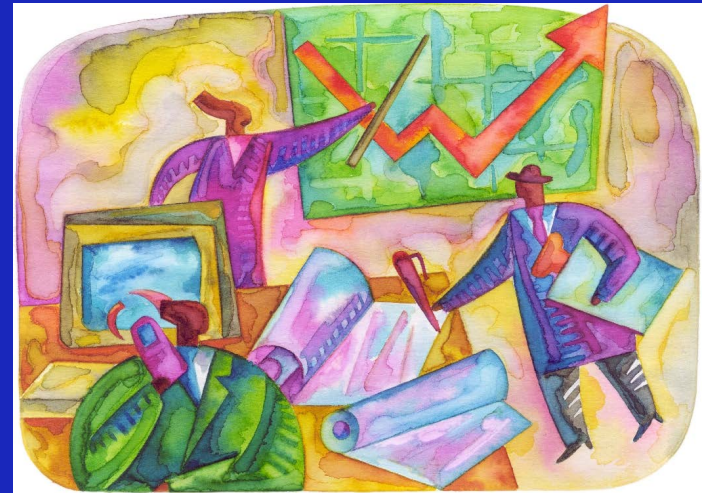


Scientific Poster Design

How to keep your poster
from resembling an
“abstract painting”



CCMR

Cornell Center for Materials Research

Cornell University, Ithaca, NY

<http://www.ccmr.cornell.edu>



A poster can be better than giving a talk

More efficient because:

- you totally bomb at giving talks
- can be viewed while you nap
- can hang in the department for years
- can reach folks not in your field of research

Posters serve as...

An advertisement of your hard work




Kool, wow!, check
this out!, you must
be smart!




It's just an illustrated abstract





Poster title goes here, containing strictly only the essential number of words...



Author's Name/s Goes Here, Author's Name/s Goes Here, Author's Name/s Goes Here
 Address/es Goes Here, Address/es Goes Here, Address/es Goes Here

Introduction

Plot ...

Check with conference organizers for their specifications of abstract format before you start your poster. Make the poster size landscape portrait (wider than tall).

Three pages of poster are standard (A0 (36" x 48"), landscape portrait) format. Do not change the page size. You can make it smaller or larger also when printing. You need a large space with either a portrait (vertical) or a square poster format.

Best if there is no connection to the space allocated by your conference organizers (e.g. 36" x 48" in US). Do not make your poster larger than necessary, and do not make it smaller.

Method

Tips for making a successful poster ...

- Rewrite your paper in poster format. Simply everything and use a white.
- Headings of the poster should be both upper and lower case post-caps.
- Have one word per space on each line and use bold characters where.
- When laying out your poster leave breathing space around your text. Don't overcrowd your poster.
- Try using photographs or diagrams graphs. Avoiding numerical tables.
- Spell check and grammar check before printing.

Copyright as in the Normal Resolution. Please do not use more than 20 x 20 pixels for any image of the poster. Do not use more than 20 x 20 pixels for any image of the poster. Do not use more than 20 x 20 pixels for any image of the poster.

Results

Reporting the results ...

Pages such as photographs, diagrams, plots, or, can be used on the poster.

For some cases images in your poster go through the printer as shown here. From the printer, the printer will print the poster on a standard size paper. The poster will be printed on a standard size paper. The poster will be printed on a standard size paper.

Be aware of the images you are printing. The images should be 150 x 150 pixels or larger. The images should be 150 x 150 pixels or larger. The images should be 150 x 150 pixels or larger.

Do not use images for the poster.

Use the following for the poster:

- For the poster use MS Word or other graphically rich software.
- Graphs and diagrams should be printed on a standard size paper.
- For the poster use MS Word or other graphically rich software.

Copyright as in the Normal Resolution. Please do not use more than 20 x 20 pixels for any image of the poster. Do not use more than 20 x 20 pixels for any image of the poster. Do not use more than 20 x 20 pixels for any image of the poster.

Printing and Lamination

Once you have completed your poster print to the printer. The printer will print the poster on a standard size paper. The printer will print the poster on a standard size paper. The printer will print the poster on a standard size paper.

Do not use images for the poster.

Use the following for the poster:

- For the poster use MS Word or other graphically rich software.

Copyright as in the Normal Resolution. Please do not use more than 20 x 20 pixels for any image of the poster. Do not use more than 20 x 20 pixels for any image of the poster. Do not use more than 20 x 20 pixels for any image of the poster.

Aim

How to use the poster ...

Simply highlight the essential information in your own paper and paste your text into a 10x10 inch area on a Power Point presentation.

The poster text should be between 24 and 32 points. All text should be in black.

Do not use images for the poster.

Use the following for the poster:

- For the poster use MS Word or other graphically rich software.

Copyright as in the Normal Resolution. Please do not use more than 20 x 20 pixels for any image of the poster. Do not use more than 20 x 20 pixels for any image of the poster. Do not use more than 20 x 20 pixels for any image of the poster.

Conclusion

For more information on Poster Design, Scenery and Digital Photography, and Image Size.

Contact: Medical Illustration Unit, Princeton, NJ, USA.

Phone: 609-258-2000

Email: medil@princeton.edu

Website: www.medil.princeton.edu

Acknowledgements

Just highlight the essential information in your own paper and paste your text into a 10x10 inch area on a Power Point presentation.



Is my abstract effective?

- Why should anyone care?
- What am I adding to current knowledge?
- Do I need to explain methods?
- Have I told them what I found and recommend?

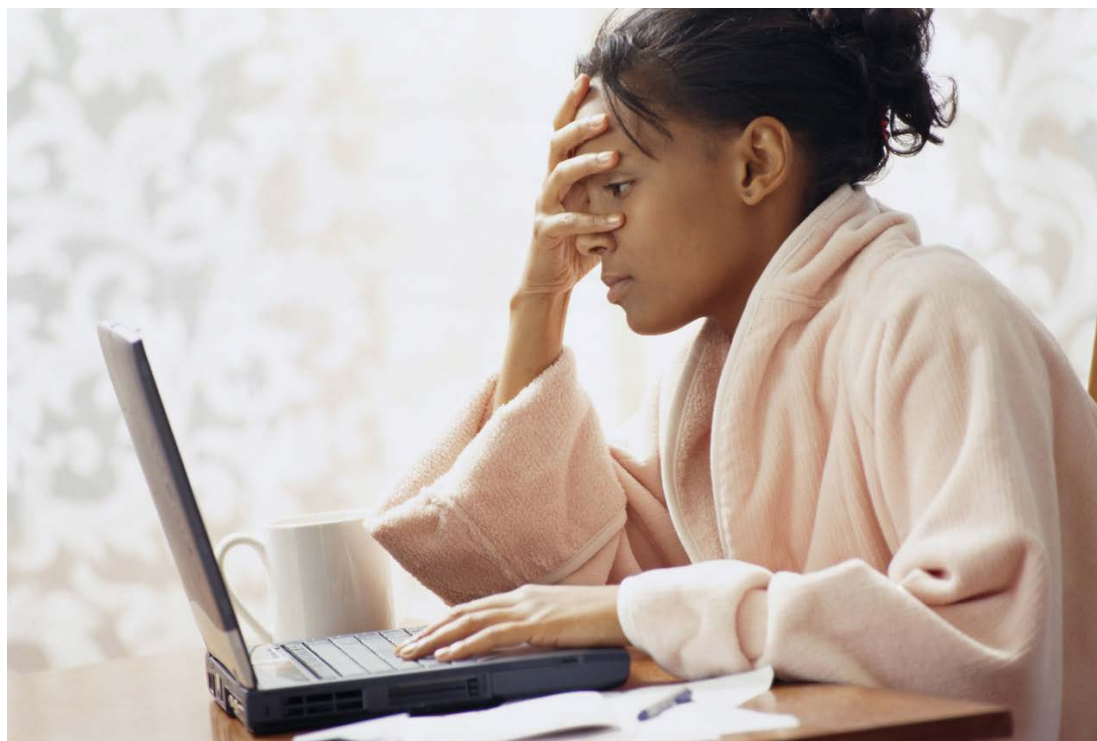


CCMR

Cornell Center for Materials Research



A portrait of a grad student



@#&%!@#\$, I have 12 hours to throw this thing together and get it printed before it's due.

How do I get months and years of research onto my poster?

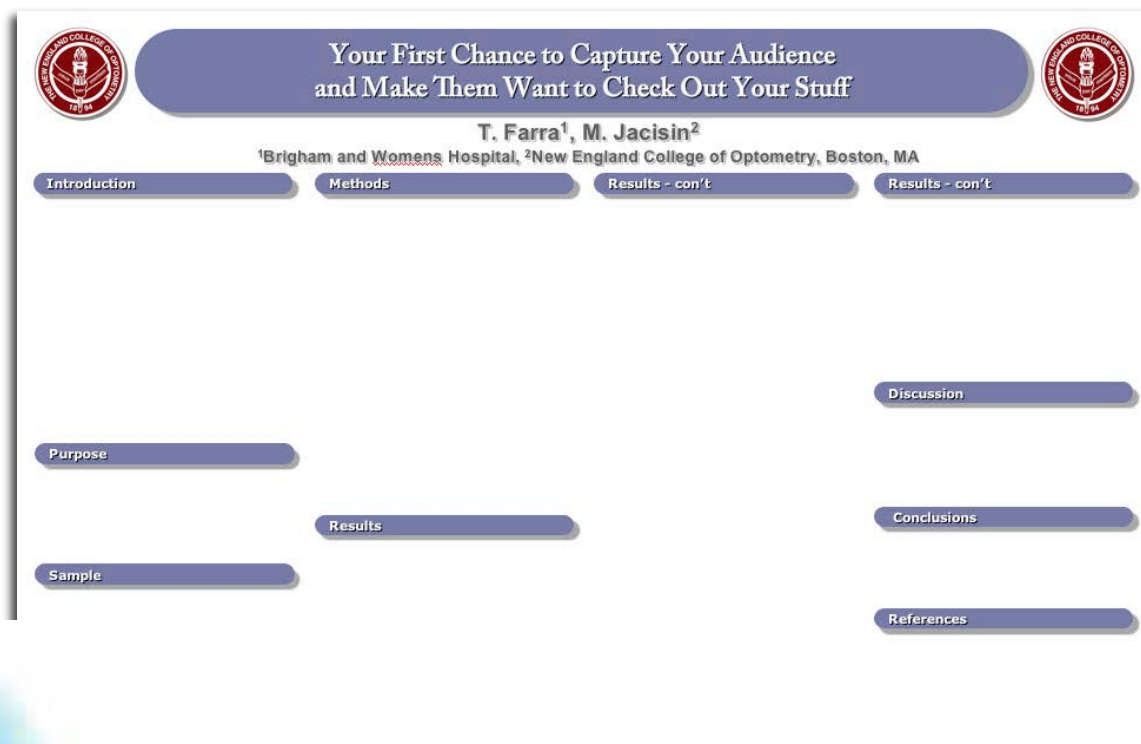


- Your poster is a short story
- Describe a few major points
- Arouse the reader's interest to read on
- Limit it to 250 words



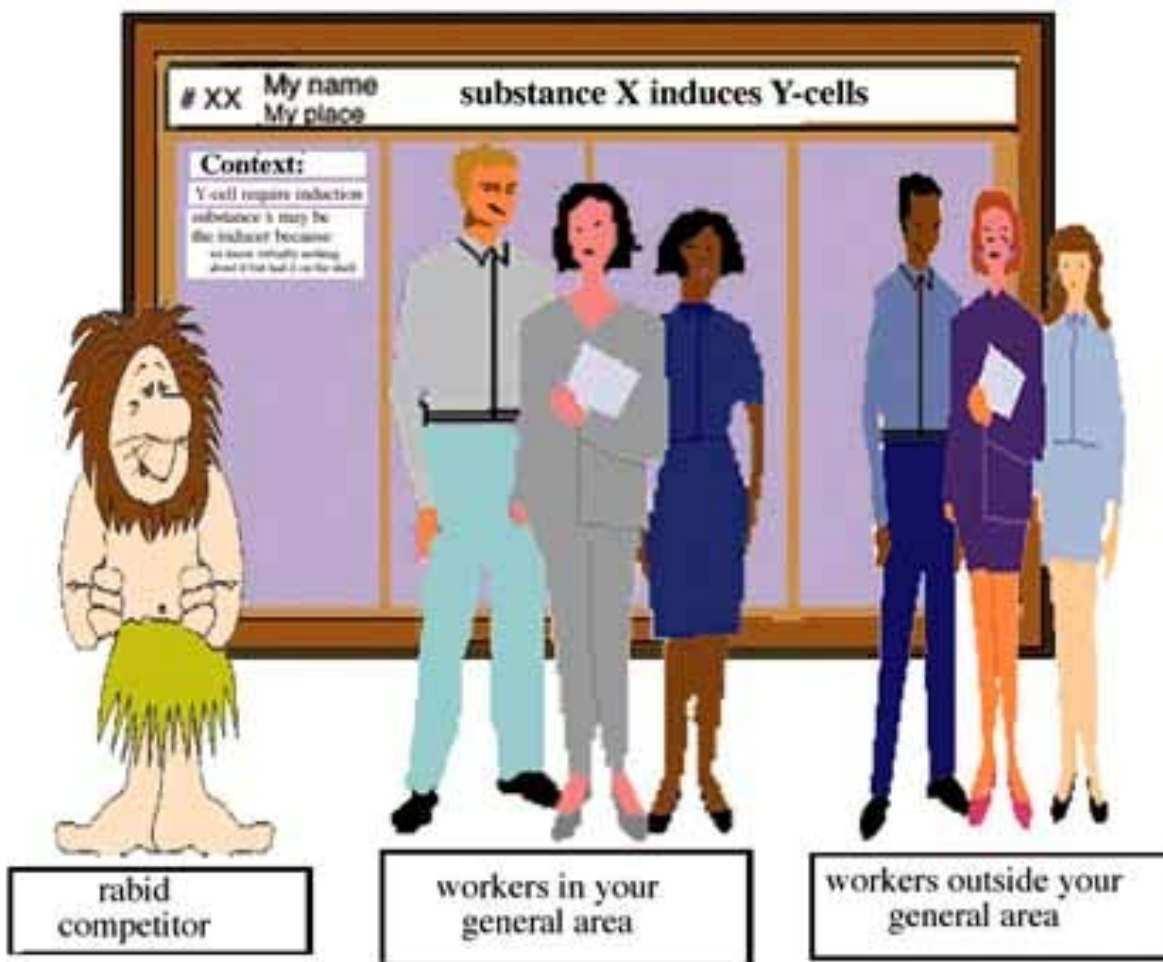
Recite after me,
Less is best!

Simplify your paper into poster format

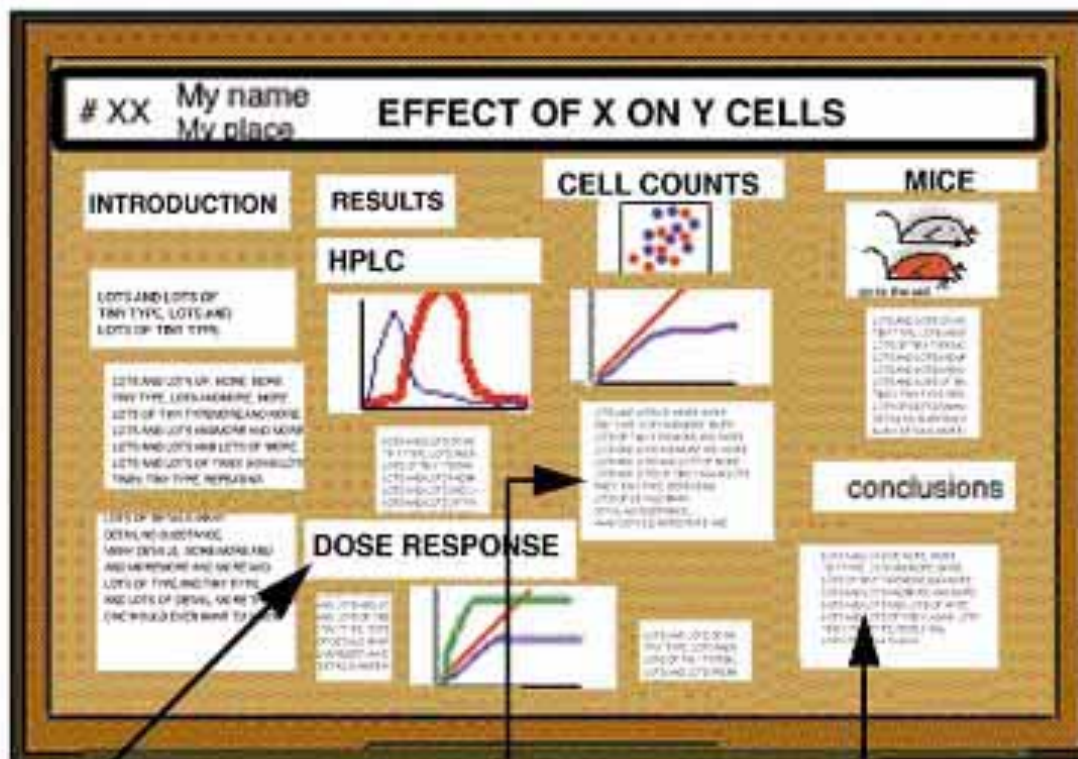


Find out the size required!

