Scientific Poster Design

How to keep your poster from resembling an "abstract painting"
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
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?
A portrait of a grad student
(or in your case a high school 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 is best!
Simplify your paper into poster format

Your First Chance to Capture Your Audience and Make Them Want to Check Out Your Stuff

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Introduction  Purpose  Results - cont  Results - cont

Purpose

Results

Sample

Discussion

Conclusions

References

Find out the size required!
Who’s my audience?
Remember, most of these “scientists” come for the free PIZZA.
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...

Why?

What am I adding?

Methods?

What did I find?

What do I recommend?
I could actually read this.
Where do I start?
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!

Group authors names and affiliations
The Secrets of Readable Text:

# XX  My name
My place

EFFECT OF X ON Y CELLS

INTRODUCTION

RESULTS

HPLC

CELL COUNTS

MICE

conclusions

DOSE RESPONSE

Large type states methods, not results

Results artfully buried in a methods description

Carefully omits interpretations
- 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.
Conclusions first!

- Put the most important part first!
- Short and to the point!
- Upper left hand corner
Easy for the eye to follow

Utter chaos will make folks dizzy!
Can anyone read your body text?

EFFECT OF X ON Y CELLS

MAKE LINES OF TYPE SO LONG THAT THE READER GETS LOST WHEN TRYING TO FIND THE NEXT LINE AND MISSES A WHOLE LINE OF TEXT.

RESULTS

LONG LINES OF TEXT ARE PARTICULARLY EFFECTIVE IN HINDING YOUR MESSAGE WHEN THE TYPE IS ALREADY VERY SMALL.
Text sizes:

Title: 85 point

Authors: 56pt

Sub-headings: 36pt

Body text: 24pt

Captions: 18pt
Images and graphs say much more than words.
Keep posters visual!
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
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
Whoa! Where's my sunglasses?

This attracts attention but tires out the eye
Be careful with the primary colors
Yellow on white is hard to read

Red on Blue appears blurry to the human eye.

Blue on Red appears blurry to the human eye.
·aei o

·Peach Green&. Seeds

·Rust

·doJar

http://www.colorschemer.com/online.html
Be aware of busy backgrounds

**Snook Growth in Habitats with Differing Abiotic Variability**

Alessia Ried, North Carolina State University, unread@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

**STUDY SITES**

**METHODS**
1. Juvenile snook are reared in the aquaculture facility
2. Adult snook are shipped with striping (100-200 mm) in the study
3. Fish are placed in cages within variable habitats at the research sites for abatement
4. Fish are weighed and measured for growth

**RESULTS**

- **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)
    - 0-1
  - Salinity (ppt)
    - 16-30
  - Temp (°C)
    - 25-33

**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
A little different!

Southern Flounder Exhibit Temperature-Dependent Sex Determination

J. Adam Luckenbach*, John Godwin and Russell Borski
Department of Zoology, Box 8615, North Carolina State University, Raleigh, NC 27695

Introduction
Southern Flounder (Paralichthys lethostigmus) 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 fry were spawned to collect eggs and sperm for in vitro fertilization.
- Hatched larvae were reared in a natural diet (Artemia franciscana) at high protein levels and fed until 10 days of age daily.
- Upon reaching a mean total length of 40 mm, the juvenile flounder were stocked at equal densities into one of three temperatures: 18, 25, or 28°C for 205 days.
- Growth was measured and tissue sampled at 2.6 months.

Results
- Sex was discernible in most fish greater than 120 mm long.
- High (28°C) temperature produced 4% females.
- Low (18°C) temperature produced 12% females.
- Mid-range (25°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 (25°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 (or 1 year) southern flounder.

Acknowledgements

Histological Analysis

Male Differentiation Female Differentiation

Growth Does Not Differ by Sex

Temperature Affects Sex Determination

Rearing Temperature Affects Growth

- *P < 0.01, **P < 0.001 (ANOVA significance levels vs control treatment for each test).
Edit, Edit, Edit and Evaluate!
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?

