

BACK TO THE BASICS

Back to the Basics is designed as an introduction or refresher to BASIC level Hematology, Chemistry, Joint (microbiology, and transfusion medicine). The course is organized in 3 discrete sections –Hematology (6 DVDs), Chemistry (6 DVDs) and “Joint” (4 DVDs).

If a registrant does not wish to cover the “joint” material. You must let us know, via email, that you do not want to write the Joint exam. bcsls@bcsls.net

ONE MODULE:

1.5 PEP credits

If you registered for one module, the B2B (Back to the Basics) package includes:

- ◆ 6 DVDs on Hematology OR chemistry
- ◆ 2 DVDs on case studies
- ◆ 1 DVD on microbiology
- ◆ 1 DVD on transfusion medicine
- ◆ Corresponding notes for each or DVD.

TWO MODULES:

2.0 PEP credits

If you registered for both modules, the B2B package includes:

- ◆ 6 DVDs on Hematology AND 6 DVDs on Chemistry
- ◆ 2 DVDs on case studies
- ◆ 1 DVD on microbiology
- ◆ 1 DVD on transfusion medicine
- ◆ Corresponding notes for each DVD.

PASSING MARKS

- ◆ BCSLS & CSMLS Policies stipulate that a passing mark is 60% or higher.
 - ◆ If your mark is between 54% - 60% you have the option to re-write the exam, within 3 months of the last exam, for a \$200 re-write fee per exam.
 - ◆ ONLY 1 RE-WRITE, per subject, IS ALLOWED
 - ◆ If your mark is less than 54% you have the option to retake the course 3 months after the last exam. There is no reduction in fees. You are only allowed to Re-do the course once (with no option for an exam re-write if failed)

COMPLETING THE PROGRAM:

- ◆ You can enrol anytime during the year, as it's a self study course.
- ◆ You have TWO months to complete your studying and submit the exam if you are registered in one module.
- ◆ You have THREE months to complete your studying and submit the exam if you are registered in both modules.
- ◆ If, for some reason, you require additional time please contact the BCSLS Education Coordinator to arrange an extension.
- ◆ Exam marks will be released up to 6 weeks after we have received the exams from you.
- ◆ If you do not complete the exam you will be given an *INCOMPLETE* standing.

INSTRUCTIONS:

1. Open package and check contents to verify that you have received the correct DVDs, and corresponding notes.
2. The DVD's are yours to keep, please do not send them back to the office.
3. **Please keep the official receipt for your tax purposes. It will not be re-issued.**
4. Study from the DVDs and corresponding notes. You may wish to refer to other basic laboratory technology texts.
5. Choose an invigilator – a responsible adult who is NOT a friend or a relative.
6. Decide if you would like to write the Joint exam and let us know via email.
7. **WHEN you wish to write your exam, send us the name, phone number and address of your invigilator by email – bcsls@bcsls.net. We will then mail the sealed exam(s) to your invigilator who will keep it until the exam date. Allow at least 2 weeks for this process.**
8. The invigilator will open and give you the exam. The invigilator must sign the invigilator statement verifying that the exam was completed within the allotted time limit and that no resource material was available during the exam. The invigilator will seal the exam in a return envelope and mail it back to us.
9. Your marks will be mailed to you within 6 weeks.
10. If you require an official letter of completion to be sent to CSMLS, then you need to email BCSLS and let us know.
11. If you need a 'RUSH' on your exams being marked and/or the CSMLS letter, then make an official request to BCSLS. There is a \$20 fee plus the cost of couriers.

EXAMS:

Exams are marked individually and are **NOT** averaged together for one final mark.

Exam hours are as follows:

Chemistry – 1.0 hour

Hematology – 1.0 hour

Joint – 0.5 hour

(Single exam times can be added together for a total allotted examination time and done with the students time management discretion)

The exam(s) are all short answer/paragraph type and are based on knowledge required to function effectively in the core lab areas. All questions are from the DVD's and the booklets.

Chemistry and Hematology exams are 5 pages (20-27 questions), and the Joint exam is 2 pages (6-8 questions).

ASSISTANCE AVAILABLE:

If you require assistance with the any aspect of the program or material, please email your inquiry to the BCSLS office. Every effort will be made to assist you or to refer your questions to the marker.

Some speakers may discuss features of clinical tests above the basic RT level. This information should be considered for interest only.

Opinions expressed by the speakers should not be considered the opinion of the BCSLS.

BACK TO BASICS COURSE OBJECTIVES

1. To identify tests that would be performed in a high volume or stat laboratory.
2. To give technologists a basic understanding of how and why these tests are performed.
3. To expose technologists to some of the disease processes associated with tests performed in a high volume or stat laboratory.

Course material developed in 1996; reviewed/approved by contents experts in 2000

BCSLS presents a series of lectures designed to update technologists in the clinical tests performed in a high volume, automated, or STAT laboratory. This course has separate modules in Chemistry and Hematology, Joint (sessions in microbiology and transfusion medicine, and two mixed discipline case study sessions). The Joint exam is optional.