Who's my audience?



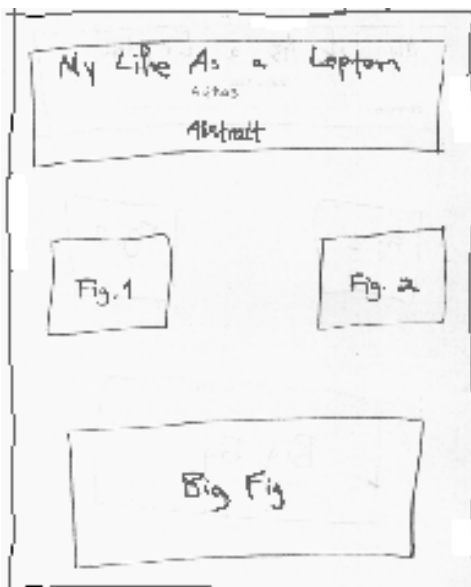
Remember, most of these “scientists”
come for the free booze



Large type states methods, not results

Results artfully buried in a methods description

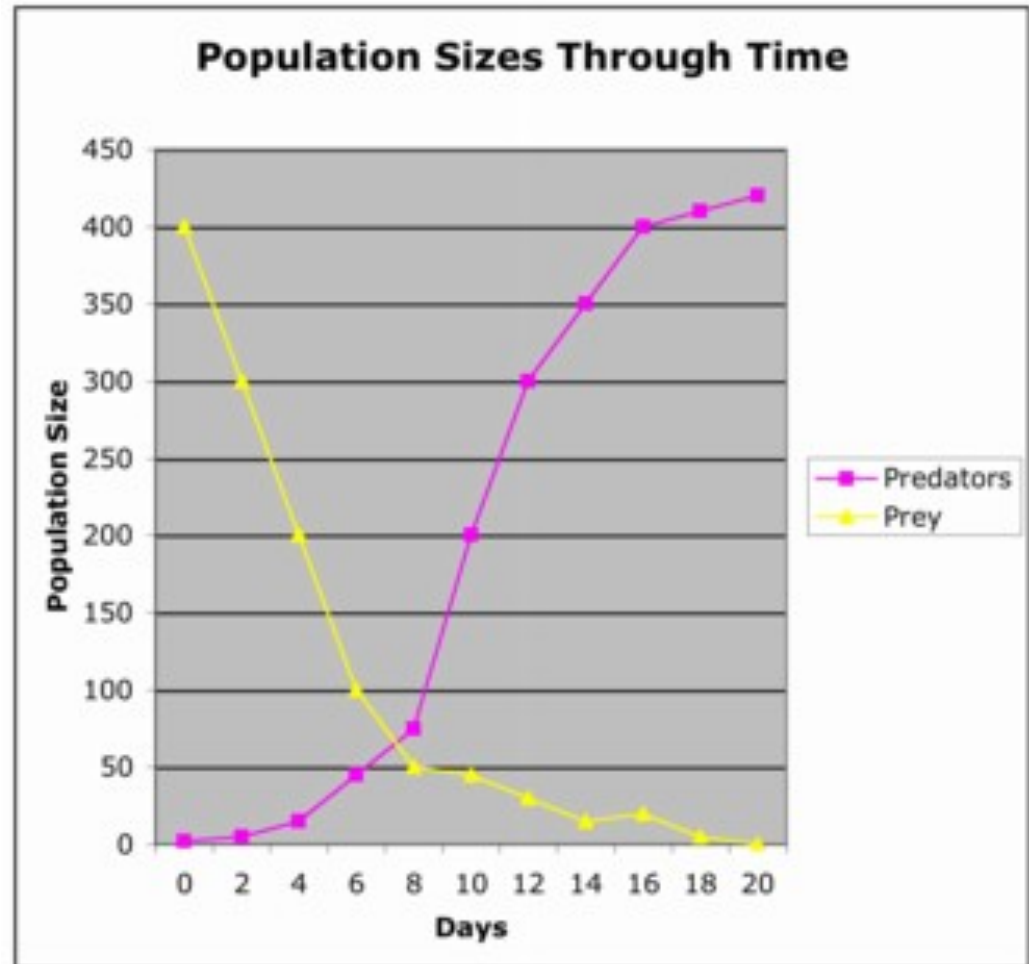
Carefully omits interpretations

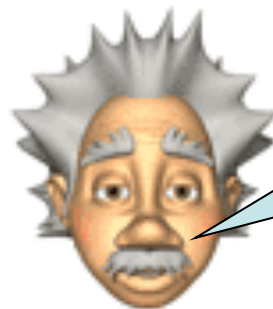
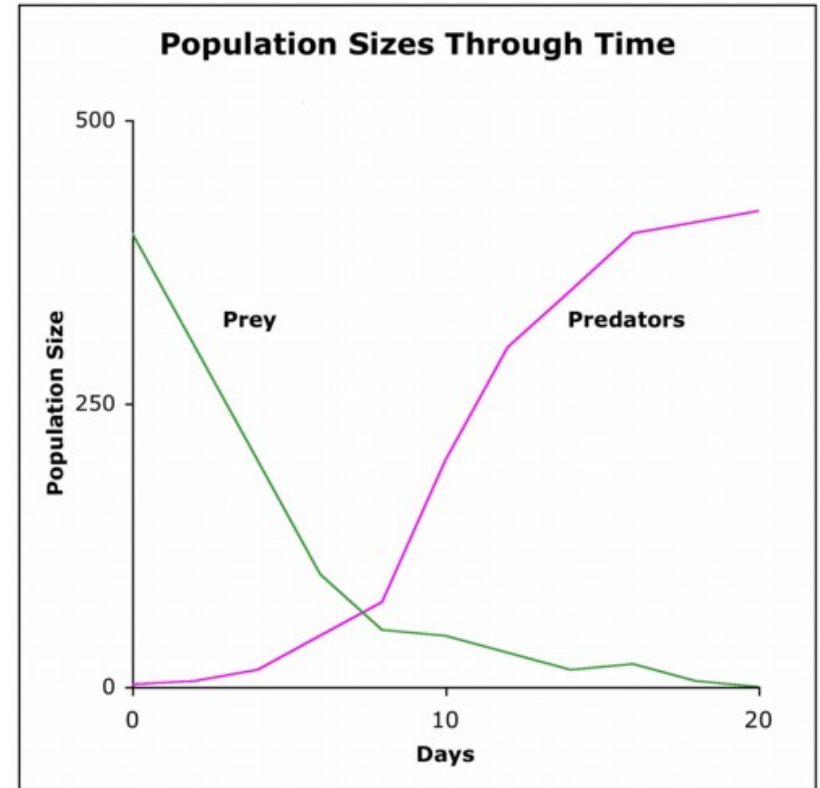
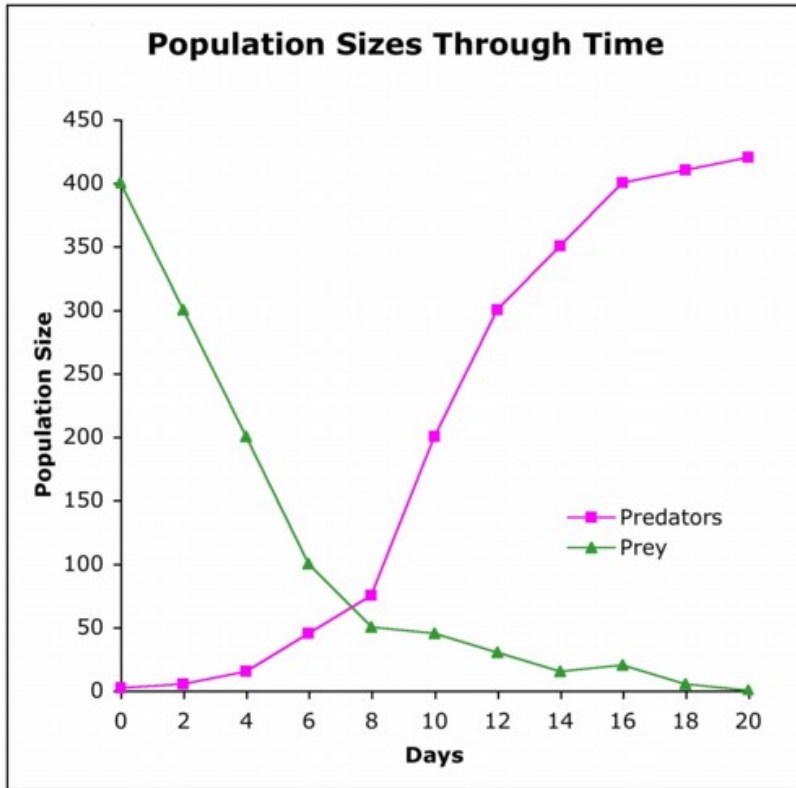


Start putting
together your
2 main elements

1) Simple, effective data displays

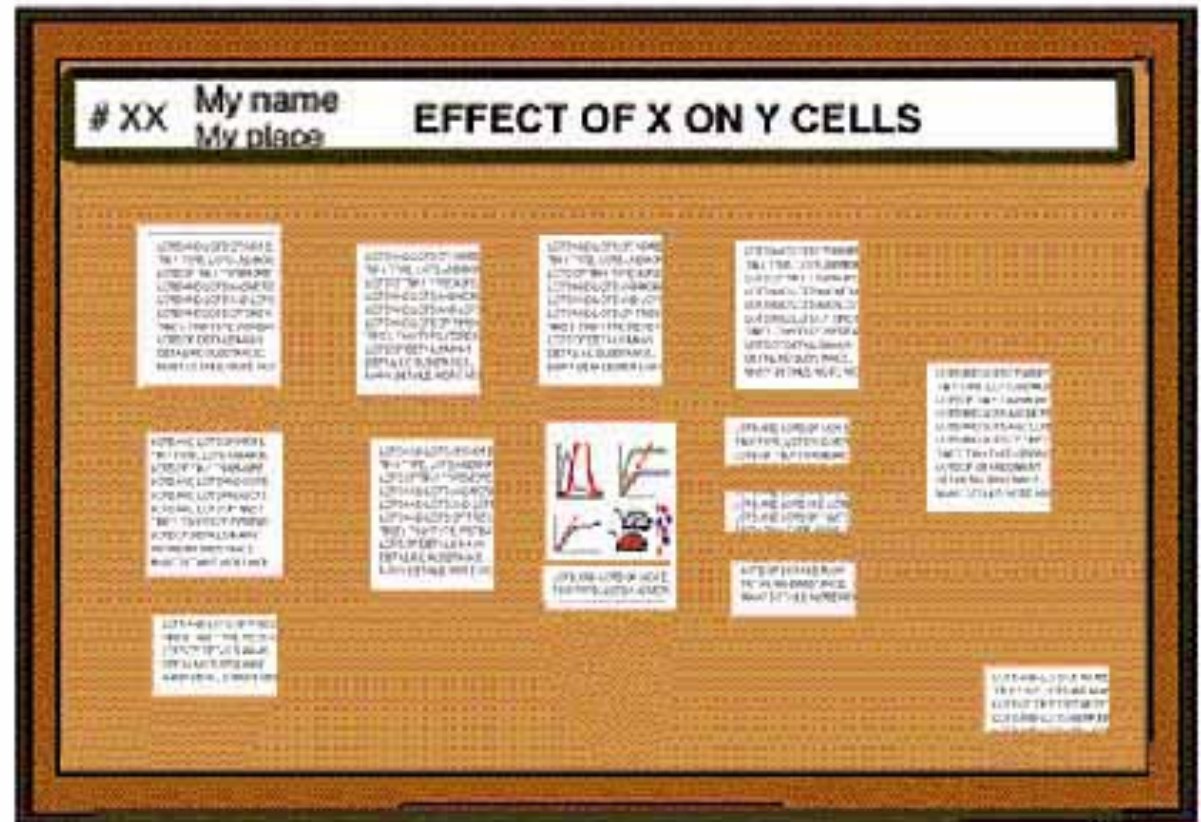
Don't make them stand on their heads to read your data!





Keep it simple
but effective

2) Small blocks of supporting text



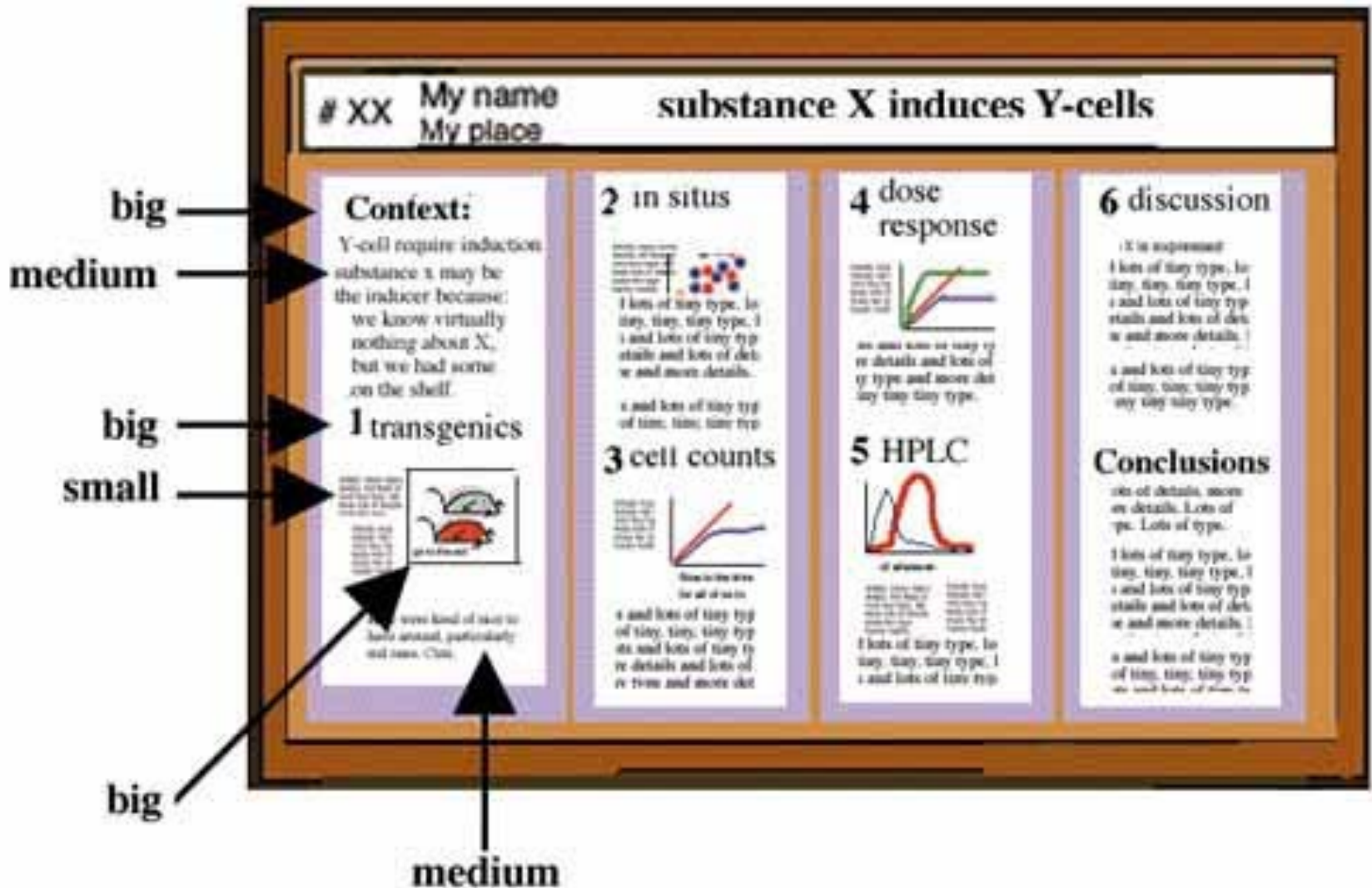
The need for chairs in front of your poster will not go over well

