

AMINEWS

Vol. 59, Issue 2, Fall 2017



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2017 LIFETIME ACHIEVEMENT AWARD

AWARDED TO SUE SEIF

By Steve Harrison

to present this year's AMI Lifetime Achievement Award to long time friend and colleague, Sue Seif. When she called to ask me if I would introduce her,

It is both a pleasure and an honor I saw an opportunity to not only assist in a log overdue honor for a professional colleague, but to slip in a few analogies with my love for auto racing. Sue's

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AMINEW

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FROM THE NEWSLETTER TEAM

Welcome to the Fall edition of the AMI newsletter! First, we would like to introduce ourselves, Virginia and Jackie, as the new co-chairs and co-editors. We are working towards more frequent and shorter publications, so be sure to look for that in the upcoming months.

In this issue, we relive moments from our annual meting in Austin! Steve Harrison presents the Lifetime Achievement Award to Sue Seif and Wendy Hiller Gee gives her Presidential Address. We also have salon winners and some wonderful photos from Ted Kucklick. In Jeff Day's Comics Rx column, he and fellow AMI members share their take on the meeting this year.

We also have an informative update on copyright law from Betsy Weissbrod and an exciting new 'Up and Coming' featuring Melanie Connolly, edited by Veronica Falconieri.

We hope you enjoy this edition of AMI NEWS and we'd love to hear from you with any feedback or ideas! newsletter@ ami.org

The Newsletter Team

Virginia Fulford & Jackie Meyer

NEWSLETTER SUBMISSION GUIDELINES

If you are interested in submitting material, would like to share an idea, or have a question, please contact us at: newsletter@ami.org_We're looking for a half page to a full page or about 750 words per article on topics of your choice. Accompanying image files must be 350 dpi, no smaller than 2.5" x 2.5".

Like to doodle or cartoon? We'd love to include these and other small sketches in our newsletter. Please send your images to the address above if you're interested in having them published. Images must be 350 dpi for color or tone and 1200 dpi for B/W line, no smaller than $2.5" \times 2.5"$.

LETTERS AND COMMENTS

We'd love to hear your thoughts on our features! Please email us (newsletter@ ami.org) or send mail to the AMR address to the left.

Members Community (OMC) Library: http://community.ami.org

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immediate response was, "No Race Cars!!!", "I hate racing and would never be caught dead at a race." At least she did give permission for me to dress the part and act like a fool.

I have had the good fortune during my professional career to work directly for and be paid to illustrate for four individuals that I consider to be "GENIUSES". To me, "genius" is more than a high score on an IQ test. These individuals possessed most, if not all, of the following traits:

- · Genuine; what you see is what you get
- · Embraces new technologies
- Never gives up
- Innovative
- · Unselfish; a team leader
- · Sensitive; yet forthright

Two of these individuals were surgeons – the late Edward B. Diethrich, MD, founding Director of the Arizona Heart Institute, and Robert F. Spetzler, MD, Emeritus Director of the Barrow Neurological Institute. The third is Herbert R. R. Smith, then Director of Medical Illustration & Audiovisual Education at Baylor College of Medicine. The fourth, of course, is Sue Seif. To prove my point, I asked her daughter, Alix, to pull a piece of Sue's early artwork from the family archives. At age 8, Sue depicted a heart transplant. The anatomy and spelling are a bit funky (these faults would eventually be corrected by he able tutelage of Ranice Crosby and Gary Lees at Johns Hopkins), but the concept was a decade ahead of surgical technology. It may be the earliest visual documentation of heart transplantation in existence.

Sue Seif was born and raised in the Baltimore area and at the age of 14 decided she wanted to be a medical illustrator. She attended Clark College and returned home to graduate from Goucher College in 1968. After college, as one who knows her would expect, she jumped on life's fast lane – got married, followed her husband through grad school, was a research assistant, graphic designer, biology teacher; and Lamaze instructor. Perhaps because of this latter position, she decided to have a baby and her darling daughter Alix was born in 1972. She is in the audience tonight with her husband, Dan.

But Sue still had that burning desire to be a medical illustrator. She took drawing and painting courses at the Schuler School at night. Since she had changed her college major from art to biology, she had a particularly "light" portfolio Ranice and Gary must have sensed her underlying genius and the excellent instruction at Johns Hopkins turned out

yet another first class medical illustrator. After graduating Sue accepted a position with Nick Mackovac at the Medical College of Virginia and she and Alix moved to Richmond. She had been divorced from her first husband and this move not only provided an excellent working environment, but brought her second husband into their lives. Stu Kirkland's vast business experience and entrepreneurial drive led them to start their first business together – The Graphics Project was literally started in their garage. They did everything graphic, but began to specialize in the medical legal industry. They were also involved with the formation of Medivisuals before founding their own company, Seif & Associates.

Sue and Stu have always believed in teamwork and over the years have employed more than twenty medical illustrators as full time employees, contractors and interns. She treats her employees as family and this in part is why she has been so successful. Just as in racing (sorry Sue!), one needs a great pit crew to constantly come out on top. To take care of the details and make sure all members of the crew are working in concert, one needs a strong, reliable crew chief (I call them the "Wingman"). Sue's wingman is none other than her husband. Stu "Wingman" Kirkland.

Sue has had a phenomenal track record in commercial and medical legal illustration, but in my mind her greatest achievements are those directly affecting our profession and the Association of Medical Illustrators. Among other professional activities, she is past president of the AMI, past chair of the BCMI, board member of the Vesalius Trust, member of the JBC Editorial Board, AMI Secretary and Board of Governors member, chair of the annual meeting in Richmond, VA, and chair of both the AMI Membership and Ethics Committees. Sue is almost single-handedly responsible for the creation of our Student Member category. As AMI President, she used her "bully pulpit" to modify and address the issues of Open Membership Certification and portfolio review. Sue has always seemingly been at the right place at the right time and has always been willing to give her time and energy for the betterment of our profession.

Another trait that I associate with genius is "adaptability". To further prove that Sue deserves the genius label is that she recently displayed her adaptability.....I was able to get her into a race car! ...haven't been on the track yet, but she now knows that real race cars don't have doors!

Congratulations to Sue Seif, the 2017 Association of Medical Illustrators' Lifetime Achievement Award recipient....(and race car driver).

AMI 2017 IN AUSTIN

A LOOK BACK
Photos by Ted Kucklick













PRESIDENTIAL ADDRESS

A VISUAL MISSION

by Wendy Hiller Gee

It's safe to say that most medical illustrators have done visuals for patient education or medical-legal, and that teaching lay people is a huge part of our markets. It has been the focus of my professional life for 19 years at The StayWell Company (formerly Krames). Because of that career experience, I feel strongly about our calling as medical illustrators to educate and empower patients. In this address, I want to look beyond the clients we work with to create patient education and spend some time thinking about the people we're serving – the patients we're educating. (My talk is focused on patient audiences, but much of what I'll present here is applicable to other lay audiences such as juries).

We all think about our work being present in patient education moments like an exam room consult, when there's the possibility that our images will make a positive difference in someone's life. I believe it is part of our mission as medical illustrators to deepen people's understanding of science, medical care, and the world around them. In terms of patient education, we hope to move people to improve their own health and to do the same for their loved ones. I want to pose some questions about this important mission of ours, and I especially want to share messages directly from the "patient" in patient education. I'll share some of the things I've discovered along the way in my patient education career, and also propose some best practices to consider when creating visual communications targeted to patients.

