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CAROLYN R. AHLERS-SCHMIDT, PHD

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Posters serve as...

An advertisement of your hard work

**Wow! Check
this out! Cool!
You must be
smart!!!**



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**A poster can be better than
an oral presentation**

More efficient because:

- you totally bomb at giving talks
- a large quantity of research to be presented
- it allows for more personal interaction
- it can be viewed while you get a drink
- it can hang in the department for years
- it can reach folks not in your field of research

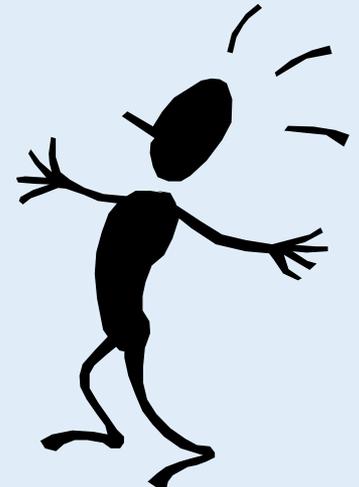


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How do I get months or years of research into my poster?

- Tell a short story
- Describe a few major points
- Arouse interest
- Limit to 250 - 350 words



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**Repeat after me:
Less is best!**

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It's basically an illustrated abstract



Visual Recognition of Child Weight: How Accurate are Medical Students, Residents, and Community Physicians?

KU WICHITA Deborah Kroeker, MD¹, Carolyn R. Ahlers-Schmidt, PhD¹, Traci A. Hart², MA,
Amy Chesser, PhD², Jennifer Brannon, MD¹
University of Kansas School of Medicine – Wichita¹; Department of Pediatrics²; Department of Preventive Medicine and Public Health

BACKGROUND:

- Obesity has overtaken malnutrition as the #1 nutritional disease in the US.
- From 1959 to 2002, 16% of children 2-6 years old were overweight (body mass index (BMI) ≥ 95% for age).
- Physicians are more likely to dialogue with parents about lifestyle modifications if the child has been noted to be above the normal weight category.
- This study aims to assess physician's ability to identify a child's appropriate weight class based on visual cues.

METHODS:

- Electronic surveys were sent via e-mail to the following:
 - 4th year medical students (MS4)
 - Family medicine (FM) & pediatric residents
 - FM and pediatric physicians
- Pictures of 3 preschool children were shown, and the respondents were asked to describe each child's BMI-for-age category (Table 2).
- The height, weight and age of each child were subsequently given, and the respondent was asked to describe the child's BMI-for-age weight category again.

RESULTS:

- A 43% (134/312) response rate was achieved.
- Participants included the following:
 - 54% female
 - Age range = 24 to 72 years
 - 89% white
 - Mean age = 35 years (SD = 10.9)

Table 1. Specialty by level of training

	% of total	FM	Pediatrics
MS4	16%	30%*	26%*
Resident	44%	67%	33%
Physician	43%	60%	40%

Rate their weight!
Can you identify the correct BMI category for these children?

Table 2. BMI Category Percentile Ranges

Weight Status Category	BMI Percentile Range
Underweight	< 5 th %ile
Normal	5 th %ile to < 85 th %ile
At Risk of Overweight	85 th %ile to < 95 th %ile
Overweight	≥ 95 th %ile

* Permission with permission from the UC Berkeley Longtin et al. Study.

RESULTS (cont.):

- 72% of respondents were "Somewhat Confident" in their ability to accurately predict BMI-for-age category.
- 96% thought BMI-for-age status was important or very important for children's overall health.
- Only 3% felt parents could accurately visually assess their child's weight category.
- 97% felt there were racial/ethnic differences in how people in general perceive children's weight, with 53% citing Hispanics as the least accurate.

RESULTS (cont.):

Table 3. Participant categorization of children into BMI groups

BMI Category	Male		Female		Lisa	
	Visual Only	Visual + #%	Visual Only	Visual + #%	Visual Only	Visual + #%
Underweight	0%	2%	12%	33%	3%	5%
Normal	25%	23%	86%	66%	76%	67%
At-Risk	63%	63%	3%	2%	23%	23%
Overweight	10%	10%	3%	0%	0%	5%

* Data include correct responses.

- No significant differences in accuracy were found by:
 - Age
 - Gender
 - Training level (student/resident/physician)
 - Specialty (family medicine/pediatrics)
 - Confidence level

LIMITATIONS:

- Cross-sectional surveys do not determine cause/effect.
- Physician surveys tend to have poor response rates.
- 2-dimensional, black and white pictures were used.
- All pictures were of white, non-Hispanic children.

CONCLUSIONS:

- Medical professionals have difficulty visually assessing a child's BMI-for-age weight status.
- Accuracy was greatest for the "normal" weight child.
- Physicians do not trust parental perception of weight, which is supported by the literature.
- This underscores the importance of calculating every child's BMI and plotting the results on a growth chart at healthy check-ups.

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Start putting together your 2 main elements



- 1) Simple, effective data displays
- 2) Small blocks of supporting text

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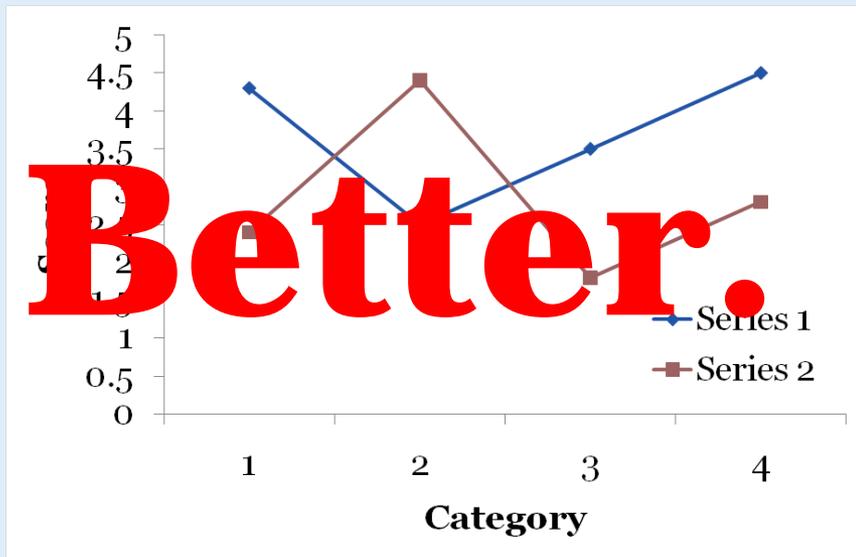
1) Simple, effective data displays

