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Dealing With **STRESS** (Equipment)

By Keith Loria

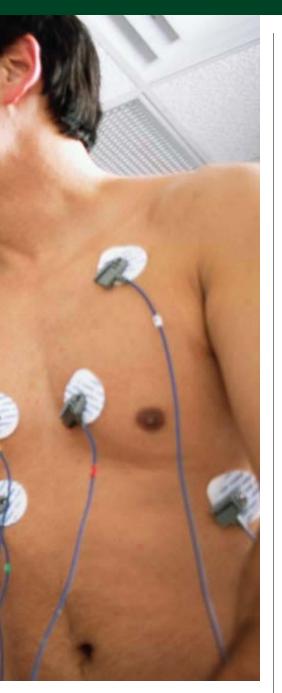
s we close in on the midway point of 2009, the medical industry is still facing a number of big issues that have many concerned, including those who sell, refurbish or service stress test equipment. Whether it's the sad state of our economy, the continued decrease in reimbursements or the increase in the number of clinics and medical centers closing down, to all involved it can be quite, well, stressful.

"We haven't had a lot of people drop off but we haven't seen a whole bunch of people jump on board," says Jim Gray, director of business development for Medical Integrated Services, which services stress test equipment. "The people we already have as customers, we are seeing them purchase less new equipment and taking care of their existing equipment but there hasn't been a new influx of repair bills. As many people as there are who are putting off on buying things new, a lot of people are also saying, 'let's use the system we have in redundancy before calling in the repair guy.' Everyone all across the board is feeling the effects."

Despite hitting record numbers in 2008, with industry sales of \$65-\$70 million, those numbers are expected to decline this year.

"The market has been growing slowly but steadily but this year we anticipate the market to decline somewhat," says Paul Brooks, commercial marketing manager, Diagnostic Cardiology & Stress, GE Healthcare. "Challenges in the industry include reimbursement, reliance on pharmacological drug testing due to increasing size of patients, communication to EMR and electronic data management."

According to Mordy Eisenberg of Absolute Medical Equipment, which sells new and refurbished stress test equipment,



many OEMs are cutting costs to try and keep the market from declining too much, but the downward spiral for them means an up-swing for the used market.

"As a retailer of primarily refurbished stress systems, we have seen an increase in sales of used systems," he says. "Although big name manufacturers like GE have been cutting prices on new systems in an effort to boost flagging equipment sales, refurbished equipment still costs far less. In this market of reduced reimbursements, sales of refurbished stress systems offer a very attractive value proposition."

The ABCs of Stress Tests

The basic components a physician needs to perform a stress test are a treadmill or bicycle ergometer and controller or module (which is basically the ECG component). The equipment hasn't changed much from the time treadmills first gained popularity after being developed for therapeutic purposes in 1952 by Dr. Robert Bruce and Wayne Quinton.

"There really has been no silver bullet in the equipment in the last 25 years when it comes to this, but the machines are more comfortable and they are more technologically advanced with wireless and being able to interface with more areas," says Ronald Cohen, of C&R Medical, Inc. "Many people are buying refurbished equipment. There's really no reason not to, because the newer models don't offer that much of a difference."

Bruce and Quinton invented the treadmill in an effort to help with diagnosing lung and heart disease by creating a protocol enabling consistent and repeatable cardiac testing at an elevated heart rate. Today, stress testing systems are all designed to control the speed and elevation of the treadmill or bicycle using standard or custom protocols.

A stress test isn't complicated. A baseline electrocardiogram (ECG) is obtained before the patient begins to walk on a treadmill, beginning at a low-level of exercise. The pace gradually increases as the patient's pulse, blood pressure and ECG are recorded and symptoms noted. The test will monitor a patient for fatigue, shortness of breath, chest pains or any other medical changes.

The basic concept behind a stress test is simple: if there is a blockage in a coronary artery (the arteries that feed the heart) exercise will make the problem worse and doctors will be able to identify the issue.

The reason people with semi-blocked coronary arteries get symptoms with exercise is because exercise makes the heart work harder, which means it demands more oxygen, which means it needs more blood flow. If there is a partial blockage, the heart may not get the oxygen it needs and will result in either symptoms, like chest pain, or observable data, like EKG changes. Since the blockage may not be severe, the symptoms and signs may not be there during normal everyday life; they only appear with exercise.

While treadmill exercise stress testing is an essential tool in the prevention, detection and treatment of cardiovascular disease, physicians are often challenged to gain clear images of the heart when a patient is at peak stress level and this is an area companies are concentrating their efforts on.