Medical Illustrator Traits

Let's start by talking about who we are as medical illustrators. I've spent years on the Scholarship Committee reviewing Inez Demonet applications, and it's been no surprise that over and over, students describe themselves as having the same interests and characteristics: a love for the sciences (especially life sciences); deep, wide-ranging curiosity; a very personal need for accuracy and attention to detail in their work; and a genuine drive to make a difference in people's lives. I have also been involved in a project to collect stories from medical illustrators about how they came to the profession, and they report many of the same things about themselves even decades into their careers. These



Figure 1 © Frank Armitage

attributes are part of our shared identity as medical illustrators and show why we love the content we create.

For example, who can resist the detail in this fantastic eye landscape by the incomparable Frank Armitage? (Figure 1).

Or the wonderfully complex but engaging scientific storytelling of this pain image by Lew Calver?

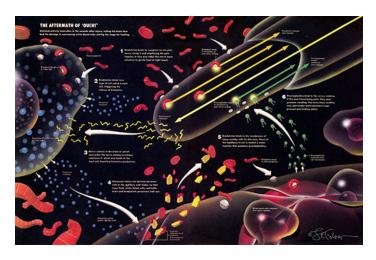


Figure 2 © Lewis Calver

And I don't doubt that David Cheney had a genuine concern for the parents and kids who'd be seeing this artwork.

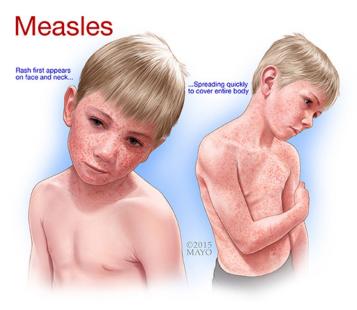


Figure 3 © 2015 Mayo

The love for detail and accuracy and a strong desire to effect positive change are some of the attributes that drive us in our calling as medical illustrators and give meaning to the work we do.

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What About Patients?

What do we know about what patients and their caregivers experience in the patient education interaction? Health literacy studies show that some patients may have low general literacy skills – but even in people with higher literacy, illness or concern for a loved one may lower their health literacy and stand in the way of the best health outcomes. So, they may have difficulty in receiving information – and fear can further lower their receptivity. They also may not really want to know what we are so interested in telling them. This is sometimes hard for me to bear in mind, since I'm naturally curious about medical matters, even when I'm the patient.

"All I wanted to know about my spine surgery was if my doctor was any good. I asked him to stop trying to show me what he was going to do." - Mark L.

Here's an example paraphrased from a friend of mine who was a laminotomy patient. He was not receptive to the information his surgeon was trying to give him - information the surgeon was actually required to give him for informed consent, but conversation the wasn't welcome. Would this carefully planned, executed, and reviewed image have made a difference for him? (Figure 4). Even if he or a caregiver

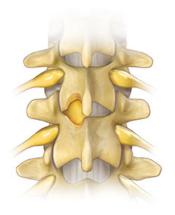


Figure 4 © The StayWell Company

had been naturally curious about the surgery, low health literacy caused by anxiety could have created a barrier to learning.

Part of our challenge, then, is to align our basic nature and our sense of mission with the needs of our patient audience, even when these attributes are at odds. And there's also another party in this scenario: the clients for whom we create patient education materials. They need to teach their patients about essential concepts like self-care, or to participate in shared decision making. The surgeon trying to teach my friend about his laminotomy was the guy in that situation who actually wanted patient ed materials, not the guy he was trying to educate.

What About Providers?

Our clients need patient education in response to pressures from a lot of sources. Below are just a few of them and as we

all know, the requirements spurring healthcare providers to provide patient education change and evolve regularly.

- · Joint Commission
- · The Affordable Care Act
- · The Plain Writing Act
- · Informed Consent
- · Medicare/Medicaid

And, of course, many healthcare providers are motivated by empathy as well – they want to make a difference in people's health, just like we do. But they need our training and experience in creating the materials they need. They need to educate patients, but they don't always know how to turn off "doctor speak" or how to incorporate visuals into effective patient education messages, or how low health literacy is affecting their patients' learning.

Where Do We Start?

A good starting point is to understand the reality of low health literacy, which is a major issue in the patient population in the United States. This quote struck me in particular - there's so much excellent information for patients, and so much that we as medical illustrators pour our training and creative energy into, and our end users may not be able to use it.

"The paradox is that people are awash in knowledge they may be unable to use."

The Arc of Health Literacy, JAMA September 22/29, 2015 Volume 314, Number 12 p. 1225

Let's begin with a definition of health literacy. This is how it's defined in Healthy People 2010 (U.S. Department of Health and Human Services):

"Health literacy is the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make appropriate health decisions."

Health literacy, then, is a collection of skills which result in a person having the power to make decisions about their health. It's not always about reading literacy, although that can, of course, play a role in health literacy. And there are other kinds of literacy involved, too, such as numeracy and scientific literacy. In the context of this article, literacy means that a person is able to function in society, think critically, make informed decisions, take action, learn and develop throughout life. Health literacy in particular means that a person can participate in his or her own health care in an informed way, which in theory will lead to better health outcomes.

Let's look at some of the reasons why health literacy is a problem. Low health literacy makes it more challenging for us to fulfill our mission as medical illustrators, and it has a personal cost to patients in their health – they may not properly understand how

to take medications or manage a chronic condition like diabetes or heart failure, and they may even have trouble finding their way around a healthcare facility. Understandably, low health literacy drives up healthcare costs and has a huge monetary impact on our society. These are some of low health literacy's effects:

- · Health impacts to patients
- · Poor medication adherence
- Misunderstood post-op instructions
- · Trouble learning to manage chronic conditions
- · Difficulty wayfinding in a medical center
- Increased healthcare costs: \$106 billion to \$238 billion annually in the U.S.

"According to the American Medical Association, poor health literacy is "a stronger predictor of a person's health than age, income, employment status, education level, and race."

(Report on the Council of Scientific Affairs, Ad Hoc Committee on Health Literacy for the Council on Scientific Affairs, American Medical Association, JAMA, Feb 10, 1999).

Low Health Literacy is Common

Low health literacy is often an issue of social disparity, but it can occur even in individuals with higher levels of education. In general, low health literacy is more likely in these populations:

- · Older adults (60+)
- · Immigrants (English as second language)
- · Minorities
- · Low income patients

But just being sick, or worried about a diagnosis, or nervous about a procedure lowers health literacy no matter what a person's demographic or education. So, any one of us can have low health literacy depending on the situation. As an example, my very competent, intelligent friend experienced a dramatic loss of health literacy in the moments when she really needed it, while her cardiologist was describing combined procedures for her arrhythmias. This is the anxious patient we are

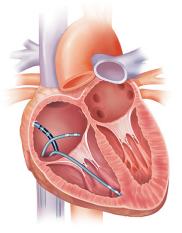


Figure 5 © The StayWell Company

often trying to reach with our visual messages (Figure 5) – and too often the patient may in addition have trouble reading or have a limited understanding of English.