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



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1) Simple, effective data displays

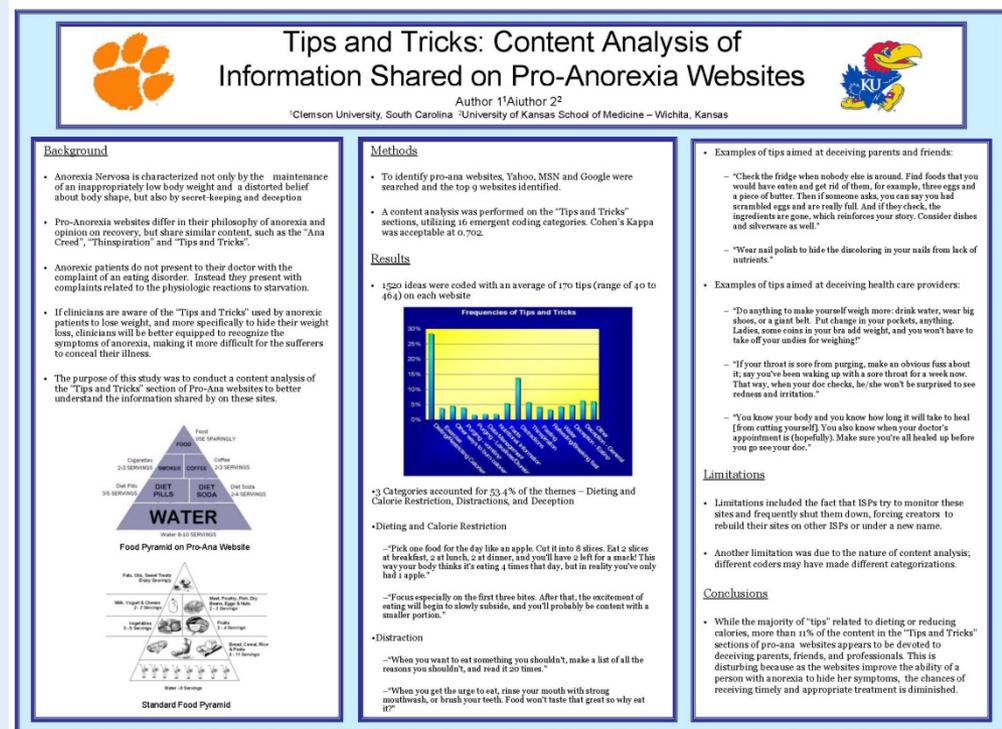


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2) Small blocks of supporting text

This version looks less like a novel...but the text could still be reduced substantially



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2) Insert text boxes onto the KUSM-W template to add text.

Under the "Insert" tab, you will see an option for "Text Box". Use the cursor to draw the box in the desired location.

Name of Presentation
Presenter Name, Associates, and Collaborators
Department name, KU School of Medicine-Wichita

Once I added this text box, I used the Drawing Tools: Format Tab to make the background white and add a border around the text .

Then I created a 2nd box and used the paint brush under the "Home" tab to match the format of the 1st box.

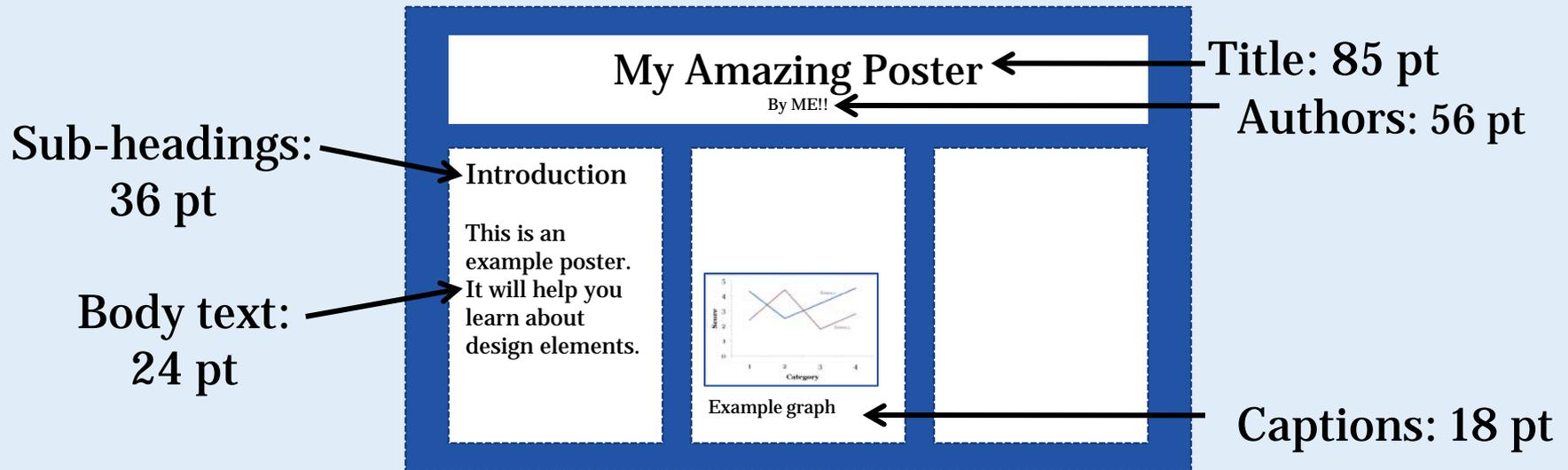
I adjusted the size under the Format Tab.

