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Foreign exchange—gleaning ideas from labs abroad



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Carole Spencer, PhD, MT, SACB, has spent much of her professional life trying to be a conduit between physicians and laboratories. Her work, which she will present soon at the 2009 Pathology Update in Sydney, Australia, is helping physicians and laboratory professionals communicate better, especially when it comes to thyroid cancer testing.

“I’ve tried to bridge the gap between the physicians and the laboratory,” says Dr. Spencer, professor of medicine at the University of Southern California and technical director of USC’s Endocrinology Laboratories. “Unfortunately, especially in the United States, there is a real disconnect” between the two.

Dr. Spencer will be one of 29 speakers from around the world to present March 13–15, 2009 in the Sydney Convention and Exhibition Center at Darling Harbour.

The three-day Pathology Update is sponsored by the Royal College of Pathologists of Australasia, in conjunction with the 25th World Congress of Pathology through the World Association of Societies of Pathology and Laboratory Medicine, or WASPaLM. More than 2,500 people are expected to attend.

“This is a fairly large international conference in general pathology and will cover the entire gamut of our practice,” says WASPaLM president Henry Travers, MD, of Physicians Laboratory Ltd., Sioux Falls, SD. The Royal College is staging the conference, and pathologists from North and South America and Europe will attend. “Speakers are going to come from all these regions as well, which will take an outstanding conference and make it superlative,” Dr. Travers says.

The presentations and workshops will run simultaneously and encompass chemical, forensic, pediatric, oral, and anatomic pathology as well as genetics, hematology, microbiology, and immunopathology. Meetinggoers will gather for sessions on everything from breast, basal and brain and sudden death to assay quality in TDM, antibiotic resistance, eosinophilic disorders, and marketing genetics to the masses. Sure to be popular: “Genetics vs. Chemistry: Choosing the Best Test.”

The CAP is sending three members to the conference—Gregory Davis, MD, Jared

Schwartz, MD, PhD, and Thomas Wheeler, MD. Dr. Davis will speak on the old and new challenges in forensic pathology, Dr. Schwartz on the future of pathology, and Dr. Wheeler on the role of the CAP in standardizing pathology practice.

“The broader international flavor will give pathologists the opportunity to understand what is going on in the specialty throughout the world,” Dr. Travers says. “Some of the things that have been happening to the specialty in other parts of the world are beginning to happen here in the United States.” He points to the erosion of control of

the laboratory in the U.S. by nonpathologists as one example.

Ona Marie Faye-Petersen, MD, professor of pathology and obstetrics and gynecology at the University of Alabama at Birmingham, will give sessions on perinatal pathology and placental pathology. "Intrauterine environment and placental function have a lot to do with how well a newborn does, and pathologic examination of the placenta can provide valuable information about the immediate and chronic risks for the infant and risks of chronic diseases in childhood," she says. Evidence is mounting that low infant birthweight due to prematurity and/or intrauterine growth restriction, both of which may be related to uteroplacental insufficiency and adverse intrauterine conditions, may contribute to the risks for developing chronic adult diseases, such as kidney and cardiovascular disease, diabetes mellitus, and hypertension. "These are things of which most pathologists are not aware," Dr. Faye-Petersen says.

Her presentation on perinatal pathology will include how to evaluate common fetal anomalies, and it, as well as the session on placental pathology, will be an update geared toward general practice pathologists. Both will be useful also to those who have more experience in evaluating placentas from high-risk pregnancies and stillborns. "I'm trying to present information that is practical, with clear placental gross and histopathologic correlations; includes updated diagnostic criteria; and provides insights into the potential consequences of various placental lesions," she says.

At the heart of Dr. Spencer's presentation, and her work passion, is her desire for laboratory professionals and physicians to communicate better with each other. "Thyroid hormones bind to plasma proteins. Only a minute fraction of that circulates as free hormone, and measuring those exceedingly low levels of free thyroxine, independent of the vast amount of protein-bound thyroxine, is very technically difficult," Dr. Spencer says. In a laboratory setting it's too expensive, time-consuming, and technically demanding to measure free thyroxine directly. Some manufacturers have developed immunoassay methods to estimate free thyroxine in the presence of the vast majority of protein-bound thyroxine. "They call these free thyroxine tests, but they're not; they are free thyroxine estimate tests," she says. Physicians will check off "free thyroxine" on a requisition, thinking that's what they are getting. "They are not aware that these free thyroxine estimates are problematic for assessing free thyroxine status when binding proteins are very abnormal, such as in pregnancy and nonthyroidal illness."

Dr. Spencer will discuss the factors that affect the clinical utility of using thyroglobulin (Tg) measurements to monitor patients with thyroid cancer. One of the problems is between-assay differences. "The same specimen, measured by different methods, could reveal a two- or even threefold difference," she says. "If you are using thyroglobulin as a tumor marker for thyroid cancer, which is its primary use, you can't be monitoring a patient over time and jump from method to method. This is a problem not only of standardization but specificity, in that different methods measure different Tg isoforms in the circulation."

Sensitivity is another problem. "Most of the Tg methods we have at the moment are very insensitive," she says. Second-generation methods are becoming available and can obviate the need to stimulate Tg using recombinant human TSH (rhTSH), which is a very expensive procedure.

Dr. Spencer will also talk about the problem with interference from thyroglobulin autoantibodies (TgAb), which are present in the circulation of about 20 percent of thyroid cancer patients.

The confluence of ideas, viewpoints, evidence, and expertise at the 2009 Pathology Update is expected to move the field forward. To Dr. Faye-Petersen, this cross-

pollination is critical. “The sophistication in medicine and pathology is at a much higher level than it would be if we didn’t have this contact,” she says, noting the 600 to 700 national and international colleagues she shares information with in her specialty of pediatric pathology. “We well recognize there is expertise worldwide, but the opportunity to share it in an international forum is invaluable,” she says. “We gain a perspective on techniques, on diagnostic criteria, and on worldwide health problems.”

Dr. Travers agrees, citing the Declaration of Helsinki as an example of the power of international collaboration. “It is an internationally recognized and utilized guideline, and virtually every change that was made in that document in the recent update of October 2008 came from the World Medical Association, based on input from these kinds of discussions,” he says. “It’s in that kind of context where this interchange of ideas makes the transition from a simple conversation to effective action crossing international borders.”

Cynthia Kincaid is a writer in Portland, Ore. For more information about the 2009 Pathology Update in conjunction with the 25th World Congress, contact Eve Propper of the Royal College at evp@rcpa.edu.au or visit [http://www.rcpa.edu.au/static/File/Asset%20library/PUP/Publications/Pathology Update 2009 in conjunction with XXV WASPaLM Registration and Preliminary Program Final.pdf](http://www.rcpa.edu.au/static/File/Asset%20library/PUP/Publications/Pathology%20Update%202009%20in%20conjunction%20with%20XXV%20WASP%20LM%20Registration%20and%20Preliminary%20Program%20Final.pdf).