"After my cardiologist said the procedure would take seven hours, **I didn't hear** another word he said." - Lisa H.

Reading Literacy Is a Part of Health Literacy

A component of health literacy is basic literacy, so I want to take a few moments to share some troubling statistics about the U.S. population:

- 44 million adults are unable to read a simple story to their children.
- 50% of adults cannot read a book written at an 8th grade level.
- 45 million people are functionally illiterate and read below a 5th grade level.
- 3 out of 4 people on welfare can't read.
- ~ 50% of Americans read so poorly that they are unable to perform simple tasks such as reading prescription drug labels.

We medical illustrators are creating products to reach millions of adults who are navigating a complex society **without basic reading skills**. When you add in the challenges of low health literacy, it means a lot of people are having trouble managing even simple healthcare tasks for themselves, and for their children and loved ones. I urge that we each incorporate an awareness of these realities into our individual process when creating patient education materials.

From a patient's perspective, the story of Archie Willard as told in his biography "Last Reader Standing" is a compelling one about the realities of having low literacy in our society. Archie learned to manage years of school, junior college, and a work life without being functionally able to read. He ultimately was diagnosed with severe dyslexia and finally learned to read – in his 50s. I was struck with how deeply ashamed Archie was of his inability to read through most of his adult life, and kept it a secret even from his family, and certainly from his doctors. He never forgot that shame, and used his experience to become the "voice of the patient" in health literacy circles. His is a remarkable story, but unfortunately his struggles with literacy are not uncommon.

What We Know

The patient education process includes us medical illustrators: detailed, naturally curious, with a strong desire to help. We work with our clients who need to communicate health-care messages to people who may not be able to or even want to be exposed to the health information they're getting. What can we medical illustrators do to fulfill our clients' requests but effectively reach the intended end user? Let's look at some of the things we know. I'll share some thoughts and studies

about visuals, including pictograms, and some other things I've learned along the way.

Research shows that - no surprise - patients like images. They engage the reader, and support learning behaviors. Other research gives us suggestions about effective image elements, such as color choices and simplifying backgrounds. (See the sources at the end of this article for referenced studies.)

- What we know:
 - · Patients prefer materials with images
 - · Patients prefer text and images together
 - · Images improve recall, comprehension, and adherence

Some research suggests images should:

- · Use realistic colors
- · Be drawn to scale
- · Use appropriate magnification
- · Have an uncluttered background
- Make cautious use of abstract symbols or symbols depicting motion

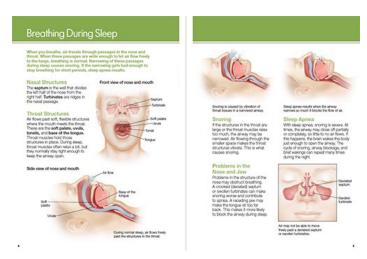
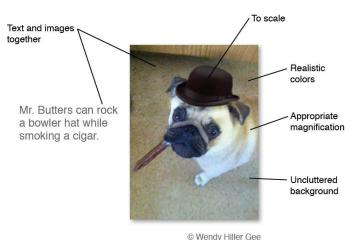


Figure 6 © The StayWell Company



This spread from a StayWell booklet about sleep apnea (Figure 6) shows how these guidelines have been used, even to the simple use of arrows to show breathing. Here's another example extending these points to photographic images (Figure 7):

Thoughts About Art Style

Figure 8 is an elegant piece which was made for a patient education piece. It brings up a good question: Is there anything research can tell us about effective art style for patient education? For example, we tend to love detail, but how much should we include - or not - for a low health literacy audience? Unfortunately, there's no clear answer on art style. The research

I've encountered is mute on questions of style – it appears to be a subjective thing, as we might guess, and is often driven by our clients' marketing needs.

Historically at The StayWell Company we've used everything from cartoon illustration to more realistic anatomical renderings as demonstrated

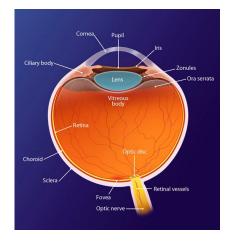


Figure 8 © Chris Gralapp

in these spine images (Figure 9). Styles were chosen partly in response to market demands and partly to end-user input. One of the things we consistently hear from end users is that they ultimately prefer having the art but have to get past some reluctance to see it. This is one reason to tightly control what I think of as the "ewww" factor. That might mean controlling the amount of detail, reducing excessive specular highlights, or avoiding depicting incisions if possible. Whatever the style, art is always used art to focus on a key concept to support the accompanying text, to supplement it, or to carry a message with no text at all. The key point is that the art only belongs on the page if it supports a key concept, with the style in service to the key concept, as well.

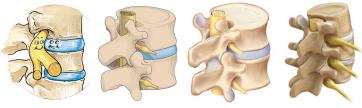


Figure 9 All images © The StayWell Company

Figure 7

To look at style trends over time, I retrieved examples of several interpretations of an anterior heart from the StayWell image archive (Figure 10). Each one of these illustration styles was appropriate for its time, audience, client, and product – there was no right or wrong. Our workflow includes images in the content review process for vetting by our subject matter experts, so we had approval from internal editors as well as multiple external sources for each of these. Truthfully, most

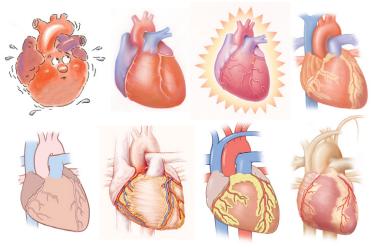


Figure 10 All images © The StayWell Company

of the time our discussions with clinicians about art focus on the content and not the style. We often hear "you're the expert" when we ask clinicians about their art style preferences, but we do hear a lot about accuracy.

Thoughts About Accuracy

Next, let's consider accuracy as an element of style in medical illustration for patient education. I've already shared my observation that we as medical illustrators are predisposed to love detail, and are definitely trained to be laserfocused on accuracy in our work. But we may have to make careful decisions about storytelling for a patient education audience which we might feel compromise accuracy. A question: is Figure 11 an accurate heart? Not really – you can't dissect a heart this way.

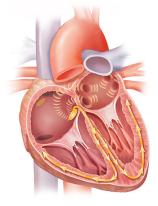


Figure 11 © The StayWell Company

But this image tells a story with a key message with as much anatomical accuracy as possible. Is it successful? My personal opinion is that if it fills the client's need and meets my own standard for conveying a concept with as much anatomical accuracy as possible, that's a good start. But the gold is in knowing whether the end-user understands the intended message.

Are Pictograms a Good Choice?

A lot of research about visuals for low-health-literacy audiences focuses on pictograms, or pictographs. Pictograms are a pictorial sign or symbol, meant to be "universally" interpretable, and are often composed of simple graphic shapes. Pictograms are often used in healthcare settings as a simple visual style. Conveying ideas with simple graphics has its pitfalls, however.



Figure 12 www.verydemotivational.com

Figure 12 is a silly example, perhaps, but provides a cautionary tale about misinterpretation, which is a very common and sticky problem with these types of graphics. Pictograms seem to work best when they show every-day, recognizable actions, like walking, and that avoid complex concepts or an oversimplified graphic approach.

