Message from Chester

Dear Dolphin family member –

In addition to the fact that I now have more hair (see photo), your *Echoes* issue now has more pages! We now offer even more useful tips and information to benefit the way you practice with Dolphin.

This issue features *Echoes*' FIRST oral surgeon, and the first non-U.S. doc. We met Dr. Bowler a few years back. He's been so enthusiastic and successful in incorporating Dolphin into his practice, we just had to write a feature on him. Continuing the theme on oral surgery, Dr. Paul Thomas demonstrates facial asymmetry treatment with Dolphin Imaging's Edit/Morph feature.

Our Imaging Expert Extraordinaire, Mr. Eric Iwamoto, offers advice on choosing imaging printers. Don't miss our debut column: Guest Expert Corner. The inaugural article features the well-known consultant Ms. Debbie Best sharing with us her tips for analyzing your practice.

We also pay homage to our Dolphin North American field warriors—the sales reps of Dolphin! They are the faces of Dolphin at meetings, courses and conferences; we reveal what makes them tick.

Due to our consistent stream of visitors to our headquarters in Chatsworth, starting this issue, we'll feature a fun log about our special guests. Wanna visit us in California?! Drop us a line and we'll be ready with open arms!

Enjoy. See you soon!

Chester

Chester H. Wang
Managing Director

What's New at Dolphin

2008 Dolphin Meeting, San Diego

Start planning now for the Dolphin Meeting on March 6-8, 2008, at the Loews Coronado Bay Resort in Coronado, California. A packed education program includes world renowned presenters from all corners of the industry. Dolphin developers and technicians will also be onsite to reveal the latest features and functions of your favorite imaging and management systems. Get to know your fellow attendees at the Margarita Welcome Reception on Wednesday, March 5! For information and to register, visit www.dolphinimaging.com.

Aquarium continues to grow

Interface updates and new media content continues to make Aquarium slicker than ever. Be sure to check out the new search capabilities, playlist functions and manufacturer specific content.

Free Dolphin software with i-CAT purchase

Dolphin has partnered with Imaging Sciences International to offer a free, 60-day trial of Dolphin software with the purchase of an i-CAT cone beam unit. Created specifically for this limited-time offer, the software package includes Dolphin 3D, Ceph Tracing, ImagingPlus, and AnywhereDolphin.com. All new and existing i-CAT customers are eligible to receive this offer.

Echoes Ensemble:
Executive Editor: Chester Wang
Editor/Staff Writer: Lisa Randazzo
Art Director: Michael Gunawan
Marketing Coordinator: Elvia Gomez

Customer Profile: Dr. Michael D. Bowler

The Doctor Down Under

Michael D. Bowler, DDS, FDSRCS, FFDRCS
Michael D. Bowler Oral and Maxillofacial Surgery
Charlestown, New South Wales, Australia
Customer Since: 2003
Products used: Treatment Simulation (VTO, Surgical VTO, Growth); Consultation & Image Library; ImagingPlus; Ceph Tracing;

Balancing a busy private practice with a dedication to public service, Dr. Michael Bowler has garnered a perspective of deference from his idyllic corner of the world.

Tucked way down under the globe in the southern hemisphere and surrounded by three vast oceans, Dr. Michael Bowler is far from isolated: His professional affiliations span several continents, as do the patients whose lives he has touched during academic and volunteer work. A native of New Zealand, Dr. Bowler maintains a private practice in Charlestown, a suburb of Newcastle in New South Wales, Australia, and holds the position of Senior Visiting Oral and Maxillofacial Surgeon at John Hunter Hospital, a part of the Hunter and New England Area Health Service. "The JHH is Newcastle's largest public hospital with a local and regional referral population of 1.5 million, and the work is spread amongst four oral and maxillofacial

surgeons," he tells us. "As a result, we are all very busy." He stays on top of his huge clinical workload by keeping abreast of professional trends and the technology that drives them. "I find Dolphin software to be essential tool, and hard to imagine practicing without it," he says.

Dr. Bowler's private practice in Charlestown, New South Wales, Australia.

Daily Dolphin

"I use Dolphin daily for the planning of surgical cases and have the program running every time I am consulting. I have benefited greatly from the profile prediction facility (VTO/Treatment Simulation module) and my patients like to be shown a variety of possible outcomes following a combination of orthodontics and orthognathic surgery."

Dr. Bowler relies on his Dolphin software for many aspects of his practice, from routine record keeping to case presentation, patient education and treatment planning. "Using Dolphin has helped me to be better organized with my patient records and maintain a better database," he explains. "This has been very useful on a daily basis, being able to show new patients outcomes from previous surgical cases." The Dolphin program not only assists in quickly locating relevant images, but also helps process the data for greater impact. "I also use Dolphin to store before-and-after images of some trauma patients because I find it is an orderly format for the storage of photographic records, and it is easy to transfer the data to PowerPoint presentations." Dr. Bowler is the sole operator of Dolphin in his office. "I take all of the photos and transfer them to the software and I do all of the treatment planning myself," he says. "Patients react very well to Dolphin and find it a modern and visually interesting software program. They are always impressed with the morphing facility within the software and all patients love to see before-and-after photos side by side."

Student of the World

A member of professional organizations in Australia, New Zealand, the United Kingdom and the United States as well as several international associations, Dr. Bowler travels to conferences around the world both to learn and lecture. It was during a continuing education trip that Dr. Bowler decided to purchase his Dolphin program. "I tend to go to as many Australian-based conferences as I can during the year and if possible, I try to get

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Product Highlight: Dolphin 3D

3D Goes Mainstream

The rapid pace of development surrounding 3D imaging technology has landed it in everyday dental specialty practices around the world.

A few short years ago, 3D imaging was a pipe dream reserved for academic institutions with deep pockets and sophisticated research goals. Today, we know that harnessing volumetric 3D datasets has daily applications in the mainstream dental specialty practice, helping practitioners deliver better patient care and more successful results than ever before. What's more, importing, processing and viewing these files is easy with the Dolphin 3D module.

More Data, More Details

Practitioners who utilize volumetric data do so simply because it offers so much more information than traditional 2D records. "I no longer use two-dimensional images," says Dr. Ilya Lipkin,

an orthodontist in Emerson, New Jersey, who has an Imaging Sciences i-CAT cone beam CT unit onsite and says 3D records are standard protocol in his practice. "The 3D image is the only x-ray that I take. From it I produce all of the images I need—from ceph to airway to TMJ. All those get analyzed and put into my diagnostic workup." Dr. Lipkin says he enjoys the volume of information matched with a high level of accuracy that three dimensional data delivers. "I can see everything in 3D," he says. "That improves my diagnostic ability incredibly. The right diagnosis = right treatment = better practitioner."

Dr. Inna Gellerman, an orthodontist in Huntington, New York, has been using Dolphin 3D for nearly a year, since she purchased her i-CAT unit in November 2006. "I take a 3D scan for every single patient," she says. "It is so much more powerful than a plain x-ray. My staff can take the scan and within five minutes build me an image file. The 3D scan gives me all the information I need. Even

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Dolphin
Imaging & Management Solutions

9200 Eton Avenue

Chatsworth, CA 91311

U.S.A.