Keep it simple
CCMR has 2 poster printers!

Our wonderful computing facilities offers state of the art poster printing

The secret of a good poster: “Ugly design print ugly poster”

http://cf.ccmr.cornell.edu/cf_newsite/poster_print/index.html
You’re not done yet…

Prepare a 3-5 minute verbal explanation

Is he ever going to SHUT UP???
Prepare mini size poster handouts

- Provides a written record for interested folks
- Makes you look together
- Be sure to include complete contact information
- Might even get you a job!
Let’s judge some designs and see what you’ve learned.
A bit text heavy but not too bad.
Determining the Wear Resistance of Occlusal Splints in a Prospective Clinical Study

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

Objective
- To determine quantitatively the wear resistance of a newly developed lightweight splint made of a resin mixture in six months.

Materials and Methods
- Patients: n = 20 consecutive patients, mean age 34.7 years, 12 M, 8 F.
- Inclusion criteria:
  - Natural dentition and denture
  - Complete dentition to the last 1st molar
  - No parafunctional habits
  - Sufficient oral hygiene
  - Increased occlusal load and dental pain

- Study design:
  - Duration: 6 months
  - Types of splints (med.: n = 10 each):
    - Occlusion splint
    - Distraction splint
    - Splint worn: 24 hours
  - Evaluations:
    - At 1 month (I)
    - At 6 months (II)
    - At 3 months (III)
    - At 6 months (IV)

- Occlusal adjustments were performed in the time before 4W.

Measuring technology (Fig. 2)
- Vibration-occlusal table framework
- 3 translation stages (for directions x, y, and z)
- DC-Motor (Phil. Welbroken)
- HV 4 measurement system (Zeiss, Oberkochen)
- WA 20 destructive measurement transducer
- Splint 11 channel measurement unit
- German 32 software V2.1 (HDM, Barmstedt)
- Local reference frame for occlusal contact during baseline measurements
- Ten measurements each in regions 1, 2, 14, 16, 17, 18, 19, 20, 90, 100, 150, 1
- Splint positioned on movement base

Conclusions
- The present study clearly confirms the good wear resistance of the new resin splint material obtained in a previous in vitro study (OTTl et al. Dtsch Zahnärztl Z 57: 542 (1997))
- Good wear resistance is of great significance for maintaining the therapeutic mandibular position during the treatment period (Figs. 3a and 4).
Where do I begin?
PREVALENCE OF OBESITY AMONG INNER CITY LATINO CHILDREN AND ADOLESCENTS

Nazar M. Mirza MD, ScD; Jul Merchant MS, Leila Bekar, PhD
Children's National Medical Center and George Washington University School of Medicine and Health Sciences, Washington, DC

Background
Obesity is a multidisciplinary and public health problem facing children and adolescents in the U.S. Of particular significance is the increasing prevalence of obesity and its complications among the Latino population. Although this ethnic group shares a strong cultural and social background with other children of similar age, the unique complexity of this growing demographic group is often overlooked. As a result, the prevalence of obesity and its related complications in this group may be higher than in non-Latino White children, yet there has been little research on obesity among Latinos overall or in specific subgroups. This study focused on overweight and obesity among Latino children and adolescents aged 5-19 years.

Methods
We examined the prevalence of overweight and obesity among Latino children and adolescents aged 5-19 years in the Washington, D.C. area. We conducted a survey of 1,000 Latino children and adolescents aged 5-19 years, stratified by age and gender, from three different geographic areas: the District of Columbia, Maryland, and Virginia. The children were selected based on their participation in the Washington, D.C. Healthy Children Study, which included children from low-income families.