Research also backs up the ideas that pictograms are often misinterpreted. A study in South Africa tested pictogram interpretation in farm workers (Rother, HA, et. al., 2002. *Hazard Communication for Pesticide Safety in Developing Countries*). These pesticide labels assumed:

- · Users were literate
- Symbols would be universally understood

In Figure 13, the message was meant to convey that this pesticide is dangerous/harmful to livestock and poultry. In testing, however, the users did not understand the euroslash symbol, and some of the interpretations were completely opposite from



Figure 13

the intended message. Here are some ways this image was interpreted:

- · To apply on livestock and poultry
- Rural areas
- Market for cattle and poultry
- · Kills cows and chickens pests
- · Avoid contact with the mixture
- Use pesticides on cows and chickens

There were many other examples in this study of pictogram misinterpretation. What can we do to improve image interpretation for our end users? Consider these ideas:

- Examine our assumptions about the user (e.g. literacy level)
- · Understand the user's cultural background
- Determine how to best pair images with accompanying text
- Test or develop images with the end-user population

If we understand some basics about the low health literacy issues facing our end users, including their cultural background, and we use our own best practices to make images and text work together clearly, we have a good basis for an effective patient education piece. The next step is to test the materials we've created with the intended audience – this can often be a gold mine of information. Another powerful strategy is to involve end users in the development process, although this can be difficult to orchestrate with production schedules and budgets.

Medical Illustrators as Advocates

Because of the initiatives mentioned earlier such as Plain Language and Joint Commission requirements, our clients are often in tune with health literacy objectives from an institutional standpoint. But one look at healthcare providers' self-produced materials sometimes can show just how much these clients need guidance in creating audience-appropriate communications. They need our expertise and training!

And our end users need us just as much. In my opinion, one of the most important roles we have is to be an advocate for our audiences, especially those with low health literacy. We medical illustrators are in a unique position to advocate for the people we're trying to reach with our visual messages, especially knowing how widespread a problem low health literacy is in the United States. This is an important part of our mission as visual communicators.

Buyers or clients may have a different perspective on the end product, which may be at odds with the end user's needs. We are in a position to meet a client's needs while advocating for the end user.

The Voice of the Patient

We and our clients want to give our end users the power to change their lives and health for the better, and that of their loved ones, too. One of the best tools we have is to find ways to hear the voice of the patient and incorporate what we hear into our visual solutions.

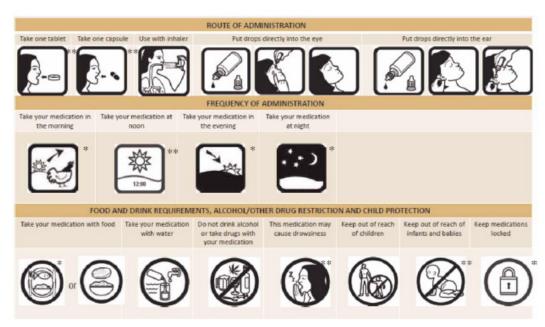


Figure 1: Set of pictograms developed based on focus group discussions. *Original pictograms, which were not modified. **Modified pictograms.

Figure 14

People like it when they understand something that they previously thought they couldn't understand. It's a sense of empowerment.

- Neil deGrasse Tyson, Exceptional Research Opportunities Program meeting May 15 and 16, 2008

Whatever the end-user audience, a powerful way to understand their needs is to involve them in the creative process. When there's time and resources, this can include:

- · Development teams
- Focus groups
- · Content review processes

Even reviewing existing materials with end users reveals valuable information for future projects or new editions. I'll share with you an experience we had with a focus group to strategize a revised edition of a booklet. First let's look at a study (Grenier, et al. - Design and development of culture-specific pictograms). This study documented the use of end users in developing a product (Figure 14).

This project was to specifically redesign pictograms for a group of First Nation communities in Canada. As the product was being developed, the pictograms were evaluated in focus groups and modified if needed. As a result, the project team changed visual elements such as hair in order to reflect a certain cultural identity, or adding lungs to an inhaler image to indicate clearly where the medication goes. An interesting strategy to avoid visual bias in a focus group like this is to present image options in circles or other non-hierarchical formats.

A StayWell Study

As part of developing new editions of Orthopedic titles, Stay-Well held a focus group about the medical illustrations in a Shoulder Impingement booklet. I worked with our research

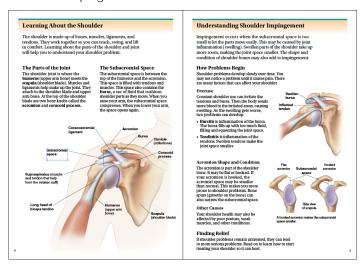


Figure 15 © 2009 The StayWell Company

director to design and conduct the study but the sample group was not large and it was not an academic study. Nevertheless, we learned some interesting things. We started by having 25 participants complete an end-user survey on the previous edition (Figure 15). Participants:

- Were ages 35 50
- · Had some college education
- · Did not have shoulder impingement

After the survey was complete, a subset of 5 participants attended an in-person discussion. We showed them the old edition art, and passed around a plastic anatomical model of a shoulder. We came away with a deeper understanding of how these participants visualized the shoulder. They independently brought up the old-style anatomy illustrations with clear overlays – they liked the idea of progressive learning. All of them expressed discomfort at having to look at body parts, but reported they understood the condition better because of the images. Remember, this group all had some college education, and they spoke English as a first language. In summary, we discovered the following:

- Understanding the anatomy was a step-wise process from simple to complex
- · Too much detail right away produced anxiety
- They needed time to process other views and didn't understand what they were seeing at first
- · Visualizing body parts started with a mental anterior view

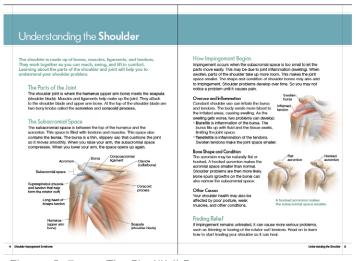


Figure 16 © 2013 The StayWell Company

Figure 16 is the redesigned medical illustration spread in the new edition. We went to press before we had all the results in so we didn't include a locator, but one of the features our group would have wanted was an image of the shoulder in context of a body outline. We anticipated that the lateral view of the shoulder would be problematic, so we removed it. Even having the actual shoulder model to handle and rotate, this group had trouble understanding the lateral view. We would have liked having enough room on the spread to build images from bones and to muscles in progressive images, but we were careful to

preserve a comparison of normal to abnormal and kept the same anterior view throughout.

Surveys

Surveys are another wonderful source of end-user feedback, and can give a running commentary on existing products. In my experience, end users usually comment about the written content or the photography, but sometimes about the medical art as well. At StayWell, some surveys are voluntary, some are solicited. Following are some comments we've had about medical and instructional art:

"The pictorial views of the healthy gallbladder and of one with gallstones, as well as the more serious problems of bile blockage were very enlightening."

"My mother is Spanish speaking and only reads Spanish. I had to translate for my mother and she looked at the pictures to understand what she needed to do as far as exercises."

Sometimes comments about the same product are contradictory:

"Remove body pictures."

"More medical pictures."

And some comments are negative:

"I don't want to see it. Those images cause ED."

