

Poster Presentations



On Moodle

Power point Templates:

Template 1: 3 Column, 40" x 36"

Template 2: 3 Column, 40" x 36"

Template 3: 3 Column, 40" x 36"



Poster design programs...

- Power point – easy, sometimes poor resolution
- Input graphs, text, easy to design, edit and move objects around

POSTER 3

CORNELL POLYMER OUTREACH PROGRAM

POSTER SESSION
JULY 23, 2005

SIMULATIONS OF POLYMER NETWORKS WITH A BROAD, CHAIN LENGTH DISTRIBUTION

Changyong Meng, Claude Cohen and Fernando Escobedo
School of Chemical and Biomolecular Engineering

We have conducted molecular simulations of cross-linked polymer networks with a bimodal chain length distribution. Short and long chains with lengths differing by an order of magnitude exist at a typical network. Such networks have not been experimentally demonstrated to have superior mechanical properties (modulus and toughness) as compared to the corresponding aperiodic networks. The results of this experiment are not well understood. It is also not clear which combination of mechanical properties is most important and will yield the best network. We have systematically explored networks with a range of chain lengths in varying proportions to explore the causes of mechanical enhancement and to optimize mechanical properties. Two possible reasons for better mechanical properties have been proposed in the literature. First, extensibility is the most critical and dominating of short chains. When the short chains are so short as to be non-Gaussian, they reach their maximum extensibility at smaller deformations than longer chains. This makes the network more efficient to deform under a lower stretch. Also, short chains tend to cluster where they contribute most of the elastic force in the network while the long chains contribute most of the volume fraction - short chain clusters act as reinforcing regions to make the network stronger. We changed chain lengths and proportions of long and short chains to explore the contributions of the two mechanisms. We also studied the microscopic structure of the volume fraction and studied how it varies with the chain length. The results indicate that for the mechanical enhancement is the more extensibility of short chains and their clustering predicts short chains have considerable deformation but do not improve mechanical properties.

[illegible]

Poster Outline

- Title and Author
- Introduction or Background (**Not critical for QAC380**)
- Research questions or hypotheses
- Methods (Sample, Measures and Analyses)
- Results
- Discussion (findings in context – research and limitations)
- Conclusions or Implications
- References (**if you have any**)

Title ...

The Association between Psychiatric Disorders and
Nicotine Dependence

Do Psychiatric Disorders Moderate the Relationship
Between Cigarette Exposure and Nicotine
Dependence?



Research Questions/Hypotheses

- Which psychiatric disorders are independently associated with nicotine dependence after adjusting for comorbidity?
- Do psychiatric disorders moderate the association between smoking quantity and nicotine dependence?



Methods

Sample

- ▣ The sample was drawn from the **first wave** of the **National Epidemiologic Study of Alcohol and Related Conditions (NESARC)**, a nationally representative sample of **non-institutionalized adults** in the US.
- ▣ Young adults (age 18 to 25) who reported daily smoking in the past year (**n=1 320**).

Methods

If you data managed, talk about final construct!!

Measures

- ▣ Lifetime psychiatric disorders were assessed using the NIAAA, Alcohol Use Disorder and Associated Disabilities Interview Schedule – DSM-IV (AUDADIS-IV) (Grant et al., 2003, Grant et al., 1995).
- ▣ The following disorders were examined: major depression, dysthymia, generalized anxiety disorder, panic disorder with or without agoraphobia, social phobia, specific phobia, alcohol dependence, other drug dependence (i.e. amphetamine, opioid, sedative, tranquilizer, cocaine, inhalant, hallucinogen, cannabis, or heroin), and antisocial personality disorder (ASPD).
- ▣ The tobacco module contains detailed questions on tobacco use and symptom criteria for DSM-IV nicotine dependence. Current smoking was evaluated through quantity (“On the days that you smoked in the last year, about how many cigarettes did you usually smoke?”).