North American Sales Team

The Dolphin North American sales team tells us there's more to job fulfillment than closing the deal.

If all they cared about was commission, they'd be on your doorstep peddling encyclopedias. Instead, when we asked our sales representatives what they find most fulfilling about their job, we heard the same thing over and over again: building relationships. "The personal relationships are equally if not more important than money," says Dwight Schnaitter, University Representative. "At the end of the day your family and friends are the most important. Some of my best friends are people I met during my duties as a sales representative."

Forming Bonds

"Having been a sales rep in orthodontics for more than 20 years, the thing that I have enjoyed the most is the establishment of long-term relationships," says Stu Aclander, who represents Dolphin in the Eastern United States and Canada. "I have been fortunate to grow with the Dolphin customer base for 14 years. Watching the growth of various practices, while establishing friendships with so many clients, has been extremely gratifying and is what makes it all worthwhile."

Dwight has the joy of being involved with our customers at the start of their careers. "Interacting with residents and faculty members is a very rewarding experience," he tells us. "Teaching young, bright OMS and orthodontic residents to utilize our powerful imaging and management software is fun. Since Dolphin ventured into 3D imaging we are in high

demand at many schools. It is very common for schools to invite me to visit, rather than me having to solicit them."

Long after you've signed the check, your sales rep wants to know you are happy with your investment. "The ultimate experience is when you see a customer at a conference or meeting
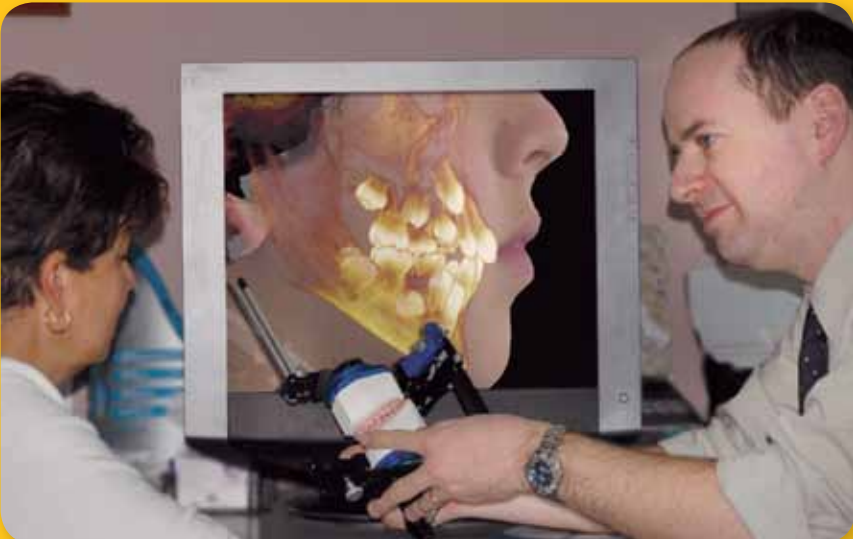
and they tell you that they don't know how they would run their practice without Dolphin," says Tony Mallegni, Regional Sales and University Representative, who admits to enjoying the competitive game of closing the sale. "Our customers are always happy and have smiles on their faces."

Background & Experience

Good looks and charm can take a person just so far; this crowd backs it up with enthusiasm for the industry and a truckload of experience. "Prior to working with Dolphin I owned and operated an oral and maxillofacial imaging center in Walnut Creek, California, meeting the

needs of doctors in the east bay of San Francisco," says Gary Wiseman, Dolphin representative in the Western United States and Canada. Gary has been in the dental specialty field for 15 years. "This experience has been invaluable in being able to assess the various needs of the client and properly implement solutions

for them. At times, I take on the role of a consultant in addressing various imaging and management questions the client may have. With all the changes the industry has encountered in the past few years from both an imaging and management standpoint, working with Dolphin has been particularly rewarding in being able to provide the client with cutting-edge solutions to meet their needs." Dwight's resume boasts 30 years in the orthodontic industry, 22 of them with a major orthodontic manufacturer, while Linda Homel has spent more than 20 years in both sales and in a private practice as a cephalometric analyst. Jeff Brockaway, representing the Southern Southwestern United States, has 10 years of orthodontic experience working in training, operations and sales management.

Personality & Attitude

Extroverts by nature, sales people also need to be curious and willing to stay in step with constantly changing technology. "In our professional lives we are constantly learning, improving and evolving," says Dwight. "My strongest personality traits mesh well with my job because I love to teach and I don't mind speaking to large groups. Selling our software to schools and residents requires those skills. Our business is about building relationships with customers and gaining their trust." Helping our customers to run more efficient practices is the end goal for all Dolphin sales reps. "My feeling has always been that we are only as good a company as we are a resource for your practice," adds Gary. "This is always the philosophy I strive to live up to."

Left to right: Tony Mallegni, Stu Aclander, Jeff Brockway, Gary Wiseman, Todd Blankenbecler, Dwight Schnaitter

Inset: Linda Homel, Dolphin Pediatric and General Practitioner representative, was out of town at a meeting in Texas on the day of the photo shoot at Dolphin headquarters.

Dr. Gellerman treatment plans using a CBCT-generated panoramic X-ray from Dolphin 3D

Dr. Lipkin presents a case to the parent; the patient's 3D facial scan merged with the CBCT dentition is displayed on the monitor

if I don't use the information right away, I have it all in the patient's record for the future. In a regular x-ray we never see as much information as we do in a 3D image."

Dr. Lipkin takes it one step further and adds surface data to create a virtual patient, which he captures with a high definition facial camera system. "Surface data is so much more accurate than 2D photos," he tells us. "You can measure asymmetries, midlines, etc. off the 3D surface without having the patient present. So, if my assistant took 3D photos I can analyze it later without having to spend too much time at the chair measuring the same things or measuring from a 2D photo." Dolphin 3D's ability to manipulate the image allows for a higher level of scrutiny. "You can look at the face at any angle," says Lipkin. "Again, you can pick up things that aren't readily visible at the clinical exam."

Enhanced Communication

The visual benefits offered by three-dimensional data have a huge impact on patient comprehension. "Patients love it. When they see their skulls it is so easy for them to understand their conditions," says Dr. Gellerman. "It is difficult for patients to see and comprehend 2D images; if you show them a traditional x-ray and tell them they have an impacted cuspid, they really don't see it." The simple interface of Dolphin 3D allows the practitioner to quickly assess a patient's condition during the initial exam. "The 3D module lets you calculate the situation within minutes and explain it to the patient," adds Gellerman. "It makes it easy for them to see the relationships between hard and soft tissue."

The portability of three-dimensional file formats is also an added advantage; being able to copy and share over the Internet with no further effort than a mouse click is a value all its own. "Being able to email the images to parents is especially helpful because kids don't always go home and convey the information so well," says Gellerman. "And this is partly because it is difficult for them to explain their conditions so well."