Sometimes there's an unexpected - but very welcome - message from a survey participant:

"I appreciated the good art in this booklet. There was no mention of the artist's name, however. I think he/she should be given credit."

Whether positive or negative, each one of these responses is pure gold. Any information about the end-user's experience can help inform how future projects are developed.

Image Inspiration

In sharing some image examples and styles from the StayWell archive as well as from other sources, I hope to inspire medical

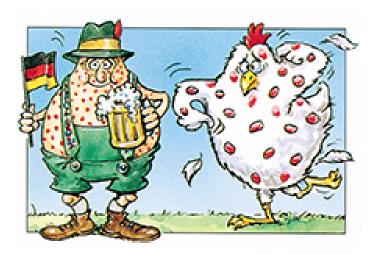


Figure 17 © The StayWell Company

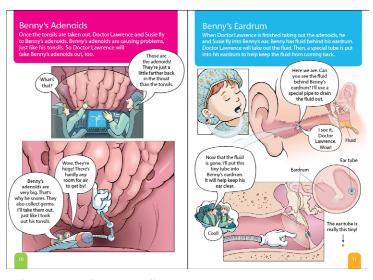


Figure 18 © The StayWell Company

illustrators to develop and test other kinds of visual communication with patients.

Cartoons have, in years past, been a preferred style for patient education (Figure 17). Over time that's changed, but it's an option that's very much alive. StayWell still uses cartoon formats, as in this new edition of a pediatric product about tonsils and adenoids (Figure 18). To see more examples of how cartooning is being used in other companies and products to communicate a wide variety of medical topics, check out http://www.graphicmedicine.org/.

Line art to demonstrate instructional sequences is a close relative of cartoons or a graphic novel approach. Figure 19 shows line art teaching a process in conjunction with text in a sequential format. There is also the possibility of using such images without supporting text at all.

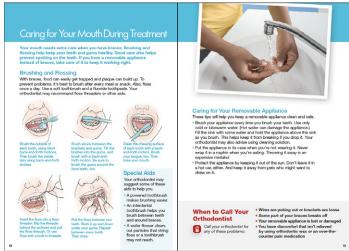


Figure 19 © The StayWell Company

Pictograms plus text are generating a lot of interest as a teaching solution for low health literacy populations. In one study, it was found that very simple black-and-white line drawings with limited text (Figure 20) worked to reduce medication errors in parents giving liquid acetominophen to infants.

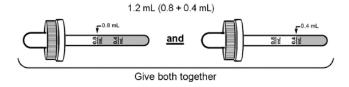


Figure 20 Yin, S, et. al., 2011. *Use of a Pictographic Diagram to Decrease Parent Dosing Errors with Infant Acetominophen: A Health Literacy Perspective*

The researchers tested reading level and other health literacy indicators in the study group and found that the pictograms plus text reduced medication errors significantly over text alone in subjects with low health literacy. Interestingly, the pictogram and text combination also reduced errors in subjects with limited English proficiency, even though the text was in English.

Infographics are something often used in newsletters and other non-clinical publications. I'm very interested to know how these would be interpreted by a low-literacy audience. For example, do the two colors of green in Figure 21 take on meaning or not?

An animated infographic approach is another potentially powerful patient education tool which begs for study (Figure 22). See this animated graphic and other fantastic animated examples at www. tabletopwhale.com.



Figure 21 © The StayWell Company

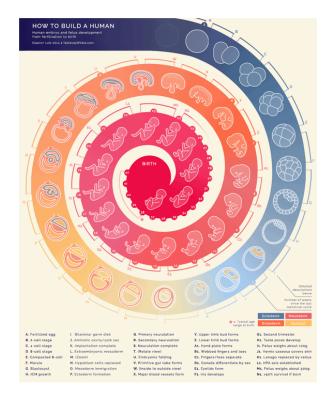


Figure 22 © Eleanor Lutz, used with permission

In Summary

Understanding low health literacy issues allows us as medical illustrators to empathize with patients and help us keep their needs in mind as we create visuals for them. Understanding our own nature can help us create successful visual stories for patients by not assuming they will react to medical information with the same eager interest we often do. Effective patient education tools also support the needs of our clients and supports our common goal to give patients a greater chance to make positive changes in their health and lives.

Our mission to create visuals for patient education includes:

- Understanding the reality of widespread low health literacy in the U.S.
- Keeping visual messages sharply focused on key concepts
- · Avoiding assumptions about the audience
- Involving end-users in development and testing
- Advocating for literacy principles when working with clients

Sources

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S.A. Somers and R. Mahadevan. Health Literacy Implications of the Affordable Care Act. Center for Health Care Strategies, Inc., November 2010. www.tabletopwhale.com

Yin, S, et. al., 2011. Use of a Pictographic Diagram to Decrease Parent Dosing Errors with Infant Acetominophen: A Health Literacy Perspective













U.S. COPYRIGHT OFFICE, LEGISLATIVE, AND LITIGATION NEWS

by Betsy Weissbrod

The Artists Rights Committee (ARC2) continually monitors copyright developments on many fronts. It is important for all AMI members to stay current on new information impacting copyright and how we as a profession do business. Summarized below are several new resources along with legislative and litigation developments.

U.S. Copyright Office (USCO) Resources

USCO Releases Third Edition of the Compendium

On September 29th, 2017, the USCO released its third edition of the Compendium. It is the administrative manual of the Register of Copyright and provides expert guidance to copyright applicants. The Compendium is 1,180 pages long; however, most medical illustrators may only need to consult the following chapter:

Chapter 900, Visual Art Works (33 pages)

Other useful chapters include:

Chapter 100: U.S. Copyright Office and the Copyright Law:

General Background

Chapter 200: Overview of the Registration Process
Chapter 300: Copyrightable Authorship: What Can

Be Registered

Chapter 600: Examination Practices

Chapter 1000: Websites and Website Content

Download the full Compendium here.

USCO Releases Updated Circulars

On September 21, 2017, the USCO began releasing <u>updated</u> <u>versions</u> of their informational circulars. The circulars have been around since the late 1800's and have been revised multiple times. The latest revisions reflect updated language and content, correlating with the release of the new Compendium. There are 40 updated circulars along with 2 new circulars: *Multiple Works* and *Copyright Registration of Contributions to Periodicals*, scheduled for release by the end of 2017.

The circulars are a good resource for anyone looking into a specific area of U.S. Copyright law. The topics cover the basic fundamentals of U.S. Copyright law, policies, procedures, and copyright registration for a variety of creative works. The circulars are written for a general audience, but do provide detailed reference to laws and regulations in the footnote.

Click here to view all of the Circulars.

USCO Publishes Archive of Briefs & Legal Opinions

During the Members Forum in 2016, members of ARC2 discussed the purpose of the USCO, "The USCO is an advisory only office. They hold public roundtables/forums and issue NOI's to collect and gather input about various copyright subjects. As currently structured, the CO cannot introduce legislation." They use the data they collect to, "issue binding opinions on questions of copyright law to the Copyright Royalty Board." (USCO NewsNet 680)

This new archive is a convenient place to access many of the legal opinions and briefs issued by the office. We encourage anyone seeking insight into USCO views on copyright law to check it out here.