Methods

Analyses

- **Chi Square analyses** were conducted to examine the bivariate association between each psychiatric disorder and nicotine dependence.
- **Logistic regression models** were then estimated to test the association between individual psychiatric disorders and nicotine dependence, with control for **comorbid psychiatric disorders, current smoking quantity, other tobacco use in the past year (i.e. cigars, snuff, pipe or chewing tobacco), age, ethnicity and gender.**
- Next, two-way interactions between psychiatric disorders and current smoking quantity were included in the models **to evaluate whether** the relationship between nicotine dependence and current smoking was similar for individuals with and without psychiatric disorders.

Results...

- Descriptives sparingly (univariate)
- Focus on multivariate and bivariate (these are your findings).
- Figures
 - Avoid loads of text
 - Share findings in a visual and penetrable way

Results (univariate)...

- 61% (SE 1.54) of daily, young adult smokers met criteria for DSM-IV nicotine dependence in the past year.
- 55% met criteria for one or more psychiatric disorder.
- The most common disorder among daily smokers was alcohol dependence (45% SE 1.9)

Results (bivariate)...

- When examining the association between lifetime major depression (**majordeplife - categorical**) and past year nicotine dependence (**tab12mdx - categorical**), a Chi Square analysis revealed that among daily, young adults smokers (**my sample**), those with past year nicotine dependence were more likely to have experienced major depression in their lifetime (36.2%) compared to those without past year nicotine dependence (12.7%), ($\chi^2 = 88.60$, 1 df, $p = 0.001$).

DO NOT INCLUDE TEXT IN RED

Reporting results....

- When examining the association between current number of cigarettes smoked (usquan - continuous) and past year nicotine dependence (tab12mdx - categorical), an Analysis of Variance (ANOVA) revealed that among daily, young adult smokers (my sample), those with nicotine dependence reported smoking significantly more cigarettes per day (Mean=14.6, s.d. ± 9.15) compared to those without nicotine dependence (Mean=11.4, s.d. ± 7.43), $F(1, 1313)=44.68$, $p=0001$.

DO NOT INCLUDE TEXT IN RED

Reporting results....

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TEXT IN BLUE WOULD BE INCLUDED ON THE POSTER

Reporting multivariate results...

- After adjusting for potential confounding factors, major depression ($\text{Beta}=1.34$, $p=.0001$) was significantly and positively associated with number of nicotine dependence symptoms.
- After adjusting for potential confounding factors, major depression ($\text{O.R. } 4.0$, $\text{CI } 2.94\text{-}5.37$) was significantly and positively associated with the likelihood of meeting criteria for nicotine dependence.

Discussion...

- Individuals with major depression, specific phobia and ASPD were more likely to have nicotine dependence than those without these disorders. This was consistent across levels of smoking.
- In contrast, alcohol dependence moderated the association between smoking quantity and nicotine dependence. Individuals with alcohol dependence were more likely to have nicotine dependence at low levels of daily smoking, but not at the highest levels when compared to individuals without alcohol dependence.
- These findings confirm the association between specific psychiatric disorders and nicotine dependence and extend this work by showing higher rates of nicotine dependence at relatively low levels of smoking for those with depression, specific phobia, ASPD and alcohol dependence.
- Notably, the present findings are based on cross-sectional data and do not reflect the smoking levels at which nicotine dependence emerges. Third variables not examined that may account for these associations cannot be ruled out.

Conclusions or Implications...

- Further research is needed to determine whether sensitivity to nicotine dependence is based on physical and/or psychological differences related to psychiatric disorders.

OR

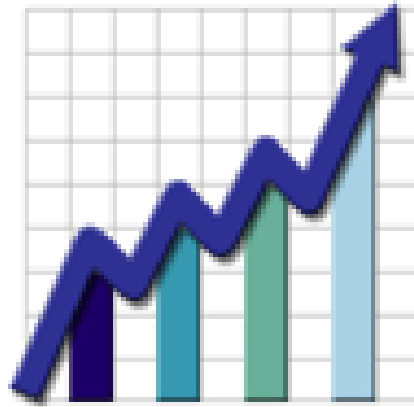
- Young adults with major depression, alcohol dependence, specific phobia or ASPD may be an appropriate group for smoking intervention that more directly targets emerging nicotine dependence symptoms at low levels of smoking.