Dolphin Imaging 10.5 has added a volumetric compression feature which dramatically reduces the file size while retaining visual integrity. Smaller file size means faster travel over the Internet via services such as AnywhereDolphin.com.
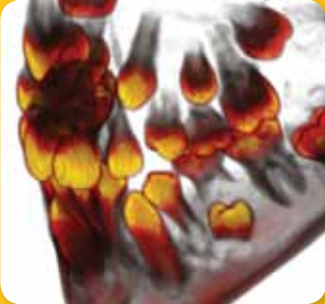
All images below originated from the same CBCT volume, processed using Dolphin 3D; courtesy of Dr. Lipkin:

3D volume rendering of a patient's skeletal structure and dentition

A patient's airway and sinus clearly depicted

Detailed visualization of the patient's dentition

CBCT cephalometric X-ray

CBCT panoramic X-ray

Marketing

Dolphin 3D has a Movie Maker feature that lets the practitioner create customized movies by collecting key frames of the image. Different orientation and segmentation stills can be sequenced for a smooth animated movie. Scripts can be saved and used as a template for future patients. "It's a great marketing tool," says Dr. Lipkin. "Generating a movie through Dolphin 3D and giving it to the patient is the absolute best seller. Kids go nuts when they see a movie of their face turning into a skeleton and back."

Features and Capabilities

Dolphin 3D imports and processes volumetric data originating from a variety of sources, including CT, cone beam CT, MRI and high definition facial camera systems, then easily saves them into the patient's file. Diagnosis is more accurate due to the detail of information delivered, and the ease of manipulating it all. Object orientation and tissue segmentation tools make it simple to get a close look at any craniofacial anatomy. Other special features include:

- **Nerve Marking.** This patent pending interactive tool lets you locate and isolate the nerve canal on a panoramic projection, then clearly draw the visible nerve canals with a choice of width and color. View corresponding nerve positions on cross sections, and view the marked nerve canal within 3D rendering of the skull volume.
- **TMJ View.** Designed specifically for analyzing the temporomandibular joint, this function lets you choose an area of interest by setting the center point and axis direction. Set a desired slice thickness, width, number and direction such as coronal, sagittal or patent-pending circular. Cross sections can be viewed at the chosen axis.

The program also offers the ability to design automated image layouts, and exports easily to other applications including Word and PowerPoint.

Product Highlight: Dolphin Management Treatment Plan

Saving Time with Treatment Plan

by Gary Wiseman

Sure, we all feel good about saving a tree, but wouldn't you also like to have the time to go out and hug one?

You already know your Dolphin Management program saves you paper, but don't underestimate the amount of valuable time it can save you as well. While Treatment Card is often used by doctors and staff as a central component in an effort to go paperless, we find doctors don't always take full advantage of the Treatment Planning functionality of Dolphin Management. Let's take a look at how getting to know your system better can get you out of the office quicker.

Imagine having the ability to maintain and access a database of treatment plan templates. In a matter of minutes, you are able to select a plan and apply it to a particular patient. Editing is done on the fly, easily customizing the plans for each patient. Dr. Douglas Hudson of Moraga, California, has been enjoying the Treatment Plans functionality of Dolphin Management since 2005. "Dolphin Management has been a remarkable time saver for our practice. The diagnostic and global treatment planner has reduced the time necessary to do a comprehensive treatment plan from 30 minutes (done usually at home!) to about five minutes in the office. This means that I no longer need to take treatment plans home and I keep my T.C. happy, because the treatment plans are finished on time. Our office does an average of 400 treatment plans per year, meaning this should save me about 1000 hours of time per year." What's more, Treatment Plans are automatically integrated into your correspondence system, allowing you to predefine and monitor the course of each patient's treatment.
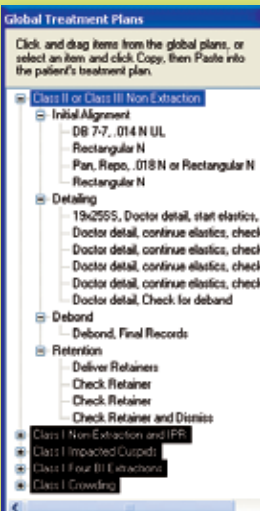
To access the Treatment Plan window, open a patient Treatment Card and access the Dx/Tx button located at the top of the screen.
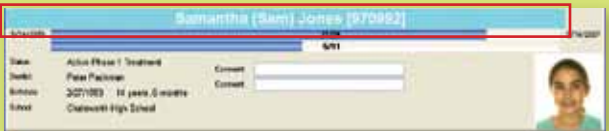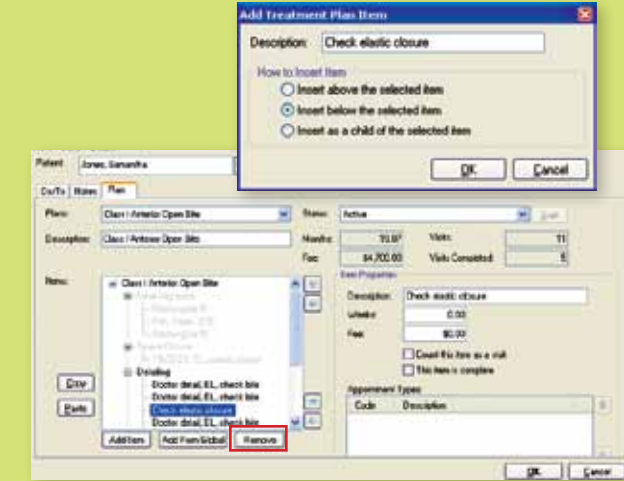
Accessing this icon will open the Treatment Planning window as shown below….
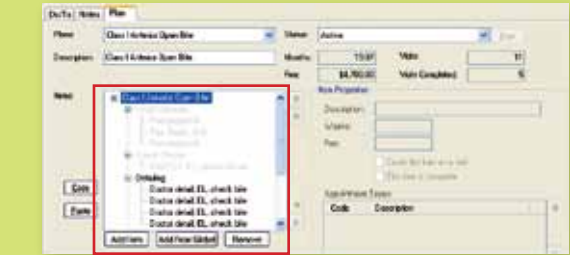
This particular patient has a Class I Anterior Open Bite plan selected from a database of plans that you would establish. As the patient visits the office and various steps of the plan are completed, those completed are muted in the plan window as show above, with the steps to be completed being highlighted in bold text. As the steps are completed, the timeline of treatment plan visits will also change, reflecting the office visit on the Treatment Card itself.

If this was a new patient, you would need to select the specific Treatment Plan from your data base of plans by selecting the "add from Global button" at the lower left hand side of this window.

In this example, you will note I have opened the Class II or Class III Non-Extraction Plan with the various steps of the plan shown. You will note other Treatment plans in your database of plans are highlighted in black. You would then select the plan that is appropriate and apply it to the patient. Once applied, you can then easily edit the plan by removing or adding comments to the plan and select where you would like to edit the plan with the choices as shown below.

The same is true to remove an item from the plan, simply highlight the item you would like to remove then select the remove button below the highlighted area. It's that simple.