Legislative Updates

Copyright Alternative in Small-Claims Enforcement (CASE) Act

On October 4, 2017 the CASE Act was reintroduced in Congress as H.R. 3945. Changes made to last year's bill include the addition of a provision requiring the Copyright Office to expedite certificates of registration—a prerequisite to entry—for parties with a matter before the small claims court, and the addition of a provision allowing a copyright holder to request a subpoena that would compel an Internet service provider to disclose the identity of a user of its service who has been accused of infringement.

See our previous coverage of this bill in AMI News Fall 2016.

Transparency in Music Licensing Ownership Act

On July 20, 2017, Rep. Jim Sensenbrenner (R-WI) introduced his bill, <u>Transparency in Music Licensing Ownership Act (H.R. 3350)</u>. The bill describes its purpose as: *To amend title 17, United States Code, to establish a database of nondramatic musical works and sound recordings to help entities that wish to publicly perform such works and recordings to identify and compensate the owners of rights in such works and recordings, and for other purposes.*

If passed, this bill would essentially force creators to register all of their musical works in a [free for users] public database. As currently written, the legal and financial burden to create and maintain this database is entirely on the creator. The bill removes the ability of creators to receive legal fees and statutory damage if they do not register their works. It also requires creators to fund the massive cost of this database through the fees they must pay to register their works.

Why should medical illustrators be interested in a music bill? This should sound familiar, as previous orphan works legislation for visual artists included similar language and burdens on creators.

As of October 4, 2017, this bill is still in the House Judiciary Committee, where Rep. Sensenbrenner serves as a committee member.

Read more about this bill here.

Current Copyright Litigation

Penguin Random House, Simon & Schuster et al v. Colting

In this recent copyright litigation case the defendants, Frederick Colt and Melissa Medina, argued their use of copyrighted literary works and the conversion of them into "learning guides" for children, was fair use. Judge Rakoff (Southern District court of NY) ruled against the defendants. He noted that they did not

satisfy all four of the fair use factors, and particularly, the fourth factor which directs the courts to consider the effect on the market value of the original work.

(See Ethan Geehr's AMInews article, <u>Fair use and the Birth of Transformative Use: Why Should You Care?</u> for more on fair use).

The defendants argued that because the copyright owners were not asserting their rights to create children's version derivatives of their own works, they could not bar others from doing so. This is a common argument for copyright minimalists (pro-orphan works); that other users should not be prohibited from making new uses of a copyrighted work just because the creator has "failed to exploit" it to its full market potential.

Judge Rakoff disagreed and explicitly stated, "Congress did not provide a use-it-or-lose-it mechanism for copyright protection. Instead, Congress granted a package of rights to copyright holders, including the exclusive right to exploit derivative works, regardless of whether copyright holders ever intend to exploit those rights." The Judge reaffirmed that a creator's derivative right as an exclusive right, regardless of whether they exploit that exclusive right or not. It does not matter if a non-owner sees a better use for that resource. The exclusive rights still belong to the creator. As Terry Hart states in his article, "...this initial allocation of entitlements—property—is exactly what Congress had in mind. It is, indeed, not a "use-it-or-lose-it" mechanism. Rather, it is a "set-it-and-forget-it" mechanism." (Judge Rakoff's Kinderguides Decision)

Canadian Copyright Licensing Agency ("Access Copyright") v. York University

In July 2017 a <u>Canadian federal court</u> ruled against Toronto's York University in favor of Access Copyright. Access Copyright

is essentially a reprographic rights organization. They collect money and grant licenses for users and universities to copy published works (<u>Visual Art Licensing 101, AMI Newsletter, Fall 2015</u>) and then distribute the collected royalties to creators.

In 2011, York University opted out of its participation with Access Copyright and decided to handle licensing rights themselves, via its own Fair Dealing Guidelines and other exceptions. York opted out of this agreement due to an increase in tariffs from \$3.38 per student to \$27.50 by Access Copyright. The increase, Access Copyright argued, was to cover increasing use of digital versions of texts in learning management systems.

The suit by Access Copyright alleged the university's improper use of protected works was not fair and that York should pay retroactive royalties under the new tariffs. York then filed a countersuit, claiming their use should be considered, "Fair dealing." (Note: Fair dealing is an exception to copyright infringement stated in a country's law. This is not the same as the U.S. version of "fair use," which is a limitation of the exclusive rights on a protected work. Read more on the difference here.)

The judge in this case ruled that York was illegally opting out of the tariff and the guidelines they set up were inadequate. "It is evident that York created the [fair dealing] Guidelines and operated under them primarily to obtain for free that which they had previously paid for." (York U. loses legal battle over copyright fees after court rejects fair use argument, National Post)

On September 22, 2017 York University filed an appeal to this ruling.

For more on this story please read <u>here</u>.



Karen Bucher

Professional Categories

Member's Choice Awards

David Cheney

Arm Orthosis

Ralph Sweet Award

Amanda Behr and Michael Jensen

Infertility Treatments

New Media

Didactic/Instructional: Non-Commercial

David Cheney

Rat Facial Nerve Surgery
Award of Merit

Scott Weldon

Minimally-invasive Modified Nicks Procedure for the Repair of a Small Aortic Root

Award of Merit

Didactic/Instructional: Commercial:

Amy D'Camp

Prokaryotic vs. Eukaryotic Cells Award of Merit

Editorial

Peter Lawrence

Surgery of the Brainstem
Award of Excellence

Edmond Alexander

Membrane Destruction
Award of Merit

Valerie Altounian

Synthetic Chromosomes
Award of Merit

Advertising and Marketing/ Promotional

Nick Klein and Andrew Swift

Nontuberculous Mycobacteria (NTM) Lung Disease

Award of Excellence

David Cheney

*Arm Orthosis*Award of Merit

Nathaniel Klein

Detecting Protein Interactions with High Affinity Bioluminescent Reporter Assays Award of Merit

Cynthia Turner

Platelet-stimulating Agents
Award of Merit

Medical-Legal

Cognition Studio, Inc

Scarring Down and Obliteration of the Distal Urethra Award of Excellence

Philip Mattes

Right Ankle Injuries, Lateral View
Award of Excellence

MediVisuals, Inc.

Mechanism of Dog Bite Injury to Ear Award of Merit

Illustrated Text (Traditionally Printed Book)

Kristen Larson Keil, Mark Schornak, Jennifer Darcy, and Peter Lawrence

Color Atlas of Brainstem Surgery
Award of Excellence

Jennifer Darcy and Brenda L. Bunch

Secondary Rhinoplasty by the Global Masters Award of Merit

Animation: Didactic/ Instructional - Non-Commercial

INVIVO Communications Inc.

"How Diabetes Changes Over Time" Award of Excellence

Nucleus Medical Media

CRISPR/Cas9 Gene Editing for Cystic Fibrosis Award of Merit

Animation: Didactic/ Instructional – Commercial

INVIVO Communications

Investigating ribociclib as a potential breast cancer treatment

Award of Excellence

iSO-FORM

Nontuberculous Mycobacteria (NTM) Lung Disease Award of Merit

AXS Studio Inc.

Secondary Hyperparathyroidism: Effects on bone turnover and parathyroid glands
Award of Merit

Animation: Advertising and Marketing/Promotional

Amanda Behr and Michael Jensen

Infertility Treatments
Award of Excellence

AXS Studio Inc.