Results
The overall prevalence of overweight and obesity was 38.7% (25.6% overweight and 13.1% obese) among Latino children and adolescents aged 5-19 years. The prevalence of overweight was higher among boys (41.9%) than girls (35.5%), and the prevalence of obesity was higher among girls (15.3%) than boys (9.9%). The prevalence of overweight and obesity varied by age, with the highest prevalence among adolescents aged 15-19 years (44.6% overweight and 17.4% obese). The prevalence of overweight and obesity was also higher among children of working-class socioeconomic status compared to those of lower-income status.

Conclusions & Recommendations
The prevalence of overweight and obesity among Latino children and adolescents aged 5-19 years is higher than in non-Latino White children. This study highlights the need for targeted intervention programs to address the obesity epidemic in this population. Future research should focus on understanding the factors contributing to the higher prevalence of overweight and obesity among Latino children and adolescents, and developing effective prevention and treatment strategies.
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. Garfin, M.D., Islaire H. Lieberman, M.D., Mark A. Reiley, M.D., Joseph M. Lanz, M.D., Frank R. Phillips, M.D., Isabelle S. Mallonee, M.D., Hansen A. Yuen, M.D., Barton H. Sachs, M.D. for the Kyphoplasty Study Group

University of California, San Diego, Medical Center, San Diego, CA; Cleveland Clinic, Cleveland, OH; Berkshire Orthopedic Medical Group, Berkley, CA; Wexner for Special Surgery, New York, NY; University of Chicago Sapa Center, Chicago, IL; Wolf etc. Spine Surgery, Farmington, CT; State University of New York Health Science Center, Syracuse, NY; Tannays Medical Center, Albany, NY

BACKGROUND
- 50,000 VCF's per year
- 370,000 diagnosed, 65% due to pain
- 30% deformity associated with
  - Loss of height
  - Significant kyphosis
  - 25% increased mortality risk, Adv Int Med 1999
  - Current treatments ineffective
  - Open surgical fusion
  - Invasive, painful, requires hospitalization
  - Effective only for fractures that are mobile
  - Salt-alkali cement fill
  - Doesn't work: not fillable, requires repositioning
  - High cost, need for repeat surgery in patients
- 10% of fractures show up
- 10% of patients experience pain

KYPHOPLASTY
- Kyphoplasty is a minimally invasive procedure performed by trained radiologist under fluoroscopic guidance.
- It involves the injection of a vertebral body cement to reduce pain and increase height.
- The procedure is performed under local anesthesia.
- Vertebral body cement is injected into the vertebral body to reduce pain and increase height.
- The goal of kyphoplasty is to restore height, reduce pain, and improve mobility.

STUDY DESIGN AND METHODS
- A prospective, multi-center study
- Inclusion criteria:
  - Patients with confirmed VCF
  - Age ≥ 50 years
  - No prior kyphoplasty
- Exclusion criteria:
  - Active malignancy
  - Severe osteoporosis
  - Previous vertebral compression fracture
- Outcome measures:
  - Pain relief
  - Improvement in mobility
  - Radiographic parameters

PRELIMINARY RESULTS
- Overall pain relief:
  - 75% of patients reported significant pain relief
- Improvement in mobility:
  - 60% of patients reported improved mobility
- Radiographic parameters:
  - Height restoration:
    - 80% of patients achieved a greater than 20% increase in vertebral height

CONCLUSIONS
- Kyphoplasty is an effective treatment option for the management of VCF.
- It offers a minimally invasive approach to pain relief and height restoration.
- Further research is needed to assess long-term outcomes and durability of the procedure.
Poster title goes here, containing strictly only the essential number of words...

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

Introduction

Here...

- Check with conference organizers for application deadlines, submission guidelines, and other important details.
- Prepare your abstract and any supporting documents as per the guidelines provided.

Method

- Any methodology or experimental setup used in your research.
- Include details on materials, equipment, and procedures used.

Results

- Present your findings in a clear and concise manner.
- Use graphs, tables, and images to illustrate your results.

Conclusion

- Summarize the key findings and their implications.
- Highlight any future work that needs to be done.

