

TREK TIMES

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NEW SWIN™ (SENSITITRE® WINDOWS® SOFTWARE)

By Sandi Larison, MT (ASCP), Microbiology Supervisor, Grande Ronde Hospital La Grande, Oregon

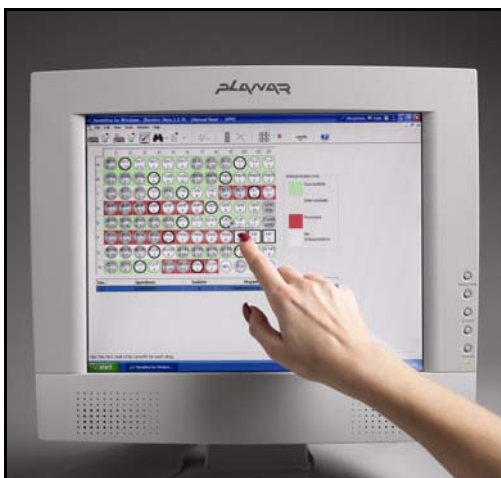
Grande Ronde Hospital is an acute care, not-for-profit, rural hospital located in the Blue Mountains of northeastern Oregon. The lab, which is directed by two pathologists, has 22 employees, 11 technologists, four of which work in the microbiology section.

We started using Sensititre® in March of 1989. Before purchasing Sensititre, we did a comparison between Sensititre and two other competitive systems. We chose Sensititre based on the following:

- ◇ Easiest set-up
- ◇ Best microbiology technology
- ◇ Lowest overall cost per test

Before we decided to purchase the SWIN system, we again looked at competitive

systems. The same decision was made, for the same reasons, to stay with the Sensititre line.



We were very pleased to become the first clinical lab to use SWIN Software in the fall of 2003. After seeing the Expert System, we were really sold on the overall product. After using SWIN for several months, we can honestly say

we love it! It is very user-friendly. I am not much of a computer specialist, but it has been easy to learn. The “on-board” help is easy to use. We really like the expert comments and the quality control package. The lab technologists here love the QC module, expert rules, and the ease-of-use!

TREK has been very good at keeping up with the new resistance issues that we are bombarded with constantly. Being able to interface the data with Excel will be very helpful in keeping up with epidemiology reporting. The system has sped up the workflow.

The technology associated with Sensititre, as well as the ability to have custom plates, really makes Sensititre and SWIN a unique system!

A VERSATREK™ USER EXPERIENCE

By Verna Morton, Microbiology Supervisor, Cox Health, Springfield, Missouri

Cox Health is comprised of four hospitals and roughly 80 affiliated clinics and physicians offices. All microbiology services are consolidated at our south facility, which is the largest of the hospitals. The Microbiology Department has 22 full and part-time employees and runs approximately 135,000 tests/year. Our Laboratory Information System (LIS) is Cerner Millen-

nium, which has multiple instrument interfaces.

In October of 2003 we upgraded from the ESP® Culture System II to the VersaTREK Automated Microbial Detection System. One 528 unit was able to replace 3 of the 384 ESP units giving us an additional 12 cubic feet of desperately needed lab space.

This unit can hold an equivalent number of bottles due to the “any bottle anywhere” design. The ESP units had dedicated aerobic and anaerobic positions. We use VersaTREK for blood cultures only, as mycobacteria services are contained in a separate negative pressure room.

(continued on page 2)

“Combine SWIN with the Sensititre ARIS® 2X automated system to eliminate offline test procedures and save time and expense.”

SWIN™ — UNVEILING A NEW ERA IN SUSCEPTIBILITY AND IDENTIFICATION SOFTWARE FOR MICROBIOLOGY LABS

By Jenny Lorbach, Global Sensititre Product Manager

We at TREK Diagnostic Systems are proud to announce the availability of our newest software package, Sensititre® Windows® (SWIN), for the clinical microbiology lab!

Our newest software package addresses the susceptibility and identification test requirements for today's clinical laboratory.

And SWIN has it all...