*Teloview*Award of Excellence

Cognition Studio, Inc.

MRD and the colonSEQ Assay
Award of Merit

Ghost Productions

*Micromedicine Microfluidics Technology*Award of Merit

AXS Studio Inc.

Costimulatory Signaling in Pathways of Rejection Award of Merit

Interactive Media: Didactic/ Instructional - Non-Commercial

Fabian de Kok-Mercado

*Virus Explorer*Award of Excellence

The Toronto Video Atlas of Surgery

TVA Surg VR Surgical Anatomy
Award of Excellence

FROM YOUR BOARD (CONT'D)

Andy Matlock

Lung Cancer Preoperative Planning Award of Merit

Daniel Muller, Scott Williams, and Scott Leighton

Neoplastic Epidural Spinal Cord Compression Award of Merit

Interactive Media: Didactic/ Instructional - Commercial

Argosy Publishing/Visible Body

Human Anatomy Atlas 2017 Edition Award of Excellence

Simulators, Prosthetics and Sculptural Products

Jackie Meyer

Understanding Myelofibrosis
Award of Excellence

Laura Roy

Pediatric Cardiac 3D-Printed Teaching Models Award of Merit

Student Categories

Orville Parkes Student Best of Show

Shawna Snyder

Vasculature of the Uterus

New Media Best of Show

Sam Holmes

Encoding Nature's Chemicals

Didactic/Instructional - Anatomical/Pathological

Lauren Rakes

M1 and M2 Segments of the Middle Cerebral Artery
Award of Excellence

Shawna Snyder

Vasculature of the Uterus Award of Excellence

Eleanor Bailey

*Infantile Hemangioma*Award of Merit

Mark Belan

Periodontitis
Award of Merit

Judy Rubin

Splenic Marginal Zone Lymphoma Award of Merit

Didactic/Instructional – Surgical/Clinical Procedures

Julia Lerner

Penetrating Keratoplasty
Award of Excellence

Jerry Gu

Resection of the parasagittal meningioma with preservation of venous lake Award of Merit

Nicholas Reback

Surgical Removal of a Carotid Body Tumor Award of Merit

Didactic/Instructional – Molecular/Biological/Life Sciences

Lisa Qiu

Photoswitchable Proteins
Award of Excellence

Amanda Miller

Treating Diabetic Foot Ulcers with Cationic Antimicrobial Peptides Award of Merit

Amanda Miller

Western Spruce Budworm (Choristoneura occidentalis Freeman)
Award of Merit

Hillary Wilson

Bower Construction of the Fawn-Breasted Bowerbird Award of Merit

Editorial

Liza Knipscher

Heart Work
Award of Merit

Advertising and Marketing/ Promotional

Christina Pecora

The Line Up: Signs and Symptoms of What's Buggin' Your Belly Award of Merit

Animation

Sam Holmes

Encoding Nature's Chemicals

Award of Excellence

Tianxing Shi

Comprehensive antibody profiling using Phage ImmunoPrecipiation Sequencing (PhIP-Seq)

Award of Excellence

Wendy Gu

Imaging Neuropathic Pain
Award of Merit

Adam Zunder

Rethinking Cancer Award of Merit

Interactive

Geoff Fraser

Muskel: An Interactive Application for Learning Functional Musculoskeletal Anatomy Award of Excellence

Tiffany Raber

Color Blindness Simulation: A Virtual Reality Experience Award of Excellence

Kelly Speck

Trans Primary Care Guide Award of Merit

















UP & COMING

CONNECTING THE INTERSECTION OF ART AND SCIENCE

By Veronica Falconieri

Name: Melanie Connolly

Professional Member Since: 2017

Favorite Technique: 3D animation, Zbrush modeling

Training: MS Biomedical Visualization, The University of Illinois at Chicago

Location: Austin, TX

E-mail: melanie@mecovisuals.com



You have a very active professional social media presence - what have you found is the greatest benefit of maintaining an up-to-date feed?

It's just about reminding people that you exist. I wasn't by any means into social media at first, but the election last November made me realize that, for better or worse, social media has a whole lot of power. After that, I made a Twitter account and started following artists, docs, and researchers before I began creating my own social content. You never really know what piece or process might resonate with a future client. I try to create content that I like to interact with-I love giving little visual chunks, and I've found that people love to see process workmyself included! I like having a cohesive but slightly different voice for the platforms, and the tweets that I send for MeCo Visuals are different in style from the ones I send for Chicago Medical Graphics. Adding content slowly and consistently over time gives clients something new to view every time they visit. It makes them want to come back by keeping everything light, current, informed and fun.



3D model from an upcoming animation on Intrauterine Device expulsion in the postpartum uterus.

What has been your favorite medical illustration project that you have worked on? Why?

My uncle, Dr. Charles Conrad, inspired my interest in medicine. I shadowed him at MD Anderson when I was in high school, and at one point he breezily mentioned "oh and this is where we create viruses." That required a bit of explanation, as the idea of using viruses to treat cancer blew my mind. 15 years later, I was able to help him visualize the virus he had engineered, which is now in promising clinical trials. Shortly after we worked on the piece together, he passed away unexpectedly. I'll always cherish this piece as a testament to his life's work.

What is your current position and your favorite part about it?

I'm freelancing 3D animation from my house. It's kind of like camping: I have limited resources, but still want to create artwork that is accurate and aesthetically pleasing. I learn a new program every few months and add that to the arsenal. There are so many areas to complete in any finished product, and I use some stages (like Zbrush modeling) as my "reward" to get through other parts.



Vestibulocochlear Anatomy 3D model created from a mixture of patient inner ear micro-CT data and current literature on vestibulocochlear 3D shape.

UP & COMING (CONT'D)

What is something awesome that you do outside of your day job?

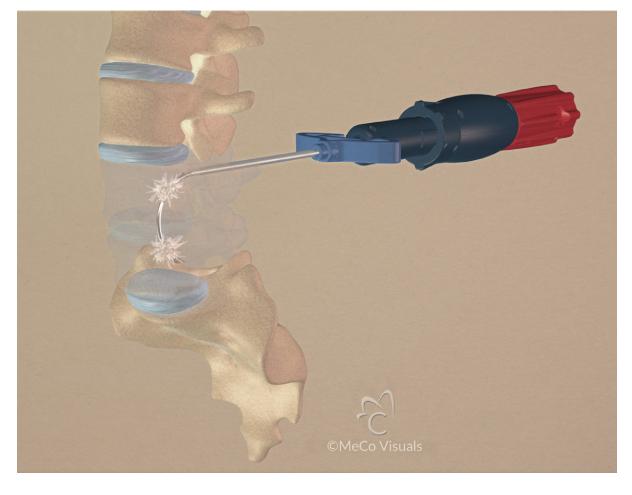
Now that I'm back in Austin, I've loved getting involved in volunteer organizations here. I teach weekly piano lessons to a kiddo in foster care through Kids In a New Groove, and I enjoy helping out with GirlStart which aims to get gals into STEM fields. I'm currently training my dog to be a therapy volunteer at Dell Children's Medical Center, which should be fun! (I worked there for years before grad school, so I miss the hospital!)