KU SCHOOL OF MEDICINE
WICHITA
The University of Kansas

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Remember, most of your audience may be there for the wine and cheese...so make your fonts at LEAST these sizes:



Same font, same style, left justified

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• Subheadings to include:

- Introduction
- Methods
- Results
- Discussion/Conclusions

• Additional subheadings:

- Abstract
- Objective/Aims
- Research Question
- Hypothesis
- Instruments
- Limitations
- Future Research
- References
- Acknowledgements
- Funding Source
- Contact Information

Misperceptions of Child Weight Status by Parents of Children with Public Insurance

Jennifer Brannon, MD, Carolyn R. Ahlwe-Schmidt, PhD and Mark Harrison, MD
University of Kansas School of Medicine – Wichita, Department of Pediatrics

Background

- One of the major health concerns facing children today is the long epidemic of overweight
- As rate of overweight (OW) and overweight children leads a pattern of chronic disease that can affect them for the rest of their lives including Type 2 diabetes, hypertension, dyslipidemia, metabolic syndrome, osteoarthritis, sleep apnea, myocardial infarction, stroke, depression, and psychosocial problems.
- Children with public health insurance or no insurance may have greater mortality and morbidity than people on private health insurance.
- Approximately 35% of patients of Wesley Pediatrics Clinic have public insurance.
- It is possible that parents of children on public insurance will be even less able to recognize perceive their child's weight than parents of children with private insurance, and this may lead to greater levels of child overweight than found in general studies.
- If parents do not realize that their children are overweight or obese, child do not parents that increased risk of morbidity and mortality related to excess weight, they will not seek options to address and correct the problem.
- The purpose of this study was to document the discrepancy between parents' perceptions and their children's actual weight status in a population predominantly insured by public insurance.

Methods

Data Instrument

- A 12-question, one single, multiple-choice survey was developed regarding health and safety of children.
- The primary question of interest addressed parents' perception of their child's weight status, but parents were directed to the exact topic of study in closed data.
- The survey was made available in both English and Spanish and was written below the six-grade language level.

Participants

- Parents had to be English or Spanish speaking, of least 18 years old, and the parent of a child age 2 to 12 years with an appointment at the Wesley Pediatrics Clinic (regardless of the reason for their visit).

Data Collection

- Parents were asked to complete the survey when they checked in to their child's appointment.
- Subsequent survey board approval was obtained from both Wesley Medical Center and the University of Kansas School of Medicine – Wichita.
- Surveys were collected from March to August of 2007.

Statistical and Definitions

- Body Mass Index (BMI) was calculated for the patients by using the weight(kg)(m²).
- Parent BMI results were classified into four gender-age bins by using the weight charts by the National Center for Health Statistics (NCHS) May 2000.
- Analyses were conducted using SPSS 15.0 for Windows. Frequencies, means and standard deviations were computed for demographic information, while chi-square statistics were computed for categorical and ordinal data.
- Multiple logistic regression was computed to determine the best predictors of parental misperceptions. Variables included were child's age, race/ethnicity, gender, and true BMI category.

Results

Data

- 210 surveys were collected.
- Only 241 surveys included the information necessary to study our primary topic: parent perception of child's weight status, child's weight and height.
- Average age of children in the study was 6.28 (SD = 2.78).
- Slightly more male children (52.50.4%) than female were evaluated.
- Only one percent of participants were Hispanic and 21% were African American, 21% were white, 4% "other", and the remaining 4% chose not to identify their ethnicity.
- The majority of surveys completed were in English (83.4%).

BMI

- Rate of low weight of the Wesley Pediatrics Clinic (BMI 5th percentile or below) was 20.2%, and the highest percentage of overweight children were African American (Table 2). However, chi-square analysis found no significant difference between ethnic/racial groups ($P = 0.382$, $n = 438$).
- Similar distributions of BMI were found based on gender, and again, no significant difference was found ($p = .991$, $n = 403$) (Table 3).

Parental Perception

- Amongst pediatric patients of WPC, more were correctly 39.4% of the time when describing perception of their child's weight status (Table 4).
- In fact, 38.4% underestimated their child's weight by one category, 17.4% underestimated by two categories, and 1.7% underestimated by three categories.
- Parents of underweight and normal weight children were more likely to accurately describe their child's weight classification than parents of overweight children, odds ratio 0.54 (95% CI 0.20 to 1.32, $p = 0.20$) and 0.63 (95% CI 0.23 to 1.74, $p = 0.35$) respectively.
- African American children were more likely to be correctly classified than Hispanic children, odds ratio 1.41 (95% CI 0.9 to 2.19, $p = 0.10$).