Limitations

- Absolutely critical
- Clients need to understand the limits on their data so they don't over-interpret/misinterpret

For example:

- The sample size was too small to adequately test some hypotheses. Low statistical power could make a true association appear nonsignificant.
- Replication is critical in order to gain more confidence in the results found in this study.
- There are other possible ways to define perceptions. This research only tested one possible definition. Different definitions could produce different results.
- It is possible that participants may have interpreted a question differently from what was intended.



The Poster Layout/Design



1. What font to use

Type size should be **28 points** or larger:

18 point

20 point

24 point

28 point

36 point

1. What font to use

DO NOT USE ALL CAPITAL LETTERS
BECAUSE IT'S REALLY HARD TO READ!



2. Color

Dark letters against a light background work.



2. Color

Light letters against a dark background also work

2. Color

Avoid red-green combinations because a large fraction of the human population is red-green colorblind.

Lots of people can't read this –
and even if they could, it makes your eyes hurt.

2. Color

Other color combinations can be equally bad:

Other color combinations can be equally bad!

I See A Ghost

- More contrast on monitor than poster
- Colors to avoid with white are:

- ▣ Light Green

- ▣ Light Blue


- ▣ Pale Yellow




Usually can't read this...

- Your poster should have good contrast

2-3 colors, no more!



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 organisers on their specifications of size and orientation before you start your poster (e.g. maximum poster size and landscape portrait or square).

The page size of the poster template is A0 (841 x 1189 mm), landscape (horizontal) format. Do not change this page size. You can scale the text smaller or larger when printing. You must also ensure the poster is within a portrait or vertical or a square poster template.


Be as brief as you can, and use the space wisely. The space allocated by some conference organisers (e.g. 1.5m x 1.5m) is small. Do not make your poster bigger than necessary. Just tell them how big it is.

Method


Tips for making a successful poster ...

- Rewrite your paper into poster format. (e.g. Simply everything, and state clearly).
- Headings of more than 6 words should be in upper and lower case, not all capitals.
- Use a 12 point font size for text. Do not use bold characters in text.
- When laying out your poster, leave breathing space around your text. Do not overcrowd your poster.
- Try using photographs or colour graphs. Avoid long numerical tables.
- Spelling check and grammar check your proof.


Experiments on the use of the poster template. The poster is 1189 mm high and 841 mm wide. The poster is 1189 mm high and 841 mm wide. The poster is 1189 mm high and 841 mm wide.



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Results

Reporting the results ...

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


To insert an image into your poster, go to the menu bar and select Insert > Picture > From File. Then select the image you want to insert and press OK.

The best type of image to insert is a JPEG or TIFF. JPEG is the preferred format.


Be aware of the image size you are inserting. The average colour photo (13 x 18 cm or 10 x 15 cm) would be about 300 x 400 pixels (300 x 400). Call the University.

Do not use images from the web.

Experiments on the use of the poster template. The poster is 1189 mm high and 841 mm wide. The poster is 1189 mm high and 841 mm wide. The poster is 1189 mm high and 841 mm wide.



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Printing and Laminating

Once you have completed your poster, bring it to the University for printing. We will provide a 1.5m x 1.5m poster. You will need to provide the poster. The poster will be printed and laminated.

How to print your poster. The poster will be printed and laminated. The poster will be printed and laminated. The poster will be printed and laminated.

Cost ...

For poster printing and laminating charges contact the University.

Conclusion

For more information on:

Poster Design, Scanning and Digital Photography, and Image Editing.

Contact:

Medical Illustration Unit
 Prince of Wales Hospital
 Rhondda Cynon Taff
 Email: info@medil.co.uk
 Website: www.medil.co.uk

Acknowledgements

Just highlight the names and replace with your own. Replace with your own.

Whoa! Where's my sunglasses?

This attracts attention but wears out the eye



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.

3. Layout

Keep the layout and style as consistent as possible

Every section should have a heading.

Sentences are generally preferred.

Font type the same throughout

Excellent...

NC STATE JOURNAL



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 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 skin were swabbed to collect eggs and sperm for *in vitro* fertilization.
- Fertilized larvae were reared from a natural diet (crushed *Artemia*) 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 (18, 23, or 28°C) for 245 days.
- Counts were preserved and later sectioned at 2-6 microns.
- Sex-distinguishing markers were used to distinguish males (spermatogonia) from females (oogonia).