Setting up a new treatment plan to add to your data base of plans is also very easy. Simply go to your "Edit" button on the main desktop of Dolphin Management. Notice the various steps I have included in the plan window (below), instructing you on how to set up the plans.
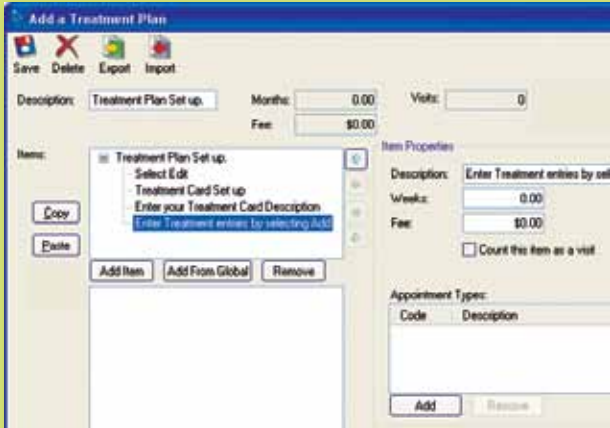
Treatment Plan is a very powerful tool that can efficiently monitor each patient's plans in a fraction of the time. Take some time to set up your database of plans, or contact our training department. We will be happy to show you in more detail how the plans can be created or modified. In the long term you will save yourself a lot of time and definitely become more efficient. As Dr. Hudson estimated for his practice, it saves at least 1000 hours per year!

Gary Wiseman
Gary Wiseman is Dolphin's Western Regional Sales Manager, and the former owner and operator of an oral and maxillofacial imaging lab in Walnut Creek, California.

Guest Expert Corner

Practice Management: Scheduling

by Debbie Best

See how customizing your schedule with Dolphin Management can streamline smooth out your work flow and reduce stress among patients and staff.

Is your schedule helping or hindering your practice's work flow? Patient surveys conducted in practices over the past few years have opened our eyes to the criteria patients and parents often use to measure their satisfaction with their overall orthodontic experience. Although we would like to "fool" ourselves into thinking that our patients are excited and more than pleased with the excellent orthodontic results that we achieve, the overall experience can be negative in their eyes if the practice does not have solid protocols and systems in place. Did we exceed their expectations, not only in the treatment results, but also during the journey from the initial appointment to the removal of the appliances?

One area of the practice that continually seems to be a bone of contention, not only with the patients but also with the team and doctor, is the schedule. Do you sometimes feel as though the schedule is your most difficult employee? If an employee had the following inadequacies, would you expand their employment opportunities?

- ✓ Typically does not start the day on time
- ✓ Runs over often at lunch and at the end of the day
- ✓ Does not have time available when the patients or doctor need it
- ✓ Is inflexible and not open to change
- ✓ Is often running late
- ✓ Presents roadblocks to offering excellent care to patients
- ✓ Is inconsiderate of the doctor's time
- ✓ Causes conflict between team members
- ✓ Does not allow you to reach your production and collection goals
- ✓ Does not allow room for growth

If you would not allow an employee to get away with the above behavior, why would you continue to use an inadequate schedule? Remember that one of the most common complaints patients have about orthodontic practices is the schedule. If your schedule does not suit the needs of your patients and parents, it definitely can be a detriment to the health of your practice.

The same schedule does not work for every doctor. Just as your treatment protocols are unique, your schedule should be a reflection of your treatment style and philosophy. It should be flexible enough to offer patients a variety of appointment times and dates; however, it should be conformed to fit the needs of the doctor and team. What are the goals of a "perfect schedule"?

- ✓ Run on time
- ✓ Have an adequate number of appointments to see all patients
- ✓ Allow time for non-patient duties
- ✓ Flexible
- ✓ Allow for target production and collections
- ✓ Steady pace throughout the day
- ✓ Patient satisfaction
- ✓ Allow room for growth
- ✓ Allow opportunity for training
- ✓ Minimum of 6 non-patient weeks per year

In my 30+ years of experience in the dental and orthodontic fields, I have found that the best option for most orthodontists is a customized scheduled that is based on doctor time. Decisions that need to be made before you design a new schedule are:

1. What is your practice philosophy?
2. What are the goals for your practice?
3. What are your production and collections goals?
4. How many starts per month will it take to meet your goals?
5. How many clinical chairs do you have available to see patients?
6. What hours would you like to see patients?
7. How many hours or days per month can you commit to non-patient time?
8. What will your patient rotation be?
9. What is your new-patient-to-treatment protocol?
10. Do you want to implement the patient manager program?

Create a schedule that reflects your practice philosophy and goals. Every orthodontic practice is unique; your goal is to implement a schedule that will build on what has made you successful and stand apart from your competition.

Most orthodontists will bring in an expert in the area to facilitate the creation of a customized schedule. When I work with offices to set up a doctor time schedule, we go through the following steps.

Gathering the data:
1. Develop a detailed procedure list.
2. Time all procedures a minimum of three times for each clinical assistant, and calculate the average.
3. Count the number of times you schedule each procedure (in the future, not what was done today.)

Evaluating the data:
1. Design an appointment type for each procedure, using the average time for assistants and doctor.
2. Add time to each procedure to allow time for clean up and set up.
3. Try to combine appointment types to keep the maximum number to less than 25.
4. Determine from your counts how often you need each appointment type on a daily, weekly and monthly basis.
5. Run the numbers to determine how many clinical assistants are required to see the desired number of patients.
6. Determine the number of days you need to work per month to accommodate all needed appointments.
7. Determine the number of new starts (production) you require on a monthly basis to meet your production and collection goals.
8. Allow room for growth.

W20			206 Imps for splint
l			207 Panorex $115
l	5		508 1 AW TMA w/detail bends
\20			510 1 AW, add torque
			515 Ck Forsus
			516 Retie exposures
			520 Ck adjust detail#2
			535 Ck Arch Form
			538 IPR
			650 Del Hawley/photos

Designing new schedules:
1. Develop your appointing rules (what time of the day do you want to do production appointments, what type of appointments do you want to have available before and after school, when do you want to see new patients, etc.)
2. Assign a clinical chair to each assistant to allow your clinical team to remain with the patient during the entire procedure.
3. Build multiple schedule templates to allow greater flexibility of appointment times for patients.
4. Consider building a production or start day to use when you experience an increased demand (before school starts, school vacations, when flex plans go into effect, etc.)
5. Evenly distribute the appointment types between the clinical assistants to offer a variety of procedures during the day.

Utilize your Dolphin Management software to accurately track your doctor time. The program will indicate how much doctor time you have used and how much time is still available. You will be alerted in red if you try to use more doctor time than what is available. Keeping a close watch on this valuable scheduling tool you will help you maintain control of your schedule.

Although it takes considerable time and energy to design a customized schedule for your office, remember that it can be one of your most valuable marketing tools. It is up to you whether it becomes a positive practice builder or a negative "employee" that everyone hopes will just disappear. Be proactive, embrace the schedule; allow it to reduce stress and let your practice soar.

Debbie Best
Debbie Best is a senior practice management consultant and lecturer for Consulting Network with over 33 years of experience in the dental and orthodontic field. Debbie evaluates staffing needs and the office computer system to develop a strategic plan for practice productivity. She has worked with several Dolphin clients designing customized schedules. Debbie also creates personalized job descriptions, and personnel manuals to fit each practice's needs. As a part of her consulting program, Debbie also focuses on the role of the front desk team, financial controls, anti-embezzlement protocol and practice building.