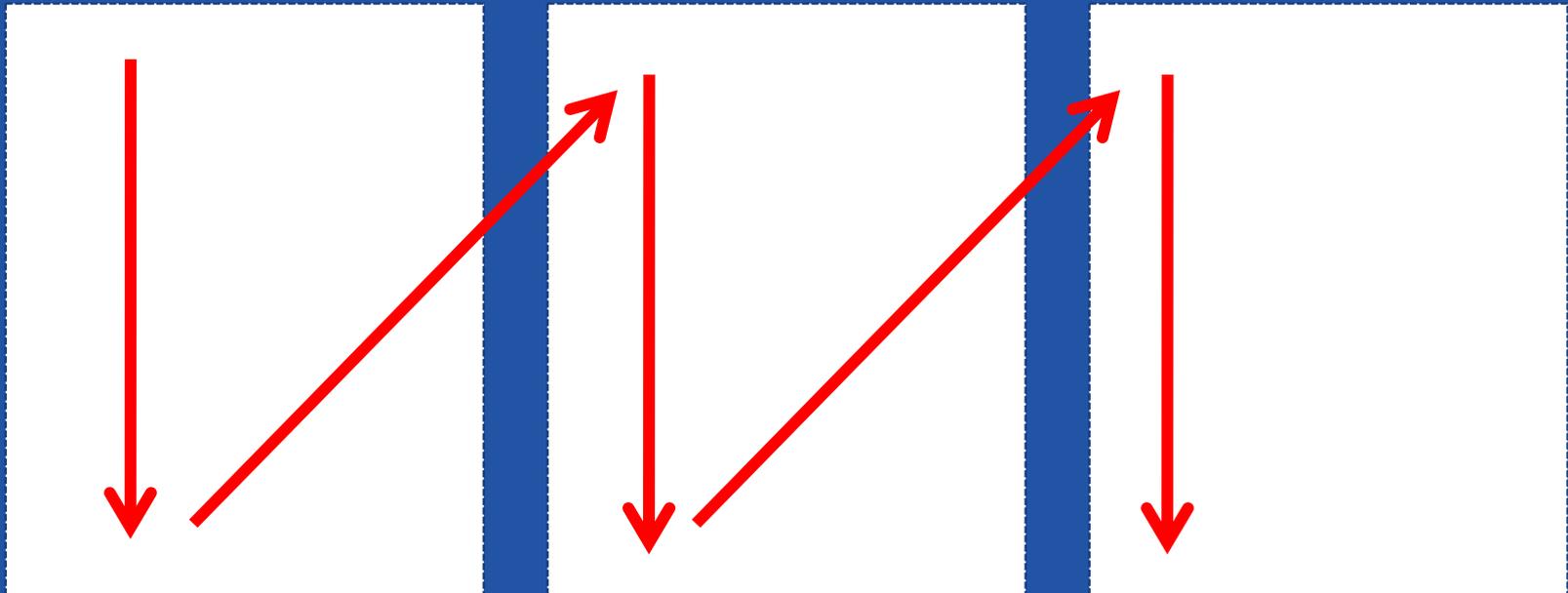
Conclusions

- Rates of overweight in our study (33.2%) were found to be higher than the national average and the data that has been published in recent articles.
- Rates of pediatric patients of Wesley Pediatrics Clinic were incorrect 60.2% of the time when describing their perception of their child's weight status, and many parents perceive under estimated their child's weight class.
- This leads us to the conclusion that we must do a better job of educating patients and their parents about their child's weight status.
- We must also educate them on the steps we can take together to prevent and/or reverse the trends.
- The identification of low rates of accurate parental perception of overweight in pediatric insured children should stimulate the development of appropriate prevention strategies as well as treatment strategies for decreasing childhood overweight.

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Poster Text Flow

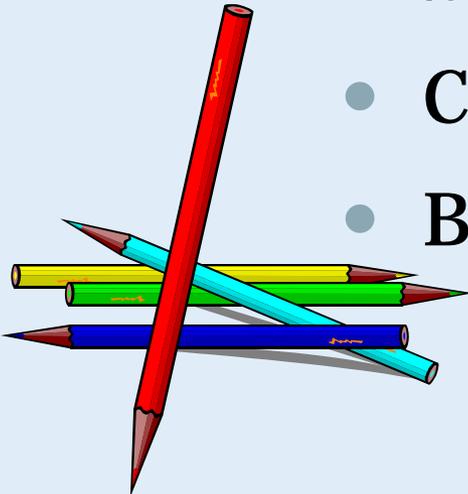
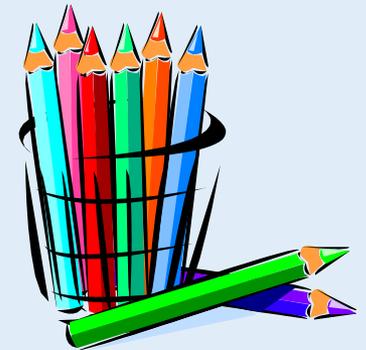


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Use color to make your poster
visually appealing

- 2 to 3 colors at most
- Contrast type to background
- Be careful with the primary colors



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**Use color to make your poster
visually appealing**

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

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Be aware of busy backgrounds

LOGO

Children's Themed Poster

John S. Doe, Jane Smith, & Joseph Doe
Name of the Institution or Organization, in this Space

Introduction

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Purpose

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Methods

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Tools

Pre- and post-program Nulla facilisi. Cum sociis natoque

Literature Cited

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Expected Results

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Disclosure

Authors of this presentation have the following to disclose concerning possible financial or personal relationships with commercial entities that may have a direct or indirect interest in the subject matter of this presentation

Additional information here about the authors or the name of the conference

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A picture is worth a 1000 words...

- Make sure you have the right resolution
 - ≥ 150 dpi but ≤ 350 dpi

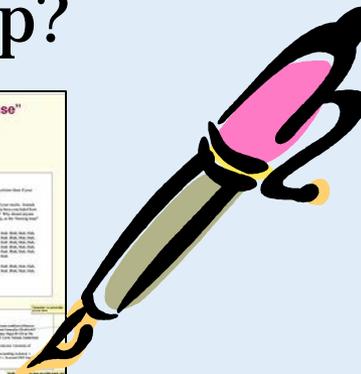
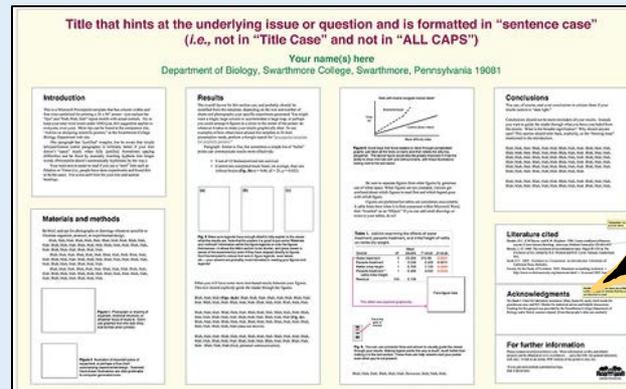


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Print out a letter size draft

- Use the “Fit to Page” print option
- If you can’t read it, the font is too small.
- Are the colors good?
- Do the main points pop?



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Poster survival kit

- Push pins/binder clips/tape
- Business cards
- 8½" x 11" handouts
- Conference name tag
- White-out
- Black pen
- Breath mints
- Bottled water



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Test your learning...