What's new to the market

There are only a handful of OEMs who deal with stress test equipment, with the big players being Cardiac Science (which manufactures the direct descendents of Quinton's designs and products, having acquired the company in 2005), GE and their Marquette line, and Nasiff Associates, Inc.

Today's models have improved hardware, software and the ability to export data, electronic records and clinical measurement tools and the OEMs are focusing on improved technology, easier workflow solutions, EMR compatibility or integration, making diagnostic systems complete systems and adding protocols in stress systems.

GE has recently advanced networked stress testing solutions and workflow enhancements to allow physicians to review and view multiple live tests from any location.

"Computer algorithms have been advanced to provide diagnostic quality EKG even during 'noisy' procedures," say Brooks. "Other advancements include automated arrhythmia analysis, very high levels of system and procedure customization and increased use of imaging modalities along side the EKG data."

In October of 2008, Cardiac Science launched the new Quinton Q-Stress 4.0, the ninth generation of its diagnostic stress testing technology and one of the most requested brands on the refurbished market today.

The new Quinton Q-Stress connects with virtually everything needed for enhanced workflow and reporting, including hospital information system/electronic medical record systems, e-mail, network storage, and nuclear and echo systems. Every heartbeat can be captured and reviewed and the entire test can be saved and sent to a desktop workstation, network, or EMR for storage and remote viewing.

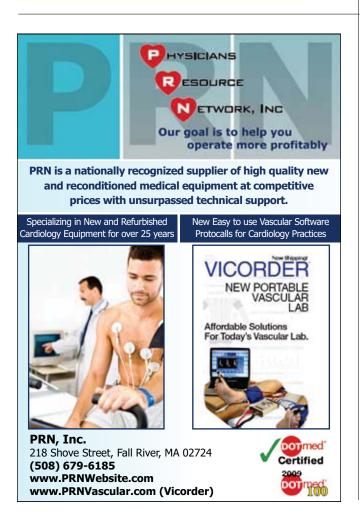
"Clinicians rely on Quinton Q-Stress for consistent, durable, and reliable performance," says Rene Mitchell, Cardiac Science director of diagnostic marketing "Q-Stress 4.0 incorporates stress testing innovations with the efficient workflow and ease of use."

Roger Nasiff, President of Nasiff Associates, Inc., is getting ready to provide a complete turn-key stress system at an affordable price, in an effort to keep up with customer demand.

"A challenge we face in the technology age is how quickly expertise can become obsolete and how this can affect our customer," says Nasiff. "Replacements and/or upgrades can become very costly; with a PC-based CardioStressTM System upgrading is affordable and easy, allowing our customers to be up-to-date with the latest technology," says Nasiff.

Since the company was established in 1989, Nasiff was the first to produce a clinically useful PC-based PC ECG/ EKG, build a PC-based Stress ECG System, develop a notebook (PCMCIA or USB) based ECG System and integrate stress and holter into one system. The company's flagship products are the Cardio-Suite and the Cardio Vitals, which consists of ECG, NIBP (noninvasive blood pressure monitor) SpO2 (measuring the amount of oxygen being carried by the red blood cells in the blood) and temperature.

Despite a sluggish economy, Nasiff has seen sales for its systems improve by as much as 30% in the past year.





"We have found that this economy has driven customers to look for the best technology at competitive pricing. This plugs well into what Nasiff Associates has to offer," he says. "Nasiff CardioStressTM ECG is feature rich and affordable. In this economy our customers are looking for pricing alternatives while maintaining top quality and the best customer care."

Today, medical facilities want an enterprise-wide solution, a system that allows large volumes of clinical and administrative data to be quickly and easily exchanged. They are also looking for a system that does not lock them into buying one manufacturer's proprietary hardware or software, and can adapt to future changes in technology.

Refurbishers play a role

A quick perusal of the listings on DOTmed.com will result in hundreds of hits for refurbished stress test equipment and most will save you more than 50% compared to the price of newer models.

"The economy is keeping people from buying new and so by offering quality products blended with excellent customer service, the refurbished market is the way to go for this," says Bob Gaw, owner of PRN, which sells, refurbishes and services stress test equipment. "Stress test equipment hasn't changed in 25 years so there's not a big demand for newer equipment."

Gaw says that the stress test market is mostly in America as the shipping costs are too much for it to be viable outside the U.S.

When it's time to refurbish the equipment, there are numerous steps that must be done.

"We go completely through it. We do a lot of electrical checks, often change the tread board, change the belts, service the moving parts, lubricate where needed and fix printer rollers," Gaw says. "You have to check that the printer drives, power supplies and treadmill are all working."

Bill Peloquin, owner and service manager of STAT Bio-Medical Sales & Service, says that the important things to look for when refurbishing a stress treadmill are the working components and gear assembly.