Each DVD focuses on the clinical tests used in each area. The clinical significance of the test, the sample required, the limitations/interference's, and common reporting protocols will be examined. The case studies will provide an opportunity to integrate clinical information from each discipline. Students can register in either the Hematology module, the Chemistry module, or both. Both modules include a joint session on microbiology and transfusion medicine, and two case study sessions. Students will be examined on the module(s) that they register in. If you opt to not write the Joint exam, then email the BCSLS office and let us know.

Credits: This course is eligible for credit towards the CSMLS Professional Enhancement Program (PEP). This course is not eligible for CPS/Art credits as it is not at the post-RT level.

Joint'' Course Section (4 DVD's)

Microbiology

DVD 1: Ms. S. Pengilly

Basic plating techniques as well as STAT tests performed in microbiology are examined.

Transfusion Medicine

DVD 2: Ms. D. Kracenblum

What is involved in doing a "group and screen"? Can this test be automated? In this session these questions will be investigated. Blood product components and when and why blood products are issued will also be examined.

Mixed Discipline Case Studies

DVD 3: Dr. L. Haley / Dr. N. Urquhart

DVD 4: Dr. E. Bryce

Hematology (6 DVD's)

DVD 1: Dr. Sam Krikler *White Blood Cells*

This session focuses on the origin, maturation and function of the myeloid and lymphoid white blood cells. Normal morphology as well as leukemias and infection are examined.

DVD 2: Dr. M. Wood *Red Blood Cells*

Red blood cells play a vital role in the transport of oxygen. Disease states such as anemia and genetic abnormalities of hemoglobin may affect this function and result in distinct morphological changes. Normal and abnormal morphology will be examined and related to abnormalities in red cell indices of the CBC.

DVD 3: Dr. S. Naiman *Coagulation*

Coagulation is a careful balance between blood clot formation and fibrinolysis. This session deals with the coagulation factors involved in these processes. Techniques for the investigation of factor deficiency and inhibitors will be covered as well as routine coagulation tests for the follow up of patients on anticoagulant therapy.

DVD 4: Dr. L. Vickars *Platelets*

Platelets play an important role in blood clotting and wound healing. This session covers platelet morphology, function and their role in coagulation. Techniques for enumerating platelets and assessing their quality will be explained.

DVD 5: Dr. B. Massing *Body Fluids*

This session will review body fluids such as CSF, peritoneal, synovial, and dialysate and the significance of cells found therein. Techniques for concentration, enumeration, and identification of these cells will be discussed.

DVD 6: Dr. Kin Cheng, Mr. Peter McLennan, Ms. Barb Kennedy
Quality Assurance

This session will deal with the different problems a routine Hematology lab may encounter that cause spurious results: from cell counters, quality of stained slides, countering chambers, and cytopsin slides. Quality assurance and quality control issues unique to Hematology will also be addressed.

Chemistry (6 DVD's)

DVD 1: Dr. M. Pudek *Electrolytes and Glucose*

Review the distribution and physiological mechanisms regulating water, sodium and potassium. Examine the technical and result reporting protocols. Common pathological conditions and brief case histories will also be discussed. The metabolism and regulation of glucose will be reviewed. The causes, clinical features, and diagnosis of diabetes mellitus and hypoglycemia will be examined and the abnormalities of carbohydrate metabolism will be illustrated with case examples.

DVD 2: Dr. W. Schreiber *Evaluation of Acid-base Status*

Measurements of acid-base status are used to diagnose and monitor patients with a wide variety of disorders. Values of pH, pCO₂, and HCO₃ can be measured in whole blood, and analysis time is less than one minute. Values are interpreted as normal or abnormal, and the type of acid-base disturbance can be determined from these data. The specific cause of an acid-base disorder can usually be diagnosed from a combination of history, physical exam, and additional lab tests. This talk will briefly address analytical issues related to blood gas analysis, then discuss how the data are interpreted to give a clinically meaningful result.

DVD 3: Dr. D. Seccombe *Lipids*

The basic aspects of lipid and lipoprotein metabolism will be reviewed. Methods of measurement and common sources of error will be covered. Primary and secondary causes of dyslipidemia will be discussed and case histories used to illustrate selected disorders.

Dr. Godolphin *Therapeutic Drug Monitoring/Toxicology*

A few “rules of thumb” and basic concepts to help you give more useful answers to therapeutic drug level requests and keep you out of trouble with toxicology.

DVD 4: Dr. K. Whitlow *Quality Assurance and Analytical Techniques*

We are good! How do we ensure that? How can we prove we do what we say we do? Who is Westgard? These ideas will be examined in this session. Hand-held black boxes to mega wonder machines. What are analytical techniques that drive the engine: electrochemistry, spectrophotometry, fluorescence polarization, immunoassays

DVD 5: Dr. M. Pudek *Renal Function Tests and Urinalysis*

In this session the physiological function of the kidney, common disorders of the kidney, and the role of renal function tests in assessing kidney disease will be examined. The components of routine urinalysis will also be reviewed. The laboratory assessment of renal disease will be illustrated using case examples.

DVD 6: Dr. M. Pudek *Enzymology*

The general properties of enzymes and how they are measured will be reviewed. The sources, clinical use, and methods of measurement of alkaline phosphatase, lactate dehydrogenase, aspartate transaminase, alanine transaminase, amylase, gamma glutamyl transpeptidase, creatine kinase and lipase will be discussed. Case histories will be utilized to illustrate the application of clinical Enzymology.