The Good

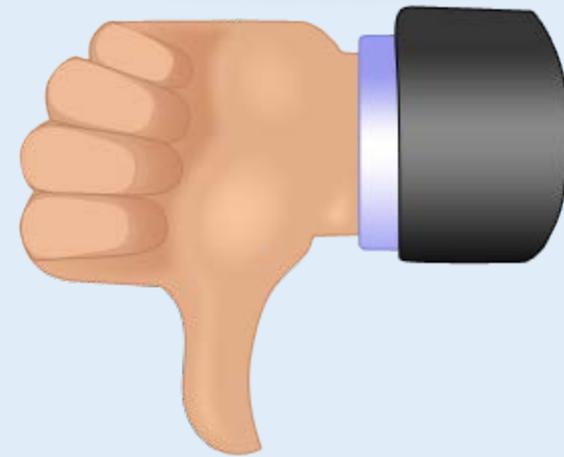
The Bad

The Ugly

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This one will soon be available in paperback from Amazon.com



Poor animal welfare positions illustrate the need for improved education of veterinarians



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London, UK, www.AnimalConsultants.org

ABSTRACT

Veterinarians are widely considered to be informed, rational authorities who possess expertise on virtually any topic relating to animals, including animal welfare. However, our survey of the positions of four of the world's leading veterinary associations on five important issues, namely: the close confinement of young hens in 'battery cages', of pregnant sows in gestation crates, of veal calves in crates, the cosmetic tail-docking of dogs, and the use of animals in scientific research and education, revealed that the positions of veterinary associations on animal welfare issues appear to be behind those of the general public. Likely causes include deficiencies in formal veterinary education. Although humane teaching methods are being introduced, harmful animal use in surgical and preclinical training remains commonplace in veterinary courses worldwide, and animal welfare and bioethics education remains minimal in most veterinary curricula. However, several initiatives, including formal, distance and online courses in animal welfare have been developed over the past decade, including the 'Concepts in Animal Welfare' syllabus, developed by British Veterinary and the World Society for the Protection of Animals (WSPA), which aims to assist with the teaching of animal welfare in veterinary healthcare workplaces.

INTRODUCTION

The importance of animal welfare is increasingly recognised by governments, national and international bodies, academic institutions and individuals around the world. However, it is this recognition more important than within the veterinary profession, which is privileged to occupy a position of great social influence on animal welfare issues. However, the profession has traditionally understood welfare primarily in the limited scope of animal health and productivity (Welfare, per se). These welfare are not necessarily apparent with great welfare, however, the majority of formal animal use is intensively confined in conditions subject to strong and increasing welfare-related criticisms. Consequently, the positions of veterinarians on animal welfare issues warrants closer scrutiny.

METHODS

We compared the positions of four veterinary associations and the general public on five animal welfare practices that have been identified by animal welfare scientists as posing serious welfare concerns: 'battery cages' for laying hens, gestation crates for pregnant sows, veal crates and nutritionally-deficient diets for 'veal' calves, the use of animals in scientific research and education, and the tail-docking of dogs.

The positions of the veterinary associations on these animal welfare practices were obtained from the web sites of the associations surveyed: the World Veterinary Association (WVA), the American Veterinary Medical Association (AVMA), the Australian Veterinary Association (AVA), and the British Veterinary Association (BVA).

We sought public positions on these five animal welfare practices by using the 'Google' internet search engine (www.google.com), with the search terms 'public opinion', 'battery cages', 'gestation crates', 'veal', 'animal experimentation' and 'tail docking dogs', respectively, to locate relevant articles published in the popular and scientific literature since 1990.

RESULTS

There was widespread and persistent public concern about many aspects of each of the five animal welfare practices, in all surveyed countries. In contrast, many of these specific concerns were not addressed clearly in the four veterinary associations' positions. All of the associations either lacked positions on, or were categorically opposed to, the close confinement of young hens, pregnant sows and 'veal' calves, although the AVA recommended group, rather than individual, housing of 'veal' calves. The only practice to which the public and veterinary associations appeared to share a common opposition was the cosmetic tail docking of dogs, although the AVMA did not take a firm stance against this. In the case of animal experimentation, both the general public and the veterinary profession appeared to support experimentation for human medical research to some degree, although public opinion remained very critical.

DISCUSSION

On the positions of veterinarians are not accurately represented by the veterinary associations surveyed, these results clearly indicate that veterinarians lag behind the general public in their desire for animal welfare reform. However, anecdotal evidence and some research indicates that a proportion of veterinarians do care deeply about welfare issues, and support animal welfare organisations, in some cases taking the lead on animal welfare issues. Furthermore, international veterinary bodies like the WVA, the Commonwealth Veterinary Association, the World Small Animal Veterinary Association and the Federation of European Companion Animal Veterinary Associations have all organised major animal welfare symposia in recent years.

Thus there may be some inconsistency between the apparent level of concern about animal welfare expressed by the surveyed veterinary associations, and the level of concern of individual veterinarians, and some other veterinary associations. Nevertheless, even if the surveyed associations do not fully represent the positions of the majority of veterinarians, these results appear to indicate that a substantial proportion of veterinarians lag behind the general public in their desire for the advancement of animal welfare issues.

We attribute this in part to deficiencies in the selection of veterinary students, inadequate education about the science of animal welfare, and dissemination of veterinary students to suffering during formal veterinary training.

Selection of veterinary students

The highly demanding nature of a veterinary education warrants the selection of students able to demonstrate a strong academic record of success. Generally speaking, such success is most easily demonstrated and quantified in advanced mathematics and science subjects, considered among the most difficult. Despite increasing animal concerns regarding animal welfare issues, about which veterinarians are widely expected by the general public to possess a considerable degree of expertise, selection criteria rarely assess candidates' understanding of animal welfare issues, including compassion for animals, or critical thinking ability. The results are that almost all veterinary students are academically very strong, particularly in the sciences, but do not necessarily possess knowledge of, or concern about, animal welfare issues, much different from that of the general student population.

Education of veterinary students

Despite increasing recognition of the importance of educating veterinary students about animal welfare issues, and of assisting their development of the critical reasoning skills needed to successfully regulate these controversies, the proportion of veterinary students receiving bioethics and critical reasoning training remains small.

A 'hidden curriculum' endorsing harmful animal use, on the other hand, remains commonplace in veterinary education worldwide. Students are frequently required to participate in harmful animal use in preclinical subjects such as anatomy, physiology, biochemistry and pharmacology. Students are often required to practice surgical and anaesthetic skills via anaesthetising healthy animals, conducting surgical procedures on them, and killing any survivors at the end (Knight, 2007).