When was your first AMI conference? How was the first-timer experience?

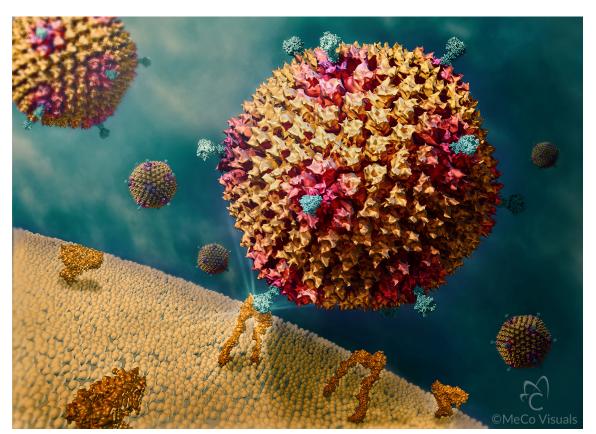
I couldn't even tell you when my first one was, but I'm sure my mom could. Maybe Phoenix? I don't remember, I think I was 9 at the time. Funny enough, I was able to attend the prior Austin meeting, and got to model for an artist doing a live painting during the showcase. I thought I'd really hit the big time, although I had to try hard not to smile because I still had braces!

What made you decide to become a Professional member of the AMI?

It was a no-brainer. My mother (Peg Gerrity) is a Professional Member, and I'd grown up hearing about the association, the members, the professional ramifications of art legislation, and the body of client-facing knowledge collected over decades. I watched her business grow from being based out of a kitchen pantry in Chicago (most of the shelves were removed for space purposes) to having an office in Singapore. The connections and support she's received (and given!) through the AMI have had no small hand in helping her mold a fulfilling career. That's advertisement enough for me!



Novel Spinal Fusion
This image is from an animation created for a medical device company to visually explain the mechanism behind their recently patented, minimally-invasive spinal fusion device.



Oncolytic Adenovirus
This award-winning
piece depicts a modified sero-type 5 adenovirus as it enters and
replicates within glioblastoma tumor cells.

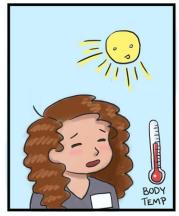


A LOOK BACK AT AMI AUSTIN 2017

Submitted by Jeff Day

This year's AMI conference in Austin was a blast, with great talks, awesome food, and of course...bats! We asked some of the attendees this year to share their insights in comic/sketch form. Enjoy this taste of the Austin conference from your fellow medical illustrators!









AMI 2017 ... RINSE

AND REPEAT.



Tziporah Thompson Number of AMI's attended: 1 www.instagram.com/tzipky/

UBER DRIVER TAKES SIX GRAD STUDENTS TO THE AMI







ANGELA GÃO

Angela Gao Number of AMI's attended: 1 Twitter: @bioforbreakfast

AMI News, Spring 2017

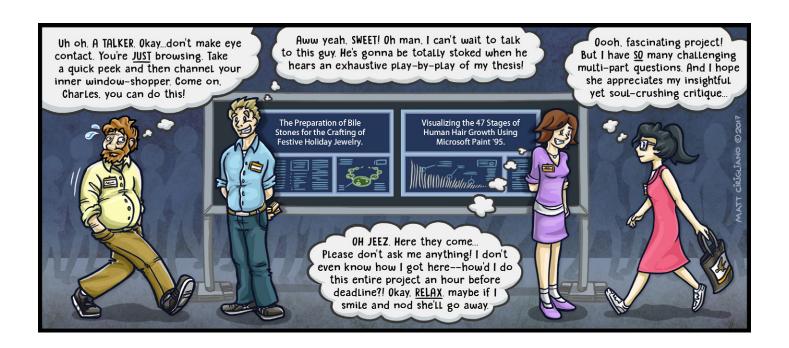






@HREYSA

Carol Hrejsa Number of AMI's attended: 8 www.hrejsa.com Twitter/Instagram @chrejsa



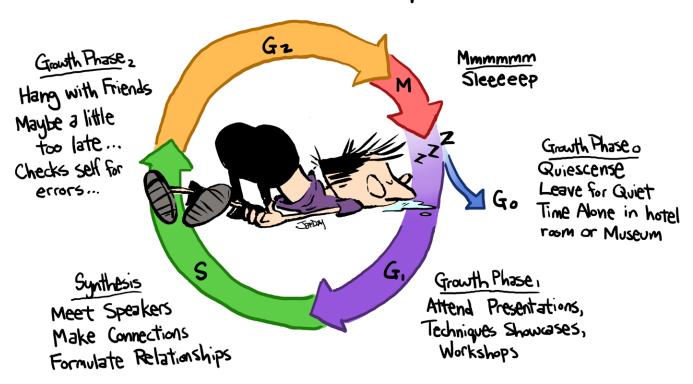
Matt Cirigliano Number of AMI's attended: 3 www.mattcirigliano.com

AMI CONFERENCE 2017 - AUSTIN TACOL BBQ! CREAM DONUT MANGO SNOW MORE TACOS! MORE MORE ICE CREAM BBQ! INDIAN! GOOD LORD... ICE CREAM MOAR TALOS! AGAIN!

Hannah Ahn Number of AMI's attended: 6 www.hannahahn.com

AMI News, Fall 2017 25

THE AMI CAROUSEL CYCLE



Jeff Day Number of AMI's attended: 4 daybiomed.com

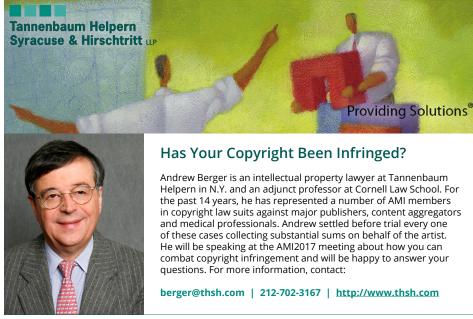
Semper Femur

Martin Bruinsma Number of AMI's attended: 1 bruinsmamedical.com/ More sketches from the conference on the site!



Richard Weaver Number of AMI's attended: so many home.earthlink.net/~rdweaver/index.html





CALENDAR OF EVENTS

SCIVIZ NYC

DECEMBER 1, 2017

Davis Auditorium, Leon and Norma Canter for Science and Medicine Icahn School of Medicine New York, NY http://www.sciviz.nyc/

73rd Annual AMI Conference

JULY 18-21, 2018 Newton, MA

THE BEAUTIFUL BRAIN Tour Schedule

The Beautiful Brain: The Drawings of Santiago Ramón y Cajal

SEPTEMBER 5 - DECEMBER 3, 2017 | Morris and Helen Belkin Art Gallery, University of British Columbia, Vancouver, British Columbia, Canada

JANUARY 9 – MARCH 31, 2018 | Grey Art Gallery, New York University New York City, New York, USA MAY 2, 2018 - JANUARY 1, 2019 | MIT Museum, Massachusetts Institute of Technology

Cambridge, Massachusetts, USA

JANUARY 27 - APRIL 7, 2019 | Ackland Art Museum, University of North Carolina at Chapel Hill Chapel Hill, North Carolina, USA