- Customizable Expert System tracks susceptibility patterns in a world of ever-growing resistant organisms
- Excellent quality and consistent results lead pharmaceutical companies to choose Sensititre products for surveillance studies and clinical trials
- Easy export of data results to Excel or Access enhances survey options
- Unique, color coded identification parameters allow immediate viewing and recalculation of organisms

- Interfaces with Sensititre equipment or stand alone software package for manual read options
- QC Module automatically displays “out of range” results and allows customization



- Offline susceptibility test information consolidated on a single report eliminates extra paperwork
- Easily interfaces with existing laboratory information systems to generate reports
- True MIC readings in accordance with recent NCCLS recommendations
- Greatest number of FDA

cleared antimicrobics, with the least number of restrictions

Combine SWIN with the Sensititre ARIS® 2X automated system to eliminate offline test procedures and save time and expense.

We are unveiling SWIN in clinical accounts within the U.S. and around the world! Our recent installations include hospitals in Oregon, Ireland and Italy. Additional installations are scheduled soon for Maine, Massachusetts, Poland and the Netherlands.

Contact TREK today to learn more about SWIN and how Sensititre can streamline your microbiology test procedures!

For additional information on Sensititre ARIS studies, refer to *The Journal of Clinical Microbiology*, February 2004, p. 909-911, Vol. 42, No. 2, Evaluation of Sensititre Automated Reading and Incubation System for Automated Reading of Sensititre Broth Microdilution Susceptibility Plates.

A VERSATREK USER EXPERIENCE (continued from cover)



All the techs love the ease of loading bottles. When blood cultures are logged into microbiology, the LIS downloads patient demographics and test information to the VersaTREK instrument. To load bottles, a tech simply presses the load bottle icon to activate the barcode scanner. Next the manufacturer's barcode and the unique lab accession barcode are scanned in any order. VersaTREK then indicates which

position the bottle is to be loaded into. We have configured our instrument to load bottles in succession (auto location enabled) though it can be configured to load anywhere. Loading bottles in succession makes unloading negative bottles easier.

The picture to the left shows Brandi Rice, one of our technicians, loading new bottles. Brandi says, “This instrument is so much easier to load and unload bottles and you don't have to stretch as much.” It is more ergonomically friendly as the top and lower positions are more centered. She also likes that most of the routine functions are performed right at the control panel LCD on the instrument.

One key advantage of the software is that the database

is complete from the time the system goes live, so information on blood cultures several months old may be retrieved.

The functionality of VersaTREK software has served us well. When our LIS is down, we still load bottles using the keyboard touch pad to enter available information on orders. When the LIS comes back up, the records are automatically merged in the VersaTREK system.

Since installation of VersaTREK, we have had no ‘down time’ and any issues with the software have been quickly resolved.

In these times that demand laboratories be more efficient, the placement of an instrument that streamlines workflow is a very welcome addition.

VERSATREK ATTACKS!

By DeAna Dziak, Associate Product Manager

It wasn't long after the installation of VersaTREK at Cox Health that their Microbiology Department recovered a rather unusual organism – *Cellulosimicrobium cellulans* (formerly *Oerskovia xanthineolytica*).

The organism was recovered in three sets of blood cultures from a 13 year old leukemia patient. This bacterium is an environmental organism (i.e. lives in soil) and is distinctive in its cellulose activity. The organism took four days to signal on the instrument. Gram stain from the bottle showed pleomorphic gram-positive rods with coccoid forms. The blood was subcultured to chocolate (CO₂) and blood (ambient 35°C). Colonies for this organism are slow growing, and are pale to phosphorous yellow, convex, and often pit the agar. The organism was so highly pigmented that the techs at Cox

Health were convinced that this was a *Micrococcus* sp. MicroScan was unable to identify the organism.

Identification by RapID CB Plus System gave the identification of *Cellulomonas* sp with the following reactions:

Glucose +
Sucrose+
Maltose+
ONPG+
Phosphate+
Pyruvate+
Urea-
Catalase+

In addition, this organism is non-motile and can hydrolyze either xanthine or hypoxanthine.

The isolate was sent to the Mayo Reference Lab for confirmation. Mayo reported the organism as *Cellulosimicrobium* (*Cellulomonas*) *cellulans*.

WHAT DO *Vibrio vulnificus*, *Campylobacter jejuni*, AND *Mycobacterium fortuitum* HAVE IN COMMON?

They were all recovered rapidly within the first few weeks after the installation of VersaTREK at our first installation site – Alexian Brothers in Elk Grove, Illinois.