Human alternatives include computer simulations, videos, 'ethically-sourced' cadavers (from animals euthanised for medical reasons or that have died naturally or in accidents), preserved specimens, models, non-invasive self-experimentation, and supervised clinical experiences. Humane veterinary surgical courses likely comprise a number of stages. In the beginning students learn basic manual skills such as suturing and instrument handling using boobyling boards, simulated organs, and other models. They then progress to simulated surgery on ethically-sourced cadavers, and finally, students observe, assist with, and then perform beneficial surgery under close supervision on real patients (frequently for assisting with animal shelter sterilisation programs), similarly to the training of physicians (Knight, 1999).

At least eleven studies published in veterinary or related journals have examined the ability of such humane teaching methods to impart knowledge or clinical or surgical skills to veterinary students. Nine assessed surgical training—historically the discipline involving greatest harmful animal use. 45.9% (5/11) demonstrated superior learning outcomes using more humane alternatives. Another 45.9% (5/11) demonstrated equivalent learning outcomes, and only one study demonstrated inferior learning outcomes. Twenty nine additional studies in which comparison with harmful animal use did not occur illustrated additional benefits of humane teaching methods in veterinary education, namely: less and cost savings, increased repeatability and durability of use, customisation of the laboratory experience, more active learning, facilitation of autonomous and life-long learning, improved attitudes towards computers, alternatives to animal use, and increased employer perception of computer literacy (Knight, 2007).

Nevertheless, despite the introduction of humane teaching methods into many veterinary courses worldwide, the great majority of veterinary students are still required to harm and kill animals during their education. The 'veterinarian' message consequently delivered is that harming and killing healthy animals is not only condoned, but is required, to become a veterinarian, and further, that animal welfare concerns are subservient to human interests of questionable merit.

Unsurprisingly, the decreasing awareness of veterinary students of animal welfare issues (specifically, the number, pain, fear and boredom of dogs, cats and cows over the duration of their veterinary courses (Paul and Podobnosky, 2006)), the decreased likelihood of fourth year students to provide analgesia when compared to second or third year students (Wheeler et al., 1998), and the abolition of the normal development of moral reasoning ability during the four years of veterinary school (Sief et al., 1991), have all been described in veterinary journals. Such desensitisation-related phenomena are psychological adaptations that enable previously caring students to withstand what could otherwise be intolerable psychological stresses resulting from requirements to harm and kill sentient creatures in the absence of overwhelming necessity (Coppola, 2004).

Increasing animal welfare standards within the veterinary profession

At least five strategies appear warranted to increase animal welfare standards within the veterinary profession:

1. Some weighting must be accorded to awareness of animal welfare issues, positive attitudes towards animal welfare, and critical reasoning ability, during the selection of veterinary students.
2. These foundations must be built upon during formal veterinary education by the incorporation of animal welfare, bioethics and critical reasoning courses into veterinary curricula. The 'Concepts in Animal Welfare' syllabus created by WSPA and University of Bristol School of Clinical Veterinary Science in 2003 (revised in 2007), which is being integrated into many veterinary courses worldwide, provides an excellent example (De Boo and Knight, 2006). The comprehensive syllabus includes: (i) non-covering pain and compassion animal matters, (ii) the use of animals in scientific research, experimentation, and related issues. The methodology is interactive and promotes critical analysis of issues from different perspectives.
3. The participation of practicing veterinarians in appropriate post-graduate training should be encouraged through the provision of continuing education credits and other formal recognition. The UK Royal Veterinary College (RVC) distance education course in Animal Welfare and the Michigan State University online animal welfare course provide examples of courses available via the internet. Appropriate post-graduate training includes the RVC Certificate and Diploma in Animal Welfare Science, Ethics and Law, the Australian College of Veterinary Scientists Membership in Animal Welfare Science, the MSc Ethics in Veterinary Medicine, the MSc in Applied Animal Behaviour and Animal Welfare at the University of Edinburgh.
4. The replacement of remaining harmful animal use in veterinary education with humane teaching methods must be accelerated.
5. Additionally, veterinarians must become more actively involved in their professional associations, in order to ensure these accurately reflect their positions on animal issues.

REFERENCES

Key reference: De Boo J and Knight A. 'Concepts in Animal Welfare', a syllabus in animal welfare science and ethics for veterinary students. *J Vet Med Educ* 2006; 23(4): 401-7.

Other references: available on request.

Photo credit: Jaemin de Boo & WSPA.



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Medical Device Plug-and-Play: Safety Modeling and Analysis




Medical Device Plug-and-Play (MD PnP)

Motivation

- Medical devices growing increasingly complex
- Medical devices still operate in isolation from other medical devices
- Medical personnel are responsible for the coordination between different devices
- Coordination requires continual and timely monitoring of devices and patient status
- Human limitations lead to unnecessary adverse events, near misses, & suboptimal care

Technological Goals

- Automate device recognition, communications, and readiness assessment
- Bring medical equipment into service without tedious and error-prone setup
- Algorithms, filter, and log sensor data and device alarms
- Provide a comprehensive summary / record of patient and device status
- Closed-loop control of patient treatment and physiology
- Coordinate medical devices to optimize the quality of patient care
- Enforce interoperable safety requirements and safety interlocks between devices
- Have devices safely respond to system errors and provide meaningful status reports

Case Study

Medical Device Mobile Plug-and-Play Platform™ (MD MP3™)

- Research platform for investigating safety issues
- Interoperable use scenario for a PCA (patient controlled analgesia) system
- Medical devices connected:
 - Infusion Pump – Controls the drug dosage administered to the patient
 - Flow Meter – Monitors the output flow from the infusion pump
 - Pulse Oximeter – Monitors patient oxygen and heart rate
 - Capnometer – Monitors patient respiratory CO2 and respiration rate
 - Blood Pressure Cuff – Monitors patient blood pressure

Safety concerns

- Can unreliable sensors decrease the reliability of the PCA function?
- What additional device and architecture requirements are needed for safe interoperability?