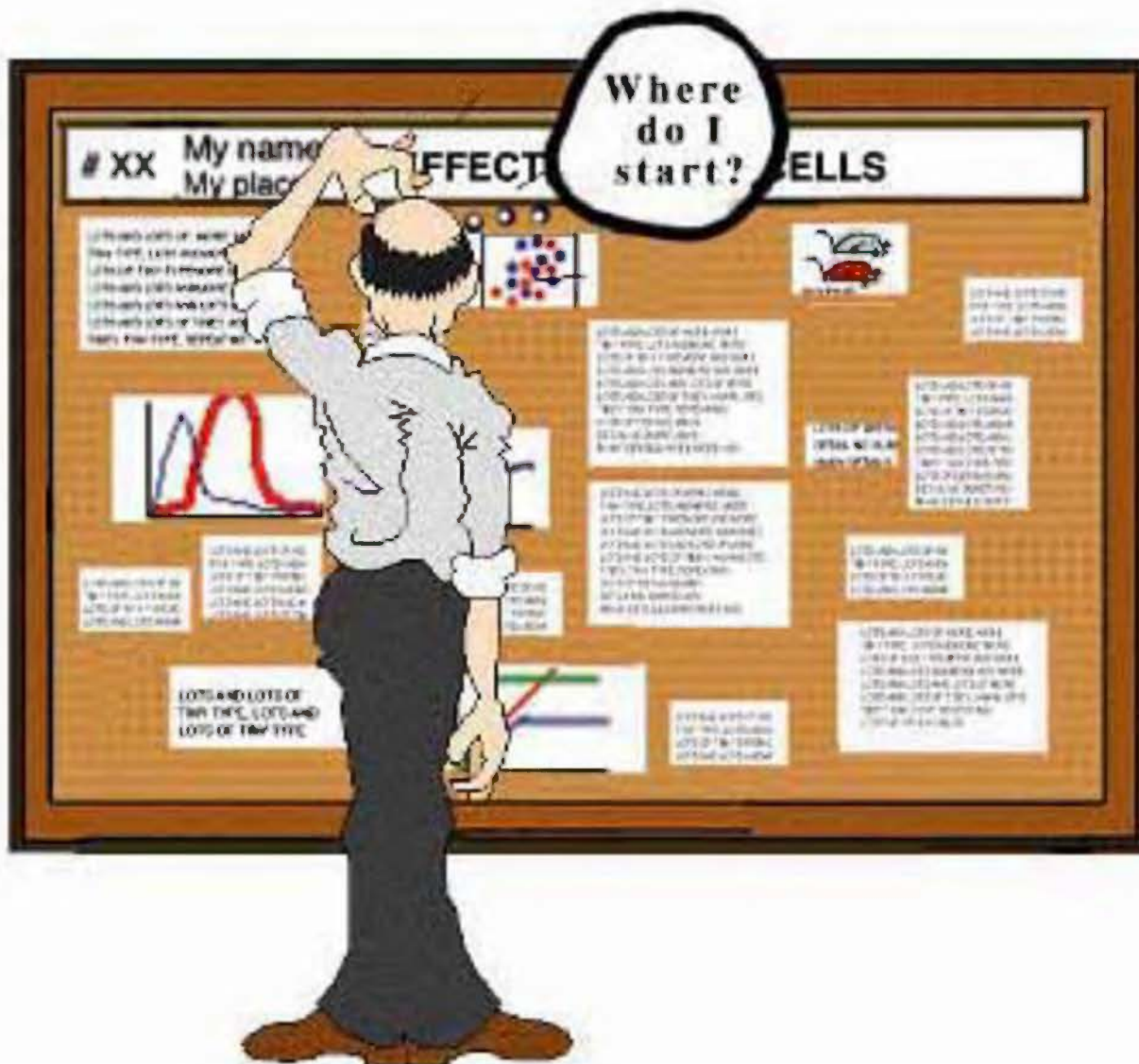


Your copy should answer...

# XX	My name My place	EFFECT OF X ON Y CELLS	
	Why?	Methods?	What do I recommend?
	What am I adding?	What did I find?	

I could actually read this







Pick a software program

Although you' ll probably gravitate towards PowerPoint,
consider a true design program.

PowerPoint



- OK, but the colors will fool you
- Easy to use
- Inflexible
- Designed for overhead projection

Adobe Illustrator or InDesign



- Excellent
- More difficult to learn
- What you see is what you get
- Others: Canvas, Publish-It, Corel Draw, LaTeX, etc.



Let's design a poster!



Your poster title:

Think BIG! Really Big!

Your biggest impact!
Boldface type
Not all caps!

Poster title goes here, containing strictly only the essential number of words...

Group authors names and affiliations

Author's Names Goes Here, Author's Name/s Goes Here, Author's Name/s Goes Here
Address/ess Goes Here, Address/ess Goes Here, Address/ess Goes Here

Introduction

File

Check - all content originates in the publication of the author or creator, battery and supporting materials possibly including patent claims.

The page(s) of the poster must be submitted - 30x40 cm. Do not change the page(s) file or submit a smaller or larger size - the printing, you may adjust the paper - all other content must be in a landscape orientation.

Submit the file and name will appear - the space allocated by some content originates in the file(s). Do not make your poster illegible because of the quality.

Aim

For a readable poster please

Simply highlight the text and replace by typing in your own text, or copy and paste content from a file - the content of a poster is the same.

The available boxes can be moved around or expanded or not - by or until your "text" is "done", "Make", "Print" and "Conclude" -

The top section should be between 20 and 25 lines, 600.

Results

Impaging / Imaging file

Images such as photographs, graphs, diagrams, logos, etc. can be added to the poster.

To insert images in your poster, go through the menu at the top: Insert > Picture > From File - then the location of your computer, select it, and press OK.

The best option for images is either an EPS or TIFF, if you do not have these options.

Do not use - of the images, or impaging. The maximum color resolution is 300 dots per inch (DPI) - 300 dots per inch (DPI) - 300 dots per inch (DPI).

Do not use - of the images, or impaging. The maximum color resolution is 300 dots per inch (DPI) - 300 dots per inch (DPI) - 300 dots per inch (DPI).

Printing and Lamination

Choose the complete poster, bring to a local printer for printing. We will provide the standard size paper and lamination. The final poster will be printed and laminated.

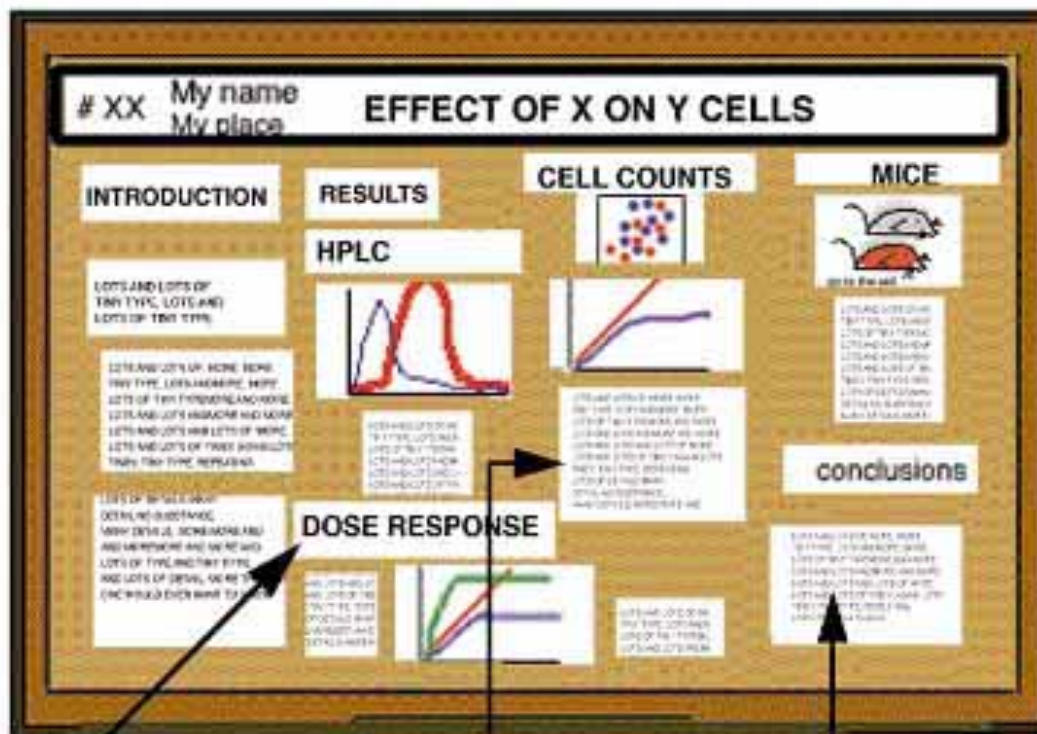
How Does the poster print? The poster will be printed on a standard size paper and lamination. The final poster will be printed and laminated.

Simply highlight the text and replace.

Cost

For a complete poster, contact the printer.

The Secrets of Readable Text:



Large type states methods, not results

Results artfully buried in a methods description

Carefully omits interpretations

Poster title goes here, containing strictly only the essential number of words...



Author's Name/s Goes Here, Author's Name/s Goes Here
Address Goes Here, Address Goes Here



Introduction

File .

Check all contents against the specifications of the journal, balance and supporting mechanism, language, page count.

The paper should be prepared in a standard format, using a standard font, and a standard margin. The paper should be prepared in a standard format, using a standard font, and a standard margin.

Check the journal's website for the latest information on the journal's website. Do not use a standard font, and a standard margin.

Aim

The aim of the paper is to describe the results of the study. The aim of the paper is to describe the results of the study.

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The aim of the paper is to describe the results of the study. The aim of the paper is to describe the results of the study.

Method

The method used in this study was a standard method. The method used in this study was a standard method.

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Results

The results of the study are shown in the following figures. The results of the study are shown in the following figures.

The results of the study are shown in the following figures. The results of the study are shown in the following figures.

The results of the study are shown in the following figures. The results of the study are shown in the following figures.

Conclusion

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Acknowledgments

The authors would like to thank the following people for their assistance. The authors would like to thank the following people for their assistance.

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References

The references are listed in the following order. The references are listed in the following order.

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Appendix

The appendix contains the following information. The appendix contains the following information.

The appendix contains the following information. The appendix contains the following information.

The appendix contains the following information. The appendix contains the following information.

- Leave breathing space around your text
 - Plain fonts even serif here
 - Same size and style
 - Left-aligned
- The reason is...

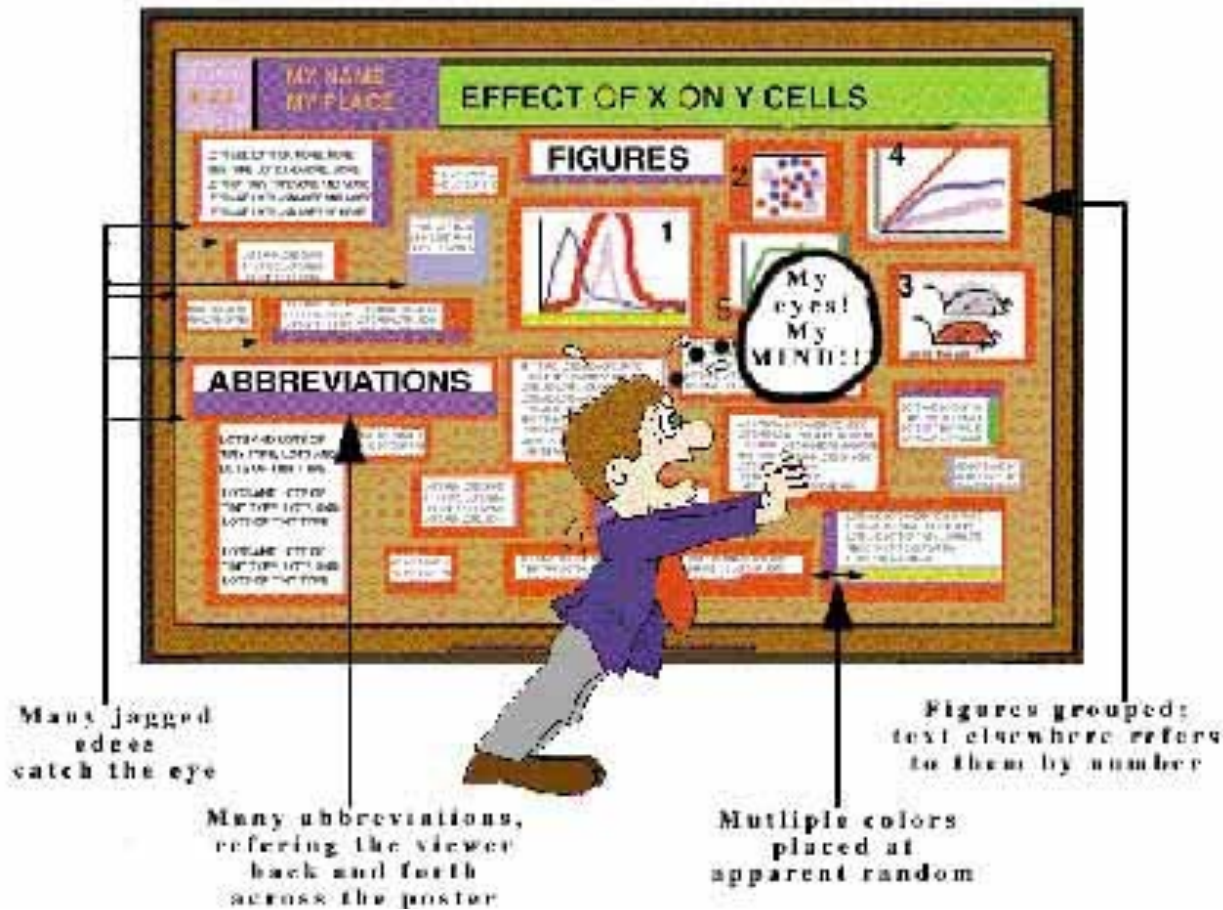


Hi there, my name is mitch collinsworth and I would like to tell you about myself and how I got this job at cornell. Well you see, my uncle had a friend who knew my cousin on the other side and his daughter worked for facilities. I was down on my luck and my sister told me she knew a guy who's nephew's wife's kid worked for this guys father and what can I say , he hired

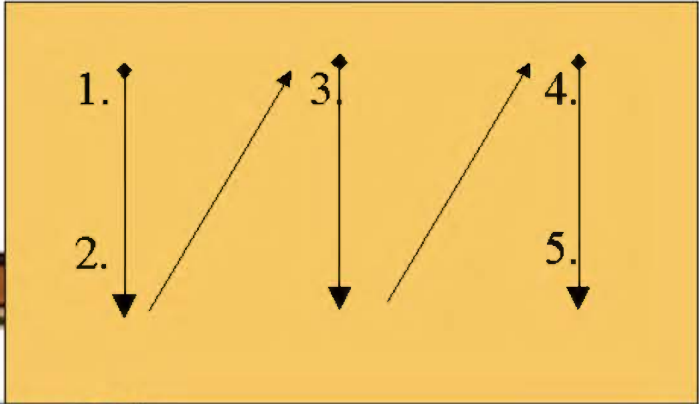


Hi there, my name is mitch collinsworth and I would like to tell you about myself and how I got this job at cornell. Well you see, my uncle had a friend who knew my cousin on the other side and his daughter worked for facilities. I was down on my luck and my sister told me she knew a guy who's nephew's wife's kid worked for this guys father and what can I say, he hired me with no questions asked and just told me to keep my mouth shut. So here I am at CCMR.

Easy for the eye to follow




Utter chaos
will make
folks dizzy!



XX My name
My place substance X induces Y-cells


Context:
Y-cell require induction
substance X may be
the inducer because
we know virtually
nothing about X,
but we had some
on the shelf.

