Color me beautiful!
Insight into the field of medical illustration

Kari C. Toverud MS CMI  IllustraVis09  Bergen, Norway

If you want to use content from these slides, you have to ask the respective author for permission!
How do you become a medical illustrator?

• **Background**
  – Bachelor of Arts degree in Art and Biology
    • Macalester College, St. Paul, Minnesota
  – Master of Science degree in Medical illustration
    • Medical College of Georgia
  – Certified medical illustrator
    • Must be renewed every 5 years
My career

- Universitetsforlaget, Oslo (University press)
  - 1983 until 1989
- Self-employed
  - 1989 until 2005
- Kari C. Toverud AS (Inc.)
  - 2006 until present
My office
My clients

• Publishers
  – Textbooks
  – Reference books
  – Interactive websites
• Journals and newspapers
• Pharmaceutical companies
• Hospitals
• State institutions
Kari C. Toverud MS CMI  IllustraVis09  Bergen, Norway

www.karitoverud.com

Need an illustration?

“Medical Illustrators draw what cannot be seen, watch what has never been done and tell thousands about it without saying a word.”

by Bill Grausl, Nell Pointer & Bill Wilcox

Kari C. Toverud

Do you need medical illustrations for your presentation, publication or website?

I have been working as a professional award winning medical illustrator for 24 years. I provide informative medical illustrations, animations, interactive learning sites and storyboard script-writing for a variety of clients, including publishers, medical journals, physicians, advertising agencies and the pharmaceutical industry.

How to view stock illustrations

1. Click on the appropriate category on the left column on this page, and then browse through the thumbnails until you find what you are looking for.
2. Choose sub-category from the filter above the carousel of images then click on the image you want to see enlarged.
3. If you don’t find what you are looking for, send me an e-mail and state your needs or call me.

5 recent illustrations

relaxed and eriged uncircumcised
How do I approach a new drawing?

• Intended audience?
  – Medical background
  – Lay audience
    • adult
    • child
Choice of illustration style

- Schematic
  - Only line
Choice of illustration style

• Schematic
  – With color
Choice of illustration style

- Anatomically correct and with only a body contour
Choice of illustration style

• Anatomically correct and fully rendered
Choice of illustration style

- Create a more dramatic atmosphere
Where to focus?
Where to focus?
Orientation

- From macro to micro
- Leading the reader deeper and deeper
Serial technique

• Several images put together to convey a story
Serial technique
Photorealism

• A photograph documents reality
• It gives authenticity which an illustration cannot
• But a photograph shows only what the eye can see and captures a precise moment
  – It does not explain the relationship, concept and the effect of what we see
Enhancement by photorealism
Central vein catheter
Central vein catheter
Mouth-to-mouth resuscitation
CT, ultrasound and MRI scans
Volumetric rendering

• Great reference
• Time-saver
• Nontraditional views
• Photorealism
Jessica Doe - Skull Fractures

Maxillofacial CT 9/4/04

3D Reconstruction

Depressed comminuted fractures of the temporal and sphenoid bones, lateral orbit

Fractures of the left zygomaticofrontal suture and zygomatic arch

Fractures of the orbital floor and maxilla

Fractures of the pterygoid plate and base of the cranial fossa

Axial Slices

Fractures of the maxilla

Fractures of the floor of the orbit and pterygoid plate

Illustration by Pat Tomas CMI
Osirix and artist combined

Illustration by Edmond Alexander CMI
Color enhancement
Use of color in medical illustration

Images and text by Bill Andrews CMI
Dept. of Medical Illustration
Medical College of Georgia
Forms in Light

• Color exists where the light falls
Color the halftone area

- The area of the purest, most intense local color occurs in the halftone area of a form
Forms in Light

– Reflected light takes on the local color of the object from which it receives the reflection
Basic Form Lighting

- Specular Highlight
- Halftone
- Diffuse Highlight or Quarter-tone
- Core Shadow
- Reflected Highlight
- Reflected Light
Directing light source

– Medical illustrators are taught to use upper left-hand lighting as standard

Illustration by Tod Buck CMI
Shadows are never black

- The only place where the shadows are totally black is on the moon and in space, where there is very little atmosphere.

3D computer generated shadows are often black until the artist, or now hopefully the computer programmer, takes control of the light and the way it interacts with object surfaces.
• Because of the influence of ambient light and reflected light, shadows can and do have color.
Reflected Light

Reflected light contains:
- Color of source light
- Local color of reflecting body
- Local color of receiving body
Reflected Light

Illustration by Tod Buck CMI
Tusen takk!
www.karitoverud.com