Histological Analysis

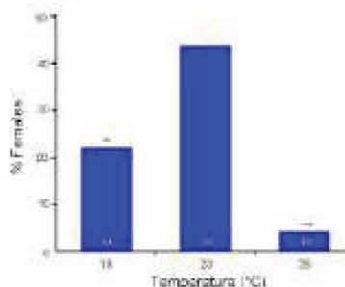


Male Differentiation



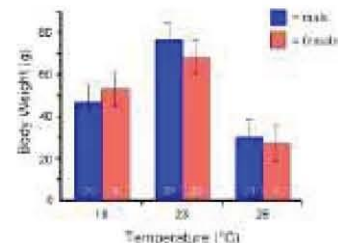
Female Differentiation

Temperature Affects Sex Determination



P < 0.01 and *P < 0.001 represent significant deviations 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) temperatures produced 22% females.
- Mid-range (23°C) temperatures 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 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 faster 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 Advanced Graduate Program of the National Marine Fisheries Service and the University of North Carolina Sea Grant College Program for financial assistance. Special thanks to Lisa Wilson and Beth Searcy for help with the work.



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Methods

- Southern flounder eggs were strip spawned to collect eggs and sperm for *in vitro* fertilization.
- Hatched larvae were weaned from a natural diet (rotifers/brine shrimp) to high protein pelleted 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).

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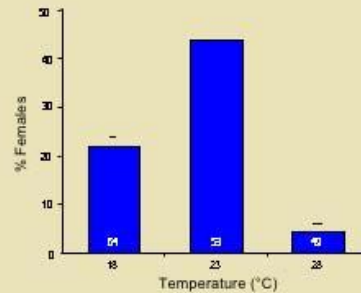


Male Differentiation

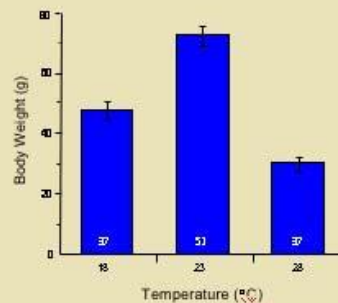


Female Differentiation

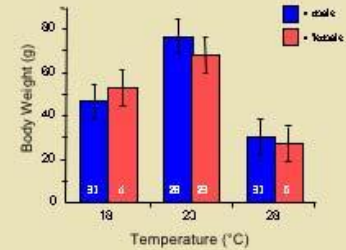
Temperature Affects Sex Determination



Rearing Temperature Affects Growth



Growth Does Not Differ by Sex



Results

- Sex was discernible in most fish greater than 120 mm long.
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This research was supported by the North Carolina Sea Grant Program, funded by the National Science Foundation (NSF) and the University of North Carolina Sea Grant College Program. We thank Dr. Russell Borski for his help and advice.

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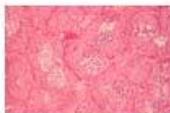
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Methods

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- 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~~).

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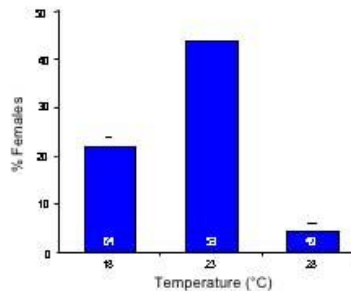


Male TSTestosterone



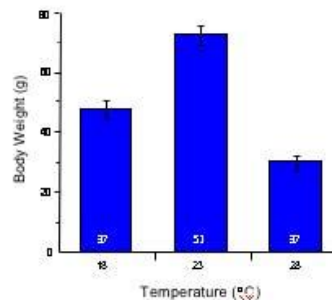
Female TSTestosterone

Temperature Affects Sex Determination

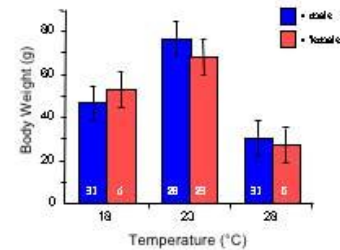


(* P < 0.01 and *** P < 0.001 represent significant differences from a 1:1 male:female sex ratio)

Rearing Temperature Affects Growth



Growth Does Not Differ by Sex



Results

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Acknowledgements

Thanks to the following people for their help and support:
 Nathan Martin, Peter Borski, and the University of North Carolina
 Research College, Eugene, Oregon, for their support and research
 on the flounder. Also, thank you to the staff of the
 Lab for their help and support.