"We bring it in and evaluate it and see how operational it is and then we physically dismantle it," Peloquin says. "Take a Q-55 treadmill for example. We will take the belt off, remove the motor assembly—we refurbish all motors that come through because the motor is the heart of the system and has to be serviced on a regular basis and a lot of people neglect that. Then we overhaul the belts and inspect the gear assembly and check each one of those. A lot of times they develop stress cracks because the amount of use and we want them to be completely operational. We replace all the belts and the tread belt and use beeswax to laminate the deck that the belt rides on. Then we assemble and clean as needed."

Service Time

For 30 years Medical Integrated Services has been providing stress test service with technicians in the Midwest who can disperse as needed around the country.

According to Jim Gray, several challenges currently face the service industry including challenges with reimbursements and bill collecting.

"When you look at all the reimbursement issues that people are dealing with, it has a trickle down effect and a direct impact on us in that we become one of those vendors that people put-off paying," Gray says. "With everyone so focused on money, people wait a little longer to make those calls for repairs."

Another problem that companies are dealing with involves customers dealing directly with the OEMs for their service needs. "A lot of times what we see are people going back to the manufacturer because they feel it's simple and they are names the public is familiar with," Gray says. "But the downside is that you are paying a premium that you might not need to pay. It's an ongoing challenge that we have always dealt with. In many cases, they don't get as high a level of service from the OEMs."

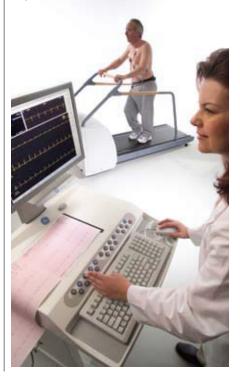
Alda Clemmey, vp sales/marketing for STAT Bio-Medical Sales & Service, still believes that cost is the number one factor and they have seen an increase in customers over the past year.

"We work with clinics and physicians who call us when things break, usually the belt or the motor on the treadmill," she says. "More people are inclined to have things fixed rather than buy new. And if they do need to replace something, we will let them trade it in towards a refurbished model. This way you can get equipment for at least less than half and get as good a warranty as the manufacturer."

That doesn't mean people aren't interested in the new products that Quinton, GE and Nasiff have to offer. In fact, prices have recently dropped on new equipment, which is another challenge that refurbished companies have to deal with. Additionally, some exciting things are planned for the future. "We're working to make closer ties to imaging for reporting, and storage of stress data," says GE's Brooks. "Other areas of concentration are lung function in respiratory medicine with stress, as well as programs to assist clinicians in determining cardiac well-being."

Online: dotmed.com/dm9121

GE Healthcare's CASE[®] Exercise Testing System with T-2100 treadmill



DOTmed Registered Stress Test Equipment Sales & Service Companies

For convenient links to these companies' DOTmed Services Directory listings, go to www.dotmed.com and enter [DM 9121] *Names in boldface are Premium Listings.*

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Name	Company - Domestic	City	State	Certified	DM100
Ronald Cohen	C&R Medical, Inc.	Camarillo	CA		
Kenn Matayor	Jaken Medical, Inc.	Chino	CA	•	
Joe Avina	American International Medical	Sylmar	CA	•	
Oswaldo Guio	Let Medical Systems, Corp.	Miami Lakes	FL		
Carlos Restrepo	Technomedical Instrumentation	Pembroke Pines	FL		
Nils Nilson	Advanced Electronic Diagnostics, Inc.	Royal Palm Beach	FL		
Joe Murray	Medeco	Boise	ID	•	
Richard Fosco	HealthWare, Inc.	Oak Brook	IL	•	
Travis Nipper	Clinical Engineering Consultants, Inc.	Erlanger	KY		
James Blount	Biomed Plus, LLC	Independence	LA	•	
Alda Clemmey	STAT Bio-Medical Sales & Service	East Freetown	MA		•
Bob Gaw	PRN	Fall River	MA	•	•
John Gladstein	Medical Device Depot	Ellicott City	MD		
Asif Bhinder	tekyard	Burnsville	MN		
Clarence Johnson	Shape Medical Systems, Inc.	St. Paul	MN		
Roger Nasiff	Nasiff Associates, Inc.	Brewerton	NY		
Mordy Eisenberg	Absolute Medical Sales, Inc.	Spring Valley	NY		
Abe Sokol	Absolute Medical Equipment	Wesley Hills	NY	•	•
Jim Gray	Medical Integrated Services	Cuyahoga Falls	OH		
Ramon Cervantes	C R MEDICAL	Mesquite	тх		