Imaging Spotlight

Food For Thought Regarding Printers
by Eric Iwamoto

As we continue to focus on a paperless future, our present reality still requires we own a printer. How do we choose the right one?

As digital imaging and photography becomes more prevalent, there is a shift toward becoming paperless. The main advantage is the ability to easily locate and transfer images. The added benefit is being 'green' by not generating materials that wind up in storage boxes and eventually landfills. Until that totally "paperless" time arrives, however, there is still the need to produce quality printed images.

A Matter of Taste
How do you quantify a "good" photographic print? Histograms, color saturation, tones and grayscales are just a few of the variables to consider, and all will vary widely among printers. Is there such a thing as the perfect print?
 "Viewing dental photography is like cooking— everyone has slightly different tastes," says Diane Yamamoto, owner of an oral maxillofacial imaging center in Beverly Hills and a gourmet cook. "What looks good to one person is not necessarily good to someone else."

The Menu
This article reviews output from three different printer technologies: ink jet, laser jet and dye sublimation. The printers we used for our taste test included models from Epson, Canon, Konica Minolta, Mitsubishi and Codonics. The printer manufacturer's default settings were used for all. Prints were generated from:
• panoramic image (Planmeca digital pan),
• cone beam oblique and cross sectional images (i-CAT cone beam CT), and
• orthodontic intraoral and extraoral photographs (Dolphin Imaging with a Fuji S-1 digital camera).

A la Carte
A gathering of your family and friends can choose to eat at a fast food joint, or enjoy an extravagant dining experience at an upscale restaurant. There are many aspects involved in the dining experience, and their order of importance will vary according to circumstances. Either way, you'll likely get a decent meal as long as you make some smart choices. Appropriate printers for dental imaging follow a similar pattern, starting at $100 and increasing all the way to $12,000!

Inkjet:
Inkjet printers operate by releasing tiny droplets of liquid ink onto paper. The **Epson Stylus Photo R380** retails at only $130 and has the capacity of also printing directly on CDs. It worked fine for the i-CAT cone beam images, but delivered too much contrast for the panoramic images and only satisfactory color orthodontic photographs. The **Epson Stylus Photo R2400** was designed in answer to professional photographers who complained that color inkjets did not perform well for black and white photography (which includes

dental radiography). Retailing at $849, this unit uses UltraChrome K3 ink technology, yields superb radiographic images that are water-proof, smudge-proof and of archival quality. My imaging center utilizes the R2400 for all the digital panoramic and i-CAT images.
Fellow food-and-sushi connoisseur Dan Halpert, owner of Halpert Dental X-Ray in Woodland Hills, California, recently acquired the **Canon IPF 5000** inkjet printer to print his photographic and NewTom cone beam images. Retailing at $1,500, this large-format, high-performance printer has four new inks including: black, matte black, grey and photo grey that, according to Dan, intensify the color of the orthodontic photographs and perfectly augment the radiographic images.
Overall, inkjet printers performed best for images requiring superb grayscales such as radiographs and cone beam CT images.

These images are sample output from Epson Stylus Photo R380 inkjet printer.

Laser jet:
Laser printers create an image by depositing horizontal strips of dots across a surface, and were developed for high volume printing at a fast pace. Retailing at $399, the **Konica Minolta Magic Color 2550** LaserJet sacrifices

These images are sample output from Konica Minolta Magic Color 2550 laser printer.

image quality for sheer speed, spitting out substandard panoramic and orthodontic prints in a mere 20 seconds. However, the Konica demonstrates low noise when printing i-CAT images, so some imaging centers choose it for this specific purpose.

Dye sublimation:
Sublimation is the transitional process between solid and gas without going through a liquid phase—think of dry ice. Dye sublimation printers use a ribbon embedded with cyan, magenta and yellow dye. A thermal printing head heats the dye into a gas and the color is then transferred to the paper, applying a clear laminate to protect the image.
 We have been using the **Mitsubishi CP3020DA** dye sublimation printer for orthodontic photographs because we find the flesh tones to be very accurate. The unit retails at $799.
The **Kodak 9810** dye sublimation printer delivered superior results across the board, however its retail cost is high at $2,500. Amusement parks use this unit to print those wild roller coaster ride photographs, where printing speed is of the essence. Another benefit is that the paper and ribbon are in rolls that can generate 300 prints, meaning less time wasted reloading.
Despite a high retail price of $12,000, the **Codonics Horizon Multi-media Imager** is the choice of many high-output imaging centers because of its versatility to print on transparent film (simulating analog film), grayscale paper and color paper. Equipped with three cassette holders to handle each media type, it eliminates time and hassle regarding constantly changing out the different media. Its large format can printing an image on transparent film that is suitable for traditional light box viewing.
Dye sublimation printers tend to have a higher price tag overall, but the higher prices include bells and whistles that integrate nicely into a busy workflow and often deliver better results.

Seasoning food imparts a different flavor and images can also be 'seasoned' by altering the printer settings. For example, the Planmeca has a histogram which can be varied, the window level of the i-CAT can be changed to enhance the image, and Dolphin Imaging has numerous tools to fine tune the image. Different quality papers will also yield different results.

Just as everyone has a different opinion about food, viewing printed dental images is also subjective. What is important to you? If your taste buds crave pâté and Kobe is the only beef that touches your palate, choose the Codonics. If the lowest initial cost is important, pick the Epson R380. Have a need for speed? Just like KFC, the Konica Minolta LaserJet produces the fastest, but not necessarily the best, images. If you think salmon eggs are

only for fishing and not sushi, the grayscales of the Epson R2400 are magical for radiography but not dental photography. If your budget is more middle-of-the-road, the Mitsubishi is satisfying and does not punch a large hole in your wallet. If you need something faster, pick the Kodak. The Canon's exceptionally high-print quality makes it hard to beat, but impractical for private practices due to its hefty footprint. ☛
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These images are sample output from Kodak 9810 dye sublimation printer.

Digesting the Data
The best printer for your practice or business will be defined by your daily workflow. We took a long gaze at our buffet of printers and collated the data for you:
Inkjet: ideal for radiographs and i-CAT images.
Laser: good for speed but not much else; low-noise output makes it a choice for cone beam images.
Dye sublimation: best all-around printer, price tag tends to be high.

Eric Iwamoto
Eric Iwamoto is the owner of Golden State Oral X-Ray in North Hollywood, California. He would like to thank Bakersfield Radiographics in Bakersfield, California, and Foto Club in Santa Fe Springs, California, for their assistance in researching this article. Eric has been a Dolphin customer since 2000.

"Dolphin helped me to get the most out of the Santa Barbara Course."


Dr. Bowler was appointed as a consultant in oral and maxillofacial surgery to the Royal Australian Army in 1991, and holds the rank of Lieutenant Colonel!

away overseas at least once a year to attend something that interests me." Dr. Bowler's main interests are maxillofacial trauma and TMJ pathology and reconstruction, although he has presented on most oral and maxillofacial topics throughout his professional career. "Over the years, I've been to the United States many times to AAOMS meetings as well as a number of specialized meetings on implants, TMJ reconstruction, orthognathic surgery and trauma."