Project Scope and Challenges

Medical devices initiate fail-safe action

Medical devices retrieve patient history and status to provide optimal care



MD PnP has a broad scope

- No consensus exists on the best architecture for plug-and-play

Twin Goals of MD PnP: Interoperability of mixed criticality devices should improve system effectiveness / performance, but not degrade safety / reliability

Safety and Performance Implications

- Ensures that system safety does not depend on non-safety critical devices
 - Pulse oximeter failure should not lead to unsafe infusion pump operation
- Maximizes system effectiveness with the available resources
 - Valid pulse oximeter data should be used to improve infusion pump operation
- Facilitates "hot swappability" of replacement upon detection of device failure

Safety and effectiveness properties are architecture dependent. We use computer-aided verification techniques to evaluate / guide future MD PnP architectures and configurations.

Models and Transformations

Deficiencies of Current Modeling Techniques for PnP

- Architectural modeling
- UML - limited expression for failures and behavior relations
- AADL - limited expressiveness for open-ended extensibility
- Formal modeling
- UPPAAL - no explicit definitions for component interfaces
- Maude - no standard for modeling behavior

Defining a custom model for PnP

- Specify devices and the types of message they send and receive
- Logical constructs will model similar to push-injecting
- Specify device behavior via Network of Timed Automata (NTA)
- Specify device failures and their impact on the state of the device

Use the strengths of existing languages for analysis and programming

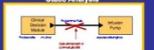
Safety Verification

- Generated UPPAAL model allows model checking of CTL properties
- Generated AADL model allows static analysis of component connections

Model Checking



Static Analysis



Safety Verification Results

Example Safety Property

If the infusion pump is currently administering medication and an error occurs in the flow rate, then an alarm will be triggered.

CTL Expression: $\text{P}(\text{!}(\text{flow_rate_error} \wedge \text{!}(\text{alarm_triggered})))$

UPPAAL verification: true

Future Work

- Identify architectural patterns for safety to help support conformance with MD PnP standards
- Incorporate physical environment assumptions and hardware bindings for refining architectural models

Textual MD PnP Model

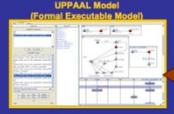
High level state of component most commonly

serialize / deserialize

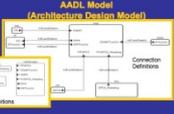
XML Representation of MD PnP Model



UPPAAL Model (Formal Executable Model)



AADL Model (Architecture Design Model)



automatically convert model to other languages for programming and analysis

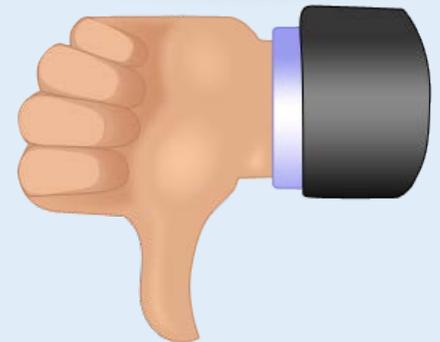
Today's Typical Medical Environment



Term Glossary

- PnP - Plug and Play
- MD PnP - Medical Device PnP
- MD MP3 - Medical Device Mobile Plug-and-Play
- NTA - Network of Timed Automata
- XML - Extensible Markup Language
- AADL - Architecture Analysis and Design Language
- UML - Unified Modeling Language
- UPPAAL - a model checking tool
- Maude - a logic language and tool
- CTL - Computational Tree Logic

AAHHH!!!



Scientific Poster Design



Snore...



Insert Poster Title for Medical Student Research Day

Insert Names
Insert Departments or Other Credits

 Wake Forest University Medical Center

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Scientific Poster Design



This will do.

Visual Recognition of Child Weight: How Accurate are Medical Students, Residents, and Community Physicians?



Deborah Kroeker, MD¹, Carolyn R. Ahlers-Schmidt, PhD¹, Traci A. Hart², MA,
Amy Chesser, PhD², Jennifer Brannon, MD¹

University of Kansas School of Medicine – Wichita: ¹Department of Pediatrics; ²Department of Preventive Medicine and Public Health

BACKGROUND:

- > Obesity has overtaken malnutrition as the #1 nutritional disease in the US.
- > From 1999 to 2002, 16% of children ≥ six years old were overweight (Body Mass Index (BMI) ≥ 95% for age).
- > Physician's are more likely to dialogue with parents about lifestyle modifications if the child has been noted to be above the normal weight category.
- > This study aims to assess physicians' ability to identify a child's appropriate weight class based on visual cues.

METHODS:

- > Electronic surveys were sent via e-mail to the following:
 - > 4th year medical students (MS4)
 - > Family medicine (FM) & pediatric residents
 - > FM and pediatric physicians
- > Pictures of 3 preschool children were shown, and the respondents were asked to describe each child's BMI-for-age category (Table 2).
- > The height, weight and age of each child were subsequently given, and the respondent was asked to describe the child's BMI-for-age weight category again.

RESULTS:

- > A 43% (134/312) response rate was achieved.
- > Participants included the following:
 - > 54% Female
 - > 89% White
 - > Age range = 24 to 72 years
 - > Mean age = 36 years (SD = 10.9)

Table 1: Specialty by Level of Training

	% of Total	FM	Pediatrics
MS4	16%	35%*	26%*
Resident	43%	67%	33%
Physician	41%	60%	40%

* indicates inter-rater agreement

Rate their weight!

Can you identify the correct BMI category for these children?

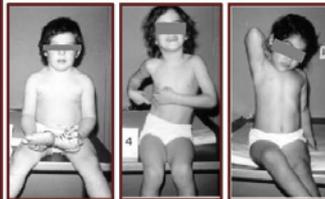


Table 2: BMI Category Percentile Ranges

Weight Status Category	BMI Percentile Range
Underweight	< 5 th %ile
Normal	5 th %ile to < 85 th %ile
At Risk of Overweight	85 th %ile to < 95 th %ile
Overweight	≥95 th %ile

* Pictures used with permission from the UC Berkeley Longitudinal Study.
http://www.berkeleylongitudinalstudy.org/

RESULTS (cont.):

- > 72% of respondents were "Somewhat Confident" in their ability to accurately predict BMI-for-age category.
- > 96% thought BMI-for-age status was important or very important for children's overall health.
- > Only 3% felt: parents could accurately visually assess their child's weight category.
- > 97% felt: there were racial/ethnic differences in how people in general perceive children's weight, with 55% citing Hispanics as the least accurate.