No busy backgrounds...

NC STATE UNIVERSITY

Snook Growth in Habitats with Differing Abiotic Variability

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

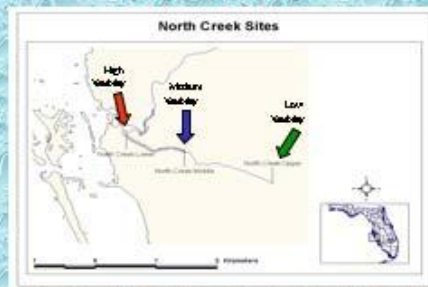


PROPOSED OBJECTIVE

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

STUDY SITES



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



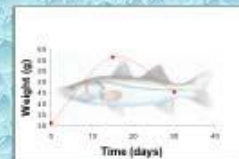
3. Fish are placed in cages within variable habitats at the research sites for 40 days



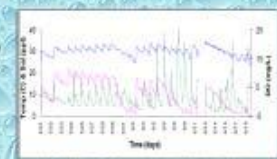
4. Fish are weighed and measured for growth

RESULTS

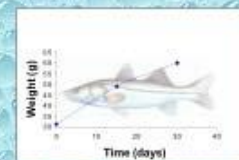
North Creek Lower (High Variability)



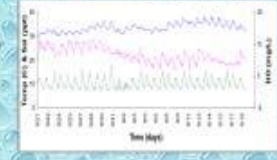
Negative Growth:
Dissolved Oxygen (mg/L)
0-22
Salinity (ppt)
2-21
Temp (°C)
25-34



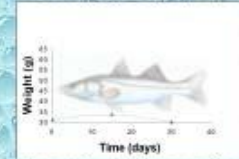
North Creek Middle (Medium Variability)



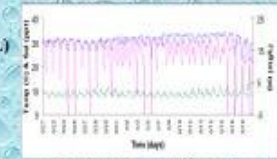
Positive Growth:
Dissolved Oxygen (mg/L)
0-8
Salinity (ppt)
16-28
Temp (°C)
30-38



North Creek Upper (Low Variability)



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



DO (mg/L) Sal (ppt) Temp (°C)

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



PREVALENCE OF OBESITY AMONG INNER CITY LATINO CHILDREN AND ADOLESCENTS

Nazim M. Mirra MD, ScD, Jill Merchant MS, Leslie Baker, PhD

Children's National Medical Center and George Washington University School of Medicine and Health Sciences, Washington, DC

Background

Obesity is a public health 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. Among this ethnic group, there is a strong sense of family and children are a priority. Success of the programs placed on children, there may be a misperception amongst that children would care for being healthy rather because such as TV. Obesity in children and adolescents is increasing and only because of the attention of health and professional organizations, but also because obese children tend to become obese adults. Since obesity is associated with many chronic diseases, it will be a serious concern, except on the health care system.

Purpose of Study: To measure the extent of obesity among inner city Latino children and adolescents (10-19 years) and to identify the need for an obesity intervention program.

Study Design

One hundred and twenty five photos of children and adolescents aged 10-19 years were randomly selected from well-child visits at Children's Hospital's Latino Market Clinic for the calendar year 2005. This photo was an average of 100-150 photos a month, approximately monthly are Latino, predominantly from El Salvador. Information extracted from the photos included height, weight, gender, race, Latino identification, history, and physical findings consistent with obesity complications. Body mass index (BMI) was calculated from measured weight and height. This analysis was done using SAS version 9.1.

Results

The distribution of the study sample is shown in Table 1. About 10% were females. The average age was 13.4 years with a SD of 1.4 and a range of 10 to 16.7 years. The mean BMI was 20.6 with a SD of 3.4 and a range of 13.1-32.9. Overall 40% of the children and youth were overweight (BMI ≥ 25) percentage of at risk for overweight (BMI = 25-29) percentage with no direct 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 higher for youth ages 10-14 years.