1
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and lots of
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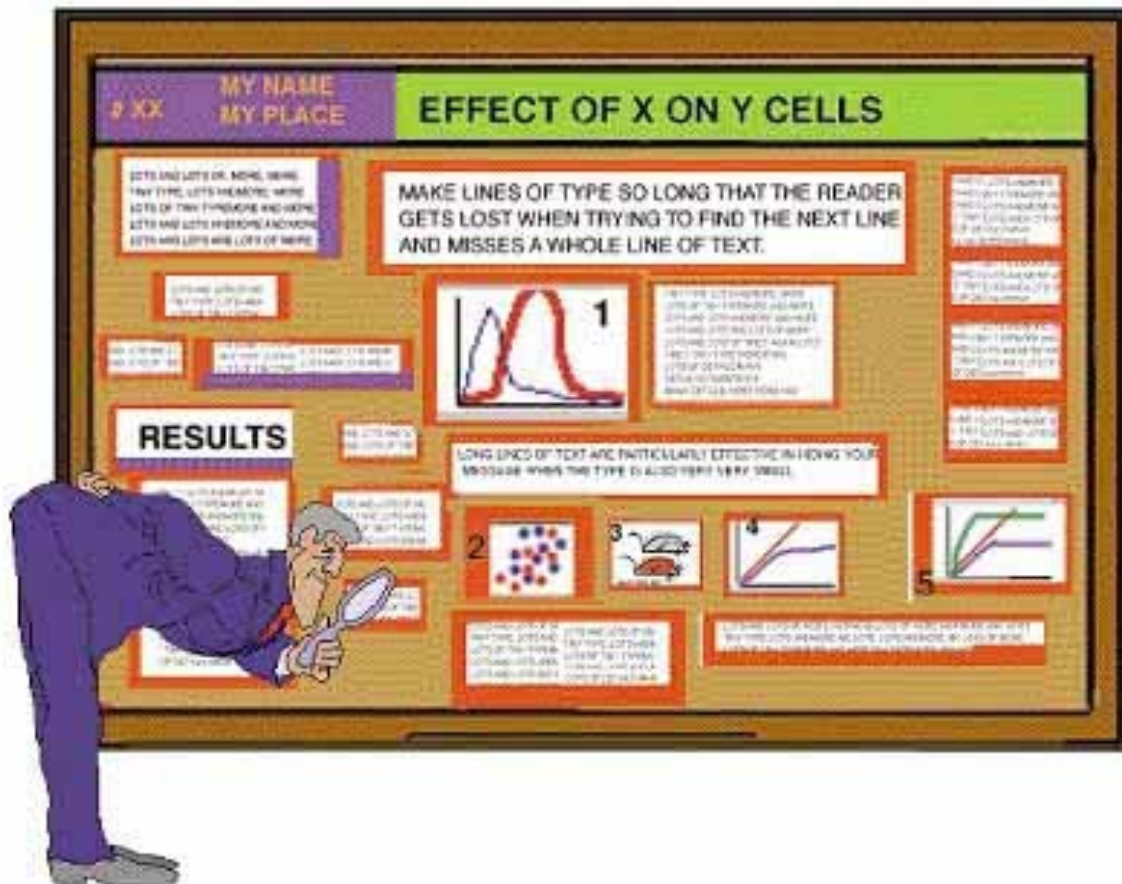
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and lots and lots of
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tiny type and me
tiny tiny tiny

Can anyone read your body text?



Text sizes:

Title: 85 point

Authors: 56pt

Sub-headings: 36pt

Body text: 24pt

Captions: 18pt

Your Ingenious Teaser Right Here to Woo Them Down to the Body

Conclusions first: 44 pt bold
Always put the most important part - your conclusions - first! Place your conclusions in the upper left hand corner of your poster. Prepare your material from the reader's perspective. What was done, by who and your conclusion has to be understood within a couple of second's reading! Use active voice when writing the text. textsize: 34 pt regular

Introduction
Posters are primarily visual presentations. Your poster should be dominated by self-explanatory illustrations such as graphs and pictures while the amount of text should be kept to the minimum.
Your aim
Your poster is an advertisement for your research and as such it needs to be eye-catching and straight to the point. You only have seconds, or at best a few minutes to attract the attention of the visitor to a poster session. Keep your message short and clear

Your message
Keep your message clear and your text concise. Decide what is relevant for this poster and try to get your message across to your target group.

Layout, photos and print
Contact [Medlab](#) at University Library for help with layout and image enhancement. For printouts and professional photographers contact [Bildstuckarna](#). For more information: www.karolinska.se/bk/se

Tips:
The best font for text blocks that are as short as they should be on a poster is a Sans Serif typeface family. Therefore, use sans serif fonts such as Arial or ~~Myriad~~ sans rather than serif fonts like Times or Courier. **AVOID CAPITAL LETTERS IN TEXTS THAT ARE LONGER THAN ONE LINE, SINCE THEY ARE MORE DIFFICULT TO READ.**

Handouts
If you succeed in getting the reader's attention, provide her/him with more detailed information in the form of handouts or printed articles. Include references on your handout instead of your poster.

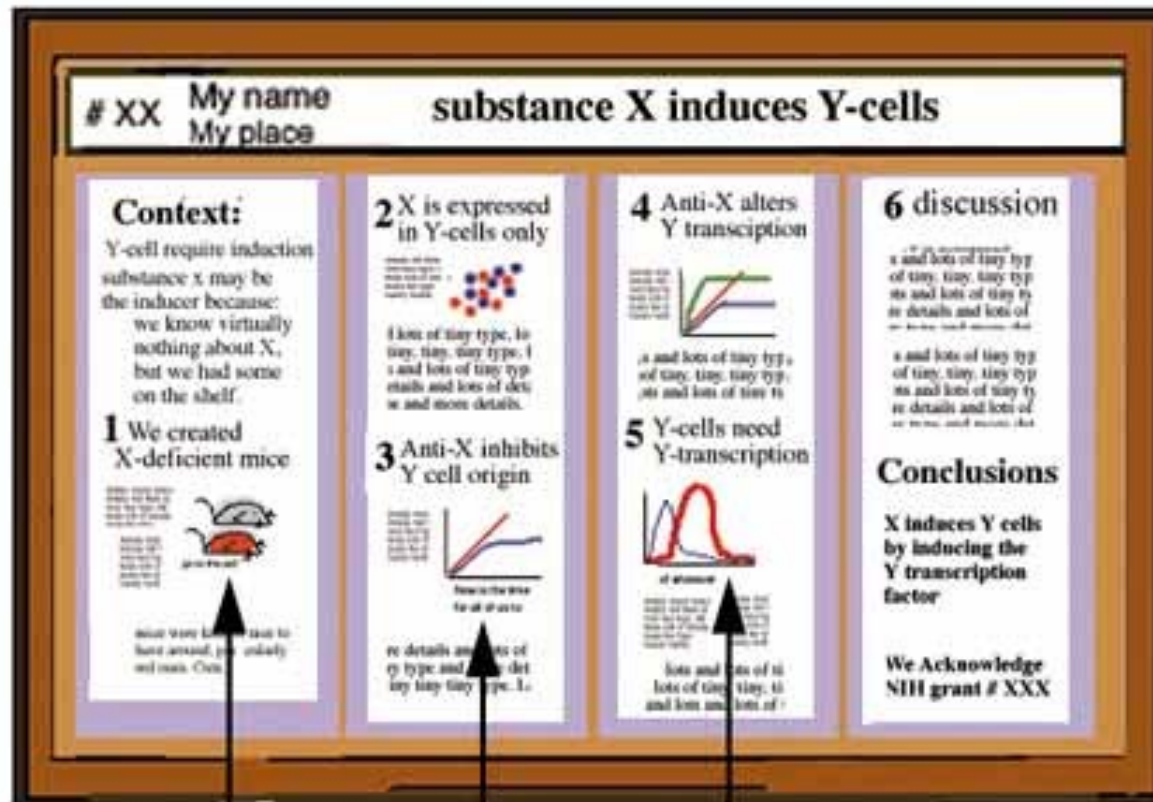
use font size Karolinska
image caption 24pt regular

use font size Karolinska
image caption 24pt regular

use font size Karolinska
image caption 24pt regular


Karolinska Institutet, Stockholm
Forsknings- och Utvecklingscentrum
S-141 86
Välkommen till Karolinska Institutet
Postadress: SE-141 86 Stockholm
Telefon: 08 703 20 00
Fax: 08 703 20 00
E-post: medlab@karolinska.se
Webb: www.karolinska.se

Images and graphs say much more than words




BIG figures that use color

Keep posters visual!



Southern Flounder Exhibit Temperature-Dependent Sex Determination

J. Adam Luckenbach*, John Goswin and Russell Boeski
Department of Zoology, Box 7617, North Carolina State University, Raleigh, NC 27695



Introduction

Southern flounder (*Paralichthys lethostigma*) support valuable fisheries and show great promise for aquaculture. Female flounder are known to grow faster and reach larger adult sizes than males. Therefore, information on sex determination that might increase the ratio of female flounder is important for aquaculture.


Objective

This study was conducted to determine whether southern flounder exhibit temperature-dependent sex determination (TSD) and if growth is affected by rearing temperature.


Methods

- Southern flounder blood and urine were assayed to collect eggs and sperm for *in vitro* fertilization.
- Hatched larvae were reared from a natural diet on fresh *A. salmonicida* to high protein pelleted food and fed until saturation at least twice daily.
- Upon reaching a mean total length of 40 mm the juvenile flounder were stocked at equal densities into one of three temperatures (8, 23, or 28°C for 245 days).
- Crustaceans were preserved and later sectioned at 2-6 microns.
- Sex-distinguishing markers were used to distinguish males (spermatogenesis) from females (oogenesis).

Histological Analysis

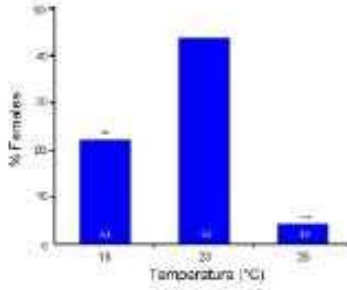


Male Differentiation



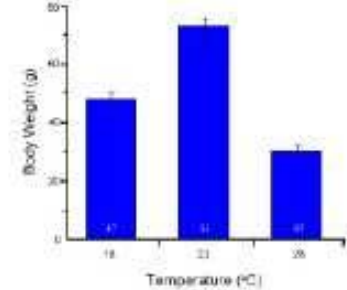
Female Differentiation

Temperature Affects Sex Determination

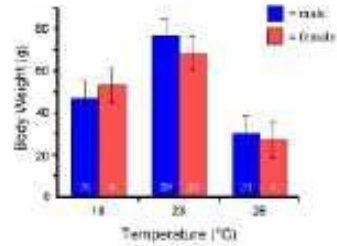


***P < 0.001 and **P < 0.01 represent significant deviations from a 1:1 male:female sex ratio.

Rearing Temperature Affects Growth



Growth Does Not Differ by Sex



Results

- Sex was discernible in most fish greater than 120 mm long.
- High (28°C) temperatures produced 8% females.
- Low (18°C) temperature produced 22% females.
- Mid-range (23°C) temperatures produced 44% females.
- Fish reared at high or low temperatures showed reduced growth compared to those at the mid-range temperature.
- Up to 245 days, no difference in growth existed between sexes.

Conclusions

- These findings indicate that sex determination in southern flounder is temperature-sensitive and temperature has a profound effect on growth.
- A mid-range rearing temperature (23°C) appears to maximize the number of females and promote better growth in young southern flounder.
- Although adult females are known to grow larger than males, no difference in growth between sexes occurred in age-0 to 1-year southern flounder.

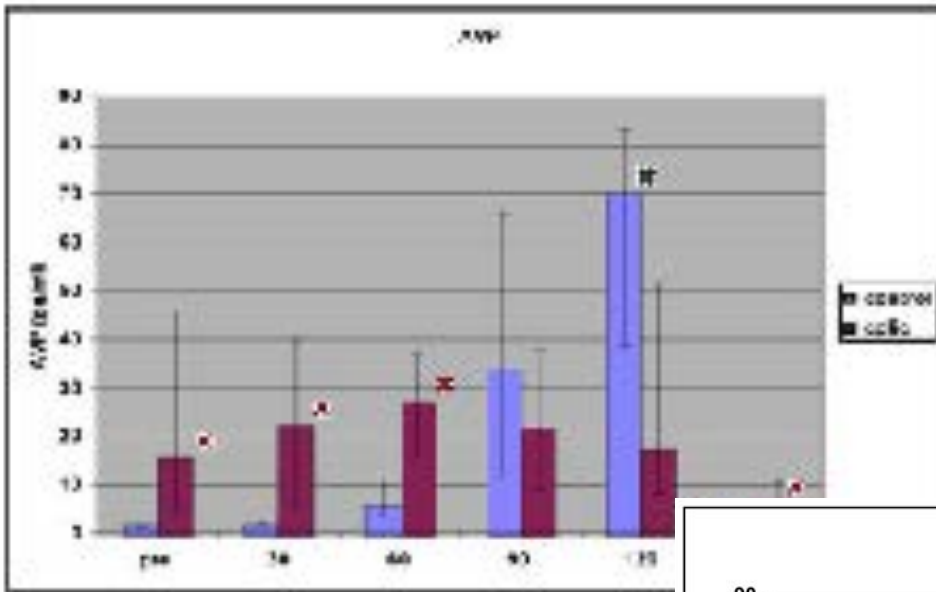
Acknowledgements

The authors acknowledge the following Graduate Program of the National Marine Fisheries Service and the University of North Carolina Sea Grant College Program for funding this research. Special thanks to Les Wilson and Beth Strawn for help with the work.

Picture perfect photos

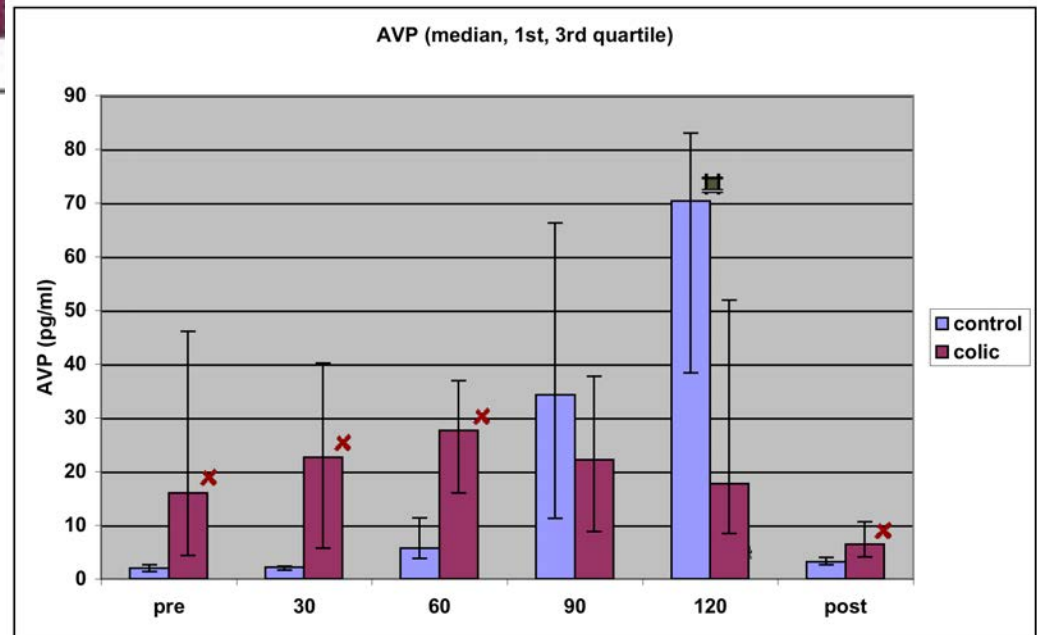
- Avoid resolution overkill!
At least 150 dpi, but no more than 300 dpi
- Save photos as jpg or png
Line art as a png (graphs)
- Web images are usually
poor resolution