Charitable Travels
As a member of the Australia and New Zealand Association of Oral and Maxillofacial Surgeons (ANZAOMS), Dr. Bowler has travelled to developing countries to both teach trainees and treat patients. "For a number of years ANZAOMS 'adopted' a developing country as a place to support and, over the years, we have adopted Bangladesh, Vanuatu, New Guinea, and most recently, Vietnam and the Philippines," he explains. "My own visits involved three trips to Bangladesh between 1990 and 1995, each visit lasting two weeks. We saw huge numbers of patients at the Dhaka Dental Hospital and a number of public hospitals in the Dhaka region. By and large there was only time to treat perhaps 15 to 20 patients per visit and these were mostly secondary trauma repairs, cleft palate repairs, bone grafting procedures, temporomandibular joint ankyloses and tumors." The trips were paid for by the individual members. "It was certainly a very interesting period of my life and there were many rewards, both personal and professional."
Other professional trips have taken Dr. Bowler to Vanuatu, an archipelago nation in the South Pacific east of Australia. "There is no doubt that some experience in developing countries makes you appreciate the equipment and standards we have in our modern hospitals here in Australia," he reports. "It also gives a sense of guilty perspective in terms of our relative wealth compared to much of the world and when you think about it, the whole thing is really just an accident of birth! So it would be difficult to come away without being somewhat philosophical about life in general."
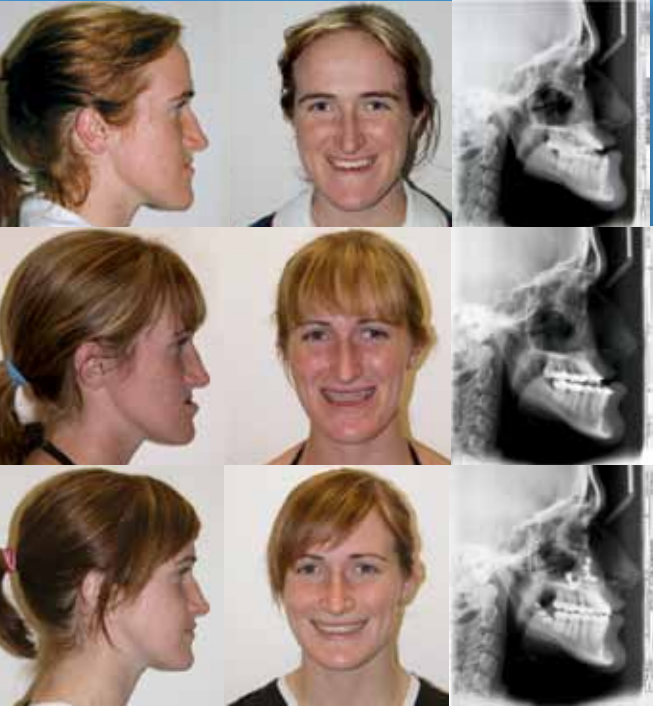
Top to bottom: Clinical images show Dr. Bowler's patient at the initial exam (top); after preparatory orthodontic treatment (middle); and after surgery (bottom).

Tips & Tricks: Imaging
Relevant to version 10.1 or greater

by Paul M. Thomas, DMD, MS

Straight Faced
Treatment simulations for patients with asymmetries are more effective when performed in the frontal view. The Dolphin Imaging Edit/Morph/Lib feature makes it easy.

Most Dolphin users are familiar with the concept of linking cephalometric data with photographs to perform semi-automated treatment simulation in the profile view. While these simulations can be impressive, most patients do not ordinarily see themselves from this perspective. We see ourselves in a mirror from the front. Therefore, a frontal or oblique simulation would be much more ideal. Frontal simulations are especially of interest to those patients exhibiting facial asymmetry, as lateral simulations rarely demonstrate its potential correction. Are you aware, however, that frontal or oblique simulations are possible with the Dolphin Imaging Edit/Morph/Lib function?

The Problem
When lateral cephalometric radiographs are taken, the head posture can be adjusted by rotating downward or upward on an axis through the ear rods. Although profile photographs are rarely taken in the exact head posture as the radiograph, some reasonable compensation can be made during the image linking process. There is no accurate means of making this adjustment during the linking of frontal images. Unless the PA radiograph and frontal photograph were exposed at exactly the same time, any head posture variation will prevent precise linking. Furthermore, there is no normative data to allow programmed simulation using the similar process for the profile view.

The Solution
Dolphin Edit/Morph to the rescue! If you agree with the premise that the primary intent of treatment simulations or "morphed photos" is education and communication with the patient, family and referrals, then a reasonable facsimile of the outcome may be sufficient. I certainly wouldn't suggest using free-hand simulations to accurately plan an orthognathic treatment, but they may be sufficient to convey the intended treatment result. Of course, care will have to be taken to ensure that those viewing your work fully understand that simulations are an artistic rendering based on previous treatment experience with patients having similar problems. This should be documented on both the simulation and in the treatment notes. Finally, the following instructions assume that you are familiar with the basics of the Edit/Morph function. Otherwise, please consult the Dolphin Imaging online manual or obtain the proper training from Dolphin staff before attempting these techniques.

The Process
This patient exhibits a relatively normal facial profile. Treatment simulation from this perspective will result in little if any change. When viewed from the front, the nature of her facial asymmetry becomes much more obvious with deviation of the chin to her right and a slant or cant to her occlusal plane. Correction will require surgery in the lower jaw to rotate the mandible and center the chin, and surgery in the upper jaw to correct the cant of the occlusal plane.

Steps 1 and 2: Clicking the Edit/Morph/Lib icon will load a page which has a series of icons along the left side. The left mouse button can be used to draw a geometric boundary around the area to be moved. (A yellow tack will mark the closing of the boundary area, and define the point of rotation.) The red lines (placed by me for illustrations only; it's not part of the Dolphin software) show the degree of discrepancy in the chin which will be moved to the patient's left.
Step 3: Once moved, the borders of the mandible no longer are aligned. (note red arrows)

Step 1

Step 2

Step 3

Step 4: Relocate the yellow tack to the desired point of rotation; in this case the discrepancy at the patient's right inferior mandibular border. A second left click will "fix the tack in place." Rotate the image area around that point (at the tack) in the desired direction.
Step 5: Repeat the process to align the discrepancy in the patient's left inferior border.
Step 6: Leveling of the lips will occur with the maxillary surgery and can be simulated using the same series of steps; outline the anatomy, relocate the tack and fix it in place, left click and drag to reposition the anatomy rotating around the tack.