Campylobacter jejuni was recovered from a pediatric patient whose admitting diagnosis was fever and vomiting. Blood cultures were collected on 09/24/03. VersaTREK signaled positive in less than two days showing gas consumption on the graph.

Mycobacterium fortuitum signaled positive in four days. The culture was taken from a picc line. According to Grace Kancherlapalli, one of the supervisors from Alexian Brothers, "This is the most important potential pathogen recovered from bloods collected from lines. VersaTREK is the BEST system in the market!"



SENSITITRE® CONTINUES TO MEET THE CHALLENGE OF DETECTING INCREASING ANTIMICROBIAL RESISTANCE

By Cindy Knapp, Director of Laboratory Services

With the continuing increase in antimicrobial resistance with gram-positive and gram-negative bacteria there is a greater need for susceptibility testing to be performed to monitor the newer mechanisms of resistance. Sensititre offers some of the best solutions to hospitals and other individuals/groups that are tracking resistant mechanisms and looking at unpredictable antibiograms.

At TREK, we have an extensive collaboration with most of the pharmaceutical companies and offer both frozen and dried custom plates. Allowing the pharmaceutical company to first work through the early development phase of their new experimental compounds using NCCLS frozen reference

methodology, the pharmaceutical company can proceed into the next phase of development for their new compound, the dried plate.

After completion of the development work for the dried plate, the next phase is to validate the performance of the dried plate versus frozen reference method. The goal of this phase is to obtain reproducible results between the dried and frozen plates for all isolates tested, with an agreement of 92-95% within +/- 1 doubling dilution. The benefit in having the same manufacturer work through each phase with the pharmaceutical company is that this provides them with a single point contact throughout the drug development process, ensur-

ing consistency and speeding up the access of the new antimicrobial to the market place.

The customer can be assured of superior quality control at TREK. All plates are manufactured under ISO 9001 standards and adhere to NCCLS guidelines. QC performance data is provided with each order of plates. The Sensititre broths are also tested to ensure quality performance of the complete system. We provide validation performance testing of NCCLS reference method plates versus dried plates upon request.

What does this mean to the customer: earlier availability of the newer antimicrobial for custom plate configurations.



PRELIMINARY DATA OF RECOVERY AND TIMES-TO-DETECTION FOR THE VERSATREK™ AUTOMATED MICROBIAL DETECTION INSTRUMENT COMPARED TO THE ESP® CULTURE SYSTEM II INSTRUMENT USING CONTROLLED SEEDED STUDIES AND PRELIMINARY DATA ON CLINICAL SAMPLES

By Dave Fett, Research Microbiologist, and Dr. Nadine Sullivan, V.P. and Chief Science Officer



In 2000, TREK Diagnostic Systems set out to develop a new blood culture instrumentation that addressed the issues of reliability, ease in workflow, and ergonomic improvements. TREK decided to keep the best of their previous blood culturing system, the superior technology, and build upon this technology to create the VersaTREK - an automated blood culture instrument designed for better recovery, simple ease-of-use, improved patient care, and greater value!

One area which changed significantly in the instrument was the method by which the media was agitated to allow for the mixing and subsequent oxygenation of aerobic media. In the ESP Culture System II, the aerobic bottles were shaken in the bottom of the instrument, while the anaerobic bottles were kept sta-

tionary at the top of the instrument. The new agitation method, or VorTrexing™, has been shown to effectively mix the media so well that recovery times in the controlled seeded study actually were improved in the VersaTREK instrument. In addition, the new detection method allows the user the ability to place "any bottle anywhere" in the system, thus eliminating the need to segregate aerobic and anaerobic bottles.

The controlled seeded study consisted of 81 microorganisms. There were 18 anaerobic organisms tested; 45 aerobic and facultative organisms were tested in the aerobic media; 18 facultative organisms were tested in both aerobic and anaerobic media. The organisms were tested on a pre-production VersaTREK instrument. The chart below summarizes the times-to-

detection results and difference in hours.

In addition to the controlled seeded data, preliminary results on 200 clinical samples were also evaluated at the same time. Preliminary data from clinical samples showed that the VersaTREK is equivalent to the ESP in recovery of organisms. However, in general there were faster times-to-detection in the VersaTREK instrument compared to the ESP Culture System II due to the efficiency of the VorTrexing agitation method.