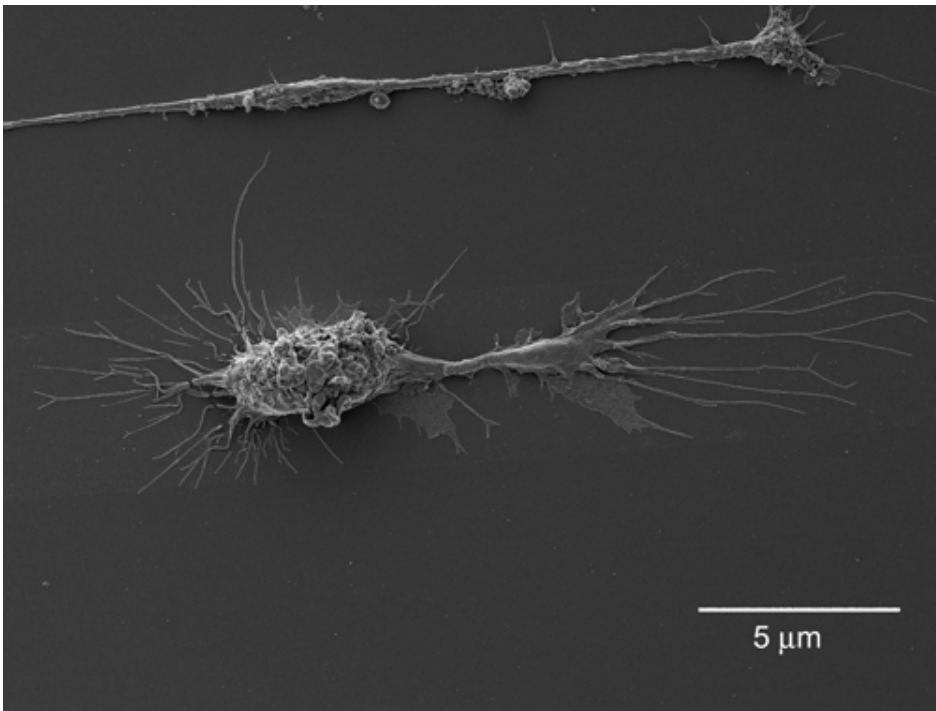




jpg

png

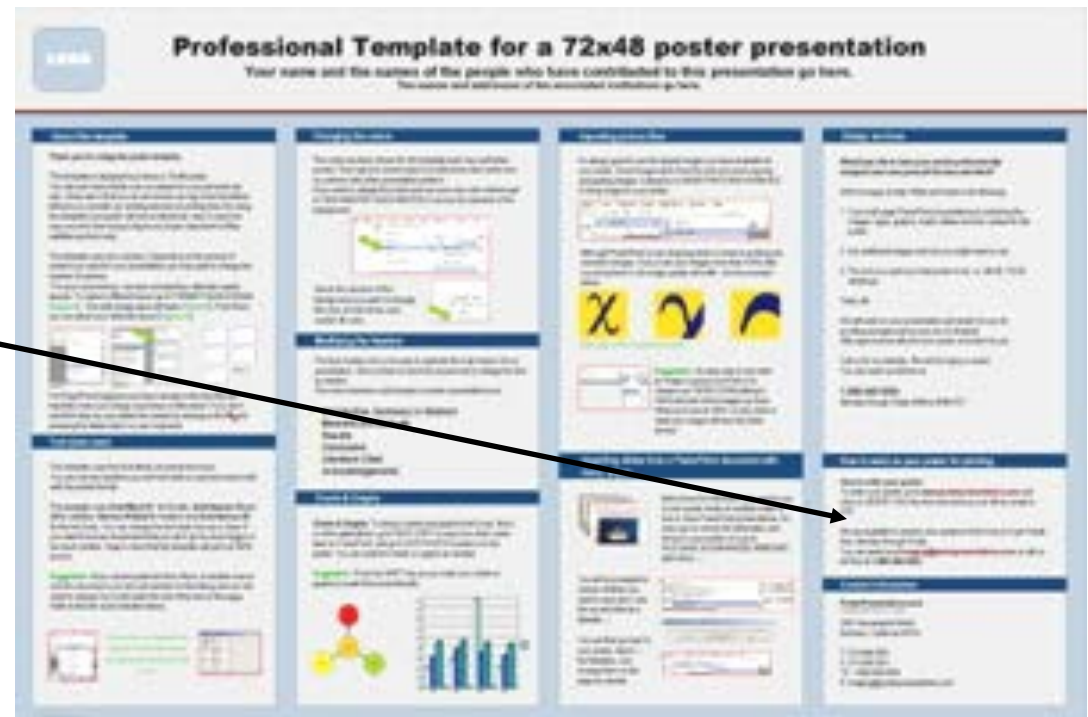




Your cool images
mean nothing
without a
scale bar or
description

Don't forget your funding acknowledgements

CNF-NSF-BMR, etc
Your department can provide you with the required wording



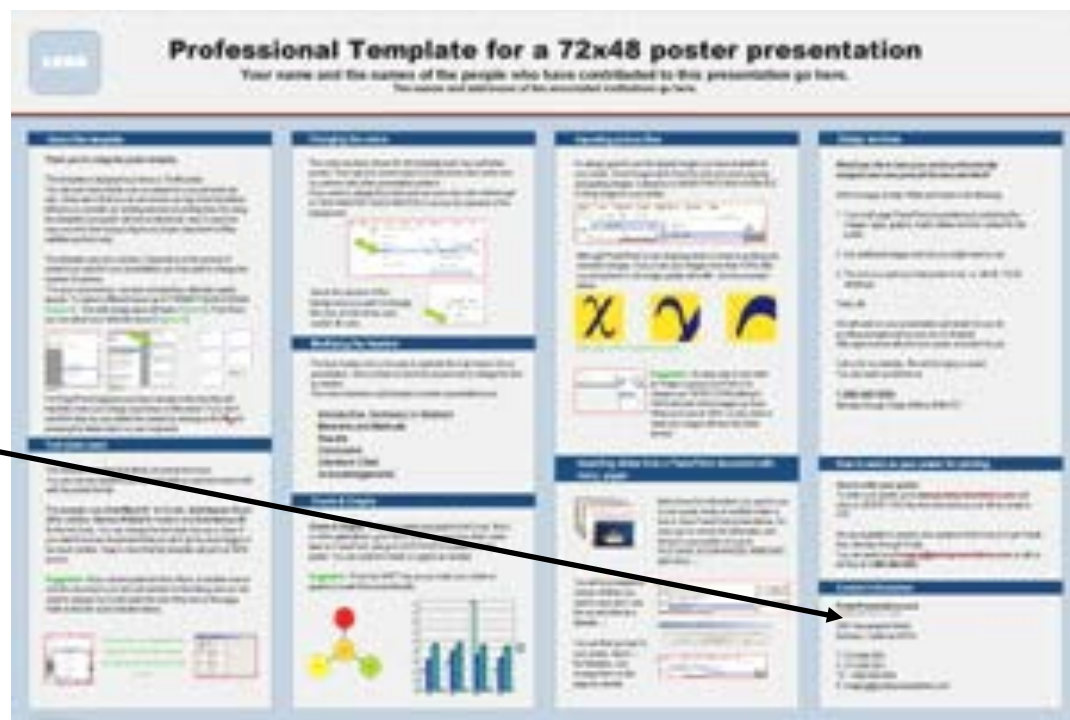
Your contact info!!!

Without it you'll become

“ya know, those guys with the awesome poster”

Include all
contact info:

- Mail address
- Phone
- E-mail



Using color to engage your readers

2-3 colors, no more!

Dark type on
light color background

The image shows a poster template with the following sections:

- Header:** "Poster title goes here, containing strictly only the essential number of words..."
- Author Information:** "Author's Name/s Goes Here, Author's Name/s Goes Here, Author's Name/s Goes Here" and "Address/es Goes Here, Address/es Goes Here, Address/es Goes Here"
- Introduction:** "Check with conference organizers on their specifications of abstract character limits for your poster...".
- Method:** "Tips for making a successful poster...".
- Results:** "Importing the image files...".
- Printing and Lamination:** "Once you have completed your poster, bring it to the printing shop...".
- Conclusion:** "For more information on Poster Design, Scanning and Digital Photography, and Image Editing...".
- Acknowledgements:** "Justify rights to your images and replace with your own...".

Whoa! Where's my sunglasses?

POSTER TITLE GOES HERE, CONTAINING STRICTLY ONLY THE ESSENTIAL NUMBER OF WORDS...

Author's Name/s Goes Here, Author's Name/s Goes Here, Author's Name/s Goes Here
Address/es Goes Here, Address/es Goes Here, Address/es Goes Here

Introduction

First ...

Check with conference organizers on their specifications of size and orientation before you design your poster. Medium poster size is landscape portrait square.

The paper size of the poster template is A0 (36" x 60") in landscape (horizontal) format. Do not change the page size. You can scale it to a smaller or larger size when printing. You need a different setup page with either a portrait (vertical) or a square poster template.

Be as friendly to your audience as possible. While space is limited by conference organizers (e.g. 36" x 60" or 48" x 36"), do not make your poster bigger than necessary (or cut it off).

Check with conference organizers on their specifications of size and orientation before you design your poster. Medium poster size is landscape portrait square.

The paper size of the poster template is A0

Method

Tip for making a successful poster ...

- Rewrite your paper in poster format. Simply everything and state overall.
- Headings other than Section should be both upper and lower case, small capitals.
- Leave a wide margin in capitals or underlines. Press your poster in bold characters.
- When laying out your poster leave plenty of space around you text. Don't overcrowd your poster.
- Try using photographs or colour graphs. Avoid long numerical tables.
- Spell check and grammar check before proofread.

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Results

Printing (important) ...

Images such as photographs, graphs, diagrams, logos, etc. can be added to the poster.

To save space on images in your poster go through them as follows (from top to bottom): From the left to the right on your computer, add only one row at a time. The computer image files are named JPEG or TIFF, JPEG is the preferred format.

Be aware of the image size you are printing. The size of your photo (36" x 60") will be about 100MB (1000 x 750 pixels). Call your printer. Do not use images from the web.

Use color graphs ...

For simple graphs use MS Excel or another graphing tool in Power Point.

Graphs with a scientific graphing program (e.g. Sigma Plot, Origin, etc.) should be saved as JPEG or TIFF if possible. For more information see MITU.

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Printing and Lamination

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Keep 10% of your poster until the conference. Allow at least 2 weeks for any delay before you need to rush. Simply highlight the areas to replace.

Cost ...

For poster printing and lamination charges contact MITU.

Conclusion

For more information on Poster Design (Printing and Digital Photography, and Image Files):

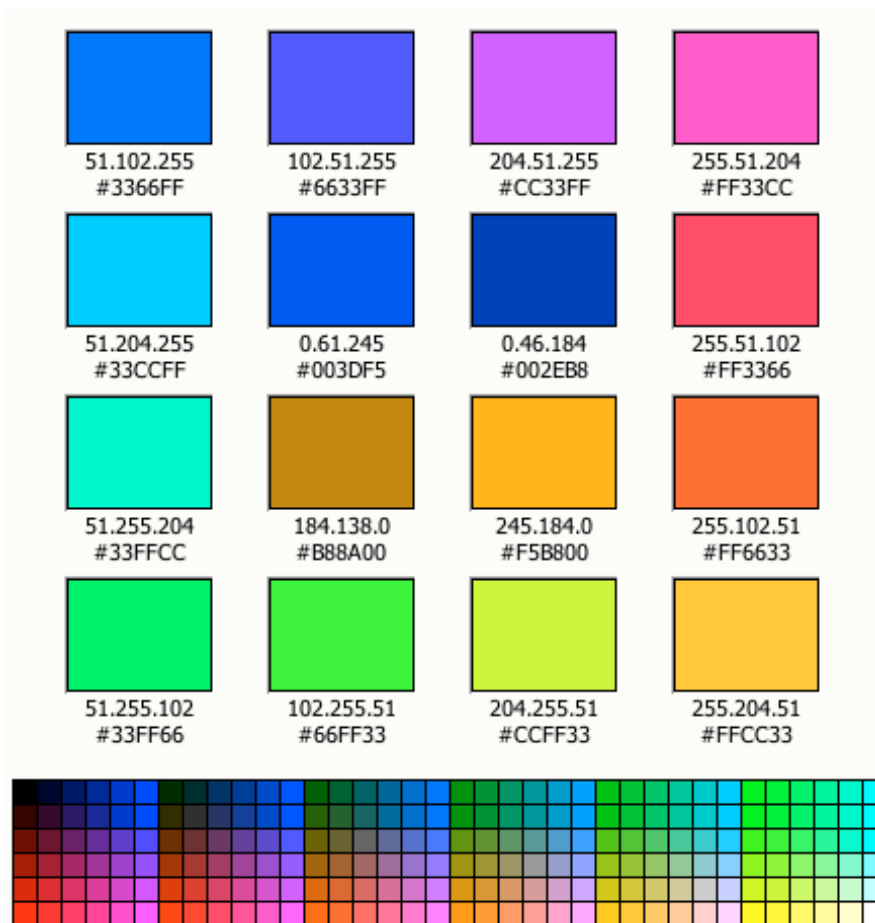
Contact:
Medical Illustration Unit
Princess Alexandra Hospital
PO Box 28200
Email: PAHdesign@paahp.com.au
Website: <http://med.illustr.com.au>

Acknowledgements

Just highlight the areas to replace with your own text. Replace them with your text.

This attracts attention but tires out the eye

Be careful with the primary colors





Blue on Red appears blurry to the human eye.

Yellow on white is hard to read

Red on Blue appears blurry to the human eye.



• aeiko



• Peach Green & Seeds



• Rust



• dollar



<http://www.colorschemer.com/online.html>

Be aware of busy backgrounds

NC STATE UNIVERSITY

Snook Growth in Habitats with Differing Abiotic Variability

Alesia Read, North Carolina State University, anread@unity.ncsu.edu

PROPOSED OBJECTIVE

To create a useful tool for assessing potential stocking habitats based on degree of variability in water quality.

- Snook are a popular game fish found in the estuarine creeks of Florida
- Snook population has been on the decline due to overfishing and habitat degradation
- Numerous stock enhancement endeavors are currently underway without sufficient preliminary research
- Abiotic variability is a prominent feature of these estuaries
- Temperature, dissolved oxygen and salinity might play influential roles in the survivorship of the juvenile snook

RESULTS

STUDY SITES

North Creek Lower (High Variability)

Negative Growth:
Dissolved Oxygen (mg/L) 0-22
Salinity (ppt) 2-21
Temp (°C) 25-34

North Creek Middle (Medium Variability)

Positive Growth:
Dissolved Oxygen (mg/L) 0-8
Salinity (ppt) 16-28
Temp (°C) 30-38

North Creek Upper (Low Variability)

Slow Growth:
Dissolved Oxygen (mg/L) 0-4
Salinity (ppt) 16-30
Temp (°C) 26-33

METHODS

1. Juvenile snook are raised to fingerlings (100-200 mm) in the aquaculture facility
2. All snook are tagged with identifying markers for individual growth measurements.
3. Fish are placed in cages within variable habitats at the research sites for 40 days.
4. Fish are weighed and measured for growth

CONCLUSION

- Snook exhibit increased growth in habitats with a medium degree of abiotic variability
- Stock enhancement projects will be more efficient by releasing juvenile snook primarily in nursery habitats with a medium degree of abiotic variability

NO. 2017-0000000



Southern Flounder Exhibit Temperature-Dependent Sex Determination

J. Adam Luckenbach*, John Godwin and Russell Boeski

Department of Zoology, Box 7617, North Carolina State University, Raleigh, NC 27695



Introduction

Southern flounder (*Paralichthys lethostigma*) support variable behavior and show great promise for aquaculture. Female flounder are known to grow larger and reach larger adult sizes than males. Therefore, information on sex determination may help increase the ratio of female flounder in aquaculture.

Objective

This study was conducted to determine whether southern flounder exhibit temperature-dependent sex determination (TSD), and if growth is affected by rearing temperature.

Methods

- Southern flounder broodstock were strip spawned to collect eggs and sperm for *in vitro* fertilization.
- Fertilized larvae were reared from a natural diet (rotifers *Artemia*) to high (28°C) or low (18°C) rearing temperatures in a 12-hour photoperiod and had initial sex determination at least twice daily.
- Upon reaching a mean total length of 40 mm the juvenile flounder were stocked at equal densities into one of three temperatures (18, 23, or 28°C) for 245 days.
- Growth was observed and last measured at 245 days.
- Sex-distinguishing markers were used to distinguish males (gonatropogenesis) from females (gonadogenesis).

Histological Analysis

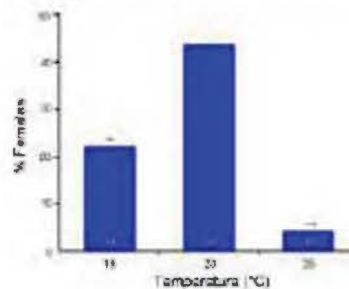


Male Differentiation



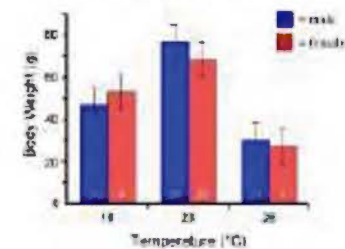
Female Differentiation

Temperature Affects Sex Determination



***P < 0.001 and **P < 0.01 represent significant differences from a 1:1 male:female sex ratio.

Growth Does Not Differ by Sex



Results

- Sex was discernible in most fish greater than 120 mm long.
- High (28°C) temperatures produced 8% females.
- Low (18°C) temperature produced 22% females.
- Mid range (23°C) temperature produced 44% females.
- Fish reared at high or low temperatures showed reduced growth compared to those at the mid-range temperature.
- Up to 245 days post-fertilization in growth existed between sexes.

Conclusions

- These findings indicate that sex determination in southern flounder is temperature-sensitive and temperature has a profound effect on growth.
- A mid-range rearing temperature (23°C) appears to maximize the number of females and promote better growth in young southern flounder.
- Although adult females are known to grow larger than males, no difference in growth between sexes occurred in age-0 to 1 year southern flounder.