Step 4　　*Step 5*　　*Step 6*
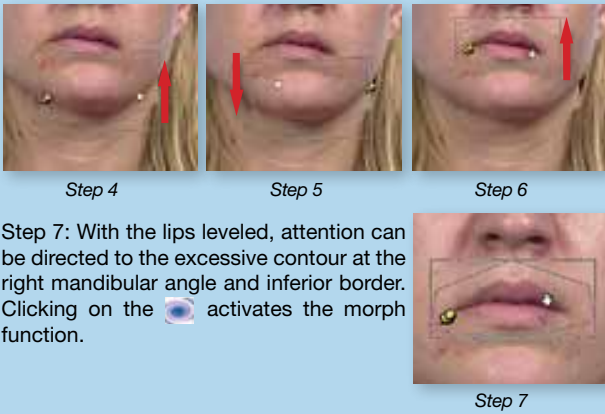
Step 7: With the lips leveled, attention can be directed to the excessive contour at the right mandibular angle and inferior border. Clicking on the ⬤ activates the morph function.

Step 7

Step 8: Select Curve Morph, digitize a series of points that outlines the edge of the jaw. At each point, a "grab point" is available for morphing the image underneath the point.
Step 9: Click and drag the grab points up and down the line or in and out to re-contour the anatomic area. The only remaining step now, then, is to "clean-up" stitch lines and ragged edges for a pleasing simulation display.

Step 8　　　　　*Step 9*
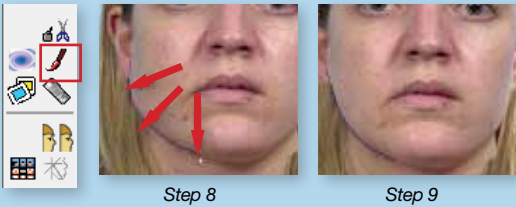
Step 10: The final step remaining is the blending of seams and stitch lines using the "undo" brush and possibly some additional touch-up with the other useful tools in this screen. Trial and error will quickly show you which tools work best to edit a specific problem.

Step 10　　　　　*Final Result*
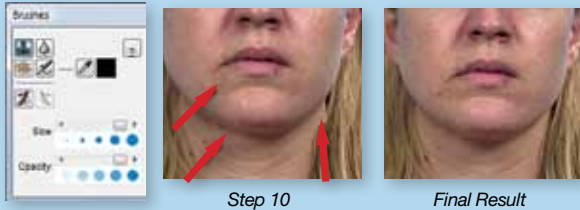
The final simulation is shown on the right. With a little practice, the process can be completed in less than a few minutes for any case. Obviously, because Dolphin's image edit tools are so powerful, care must be taken to avoid the simulation of changes which are not possible with the actual treatment. I highly recommend leaving some degree of residual asymmetry, since this is the norm rather than the exception. These are just a few of the possibilities with the Edit/Morph/Lib! Take your time and explore these functions and add this them to your bag of tricks. 🐬

Original　　　　　*Simulated*

Paul Thomas, DMD, MS
Paul Thomas, DMD, MS, is Dolphin's Regional Manager for the United Kingdom and the Republic of Ireland. He is adjunct professor of orthodontics and oral and maxillofacial surgery at the University of North Carolina at Chapel Hill, and a former senior research fellow at the Eastman Dental Institute for Oral Health Care Sciences in London, England.

Tips & Tricks: Management
Relevant to version 3.1 or greater

by Bryan Steinrad

Repeat Reports
Did you know that Dolphin Management has the ability to memorize any report that you frequently run?

Memorized reports can be a huge time saver for any office. Most reports inside of Dolphin Management have set criteria that allow specific information to either be shown or be withheld from display. It can be cumbersome and time consuming for the staff if they have to reenter this information every time they want to run a report. To aide our users and encourage efficiency in your daily practice Dolphin Management has the ability to memorize a report along with its set criteria and a unique report name.

1. Choosing a Report.
Click on "Reports" from the top tool bar, then click on "Print Reports" from the drop-down menu. A Report Criteria dialog box will appear with a list of available reports. Highlight a selection with your mouse, then click the [Run] button on the bottom right.

This will open a new Report Criteria dialog box:
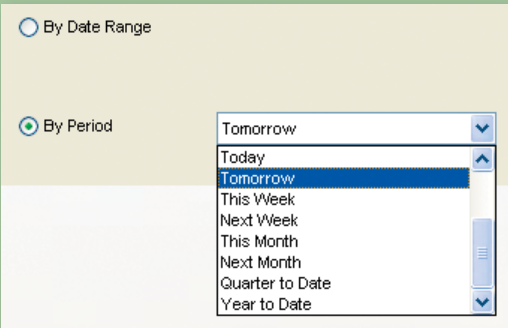
2. Updating the Report.
In order for a memorized report that filters By Date Range to update itself to the proper date, you must choose a date range of "By Period." If the report does not use a date range please disregard this.

Next fill out all of the filterable criteria available to you. These criteria will be memorized from now on so enjoy this being the last time you'll have to enter them!

3. Memorizing the Report.
The second-to-last option when running any report will ask you "Would you like to memorize this report?" Selecting "Yes" will cause a blank text box to appear. This text box will ask you to give the memorized report a name.
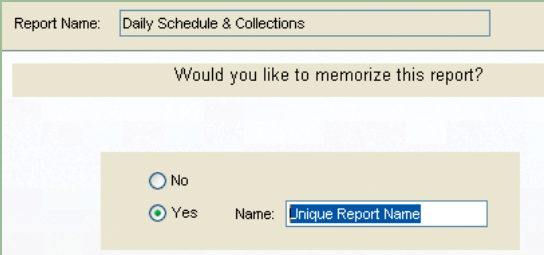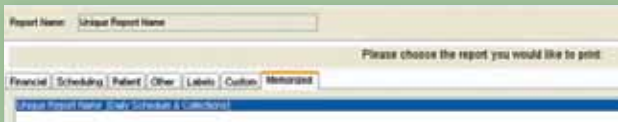
4. Saving the Report.
Once you've given the report a unique name you can finalize the memorization process by choosing how the report will be printed and finally by clicking the "Finish" button with your mouse.

Now that the report has been memorized it will be available in the list of memorized reports, this list can be accessed via the "Memorized" reports tab. The report will be displayed with the unique name you gave it along with the original name of the report in brackets next to it.

Keep in mind that you will now have to assign the proper report rights for this newly memorized report name or certain staff members will be unable to run it.

5. Changing the Report.
If at a future date you choose to change the criteria of a memorized report, you need to delete its current version and re-memorize.
a. To delete a memorized report, access the Edit menu and select "Reports" from the "General" submenu.
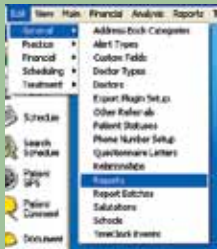
b. When the lookup appears, enter the unique name that you gave the memorized report.

Once the "Edit a Report" window is displayed you will see a "Delete" button in the lower right hand corner. Click it. To update and memorize the report with new criteria, follow the steps from the beginning. Wasn't that easy? 🐬
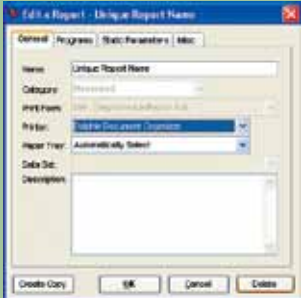
Bryan Steinrad
Bryan Steinrad is a Senior Level 1 member of the Dolphin technical support team, specializing in management issues.

