

# QA QUIPS

Laboratory Quality Assurance Newsletter, College of Physicians and Surgeons of Saskatchewan

138 – 3211 Albert Street, Regina / [www.quadrant.net/cpss](http://www.quadrant.net/cpss)

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*"QUALITY IS NOT AN ACT; IT IS A HABIT"*  
Aristotle

## ACCREDITATION

What is all this fuss about accreditation? What is the difference between inspections and accreditation?

Accreditation is the process used to determine whether a laboratory has successfully met the standards for Laboratory Accreditation as set by the Laboratory Quality Assurance Program of the College of Physicians and Surgeons of Saskatchewan. This includes all quality systems; the two most common, being proficiency testing and inspections.

The Lab QA Program completed 23 visitations in 2003 and projects the following list for 2004.

Sun Country Health Region Heartland Health Region Esterhazy Hospital St. Joseph's Hospital, Ile a la Crosse Lloydminster Hospital Porcupine-Carragana Health Centre Saskatoon Health Region
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If your laboratory appears on this list (and even if it doesn't), you should begin

your preparation for accreditation TODAY!

By implementing a few quality management practices, you can reduce the stress of rushing the process at the last minute. It will no longer be an onerous task each and every time you are faced with an accreditation visit – it should be part of your routine operation.

Getting ready for an accreditation visit may be challenging for most laboratories. The most laborious task is organizing and updating the paperwork. There are resources that can help you.

□ All the checklists, policy manual and deficiency forms can be found on the College website:

[www.quadrant.net/cpss](http://www.quadrant.net/cpss)

- The NCCLS Procedure Manual Toolkit GP2-A4 is a CD available for loan from our office.
- All NCCLS documents are available for a 30-day loan through our office. Call (306) 787-8239 to reserve yours.
- Beckman Coulter provides a software package called Quality Link. Check [www.beckmancoulter.com](http://www.beckmancoulter.com)

- Consult with your colleagues who may be able to help you – what were the difficulties they faced?

This is a peer review process. The first round was educational. The second round has a new perspective. Any major deficiencies identified must be corrected within a specified timeframe. A course of action for minor deficiencies and recommendations must be developed and submitted to ensure compliance. If no

attempt is made to improve, that laboratory will not be deemed “accredited” status.

Continue to work towards the standards created to ensure a quality service for our Province. Through this participation, the resulting benefits are significant for our patients, our partners and the community.

*The race for quality never ends!*

### **Spring 2003 Ceqal Proficiency Testing Update**

Over the past year, we have all had some experience with the DigitalPT web-based data entry system. This may have been through the VoicePT telephone system or Ceqal website. We have had lots of feedback, both good and bad. One of the main problems was the whole blood glucose survey and the tedious data entry process required to enter results via the website. Ceqal has been working on a programming solution for this process, and it will be implemented this year. One of the main problems with the Voice PT system has been entering the decimal points. The digital data entry has been a mutual learning curve for both our labs and the Ceqal programming staff, and improvements are continuously being implemented.

To promote a more comprehensive use of the web-based database, Ceqal plans to discontinue sending the graphs with the results summary for each survey. An alert summary will continue to be sent out to each laboratory, as soon as the analytes have been evaluated. This will be followed by the result summary. Each survey result summary and the individual analyte graphs are available through the website as soon as the results are processed. So by the time you receive the alert report, you will be able to access all results through the Ceqal

website. This will greatly improve the turn around time, in which you are able to review analyte performance and begin troubleshooting. Those laboratories that submit results via the VoicePT system will continue to get a hard copy of their reports.

Since the inception of using fixed limits for Chemistry evaluation, many equipment vendors have witnessed analytes that do not meet the expected standard. This has promoted a thorough evaluation of methods. An effort is being made in many cases to rectify the method performance as it relates to the target. We have experienced a significant number of Coagulation errors, mainly due to reagent code errors in the database, designating the wrong peer group for evaluation. In Hematology, many errors have occurred due to inappropriate units used for reporting results.

This year we plan to improve the proficiency testing follow-up process. A key issue is the turn around time for the submission of follow-up reports. It is very important to submit your follow-up reports on or before the deadline specified. This is essential due to the increased number of proficiency testing surveys circulated this year. If the follow-up reports have not been submitted within a week of the

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**\*\*\*ATTENTION!\*\*\***  
**CALLING ALL INSPECTORS**

If you have aspirations to be an accreditation inspector, please complete the following registration form. The cycle for inspections begins in Spring 2003 and we are looking for persons to fill positions. We need discipline-specific and generalist inspectors.

Name \_\_\_\_\_

Address \_\_\_\_\_

Phone \_\_\_\_\_

Fax \_\_\_\_\_

E-Mail \_\_\_\_\_

Skills/abilities (please attach/provide a brief description on why you would make a good inspector and your area of expertise.