To obtain a copy of the full study that was presented at the 2003 ASM, please contact Marianne McGeedy via e-mail at mmcgeedy@trekds.com, or call 1-800-871-8909, Ext. 205.

Bottles Used	Number of Microorganisms recovered with a faster TTD using VersaTREK	Difference in hours (TTD between ESP & VersaTREK)
Anaerobes		
REDOX 2 40 ml bottles	14/18	0.2 — 14.1
REDOX 2 80 ml bottles	13/18	0.1 — 13.0
Facultative and Aerobic Organisms		
REDOX 1 40 ml with stir bar	43/45	0.1 — 4.1
REDOX 1 80 ml with stir bar	36/45	0.1 — 11.2

SENSITITRE® AUTOMATED SYSTEM ACCURATELY DETECTS ANTIMICROBIAL RESISTANCE

By Jenny Lorbach, Global Sensititre Product Manager

As concerns for correct reporting and detection of bacterial resistance mechanisms grow, it is important for an automated microbiology system to accurately provide a susceptibility profile for an organism. A recent article in the *Journal of Clinical Microbiology* (February 2004) compares Sensititre automated results to manually read results for a variety of organisms where resistance detection can be important. The article is entitled: *Evaluation of Sensititre Automated Reading and Incubation System for Automated Reading of Sensititre Broth Microdilution Susceptibility Plates*, co-authored by Dr. Kimberle Chapin and Michael C. Musgnug.

The article documents the excellent performance that clinical laboratories can expect when using Sensititre's automated ARIS® system for susceptibility testing. A total

of 212 isolates were compared automatically and visually and showed 99.4% essential agreement and categorical agreement of 0.2% minor, 0% major and 1% very major. Specifically, essential agreement was 99.5% for 122 gram-negative organisms and 99.5% for 90 gram-positive organisms. The organisms represent a typical mix of clinical isolates routinely tested in a diagnostic laboratory.

The Sensititre method starts with a precisely measured 0.5 McFarland inoculum using a Sensititre nephelometer. This ensures the proper amount of bacteria is transferred into the final broth choice, thereby eliminating inoculum issues that can lead to under or over reporting of antimicrobial resistance. In addition, plates are inoculated with the Autolnocolator for consistent dosing of inoculum in each well. Finally, plates are loaded

into the Sensititre ARIS system for automated incubation and fluorogenic reading of results. By providing accurate automated results, a laboratory can expect to perform less repeat testing and consolidate offline MIC tests into a single test platform with Sensititre products.

Sensititre MIC plates offer clinical laboratories a variety of options, from standard MIC plates to custom MIC plates, in flexible lot sizes.

Also note that Sensititre is launching the ARIS 2X system this year in conjunction with SWIN software, providing additional benefits to the diagnostic laboratory.

To request copies of the JCM article, please contact Marianne McGeady via e-mail at mmcgeady@trekds.com, or call 1-800-871-8909, Ext. 205.

"By providing accurate automated results, a laboratory can expect to perform less repeat testing and consolidate offline MIC tests into a single test platform with Sensititre products."

YEASTONE® COLORIMETRIC ANTIFUNGAL PLATE

By Nicole Holliday, YeastOne Project Leader

The Sensititre® YeastOne® susceptibility plate is a simplified and efficient approach for testing new antifungal agents against clinical isolates of *Candida* species.

YeastOne colorimetric antifungal susceptibility plates (For research use only. Not for use in diagnostic procedures.) are designed for determining quantitative antifungal susceptibilities (MIC) of non-fastidious yeast including *Candida* species, *Cryptococcus* species and miscellaneous other rapid growing yeast species. The 96 well plate contains dried serial dilutions of five antifungal agents, 5-flucytosine, fluconazole, itraconazole, amphotericin B, ketoconazole, voriconazole,

and the colorimetric indicator alamarBlue® in each individual well. The MIC for the test organism is determined by manually observing the lowest antifungal concentration showing inhibition of growth (as evidenced by no color change). Yeast growth in the antifungal solution is evident as a change in the colorimetric growth indicator from blue (negative) to pink (positive). MIC's are interpreted as the lowest concentration of antifungal solutions remaining blue in color.