Acknowledgements

The authors acknowledge the following Keynote Program of the National Institute of Health through the University of North Carolina Sea Grant College Program and under the National Science Foundation award number 1610808 for support of this work.

A little different!

NC STATE UNIVERSITY

Southern Flounder Exhibit Temperature-Dependent Sex Determination



J. Adam Luckenbach*, John Godwin and Russell Borski
 Department of Zoology, Box 7617, North Carolina State University, Raleigh, NC 27695

Introduction

Southern flounder (*Paralichthys lethostigma*) support valuable fisheries and show great promise for aquaculture. Female flounder are known to grow faster and reach larger adult sizes than males. Therefore, information on sex determination that might increase the ratio of female flounder is important for aquaculture.

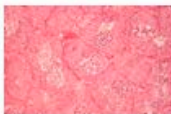
Objective

This study was conducted to determine whether southern flounder exhibit temperature-dependent sex determination (TSD), and if growth is affected by rearing temperature.

Methods

- Southern flounder *spawning* were strip spawned to collect eggs and sperm for *in vitro* fertilization.
- Hatched larvae were weaned from a natural diet (*zooplankton*) to high protein *pellets* feed and fed until satiation at least twice daily.
- Upon reaching a mean total length of 40 mm, the juvenile flounder were stocked at equal densities into one of three temperatures 18, 23, or 28°C for 245 days.
- Gonads were preserved and later sectioned at 2-6 microns.
- Sex-distinguishing markers were used to distinguish males (spermatogenesis) from females (*oogenesis*).

Histological Analysis

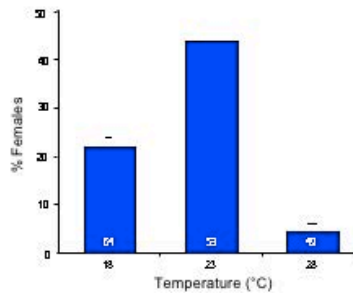


Male Gonad section



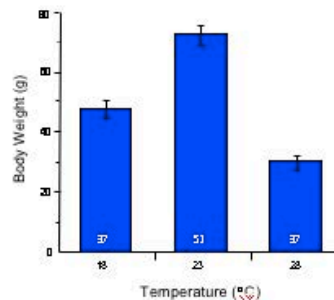
Female Gonad section

Temperature Affects Sex Determination

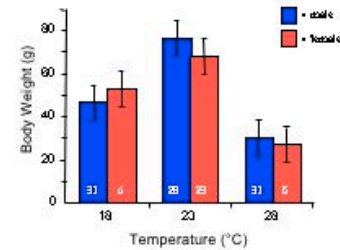


(** P < 0.01 and *** P < 0.001 represent significant deviations from a 1:1 male:female sex ratio)

Rearing Temperature Affects Growth



Growth Does Not Differ by Sex



Results

- Sex was discernible in most fish greater than 120 mm long.
- High (28°C) temperature produced 4% females.
- Low (18°C) temperature produced 22% females.
- Mid-range (23°C) temperature produced 44% females.
- Fish raised at high or low temperatures showed reduced growth compared to those at the mid-range temperature.
- Up to 245 days, no differences in growth existed between sexes.

Conclusions

- These findings indicate that sex determination in southern flounder is temperature-sensitive and temperature has a profound effect on growth.
- A mid-range rearing temperature (23°C) appears to maximize the number of females and promote better growth in young southern flounder.
- Although adult females are known to grow larger than males, no difference in growth between sexes occurred in age-0 (< 1 year) southern flounder.

Acknowledgements

The authors acknowledge the support of funding from the National Science Foundation and the University of North Carolina at Chapel Hill. Funding for this research was provided by the NSF Grant #1008000.

Edit, Edit, Edit and Evaluate!

Cancer-specific Therapy: JMG-CoA R... Inhibitors [Statins]
Suppress Proliferation and Induce Apoptosis in T cell Lymphoma
Matthew J. Goldstein¹, Sarwan Yousaf^{2*}, Cathy Shacht¹ and Lawrence Steinman¹
Department of Biology, Searles College, P.I. USA and Departments of ¹Physiology, ²Neurology and ³Immunology, Stanford University, CA USA

Figure 1: The Statin Pathway

Figure 2: Therapeutic Path System

Results

- 1. Treatment with statins significantly reduced proliferation and induced apoptosis in T cell lymphoma cells.
- 2. The effect was dependent on the inhibition of HMG-CoA reductase.
- 3. Treatment with statins significantly reduced proliferation and induced apoptosis in T cell lymphoma cells.

Conclusions

- 1. Statins reduce proliferation and induce apoptosis in T cell lymphoma cells.
- 2. The effect was dependent on the inhibition of HMG-CoA reductase.
- 3. Treatment with statins significantly reduced proliferation and induced apoptosis in T cell lymphoma cells.

Acknowledgments

This work was supported by the National Institutes of Health (NIH) and the Department of Biology at Stanford University.

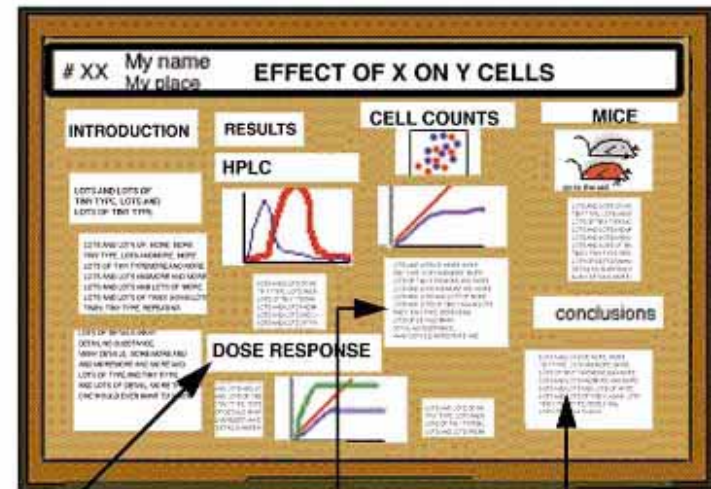
Print out a letter size draft

Can you read the type?

Are these the colors you really want?

Does it look too busy?

Do my main points pop?



Large type states methods, not results

Results artfully buried in a methods description

Carefully omits interpretations

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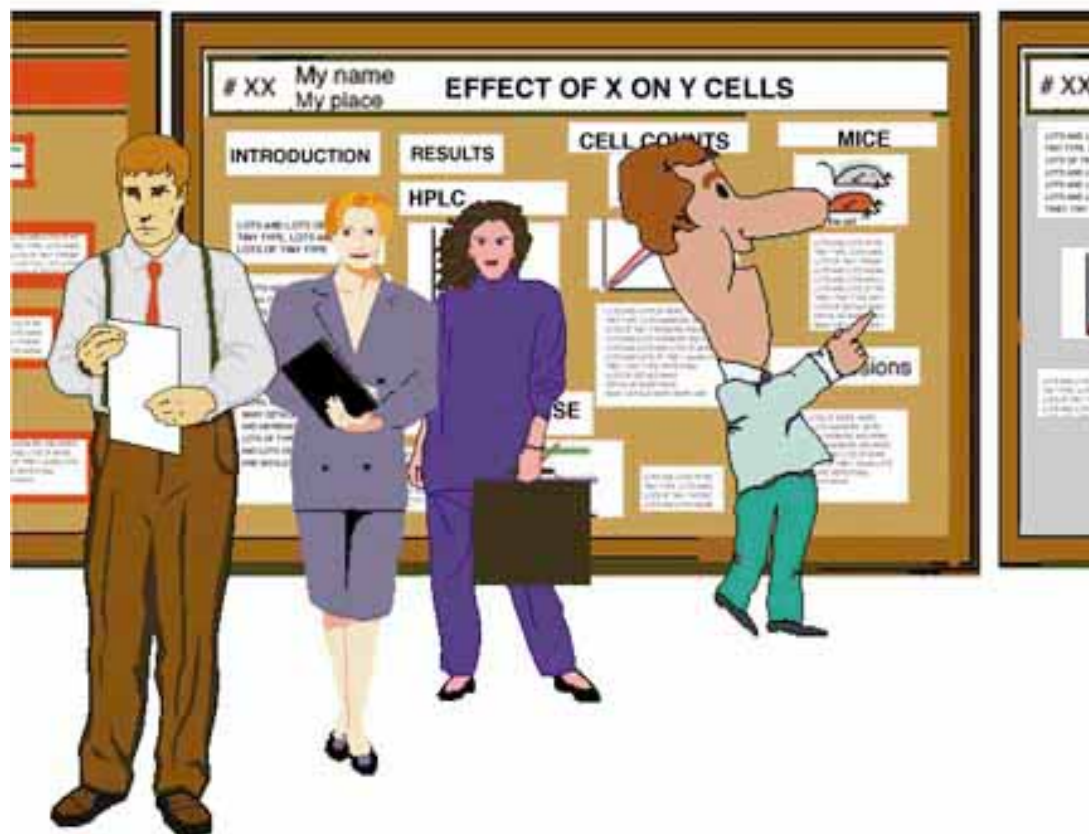
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“Ugly design print ugly poster”

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- Might even get you a job!



Let's judge some designs
and see what you've learned

Using a Windbreak Habitat Model Across Broad Landscapes: The Effect of Local Landscape Composition and Geographic Location

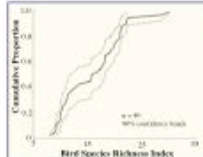
George Hess¹, John Poulsen², Raymond O'Connor³, Jeff Bay³

1. Windbreaks as Habitat

Agricultural lands — fields, pastures, and orchards — are managed to produce food and fiber for people. In the U.S., Great Plains and extensive agricultural landscapes, windbreaks have been planted to protect fields, crops, livestock, and livestock from the prevailing wind. Windbreaks provide some of the finest wooded habitat for birds and other wildlife that people have come to value. Windbreaks make up about 25% of the wooded cover in Nebraska, much of the other wooded cover across the Great Plains.

Although they provide cover from wind erosion and provide habitat for some species, windbreaks also contribute to the fragmentation of prairie grasslands. Prairie fragmentation negatively impacts prairie wildlife such as prairie grouse, chickens, upland wildgeese, and pheasants among others.

- ★ Forty windbreaks were sampled using message sampling with a frame stratified by intensity of cultivation.
- ★ Most sample windbreaks fall in or near extensive cropland.
- ★ Habitat characteristics of each windbreak were measured in 1991.
- ★ Thirty-five farmers allowed researchers to return in 1992.



- ★ Using regression factors associated with each sample, we estimated the habitat value of windbreaks for the region (graph left).
- ★ We estimated that half of Nebraska's windbreaks support fewer than 10 breeding bird species (graph left).
- ★ We also estimated that between 67% and 100% of windbreaks are smaller than 1.2 hectares (data not shown), suggesting that few Nebraska windbreaks provide habitat for forest interior or area sensitive birds.

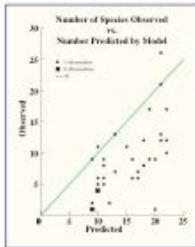


4. Validating BSRI Model

In 1992, a team of five ornithologists revisited 39 of the 40 windbreaks (1 farmer refused further visits) between late May and early July.

Each windbreak was visited four times. Data were collected between one-half hour before and one hour after sunrise. All observed birds were identified by species and recorded using spot mapping techniques. Two recorded observations of the same species were only placed on the field map through the windbreak for each visit.

Because the windbreaks were narrow, we assumed all species were detected.



5. Results of Validation

The model overestimates the number of bird species in the Nebraska windbreaks (graph left). However, the relative qualitative ranking of windbreaks is generally preserved. A total of 31 species were observed.

A strong, significant relationship was found between deviation of observed from predicted number of species and large regional variables of the geographic location of individual windbreaks.

Forest interior, area sensitive, and forest edge species occurred in the larger, taller, more complex windbreaks.

Openland and grassland species occurred in the smaller, shorter, less complex windbreaks.

6. Failure of the Model

There are several possible explanations for the failure of the model to predict accurately the number of bird species in the windbreaks.

- 1) Geographic differences in species richness. The model was developed in Kansas, which has 5-20 more species of bird than Nebraska. Breeding Bird Survey species richness map of North America.
- 2) Dependence on different windbreak characteristics. The number of species in Nebraska's windbreaks depends differently on windbreak characteristics than did the number of species in Kansas.
- 3) Dependence on landscape-scale characteristics. The number of species in Nebraska's windbreaks depends on characteristics of the surrounding landscape.

7. Local Landscape-Scale Effects

Land cover data were collected for the quarter-section (360 acres), which contains the sample windbreak. Cover categories were: 100% cropland, crop, grass, barrens, forest, 100% open, and water. Fences and utility poles were also recorded (present / absent).

Landscape metrics computed included relative cover distributions, total edge length, edge / area ratios, number of patches, mean patch size, mean perimeter per patch, and size of largest field.

The relation between observed and predicted number of species was not significantly related to any of the landscape metrics. This suggests that neither a region, the center of species using a windbreak depends primarily on landscape attributes.

8. Conclusions

- 1) The Bird Species Richness Index for windbreaks cannot be extended simply to describe species richness at large regional scales without either validating explicitly or adding terms that account for differences in regional species pools.
- 2) Local landscape-scale composition and structure do not explain the failure of the model.
- 3) The presence of species pools in windbreaks (i.e., forest interior, grassland) may be explained by windbreak size and complexity. The model may be more useful for predicting the presence or absence of species pools than for predicting the total number of species present.

Acknowledgments: This work could not have been done without the many dedicated people at the National Agricultural Statistics Service who helped plan and execute the 1991 data collection effort; the kind farmers who allowed us to survey their windbreaks; the five ornithologists who spent six weeks traveling around Nebraska; and many other people from the University of Nebraska, U.S. Fish and Wildlife Service, Natural Resources Conservation Service, and the Environmental Protection Agency. Funding was provided by the Environmental Protection Agency and the USDA Agricultural Research Service.

1. North Carolina State University, Forestry Department, Raleigh, NC
2. University of Maine, Department of Wildlife Ecology, Orono, ME
3. North Carolina State University, Statistics Department, Raleigh, NC

A bit text heavy but not too bad.



Determining the Wear Resistance of Occlusal Splints in a Prospective Clinical Study

P. Ottl, P. Schmelz, A. Piwowarczyk, H.-Ch. Lauer

Dept. of Prosthodontics, School of Dentistry (Director: Prof. Dr. H.-Ch. Lauer), ZZMK (Carolanus), J. W. Goethe University, Frankfurt, Germany

Objective

- To determine quantitatively the wear resistance of a newly developed light-curing splint resin over a period in situ of six months.

Materials and Methods

Patients

n = 20 consecutive patients
(mean age: 34.7 years; 12 F, 8 M)

Inclusion criteria

- Natural dentition/ fixed denture
- Complete dentition to at least the 1st molar and
- for the **stabilization splint sample**:
 - Insufficient occlusal support
 - Increased occlusal loss of dental hard tissue

for the **distraction splint sample**:

- TMJ pain and
- Complete anterior dislocation of the disk without reduction with terminal reduction
- TMJ osteoarthritis



Fig. 1: Stabilization splint in situ

Resin splint material (Fig. 1)

- Light-curing (400-500 nm) resin made of high-molecular dimethacrylates with organic and inorganic fillers
- Does not contain methyl methacrylate

Study design

- Duration: 6 months
- Types of splints (maxilla, n = 10 each): stabilization splints, distraction splints
- Splint wear mode: 24 hours
- Examinations: before insertion (BI), at 4 weeks (4W), at 3 months (3M), at 6 months (6M)
- Occlusal adjustments were restricted to the time before 4W.

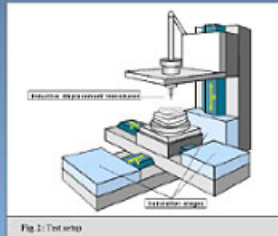


Fig. 2: Test setup

Measuring technology (Fig. 2)

- Vibration-isolated table framework
- 3 translation stages (for directions x, y, and z) (DC-Motor) (PI, Waldbronn)
- DV 4 stereomicroscope (Zeiss, Oberkochen)
- WA 20 inductive displacement transducer/ Spider8 digital 8-channel measurement unit/ Calman 32 software V2.1 (HBM, Darmstadt)
- Local coordinate storage for occlusal contacts during baseline measurements
- Ten measurements each in regions 13, 23, 16, 26 (BI, 4W, 3M, 6M)
- Splint repositioned on remount cast

Results

- The medians of the occlusal vertical gaps/losses (wear, resin lamination, water sorption, etc.) are shown in Fig. 3 (stabilization splints) and Fig. 4 (distraction splints).