# EQA / PT Evaluation Criteria Update

Canadian Fixed Limits

Feb-03

Analyte	Target	Limit	Absolute	SD	%
Acetaminophen	Reference Value	% of Target			20.0
Alanine Aminotransferase	Submethod Mean	% of Target			35.0
Albumin	All Method Mean	% of Target			10.0
Alkaline Phosphatase	Submethod Mean	% of Target			30.0
Amikacin	All Method Mean	% of Target			15.0
Amitriptyline	Reference Value	% of Target			15.0
Amylase	Submethod Mean	% of Target			20.0
Apolipoprotein AI	Reference Value	% of Target			10.0
Apolipoprotein B	Reference Value	% of Target			12.0
Aspartate Aminotransferase	Submethod Mean	% of Target			20.0
Beta-Hydroxybutyric Acid	Peer Group Mean	SD		2	
Bilirubin - Direct	Reference Value	% of Target			50.0
Bilirubin - Neonatal	Reference Value	% of Target			31.0
Bilirubin - Total	Reference Value	% of Target			31.0
Caffeine	All Method Mean	% of Target			15.0
Calcium - Ionized	All Method Mean	% of Target			10.0
Calcium	All Method Mean	% of Target			8.0
Carbamazepine	Reference Value	% of Target			25.0
Chloride	Reference Value	% of Target			5.0
Cholesterol - HDL	Reference Value	% of Target			11.0
Cholesterol - LDL	Reference Value	% of Target			15.0
Cholesterol - Total	Reference Value	% of Target			9.0
CK-MB Activity	Submethod Mean	% of Target			40.0
CK-MB Mass	Peer Group Mean	SD		2	
CO2 - Total	All Method Mean	% of Target			20.0
Cortisol	All Method Mean	% of Target			30.0
Creatine Kinase	Submethod Mean	% of Target			30.0
Creatinine	All Method Mean	% of Target			25.0
Desipramine	Reference Value	% of Target			15.0
DHEA Sulphate	Peer Group Mean	SD		2	
Digoxin	All Method Mean	% of Target			25.0
Disopyramide	All Method Mean	% of Target			15.0
Estradiol	Peer Group Mean	SD		2	
Estriol - Total	Peer Group Mean	SD		2	
Estriol - Unconjugated	Peer Group Mean	SD		2	
Ethanol	Reference Value	% of Target			15.0
Ethosuximide	All Method Mean	% of Target			15.0
Ferritin	All Method Mean	% of Target			19.3
Folate	Peer Group Mean	SD		2	
Follicle Stimulating Hormone	Peer Group Mean	SD		2	
Gamma-Glutamyltransferase	All Method Mean	% of Target			30.0
Gentamicin	All Method Mean	% of Target			20.0
Glucose (GLUC )	Reference Value	Combination (max.limit)	0.3		8.0
Glycated Hemoglobin A1c	Reference Value	% of Target			9.0
hCG	All Method Mean	% of Target		2	32.0
Homocysteine	All Method Mean	% of Target			15.0
IBC - Total	All Method Mean	% of Target			25.0
IBC - Unsaturated	Peer Group Mean	SD		2	
Imipramine	Reference Value	% of Target			15.0
Iron	All Method Mean	% of Target			31.0

# EQA / PT Evaluation Criteria Update

Canadian Fixed Limits

Feb-03

Analyte	Target	Limit	Absolute	SD	%
Lactate	All Method Mean	% of Target			30.0
Lactate Dehydrogenase	Submethod Mean	% of Target			20.0
Lipase	Submethod Mean	% of Target			37.0
Lipoprotein (a)	Peer Group Mean	SD		2	
Lithium	All Method Mean	% of Target			10.0
Luteinizing Hormone	Peer Group Mean	SD		2	
Magnesium - Ionized	All Method Mean	% of Target			10.0
Magnesium	All Method Mean	Combination (max.limit)	0.1		12.0
Methotrexate	All Method Mean	% of Target			25.0
Myoglobin	All Method Mean	% of Target			30.0
N-acetylprocainamide	All Method Mean	% of Target			20.0
Nortriptyline	Reference Value	% of Target			15.0
Osmolality	All Method Mean	% of Target			3.0
pH	Peer Group Mean		0.04		
pCO2	Peer Group Mean	Combination (max.limit)	5		8.0
pO2	Peer Group Mean	SD		2	
Phenobarbital	Reference Value	% of Target			20.0
Phenytoin	Reference Value	% of Target			25.0
Phosphorus	All Method Mean	% of Target			12.0
Potassium	Reference Value	% of Target			6.0
Primidone	All Method Mean	% of Target			15.0
Procainamide	All Method Mean	% of Target			20.0
Progesterone	Peer Group Mean	SD		2	
Prolactin	Peer Group Mean	SD		2	
Protein - Total	Reference Value	% of Target			6.0
Quinidine	All Method Mean	% of Target			25.0
Salicylates	All Method Mean	% of Target			20.0
Sodium	Reference Value	Combination (max.limit)	4.0		5.0
T Uptake	All Method Mean	% of Target			7.0
Testosterone	Peer Group Mean	SD		2	
Theophylline	Reference Value	% of Target			25.0
Thyroid Stimulating Hormone	Submethod Mean	% of Target			30.0
Thyroxine - Free	Peer Group Mean	SD		2	
Thyroxine - Total	Submethod Mean	% of Target			8.0
Tobramycin	All Method Mean	% of Target			25.0
Transferrin	All Method Mean	% of Target			12.0
Tricyclic Antidepressants	Reference Value	% of Target			15.0
Triglycerides	Reference Value	% of Target			15.0
Triiodothyronine - Free	Peer Group Mean	% of Target			20.0
Triiodothyronine - Total	All Method Mean	% of Target			20.0
Troponin I	Peer Group Mean	SD		2	
Troponin T	Peer Group Mean	SD		2	
Urea/Urea Nitrogen	Reference Value	% of Target			16.0
Uric Acid	All Method Mean	% of Target			12.0
Valproic Acid	All Method Mean	% of Target			15.0
Vancomycin	All Method Mean	% of Target			20.0