Continued from **What's New** (p.1)

Volumetric Compression in 10.5

Dolphin Imaging version 10.5 now includes an adjustable volumetric compression feature, allowing you to reduce the size of volumetric data files to as small as 2MB without compromising diagnostic quality. Landmarks and measurements remain accurate, regardless of the compression level. What's more, compressed files travel over the Internet faster, letting you easily share records with referrals and patients via AnywhereDolphin.com. ✒
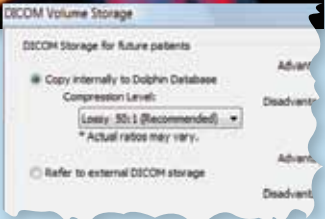
Dolphin partners with Oak Tree to offer Remote Data Backup

OAK TREE STORAGE

A recent partnership with Oak Tree Storage has further extended Dolphin's service offerings to include online failsafe backup of all your Dolphin data. Oak Tree Storage provides highly secure offsite data backups over the Internet, as well as performing emergency data recovery. All Dolphin's imaging and management records can be safely backed up, including CBCT volume files, patient financial and demographical data, and all practice information such as scheduling and accounting. Backups are done as frequently as desired, and retained for as long as you need—all at affordable prices. Fully HIPAA-compliant, Oak Tree's secure and reliable technology encrypts, compresses and then backs up your data to its servers in its highly secure and redundant data center. Daily emails are sent summarizing every backup performed. For more information visit *www.oaktreestorage.com*. ✒

Action Abroad

Dolphin continues to increase its presence overseas, adding new distributors in strategic locations throughout the globe. Our newest alliances include:
• Dr. Paul Thomas in the United Kingdom and Ireland
• Renovatio in Brazil; and
• Corilus in Benelux (Belgium, Netherlands and Luxemburg).

Visit *www.dolphinimaging.com* to view our full list of international distributors. ✒

Send us your Wish List! What topics would you like to see covered in our Tips & Tricks column? Email your ideas to *editor@dolphinimaging.com*.

We're eager to know your thoughts about our *Echoes* newsletter! Please send comments and suggestions to *editor@dolphinimaging.com*.

For technical support call 800.548.7241 (USA & Canada) or 818.435.1368. Remember, our hours are 5:00 a.m. to 6:00 p.m. Pacific Time. For after-hour, emergency phone calls dial 818.687.6327. You may also e-mail *support@dolphinimaging.com*.

Digiknow?

You may not know...

emdeon business services

You can save time, paper, postage and labor costs with Dolphin Management's **Electronic Statements** feature, which interfaces with Emdeon ExpressBill.

Processing an average of 10,000 statements for Dolphin Management customers each month, ExpressBill is an electronic patient billing service that acts as a clearinghouse for your practice's statements. Its HIPAA-compliant service delivers both printed and electronic statements that can be personalized for your practice.

Dolphin customers who use Electronic Statements enjoy consistent, reliable and reasonable service that relieves them of the hassle of billing patients themselves.

There is no fee to enable the Electronics Statements feature of your Dolphin program; there is, however, a fee billed by Emdeon for each electronic statement mailed. For information, visit *http://www.emdeon.com*. ✒

Team Dolphin Heads to Camp!

In continuous efforts to stay on top of our game, the entire Dolphin staff will be participating in an off-site Team Retreat during the second weekend in November. Experts in the fields of team building and customer service will be present to coach us toward further strengthening our teams, and our collective focus to serve you better than ever.

Please note that on Friday, **November 9, 2007**, **our office and support phones will be closed**. If you experience an emergency and need to reach technical support, please call our after-hours number at +1.800.548.7241. ✒

Chatsworth Visitors Log

Allen Benning, DDS, MSD, stopped by with his wife DeDe from Colorado Springs, Colorado, for some advanced training on the Dolphin Letter System. They met with Loryn Steinrad, who showed them the latest functions and helped create some advanced new letter templates. ✒

Dr. Allen Benning and his wife DeDe

Clockwise from left: Ken Gladstone, Dolphin's Imaging software manager, Dr. Hilton Wasilewski, Chester Wang, Dolphin's managing director and Swann Liao, Dolphin's software engineer.

Hilton Wasilewski, BDS, Dip Orth, MS, swung by in late August during a stopover from his home in Sydney, Australia. On his way to attend his niece's bat mitzvah in Atlanta, Dr. Hilton arrived straight from LAX to meet with Ken Gladstone and Swann Liao on various detailed issues of Dolphin Imaging and letter system programs—then went back to the airport for the final leg of his trip. Now THAT's what we call "maximizing time." ✒

Dolphin Around the World

Germany

The European Orthodontic Society celebrated its 100th birthday at its 83rd Congress at the Berlin Philharmonic Hall in Berlin, Germany, in June. Dolphin was on hand to join in the festivities, which included an introspective program looking back on the history of orthodontics, and forward to its present and future into the digital age. ✒

Left: Vice president Otto Colette talks to customers at the Dolphin booth during the EOS.

Right: Dolphin's Chris Gibbs, Miquel Mayol and Otto Colette pose with the EOS Bear in Berlin in June.

Spain

The Dolphin representative at the SECOM meeting accidentally lost the photo taken inside the lecture hall. We thought you'd enjoy this picture better anyway…

Dolphin representatives traveled to the Canary Islands in May for the annual meeting of the Spanish Society of Surgery Oral and Maxillofacial. Attendees of the XIX National Congress of SECOM Tenerife enjoyed educational lectures, beautiful weather and scenic views while catching up with the latest trends in the dental specialty field. ✒

United Kingdom

Left: Established in 1451, the University of Glasgow has an international reputation for teaching and research.

Top: Dr. Lindsay Winchester shows off her Dolphin at the Oxford Orthognathic Study Day.

Back in June, Ken Gladstone, Dolphin's Manager of Imaging Software Products, traveled to the United Kingdom to meet up with Dolphin Regional Manager Dr. Paul Thomas at Oxford, England, to teach at the Oxford Orthognathic Study Day. From there, they went to Dr. Thomas' Home in Cardiff, Wales. Ken then proceeded to Glasgow, Scotland to spend time with the team from Dimensional Imaging. Then he continued north to Aviemore, Inverness-shire, to attend the BAOMS & AAOMS. ✒

Barry Matza, DMD, visited us from Boca Raton, Florida, in July for some one-on-one time with 3D experts Ken Gladstone and Joseph Bautista. Already a veteran 3D user, Dr. Matza picked up some nifty tips and tricks from Ken and Joe. ✒

Chester Wang and Dr. Barry Matza during a recent visit to Dolphin.

Romina Concha dropped by Dolphin headquarters in June during her move across the country. The former Professional Relations Coordinator at Marcel Orthodontics in Livermore, California, is now spreading her Dolphin knowledge at Dr. Marc Lemchen's practice in New York City. While visiting us here in Southern California, she spent time with Dolphin trainer Steve Murray, who showed her some of the latest software features. ✒

Romina Concha

Come join Dolphin at the following Industry Events:

Calendar

Visit www.dolphinimaging.com for more events