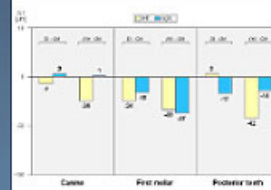


Fig. 3: Occlusal vertical gaps/losses (median) of the teeth in situ over a period in situ of six months (n = 10 stabilization splints)

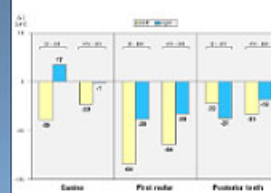


Fig. 4: Occlusal vertical gaps/losses (median) of the teeth in situ over a period in situ of six months (n = 10 distraction splints)

- Statistical analysis (Mann-Whitney U-test, $p \leq 0.05$) showed no significant differences when comparing the corresponding results of stabilization and distraction splints.

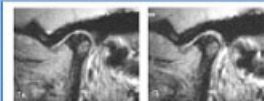


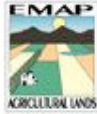
Fig. 5a and b: Sagittal oblique (SO) of the condyle in two patients with (Fig. 5a) and with (distraction splint) inserted (Fig. 5b) following six months of wearing.

Conclusions

- The present study *clinically* confirms the good wear resistance results of the new resin splint material obtained in a previous *in-vitro* study [OTTL et al., Dtsch Zahnärztl Z 52, 342 (1997)].
- Good wear resistance is of great importance for maintaining the therapeutic mandibular position during the treatment period (Figs. 5a and b).



Nice poster



A Framework for Assessing the Condition of Agricultural Lands

George Hess¹, Anne Hielkamp², Mike Munster³, Steve Peck³, Lee Campbell⁴, Betty McQuaid⁴, Steve Shafer^{3,5}

Mission: To develop indicators of the condition of agricultural lands within an ecological framework, and to monitor and evaluate this condition on a regional basis.



Sustainable agriculture has been discussed, defined, and discussed in countless papers.

Definitions tend to be broad and encompass ecological, economic, social and even policy dimensions. Although these dimensions are interrelated, each may be treated independently.

In our efforts, we sought methods to examine only the ecological aspect of sustainability.



People place values on agricultural lands that must be addressed if monitoring is to be relevant.

The foremost goal for agricultural lands is to produce food and fiber for human uses.

Other desired outcomes can be considered goals for the larger landscape and sometimes function as constraints on production. These include clean air and water, wildlife habitat, and aesthetically pleasing landscapes.

The ecological condition of agricultural land is defined by its productivity and the degree to which natural biotic and abiotic resources are conserved and protected.

Agricultural land in good condition is productive and shows not compromise natural resources. Sustainability is the ability to maintain good condition over time.



Indicators were selected to reflect crop productivity and land stewardship.

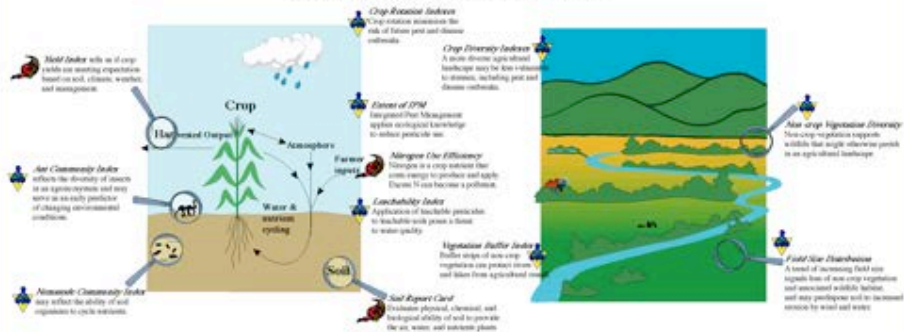
In making an assessment, condition is reported for each indicator. An overall condition may also be reported, but depends critically on the relative weighting of the goals for agricultural lands.

For sustainability, one can examine trends in crop productivity and stewardship practices.

Potential Indicators for Annually Harvested Herbaceous Cropland

As a starting point, we chose to concentrate our efforts on developing indicators for **annually harvested herbaceous cropland** — **land planted with crops that are harvested every year** whether the plants are annual or perennial. Common examples are corn, wheat, soybeans, alfalfa hay, and sorghum.

We also endeavored to supplement, rather than duplicate, existing efforts. Our conceptual framework is flexible enough to incorporate indicators based on data from other monitoring efforts. For example, an erosion indicator could be developed using the USDA Natural Resources Conservation Service's National Resources Inventory data.



Fields are for crops . . .


. . . but landscapes are for all of us.

Acknowledgements: The EMAP Agricultural Lands Inventory Group thanks the many individuals and organizations that made the effort a success. The individuals on our advisory committee, the organizations include the USDA's Agricultural Research Service, Forest Service, National Agricultural Statistics Service, and Natural Resources Conservation Service; the U.S. Environmental Protection Agency; North Carolina State University; University of Maine; Oregon State University; University of Nebraska; and Web 1 group. The list of organizations is pretty long, too. Thanks to all!

1. North Carolina State University, Forestry Department, Raleigh NC;
2. Duke University Medical Center, Durham NC;
3. North Carolina State University, Department of Plant Pathology, Raleigh NC;
4. USDA Natural Resources Conservation Service, Raleigh NC;
5. USDA Agricultural Research Service, Raleigh NC.



Where do I begin?



PREVALENCE OF OBESITY AMONG INNER CITY LATINO CHILDREN AND ADOLESCENTS

Nazrat M. Mirza MD, ScD, Jill Merchant MS, Leslie Becker, PhD
 Children's National Medical Center and George Washington University School of Medicine and Health Sciences,
 Washington, DC

Background

Obesity is a multi-faceted and public health problem facing children and adolescents in the US. Of particular significance is the increasing prevalence of obesity and its complications among the Latino population. Addressing this public health problem in a strong sense of family and children as a priority. Studies of the problem placed on children. They may be a neglected population that should be served not by dental food or other services made at TV. Obesity in children and adolescents is concerning not only because of the associated health and psychosocial consequences, but also because obese children tend to become obese adults. Thus, obesity is associated with long chronic diseases, it will have an economic impact on the health care system.

Purpose of Study:

To estimate the extent of obesity among inner city Latino children and adolescents with the overall goal of informing the need for an obesity intervention program.

Study Design

Two hundred and twenty-five charts of children and adolescents aged 4 to 17 years were randomly selected from well-child visits to Children's Hospital's Latino Medical Clinic for the calendar year 2006. The charts were an average of 8.6% (range 4 to 24%), approximately 46.9% Latino, predominantly from El Salvador. Information contained from the charts included height, weight, blood pressure, latest classification, history, and physical findings consistent with obesity complications. Height (Leslie Becker, MD) was calculated from measured weight and height. Data analysis was done using SAS version 9.1.

Results

The distribution of the study sample is shown in Table 1. About 50% were female. The mean age was 10.4 years with a SD of 3.3 and a range of 4.0 to 17.7 years. The mean BMI was 20.8 with a SD of 3.4 and a range of 13.1 to 31.6. Overall 40% of the children and youth were overweight (BMI ≥ 25) percentiles or at risk for overweight (BMI < 100th percentile) with an almost equal distribution between the two categories (Table 2). Males were more overweight and at risk for overweight than females, but the gender difference was not statistically significant. The prevalence of overweight was highest for youth ages 10 to 17 years.

Table 1 - Population statistics

Variable	Frequency (%)
Gender	
Male	66.1
Female	33.9
Age Categories (years)	
4-6	19 (12%)
7-8	40
9-10	22.4
11-12	27.8
13-14	14.4
15-16	10.8
17-18	8.2

Results continued

Table 3 shows the distribution of overweight and at risk for overweight by age category. There did not show that prevalence overweight and at risk for overweight is high in children as young as 4 to 6 years. Although the prevalence of overweight and at risk for overweight was lower in the age group 4-6 years, the difference was not statistically significant. Patient from help (18.4 and 27.0%) respectively).

Latinas frequency was higher among the overweight than the non-overweight children and youth (39.0% vs. 24.0% respectively). There was no difference in the frequency of occurrence of other signs such as, obstructive sleep apnea, learning difficulties, behavior and problems, asthma, and ADHD between the overweight and non-overweight group. Only 7% of all the overweight children had their cholesterol levels checked. The cholesterol levels ranged from 112-230 mg/dL. The percent of the children and youth were high blood pressure, and the range was 17.1-77.0%. There was no significant association between overweight and at risk or diabetic blood pressure in this study overall. Only 20% of the overweight children and youth were diagnosed and had been made in their charts regarding their overweight status by their health care providers. There were no referrals for overweight intervention and/or dietary plans.

Table 2 - BMI Distribution

BMI Category (at Risk for overweight - BMI 25-29.9 th)	Frequency (%)
1. Both sexes (n=125)	20.8
2. Males (n=76)	22.4
3. Females (n=49)	19.4
Overweight (BMI ≥ 30 th Percentile)	
1. Both sexes (n=125)	22.4
2. Males (n=76)	18.1
3. Females (n=49)	26.9

Table 3 - At Risk for Overweight and Overweight by Age Category

Age Category (n)	At Risk for Overweight (%) (BMI 25-29.9 th)	Overweight (%) (BMI ≥ 30 th)
4-6 (n=19)	10.5	10.5
7-8 (n=40)	20.0	22.5
9-10 (n=22)	9.1	18.2
11-12 (n=28)	14.3	27.8
13-14 (n=14)	21.4	21.4
15-16 (n=11)	27.3	36.4
17-18 (n=8)	25.0	37.5

Conclusions & Recommendations

The prevalence rate for overweight and at risk for overweight among children and youth in the inner city Latino community is more than twice the national average. Primary health care providers need to acknowledge and assess the presence of obesity and overweight in children and adolescents to early and provide appropriate management of the problem. Targeted intervention and prevention strategies for overweight and obesity in children and adolescents are urgently needed for this population.



I'm feeling sleepy

Early Outcomes of the First 1471 Consecutive Kyphoplasty Procedures in the United States for the Fixation of Painful Osteopenic Vertebral Body Compression Fractures (VCF)

Steven R. Garton¹, M.D., leader R. Lieberman², W.D., Mark A. Reiley³, M.D., Joseph M. Lane⁴, W.D., Frank W. Phillips⁵, M.D., Hallett S. Mathews⁶, M.D., Hansen A. Yuan⁷, W.D., Barton H. Sachs⁸, W.D., for the Kyphoplasty Study Group
¹University of California, San Diego, Medical Center, San Diego, CA, ²Cleveland Clinic, Cleveland, OH, ³Benken Orthopedic Medical Group, Berkeley, CA, ⁴Hospital for Special Surgery, New York, NY, ⁵University of Chicago Spine Center, Chicago, IL, ⁶Mit-Alberta Spine Specialists, Richmond, VA, ⁷State University of New York Health Sciences Center, Syracuse, NY, ⁸Albany Medical Center, Albany, NY



BACKGROUND

- 700,000 VCFs per year
- 275,000 diagnosed, ~80% due to pain
- Spinal deformity associated with
 - Significant morbidity
 - 22% increased mortality (Kado, Ann Int Med 1996)
- Current treatments ineffective
 - Open surgeries fail
 - Medical management palliative
- Vertebroplasty
 - Bifocal transpedicular cement fill
 - Relieves pain
 - Requires high pressure and runny cement
 - High risk of cement leaks
 - Up to 73% where documented (Hest et al., Radiology 1997)
 - Major complications (Chris, J Int Neuronal 1997)
 - 1.3% in osteoporosis
 - 10% in metastatic cancers

KYPHOPLASTY

Kyphoplasty is a minimally invasive orthopedic procedure for reducing and fixing painful vertebral body compression fractures secondary to osteoporosis. Using a posterior approach, one or two inflatable Bone Tamps (Fig. 1) are inserted into the fractured vertebral body, generally using a bilateral transpedicular approach (Fig. 2). The surgeon carefully inflates the balloon tamps (Fig. 2) using radiopaque contrast medium with image, volume and pressure control. The increased balloon tamp volume compacts the inner cancellous bone as it pushes the fractured outer cortical bone back toward its normal position. The inflation path is also controlled by placement, volume and balloon design. After reduction, the balloon tamp is removed, and the resulting void is filled with thick PMMA under low manual control and low pressure. The steps of Kyphoplasty are illustrated in Fig. 3.

Figure 1 Inflatable Bone Tamp (IBT)



Figure 1 Cleared in the U.S. for the reduction of fractures and/or creation of a void in cancellous bone.



Figure 2

Bilateral Transpedicular Fracture Reduction with the IBT

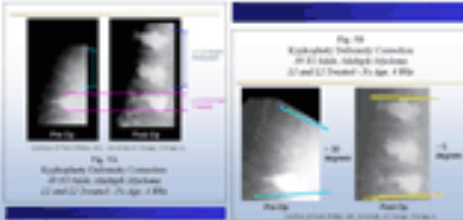
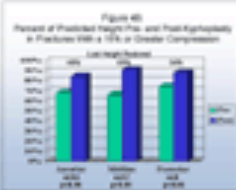
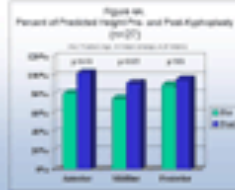
Figure 3 Kyphoplasty Using the IBT



STUDY DESIGN AND METHODS

A retrospective multi-center review to assess early outcomes with Kyphoplasty. Pain was localized by physical examination. The presence of mass lesions and softtissues was confirmed on MRI. General or deep local anesthesia was chosen based on anatomy, number of levels and patient status. The first 135 patients at our centers were asked to characterize their back pain as improved, the same or worse 24 hours post-op and at last follow-up. Fractured and nearest normal vertebral body heights were measured anterior, middle and posterior in the first 27 vertebral body fractures treated by one surgeon (MAM). The height of the nearest normal vertebral body was used to calculate the % of predicted height for all the vertebral bodies (Fig. 4A) and for the sub-set where which had lost 15% or more of height before treatment (Fig. 4B).

The pre-treatment height was subtracted from the predicted height, then divided by the post-treatment height subtracted from the predicted height, to find the percentage of total height restored. One set of X-rays by one surgeon (JMP) are used to show an example height restoration (Fig. 5A) and deformity correction (Fig. 5B). Device-related major complications from all procedures are reported. Fracture leaks in the first 70 procedures performed by one surgeon (JL) were assessed with X-ray and MRI.



PRELIMINARY RESULTS

- 107 before (pre-treat) X-rays
 - Average (Mean) age: 67 months
 - Range: 55 to 81 years
- 93 operations
- 93 patients (pre-treat) X-rays
- Average vertebrae: L1
- Average fracture position: 100% (range: 80-100)
- Average tamp inflation volume: 1.0 cc (range: 0.7-1.6)
- Were the IBT systems safe?
 - Minor morbidity
 - 95% report pain improvement at 2 weeks
 - 95% IBT reduction of fracture height (Fig. 4A, B, 5A, 5B)
 - No increased incidence of adjacent fracture
 - 100% show no major complications
 - Avascular necrosis
 - Laminectomy
 - Hemiblock
 - Epidural
 - DVT
- 100% pain relief (during follow-up)

CONCLUSIONS

Kyphoplasty is an important treatment option that provides immediate stability and return to activities of daily living to patients with acutely painful vertebral body compression fractures secondary to osteoporosis. Kyphoplasty facilitates fracture reduction and deformity correction. While reduction is more likely in acute fractures (few months or less), it has been seen in fractures over one year old. Kyphoplasty also provides rapid pain relief to the nearly all patients, and this result is independent of fracture reduction. The safety profile of Kyphoplasty compares favorably to the published safety profile of vertebroplasty.



Poster title goes here, containing strictly only the essential number of words...



Author's Name/s Goes Here, Author's Name/s Goes Here, Author's Name/s Goes Here
 Address/es Goes Here, Address/es Goes Here, Address/es Goes Here

Introduction

Fit...
 Check with conference organizers on their specifications of board dimensions before you start your poster. If you're not sure, ask the organizers for their advice.
 The page size of the poster depends on (36" x 108"), landscape (horizontal) format. Do not change the page size. You can scale it to a smaller or larger size when printing, but you must adjust the spacing with either a portrait or a landscape poster template.
 Bear in mind you don't want to fill up the white space allocated to you. Conference organizers (e.g. 800 Write the USA) do not make your poster larger than necessary. Just fit it right in size.

Aim

How to use the poster template...
 Simply highlight the text and replace it by typing in your own text, or copy and paste your text from a MS Word document or a Power Point slide presentation.
 The body text font size should be between 24 and 32 points. Arial, Helvetica or similar.
 Keep body text left aligned, do not justify text.
 The color of the text on the poster background can be changed to colour of your choice.