deadline, a fax will be issued as a reminder. For your convenience, a blank deficiency report form is available on the College website at [www.quadrant.net/cpss](http://www.quadrant.net/cpss)

Thank you for your participation in this quality assurance process.

**Color Atlas of Hematology; An Illustrated Field Guide Based on Proficiency Testing**

**Eric F. Glassey, MD Editor (CAP)**

Available:

[www.cap.org/html/general/olo\\_intro.cfm](http://www.cap.org/html/general/olo_intro.cfm)



“All automated differentials should be reported in absolute values to correlate with instrument reporting.”

-Hematology QA Committee

**Microwave Safety**

Microwaves have become standard equipment in most kitchens. Make certain that safety measures and common sense are part of microwave safety.

A warning has recently been issued regarding heating water in a microwave. When a cup of water is heated (ie. for tea, instant coffee, or hot chocolate) There is a potential hazard of the water ‘exploding’. Water alone should never be heated in a microwave oven. If water is heated in this manner, something should be placed in the cup in order to diffuse the energy – such as a wooden stir stick, teabag, etc. It is a much safer choice to boil the water in a kettle.

Another hazardous practice is using the microwave to melt butter in a coffee cup. Due to the extreme temperature of the butter, cups have been known to shatter.

It is also known that food may explode after heating in a microwave. Brussel sprouts, chicken, and eggs are a few of the foods that have a tendency to ‘explode’. Always ensure microwave safe dishes are utilized; a microwave safe cover is placed over the food during heating; and ‘standing time’ after heating is allowed.

Visit the following websites for more information:

[www.plasticsinfo.org/microwave](http://www.plasticsinfo.org/microwave)

[www.ccohs.ca/oshanswers/phys\\_agents/microwave\\_ovens.html](http://www.ccohs.ca/oshanswers/phys_agents/microwave_ovens.html)

**Specificity of 90% means 10% of normal persons will have abnormal values.**

**80% sensitivity means 80 of 100 patients with the disease will have a positive test.**

## **FAQ's**

### **CLXT – What does the scope of training include?**

CLXT graduates from 2000 forward and those graduates prior to 2000-2001 who successfully completed the Chem 198 & 199 will be approved to perform:

GLUCOSE, SODIUM, POTASSIUM, CHLORIDE, CARBON DIOXIDE, ALKALINE, PHOSPHATASE, ALANINE AMINO TRANSFERASE, GAMMA GLUTAMYL TRANSFERASE, CREATINE KINAS, CKMB/TnI, ASPARTATE AMINO TRANSFERASE, CREATININE, UREA, TOTAL BILIRUBIN, DIRECT AND INDIRECT BILIRUBIN, MAGNESIUM, AMYLAS, TOTAL PROTEIN, ALBUMIN, CALCIUM, PHOSPHORUS.

For sites that employ a combination of CLXTs and MLTs, only CLXTs who have completed the Chem 198 & 199 courses (or enhanced curriculum) will be approved to run the LIPID PROFILE, under the direct supervision of the MLT.

### **STANDING ORDERS - What is the policy for standing orders?**

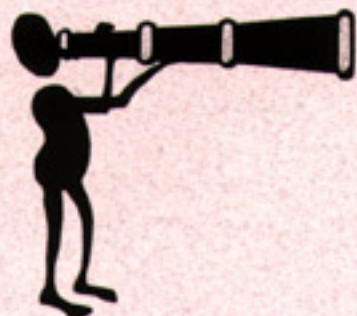
Each facility should develop an internal policy. The Chemistry QA Committee has proposed:

*A STANDING ORDER SHOULD NOT EXCEED 12 MONTHS. ALL ORDERS SHOULD BE ACCOMPANIED WITH A START AND END DATE.*

### **DIGOXIN – When is the correct time to collect?**

The general practice is to collect samples pre-dose or 5 hours from last dose. Digoxins, as well as other therapeutic drugs, are tested IMMEDIATELY PRIOR TO THE NEXT DOSE. This identifies the trough level.

## **HEADS UP!**



- ❖ Saskatchewan is chairing the Hematology Working Committee for the InterProvincial Quality Assurance Group. A Cross-Canada survey regarding abnormal films and referral criteria will be forwarded to you in the very near future. Please complete at your earliest convenience and return to our office. Your input is invaluable.
- ❖ A recent release of the Thyroid Algorithm is available. For information, contact our office at (306) 787-8239.