In the February 2004 issue of the *Journal of Clinical Microbiology*, two articles featured the benefits and advantages of the YeastOne product. These articles are *MultiCenter*

Comparison of the Sensititre YeastOne Colorimetric Antifungal Plate with the NCCLS M27-A2 Reference Methods for Testing New Antifungal Agents Against Clinical Isolates of Candida spp., co-authored by A. Espinel-Ingroff, M. Pfaller, S.A. Messer, C. Knapp, N. Holliday, and S. Killian and *Comparison of Two Microdilution Methods for Susceptibility Testing of Candida spp. to Voriconazole*, co-authored by Maria Jose Linares, Guadalupe Charriel, Francisco Solis, and Manuel Casal.

To request copies of either of these articles, please contact Marianne McGeady via e-mail at mmcgeady@trekds.com, or call 1-800-871-8909, Ext. 205.



TREK'S CORE VALUES:

Reliable, accountable,
responsible in fulfilling
our commitments

Supporting each other
with openness, honesty,
trust and respect

Ethical in all our business
practices

Innovative and passionate
in our approach to work

Driven by consistent qual-
ity, continuous improve-
ment, and customer ser-
vice and satisfaction

Working synergistically as
a team to achieve our
common objectives

Personal dedication and
commitment to TREK's
success

HOW TO IMPLEMENT A SUCCESSFUL VALUES PROGRAM

By Mike Burke, President and CEO

Have you ever been frustrated by one or more of the following scenarios?

- o Projects not completed on time
- o Bad hiring decisions
- o Goals not met
- o Employee attitude issues

If so, it may be time to initiate a values program in your workplace. In the 5 years since the foundation of TREK Diagnostic Systems, we have developed and released the following new products:

- o para-JEM® for the detection of *M. avium* ssp. *paratuberculosis*
- o VersaTREK™ Windows Software
- o VersaTREK™ Automated Microbial Detection System
- o SWIN™ (Sensititre® Windows® Software)

It has not always been easy! In the early days at TREK, there was a grand vision of all the goals that needed to be accomplished. Yet there were also many missed commitments, multiple projects that fell behind schedule ... and management was often the last to find out. As a result management was frequently frustrated and employee morale suffered.

Then, two and a half years ago, TREK's executive management staff held a series of

meetings to discuss what type of culture we wanted at TREK. By the end of the meetings, TREK's Corporate Values (see sidebar) were formulated. These values are the closest representation of the culture we now strive to uphold at TREK. Individually and as a team, we work hard each and every day to uphold these values.

TREK's values initiative started in January 2002 and it took about 6 months to begin to impact our culture. The following steps were the keys to our success:

Immediately recognize those who meet or exceed the values with small incentives – At TREK, employees were able to nominate their co-workers, employees from other facilities and departments, even their boss or upper management, whenever they felt that a colleague did something that exemplified TREK's values. TREK offered 3 levels of awards for employees. Many employees received levels two and three.

Terminate employees who will not commit to all values – We actually let go of several employees who did not have a desire to uphold the values. This sent a message that we were serious about the values.

Make values part of job descriptions for hiring and part of the performance review – This step ensures that the values are reviewed with prospective new employees and discussed at reviews.

Ensure that leadership is always true to values – There can be no buy-in to this type of program if employees see that management does not buy-in!

Appreciate knowing the truth rather than cheerleading – Be sure to positively reward employees for telling the truth, when they know that what they are telling you is not what you want to hear!

Integrate the values into trainings, inter-departmental communications, meetings, newsletters – The values should be discussed in daily situations to become a part of the culture.

Since implementing the program, we hire new employees based upon our values, strive to communicate openly and honestly with one another, and hold monthly departmental values meetings to keep employees up-to-date on various topics. TREK has created a culture that truly centers on our values!

UPCOMING TRADE SHOW SCHEDULE

SCACM, Columbus, OH, 4/15-4/17/04

ORV-CLMA, Dayton, OH, 4/28/04

AVM Heartland Chapter, Lincoln, NE, 4/29-5/1/04

ECCMID, Prague-Czech Republic, 5/1-5/4/04

NACMID, Cromwell, CT 6/14–6/16/04

AACC, Los Angeles, CA, 7/25-7/29/04

National AVM, Athens, GA, 8/5-8/7/04

Visit us at ASM in
New Orleans, LA,
May 24–26, 2004

Stop by booth #819!

TREK Supports
National Medical
Laboratory Week
April 18-24, 2004

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