Table 1. Population statistics

Variable	Frequency (%)
Gender	
Male	104
Female	20
Age Categories (years)	
10-14	46
15-16	24
17-18	17
19-21	44
22-24	13
25-29	12

Results continued

Table 1 shows the distribution of overweight and at risk for overweight by age category. These data show that prevalence of overweight and at risk for overweight is high in children as young as 10-14 years. Although the prevalence of overweight and at risk for overweight is as lowest in the age groups 17-18 years, the difference was not statistically significant. However, from age 19-21 and 22-24 (significantly).

Obesity frequency was higher among the overweight than between overweight children and youth by gender. From 10-14 years, there was no difference in the frequency of the presence of other complications in the distribution of obesity, including diabetes, hypertension, and asthma. And, BMI ≥ 25 increases the overweight and non-overweight group. Only 7% of all the overweight children had other documented health conditions. The documented health conditions from 11.1-13.5 kg/m². Two percent of the children had four or more complications assigned, and the range was 17.1-17.5 kg/m². There was no significant association between overweight and youth or adolescent blood pressure in this small sample. Only 20% of the overweight children and youth were diagnosed and medications made to their charts regarding their overweight status by their health care providers. There were no referrals for overweight interventions noted in their charts.

Table 2. BMI distribution

BMI Categories	Frequency (%)
At Risk for overweight (BMI=25-29)	
1. Both sexes (n=17)	20.6
2. Male (n=16)	21.4
3. Female (n=1)	5.0
Overweight (BMI ≥30) Females	
1. Both sexes (n=13)	22.4
2. Male (n=10)	14.1
3. Female (n=3)	20.0

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

Age Category	At Risk for Overweight (%) (BMI=25-29) N=1	Overweight (%) (BMI ≥30) N=1
10-14	20.6	18.1
15-16	20.6	21.4
17-18	20.6	18.1
19-21	20.6	27.9
22-24	20.6	18.1
25-29	20.6	21.4

Conclusion & Recommendations

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

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

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BACKGROUND

- 300,000 VCFs per year
- 275,000 diagnosed, ~80% due to pain
- Spinal deformity associated with
 - Significant morbidity
 - 23% increased mortality (Kato, Ann Int Med 1999)
- Current treatments ineffective
 - Open surgeries fail
 - Medical management palliative
- Vertebroplasty
 - Bilateral transpedicular cement fill
 - Relieves pain
 - Requires high pressure and runny cement
 - High risk of cement leaks
 - Up to 73% where documented (Worst et al., Radiology 1997)
 - Repeat complications (Chen, J Int Neurosurg 1997)
 - 1.3% in osteoporosis
 - 10% in metastatic cancers

KYPHOPLASTY

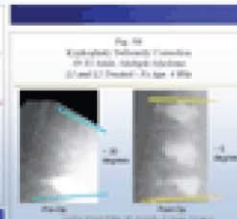
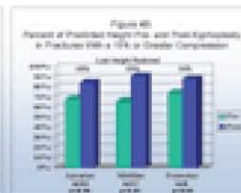
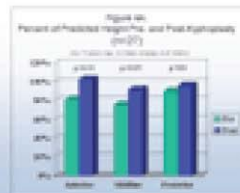
Kyphoplasty is a minimally invasive orthopedic procedure for reducing and fixing painful vertebral body compression fractures secondary to osteoporosis. Using a posterior approach, one or two inflatable Bone Tamps (Fig. 1) are inserted into the fractured vertebral body, generally using a bilateral transpedicular 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 live manual control and low pressure. The steps of Kyphoplasty are illustrated in Fig. 3.



STUDY DESIGN AND METHODS

A retrospective multi-center review to assess early outcomes with Kyphoplasty. Pain was localized by physical examination. The presence of marrow edema and collapse 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 10% 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 lost height restored. One set of X-rays by one surgeon (FMP) are used to show an example height restoration (Fig. 5A) and deformity correction (Fig. 5B). Device-related major complications from all procedures are reported. Patient leaks in the first 70 procedures performed by one surgeon (FSL) were assessed with X-ray and MRI.