Acknowledgments

- Thank any individuals who contributed to your work.
- Include any relevant references or data sources.
Oh my gawd!
WHICH IS MORE IMPORTANT: NUMBER OF PATCHES OR CONNECTIVITY?

Darwin Kalinak, PBS Student

INTRODUCTION AND OBJECTIVES

The program is a collection of demographic patches, in which each patch is associated with specific characteristics. In the long-term stability of the system, patches are connected by adding one or more barriers or by introducing the number of migration patterns between them.

THE PROGRAM

A migration pattern is the result of a series of events, such as population changes or environmental factors. The program is a collection of demographic patches, in which each patch is associated with specific characteristics. In the long-term stability of the system, patches are connected by adding one or more barriers or by introducing the number of migration patterns between them.

ASSUMPTIONS AND LIMITATIONS

- Additional migration patterns are introduced by adding one or more barriers or by introducing the number of migration patterns between them.
- The program is a collection of demographic patches, in which each patch is associated with specific characteristics. In the long-term stability of the system, patches are connected by adding one or more barriers or by introducing the number of migration patterns between them.

THE ISSUE

A migration pattern is the result of a series of events, such as population changes or environmental factors. The program is a collection of demographic patches, in which each patch is associated with specific characteristics. In the long-term stability of the system, patches are connected by adding one or more barriers or by introducing the number of migration patterns between them.

RESULTS

The number of patches is an important factor in determining the stability of the system.

CONCLUSIONS

The number of patches is an important factor in determining the stability of the system.
I’ve fallen, and I can’t get up
Your Ingenious Teaser Right Here to Woo Them Down to the Body

Thamnophisaurus albolordularis

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 seconds' reading! Use active voice when writing the text. textsize: 34 p 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 Newscore at University Library for help with layout and image enhancement. Forprintouts and professional photographers contact Photoservice. For more information:

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 Monaco 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 him/her with more detailed information in the form of handouts or printed articles. Include references on your handout instead of your poster.

Gorgeous!
LESSONS LEARNED FROM AIRWAY PRESSURE RELEASE VENTILATION (APRV)

INTRODUCTION
Airway pressure release ventilation (APRV) 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 of resolving hypoxemia and hypercapnia.

METHODS
Consecutive patients transitioned from either volume or pressure-targeted ventilation to APRV (Drager Evita 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 (pO2 ≥ 60 torr and FiO2 ≥ 0.9) were a P1High at the prior plateau pressure, a T1High of 0.8 sec and a T1Low of 0.6 sec. Hypercapnic (pCO2 ≥ 55 torr and pH ≤ 7.33) patients were set at a T1High of 5.0 sec and a T1Low of 1.0 sec. Settings were adjusted to resolve hypoxemia and hypercapnia. IRR approved abstracted data included principal diagnoses, ventilation 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 (2).

RESULTS
Demographics

% Hypoxemia | 100%
% Hypercapnia | 100%
Time to SO2 < 90% | ≤ 1 min
Time to pO2 > 80% | ≤ 1 min
Time to FiO2 < 0.4 | ≤ 1 min
Time to pH < 7.3 | ≤ 1 min
Time to max Δ pCO2 | ≤ 1 min
Mean change in V̇E | > 3 L x 90 L/min

Transport Safety

% of Patients | < 1%
Complications

% of Patients | < 1%
Complications | < 1%

CONCLUSIONS
1. APRV is a safe rescue mode for hypoxic or hypercapnic respiratory failure and requires a significantly lower V̇E than conventional ventilation.
2. Decreasing release phase volumes and a rising pCO2 are strong indicators of pneumothorax in a patient on APRV. Routine end-tidal CO2 monitoring is recommended.
3. Preparation for safe intra-hospital transport may be keyed to the PEEP required for oxygenation and ventilation. Patients requiring a PEEP > 20 cm H2O should be transported on the ventilator.

Welcome to the 80’s
Fer sure!
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