis reliability is selected using a pop-up menu.

Current Activities of ERNDIM

Accreditation of EQA schemes and ERNDIM

Plan for accreditation of ERNDIM

- Decision to go ahead end of 2007
- Decision on accreditation body (UKAS)
- Decide on physical location of activities. ERNDIM base, where are documents stored, best in centre which is accredited. October 2008
- Identification of necessary costs and source of funding November 2008
- Documentation of all activities in SOP format
- Development of document control system according to generic/ guide
- Quality management handbook June 2009
- Run the system for 1-2 years June 2010
- Apply to accreditation body End 2010
- and many more things not listed

Current Activities of ERNDIM

- Search for new central administrative office

Search for new central administrative office

Negotiations with EMQN (Dr. Rob Elles) in St. Mary's Hospital Manchester (Perhaps integrate SSIEM)

- Malcolm Heron retires 2009
- Physical office needed for accreditation
- Sharing of quality management tools
- etc. etc.

Current Activities of ERNDIM

- Establishment of Performance Assessment

Recommendations on performance assessment scoring in ERNDIM qualitative proficiency testing schemes

Jim Bonham, Neil Dalton, Marinus Duran, Brian Fowler, Claus-D. Langhans, Rodney Pollitt, Christine Vianey-Saban and Viktor Kožich

The purpose of this recommendation is to harmonize the evaluation of diagnostic proficiency of laboratories participating in qualitative ERNDIM Schemes

à [Final version Mount on our web-site](#)

Current Activities of ERNDIM

- Directory of Laboratories

Directory of Laboratories

- Number labs 128 with fully verified information
- Number Analytes 474
- remaining European labs Identified and contacted
- Extension of Information on labs
accreditation status, harmonisation with
other EUGT lab directory

Current Activities of ERNDIM

- Amino Acid Questionnaire 125 / 197 received (63 %)



ERNDIM Quality Assurance Program

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Analysis of Amino Acids

QUESTIONNAIRE

Identification form

ERNDIM number:

Contact person:

Name of laboratory:

Organisation:

City, Country:

e-mail:

Current Activities of ERNDIM

- Training of Biochemists
 - SSIEM Academy Workshop

Training of Biochemists

- Training resources on web-site (M. Henderson)

<http://www.metbio.net>

training in various countries

- SSIEM Academy Lisbon Monday 1.9.08

ERNDIM involved

- EUGT workshops for BGT labs
regional

Current Activities of ERNDIM

Eurogentest

Eurogentest

- Harmonisation with Cyto- Molecular genetics

Continues (accreditation of labs, schemes and ERNDIM itself)

New sub-group of the European Society for Human Genetics for Quality issues with full representation of ERNDIM

- Expansion and improvement of Biochemical Genetic Testing in Europe

Report of present state and proposed measures for improvement (ERNDIM website – Meetings and Reports "Best Practice EUGT UPDATED")

- Development of Guidelines for Methodology

Organic acids, MPS, Purines / Pyrimidines
Lysosomal Enzymes, Acyl Carnitines

Current Activities of ERNDIM

- Officers:

National Representatives, Executive Committee,

ERNDIM National Representatives

Country	Name	Country	Name
Austria	Olaf Bodamer	Belgium	Marie Vincent
Czech	Viktor Kozich	Cyprus	Anthi Drousiotou
Denmark	Ernst Christensen	Estonia	Katrin Ounap
Finland	Kari Pulkki	Hungary	Agnes Schuler
France	Christine Vaney-Saban	Ireland	Philip Mayne
Germany	Claus-Dieter Langhans	Latvia	Parsla Vevere
Greece	Helen Michelakakis	Lithuania	Jurgita Songailiene
Italy	Ubaldo Caruso	Luxembourg	Jean-Paul Hoffmann
Netherlands	Ries Duran	Malta	Isabella Borg
Portugal	M.I. Tavares de Almeida	Poland	Ewa Pronicka
Spain	Antonia Ribes	Slovakia	Darina Behulova
Sweden	Elisabeth Holme	Slovenia	M. Zerjav-Tansek
Switzerland	Brian Fowler	Bulgaria	Still Looking
United Kingdom	James Bonham	Croatia	Ksenija Fumic
	Norway	Rumania	Still Looking

Executive Committee Members

Treasurer Ann Brown 2007

Schemes Representative, Chair of SAB
Jim Bonham

Secretary Christine Saban 2007

Chairman Brian Fowler replacement end 2008 à
Mick Henderson

Finances

Thanks to Ann Brown and Malcolm Heron

Aim is Neutral Budget

	2006	2007
Total Income	162'065	185'136
Everybody must pay (and they do)		
Payment to scheme organisers		
Administration/Committee	140'931	162'618
Surplus	21'134	22'518
Reserves	121'496	144'014

Finances

Thanks to Ann Brown and Malcolm Heron

Aim is Neutral Budget

	2006	2007
Total Income Everybody must pay (and they do)	162'000	162'618
Payment to scheme organisers Administration/Committee	140'931	144'014
Surplus	21'134	22'518
Reserves	121'496	144'014

Thanks to
Malcolm Heron !!

Only 2%
increase for 2008
schemes

ERNDIM Workshop SSIEM 2008

Creatine Synthesis Disorders

- | | | |
|---------------|---|-----------------|
| 11:00 – 11:15 | Update from the ERNDIM Board | Brian Fowler |
| 11:15 – 11:30 | Common DPT sample 2008 | Viktor Kozich |
| 11:30 – 11:40 | Performance in ERNDIM special assays for creatine synthesis disorders | Alberto Burlina |
| 11:40 – 12:10 | Clinical and Biochemical aspects of creatine synthesis disorders | S. Stöckler |
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