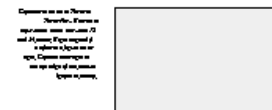
Method

Tips for making a successful poster...

- Re-write your paper in poster format. Simply everything, and save over it.
- Headings other than the words should be both upper and lower case initial capitals.
- Leave a wide down margin in capitals or underlines to stress your points. Use bold characters to stress.
- When laying out your poster leave breathing space around your text. Do not crowd your poster.
- Try using photographs or diagrams/graphs. Avoiding numerical tables.
- Spell check, and get someone else to proof read.



Experiment no. 10 in the Name of the Poster. It was done in the year 2000. It was done in the year 2000. It was done in the year 2000. It was done in the year 2000.



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Results

Printing the results...
 Images such as photographs, graphs, diagrams, logos, etc. can be added to the poster.
 To transfer scanned images to your poster, go through the menu: edit > insert > board > board > from file. In the follow your computer, select and press OK. The format of images is either a JPEG or TIF. JPEG is the preferred format.
 Beware of the images before you are printing. The average colour photo (13" x 18" at 300 dpi) would be about 3MB. 11MB for BW (grey scale). Call MUH for more.
 Do not use images from the web.

How to lay out graphs

For simple graphs use MS Excel or other graphing software in Power Point.

Graphs done in a scientific graphing program (e.g. Sigma Plot, Origin, SPSS, etc.) should be saved as a JPEG or TIF file if possible. For more information see MUH.



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Printing and Lamination

Once you have completed your poster, bring it down to MUH for printing. We will produce a 33 board size poster. You will check and proof read. The final poster will then be printed and laminated.
 Note: Do not take your poster until 10:30 am. This allows us to check and proof read your poster before we re-use it.
 Simply highlight the text and replace.

Cost...

For poster printing and lamination charges contact MUH.



Perfect!

Conclusion

For more information on Poster Design, Scanning and Digital Photography, and Image Resizing.

Contact

Medical Illustration Unit
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 Email: medillustr@princeton.edu
 Web: <http://www.medillustr.com>

Acknowledgements

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A Large-Scale Public Library Renovation in Taiwan



A Large-Scale Public Library Renovation in Taiwan

Library Association of R.O.C.
National Teaching Library of Taiwan

ABSTRACT

There are 323 public libraries, including university and village public libraries, in Taiwan. As most were built in 1980s, they are not fit in the digital environment to meet users' needs.

In order to upgrade the quality of public library services in Taiwan to meet users' needs and to foster lifelong learning, in 2003, the central government of Taiwan approved a budget of NT\$1.2 billion (US\$ 4 million) as a large-scale public library renovation project in 301 public libraries.

National Teaching Library was designated as coordinate library to execute the project from February 2003 to June 2004. 301 public libraries were divided into eight groups according to the geographical area, and a steering committee was formed, consisting 96 committee members from the fields of library and information sciences, architecture, space design, literature, and history. 96 committee members were assigned to one of eight groups of 301 public libraries to help and to give suggestions of renovation, improvement, replacement, service programs of each library.

The project was executed and completed efficiently and effectively in June 2004. This poster presentation will display the results of the renovation, improvement, replacement, library management, and services of 301 public libraries in Taiwan. The contents of the poster will be explained by words, pictures, and statistical tables.

Keywords: Public libraries
<http://www.ntl.gov.tw>

Background

For last three decades, reading services, such as library, have been an important part of education, training, and leisure activities. The public library is a place where people can find books, newspapers, magazines, and other reading materials. It is also a place where people can learn, study, and enjoy themselves. The public library is a place where people can find information and knowledge. It is also a place where people can find a quiet place to study and work. The public library is a place where people can find a place to meet and talk to each other. The public library is a place where people can find a place to learn and grow.

Figure 1 | Number of libraries at each administrative level involved in the renovation project



Figure 2 | Number of Public Libraries in Taiwan

Category	Number
University	1
Village	322
Total	323

Process within the renovation design and internal layout of libraries before



Results | Renovation, service, and management | Building and layout | Management and service | Library and service | User information and service

1. Renovation and improvement of the building

- Renovation and improvement of the building structure
- Renovation and improvement of the building exterior
- Renovation and improvement of the building interior
- Renovation and improvement of the building lighting
- Renovation and improvement of the building ventilation
- Renovation and improvement of the building fire safety
- Renovation and improvement of the building accessibility
- Renovation and improvement of the building sustainability

2. Renovation and improvement of the internal layout

- Renovation and improvement of the internal layout design
- Renovation and improvement of the internal layout construction
- Renovation and improvement of the internal layout furniture
- Renovation and improvement of the internal layout lighting
- Renovation and improvement of the internal layout ventilation
- Renovation and improvement of the internal layout fire safety
- Renovation and improvement of the internal layout accessibility
- Renovation and improvement of the internal layout sustainability

3. Renovation and improvement of the service

- Renovation and improvement of the service design
- Renovation and improvement of the service construction
- Renovation and improvement of the service furniture
- Renovation and improvement of the service lighting
- Renovation and improvement of the service ventilation
- Renovation and improvement of the service fire safety
- Renovation and improvement of the service accessibility
- Renovation and improvement of the service sustainability

4. Renovation and improvement of the management

- Renovation and improvement of the management design
- Renovation and improvement of the management construction
- Renovation and improvement of the management furniture
- Renovation and improvement of the management lighting
- Renovation and improvement of the management ventilation
- Renovation and improvement of the management fire safety
- Renovation and improvement of the management accessibility
- Renovation and improvement of the management sustainability

5. Library and service

- Library and service design
- Library and service construction
- Library and service furniture
- Library and service lighting
- Library and service ventilation
- Library and service fire safety
- Library and service accessibility
- Library and service sustainability

6. User information and service

- User information and service design
- User information and service construction
- User information and service furniture
- User information and service lighting
- User information and service ventilation
- User information and service fire safety
- User information and service accessibility
- User information and service sustainability

7. Future outlook

- Future outlook design
- Future outlook construction
- Future outlook furniture
- Future outlook lighting
- Future outlook ventilation
- Future outlook fire safety
- Future outlook accessibility
- Future outlook sustainability



Oh my gawd!

WHICH IS MORE IMPORTANT: NUMBER OF PATCHES OR CONNECTIVITY?

Darm Kalisak, PES Student

Contact: ddk2@cornell.edu

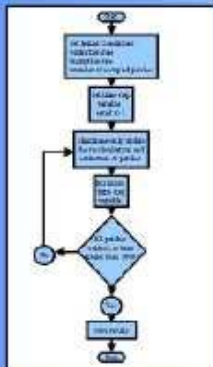
INTRODUCTION AND OBJECTIVES

Micro-patterned structures with defined geometry could benefit from the understanding of the effects of different geometrical configurations on their electrical and mechanical properties. In particular, a large population with randomly arranged patches is electrically insulating. It is unclear to what extent connectivity changes at some critical value to support flow of electrons in the network, or at a certain frequency to affect its dynamic response, or in other patches.

It is not clear, in a quantitative effect, by what factor the length is independent of frequency. For example, if the connectivity factor is too low, independent of the size of the patch, it could be independent of frequency. It is not clear, in a quantitative effect, by what factor the length is independent of frequency. For example, if the connectivity factor is too low, independent of the size of the patch, it could be independent of frequency.

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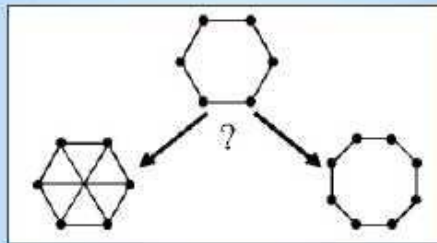
THE PROGRAM



ASSUMPTIONS AND LIMITATIONS

- Additional geometric parameters were added to a system which had the number of patches to some extent held constant. In other words, we wish to investigate the effect of connectivity on the system.
- Adding patches increases the overall population of the system, and increases a total conductivity, but only by increasing the direct number of patches which would have to go online.
- Adding geometric parameters can cause the likelihood of reconnection of initial pathways, by giving direct patches a new route for navigation.
- Additional geometric parameters were added to a system which had the number of patches to some extent held constant. In other words, we wish to investigate the effect of connectivity on the system.
- Adding patches increases the overall population of the system, and increases a total conductivity, but only by increasing the direct number of patches which would have to go online.
- Adding geometric parameters can cause the likelihood of reconnection of initial pathways, by giving direct patches a new route for navigation.
- The model was designed to study the effects of geometry and connectivity on the system, but not the specific parameters of the system, or the specific parameters of the system.

THE ISSUE



A network problem is a collection of discrete population patches, in which individual patches vary typically in size, shape and location. In the long-term evolution of the network, patches are added more by adding new patches or by increasing the number of navigation pathways between existing patches?

Adding patches increases the overall population of the system, and increases a total conductivity, but only by increasing the direct number of patches which would have to go online.

Adding geometric parameters can cause the likelihood of reconnection of initial pathways, by giving direct patches a new route for navigation.

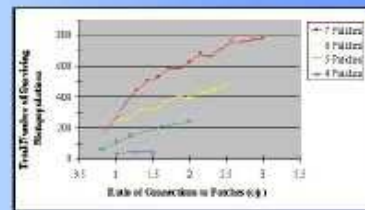


RESULTS

Tracked the results by making histograms which represent the population

- number of patches (cases 4, 5, 6, and 7)
- randomly connected to randomly connected population
- the ratio of patches to population (cases 4, 5, 6, and 7)
- the ratio of patches to population (cases 4, 5, 6, and 7)
- the ratio of patches to population (cases 4, 5, 6, and 7)

The overall distribution of the network, the likelihood of reconnection of initial pathways, by giving direct patches a new route for navigation.



CONCLUSIONS

The number of the total patches that, when possible, adding patches to a system increases the population of the network, but only by increasing the direct number of patches which would have to go online.

Adding geometric parameters can cause the likelihood of reconnection of initial pathways, by giving direct patches a new route for navigation.



Nice flow, but too metallic

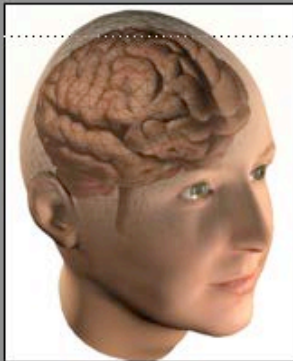


Your Ingenious Teaser Right Here to Woo Them Down to the Body

The name of the author is 23pt regular

Conclusions first: 44 pt bold

Always put the most important part - your conclusions - first! Place your conclusions in the upper left hand corner of your poster.
Prepare your material from the reader's perspective. What was done, by who and your conclusion has to be understood within a couple of second's reading! Use active voice when writing the text. **font size: 34 pt regular**



Use photos of 18pt bold
Image caption 23pt regular

Introduction

Posters are primarily visual presentations. Your poster should be dominated by self-explanatory illustrations such as graphs and pictures while the amount of text should be kept to the minimum.

Your aim

Your poster is an advertisement for your research and as such it needs to be eye-catching and straight to the point. You only have seconds, or at best a few minutes to attract the attention of the visitor to a poster session. Keep your message short and clear

Your message

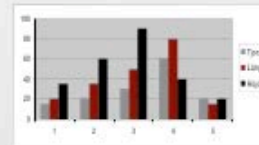
Keep your message clear and your text concise. Decide what is relevant for this poster and try to get your message across to your target group.

Layout, photos and print

Contact [Marie Perle](#) at University Library for help with layout and image enhancement. For printouts and professional photographers contact [Bibi Kohn](#). For more information: www.bibliotek.kth.se



Always write a descriptive caption 23pt regular



Always write a descriptive caption 23pt regular

Tips:

The best font for text blocks that are as short as they should be on a poster is a Sans Serif typeface family. Therefore, use sans serif fonts such as Arial or **Verdana** sans rather than serif fonts like Times or Courier.
AVOID CAPITAL LETTERS IN TEXTS THAT ARE LONGER THAN ONE LINE, SINCE THEY ARE MORE DIFFICULT TO READ.

Handouts

If you succeed in getting the reader's attention, provide her/him with more detailed information in the form of handouts or printed articles. Include references on your handout instead of your poster.

It is always nice to put in a picture and write some few short notes of what's going on in the future. Put handouts, business cards, nearby - on a table or in an envelope hung with the poster.



Gorgeous!

LESSONS LEARNED FROM AIRWAY PRESSURE RELEASE VENTILATION (APRV)

Lewis J. Kaplan, MD^{1,2}, Heatherlee Bailey, MD, FAAEM^{1,2}

Medical College of Pennsylvania-Hahnemann University

Departments of Surgery¹ and Emergency Medicine², Philadelphia, PA USA

INTRODUCTION

Airway Pressure Release Ventilation (APRV) (a.k.a. BiPAP) has been previously demonstrated to be a useful modality to manage patients with acute lung injury (ALI) or the acute respiratory distress syndrome (ARDS). As this is a fundamentally different mode than conventional cyclic ventilation, we reviewed a single institution's experience with APRV to determine safety, complication detection, and efficacy at resolving hypoxemia and hypercarbia.

METHODS

Consecutive patients transitioned from either volume or pressure targeted ventilation to APRV (Dräger Esch 4 Pulmonary Workstation) at a University hospital surgical ICU were retrospectively reviewed. Patients initially ventilated with APRV were excluded. Initial APRV settings to correct hypoxemia ($pO_2 \leq 60$ torr or $FIO_2 \geq 0.9$) were a P_{high} at the prior plateau pressure, a T_{high} of 6.0 sec and a T_{low} of 0.8 sec. Hypercarbic ($pCO_2 \geq 55$ torr and $pH \leq 7.3$) patients were set at a T_{high} of 5.0 sec and a T_{low} of 1.0 sec. Settings were adjusted to resolve hypoxemia and hypercarbia. IRB approved abstracted data included principal diagnoses, ventilator parameters, laboratory values and ventilator-associated complications. Data before and after APRV were compared using a two-tailed paired t-test or Chi-square as appropriate; significance was assumed for $p < 0.05$ (^{1,2}).

RESULTS

Demographics

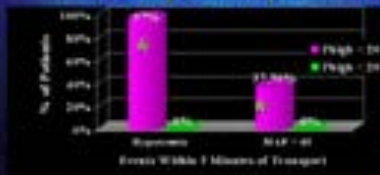


APRV

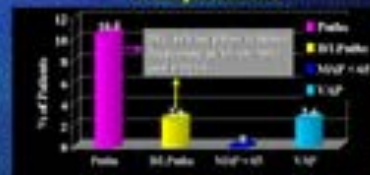


Element	Value
% Hypoxemia	88%
% Hypercarbia	12%
Time to $SO_2 \geq 92\%$	7 ± 4 min
Time to $FIO_2 \leq 0.6$	5.2 ± 0.9 hr
Time to $pCO_2 \leq 40$ torr	42 ± 7 min
Time to max ΔpCO_2	76 ± 17 min
Mean change in V_T	-3.3 ± 0.9 L/min ³

Transport Safety



Complications



CONCLUSIONS

1. APRV is a safe rescue mode for hypoxemic or hypercarbic respiratory failure and requires a significantly lower V_T than conventional ventilation.
2. Decreasing release phase volumes and a rising pCO_2 are strong indicators of pneumothorax in a patient on APRV. Routine end-tidal CO_2 monitoring is recommended.
3. Preparation for safe intra-hospital transport may be keyed to the P_{high} required for oxygenation and ventilation. Patients requiring a $P_{high} > 20$ cm H_2O should be transported on the ventilator.



Welcome to
the 80's
For sure!

Poster title goes here, containing strictly only the essential number of words...



Author's Name/s Goes Here, Author's Name/s Goes Here, Author's Name/s Goes Here

Address/es Goes Here, Address/es Goes Here, Address/es Goes Here



Introduction

Check - All content originates or the publication of abstracts, tables, and supporting materials providing landscape, process, and results.

The page should be prepared in a standard format. Do not change the page size. All content should be legible - use plain font, use a clear font size - all other content must be legible or a landscape orientation.

Do not include any content that is not relevant to the topic. Do not include any content that is not relevant to the topic. Do not include any content that is not relevant to the topic.

Aim

Use a standard format.

Clearly highlight the aim and replace by your own text, or copy and paste your aim into the box.

The abstract should be written in a clear and concise manner. Use a standard format.

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Methods

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Results

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Conclusion

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This works!



Helpful sites on poster presentations:

<http://colinpurrington.com/tips/academic/posterdesign>

<http://www.ncsu.edu/project/posters/NewSite/>

LiLynn Graves

Web and Graphic Designer, CCMR



CCMR

Cornell Center for Materials Research

Cornell University, Ithaca, NY

<http://www.ccmr.cornell.edu>