PRELIMINARY RESULTS

- 1471 fractures treated (Table 1)
 - Average Patient Age: 74 months
 - Range: 10 days to 9 years
- 90% operated
- 90% patients profile Table 1
- Average pre-treatment pain: 10/10 (range 8-10)
- Average long follow-up: 1.5 years (range 1-10)
- More than 95% experience pain relief
- Median morbidity
 - 80% require pain medication at discharge
 - 80% 80% reduction of pain (Fig. 6A, B, 6B, 6C)
 - No increased incidence of adjacent fracture
 - 10% device related major complications
 - 3 cement leak
 - 1 catheter injury
 - 1 bleeding
 - 1 infection
 - 10% lost to follow-up (not long term)

CONCLUSIONS

Kyphoplasty is an important treatment option that provides immediate mobility 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 in 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.

LESSONS LEARNED FROM AIRWAY PRESSURE RELEASE VENTILATION (APRV)

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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 E404-4 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 $FO_2 \geq 0.9$) were a P_{high} at the prior plateau pressure, a T_{high} of 6.0 sec and a T_{low} of 0.8 sec. Hypercarbia ($pCO_2 \geq 55$ torr and pH ≤ 7.3) patients were set to 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 $p < 0.05$ (*).

RESULTS

Demographics

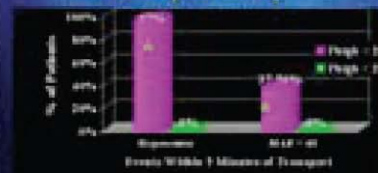


APRV

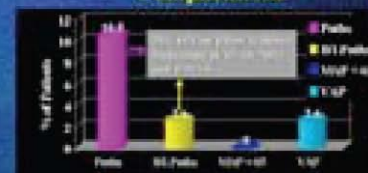


Element	Value
% Hypoxemia	98%
% Hypercarbia	12%
Time to $SpO_2 \geq 92\%$	7 ± 4 min
Time to $EtCO_2 \leq 6.8$	5.2 ± 6.9 hr
Time to $pCO_2 \leq 40$ torr	42 ± 7 min
Time to norm ΔpCO_2	76 ± 17 min
Mean change in V_T	-3.3 ± 6.9 L/min ²

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.

No Equations

$$\begin{aligned}
 X' &= A * B \\
 &= (A - (2^p - 1)) * (B - (2^q - 1)) \\
 &= AB - B(2^p - 1) - A(2^q - 1) + (2^p - 1)(2^q - 1)
 \end{aligned}$$

$$\begin{aligned}
 X'' &= (A - E_p)(B + E_q) \\
 &= AB + AE_q - BE_p - E_p E_q \\
 &= AB + AE_q - (BE_p + E_p E_q) \\
 &= AB + AE_q - \frac{E_p E_q}{2} - \left(BE_p + \frac{E_p E_q}{2} \right)
 \end{aligned}$$

$$f(X', X'') = \frac{\Gamma}{2} \sum \frac{\frac{X'^{\delta \alpha \max(\phi^2)}}{X''^{\Gamma^{3/2}}} \sum \epsilon \sqrt{AB + AE_q - \frac{E_p E_q}{2} - \left(BE_p + \frac{E_p E_q}{2} \right)}}{\int_R \phi \rho f(\vec{X} | S_k) \frac{1}{(2\pi)^{d/2} \sigma^d} * \frac{1}{P_k} \sum_{i=1}^{P_k} \exp \left[-\frac{(\vec{X} - \vec{W}_{ki})^T (\vec{X} - \vec{W}_{ki})}{2\sigma^2} \right]}$$

□ Ummm... okay...

Speelchick

- How samrt will poeple thikn yuo are?
- Watch for:
 - ▣ there/their/they're
 - ▣ too/to/two
 - ▣ its/it's
 - ▣ Have a friend/TA/Instructor check (and give them enough time to do it)

Final Sweep

- Spell Check and then spell check again!!
- Use “association” rather than “correlation”
- Remove all first person!
- Causal language
 - remove completely from your results
 - may be presented as a possibility in your Background or Discussion (in context of limitations).