RESULTS (cont.):

Table 3: Participant categorization of children into BMI group

BMI Category	Mike		Mindy		Lisa	
	Visual Only	Visual + #'s	Visual Only	Visual + #'s	Visual Only	Visual + #'s
Underweight	0%	2%	12%	31%	1%	5%
Normal	24%	21%	86%	68%	78%	67%
At Risk of Overweight	61%	43%	1%	7%	21%	23%
Overweight	15%	34%	1%	0%	0%	5%

* Rows indicate correct responses

- > No significant differences in accuracy were found by:
 - > Age
 - > Gender
 - > Training level (student/resident/physician)
 - > Specialty (family medicine/pediatrics)
 - > Confidence level

LIMITATIONS:

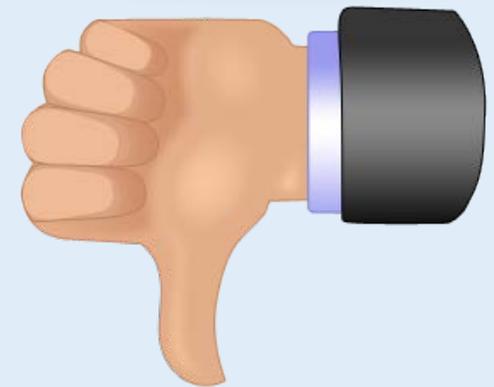
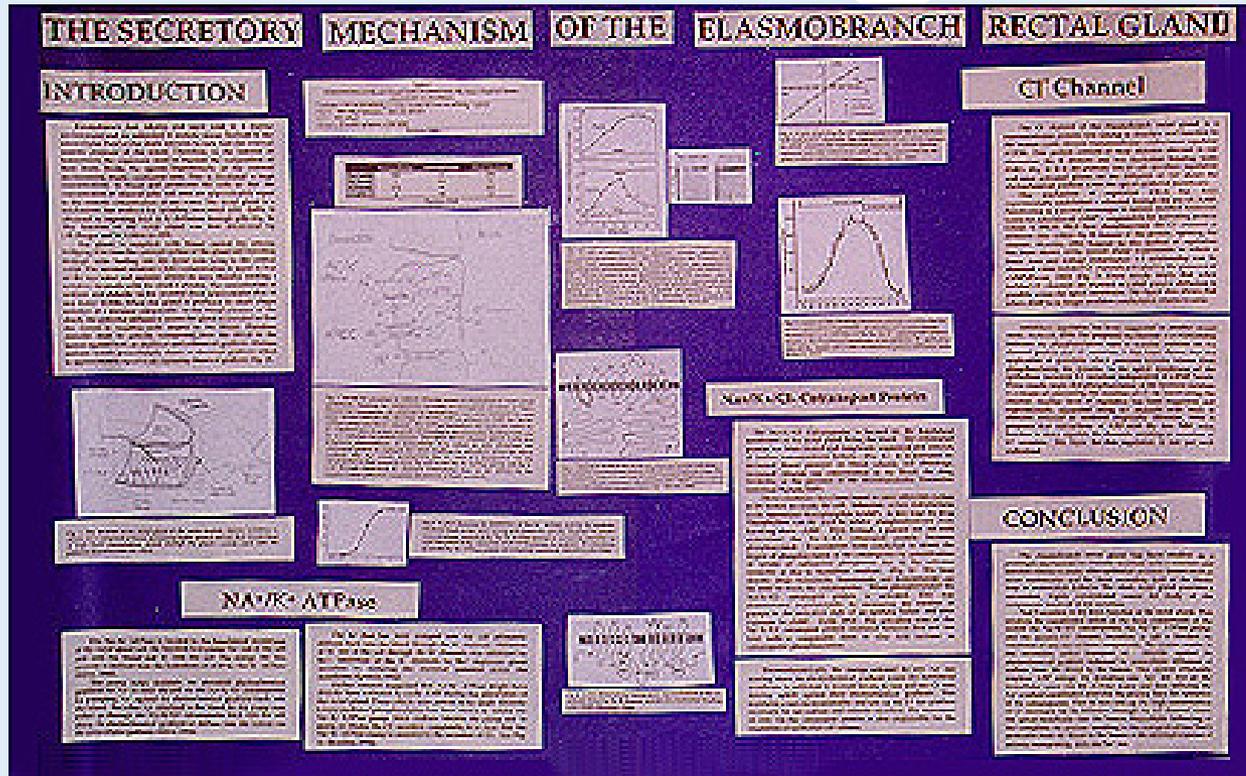
- > Cross-sectional surveys do not determine cause/effect.
- > Physician surveys tend to have poor response rates.
- > 2 dimensional, black and white pictures were used.
- > All pictures were of white, non-Hispanic children.

CONCLUSIONS:

- > Medical professionals have difficulty visually assessing a child's BMI-for-age weight status.
- > Accuracy was greatest for the "normal" weight child.
- > Physicians do not trust parental perception of weight, which is supported by the literature.
- > This underscores the importance of calculating every child's BMI and plotting the results on a growth chart at healthy check-ups.



Scientific Poster Design



Unless you are a talented artist individual sheets of paper is probably not the way to go.

Scientific Poster Design



Sunglasses, please!



Traumatic Globe Subluxation

Case Report

Wirastana IBG, Rozalina Loebis, Rowena G. Hoesin
Department of Ophthalmology, Faculty of Medicine
Airlangga University – Dr Soetomo General Hospital, Surabaya

INTRODUCTION

Globe subluxation is defined as an acute event of anterior displacement of the globe, displacement of the equator anterior to the orbital rim, and eyelid retraction posterior to the equator of the globe. Globe subluxation may occur spontaneously as a result of trauma, or even voluntarily.

OBJECTIVE

The purpose of this rare case report is to describe a traumatic globe subluxation due to bicycle handlebar accident.

PATIENT'S HISTORY

A 7-years old girl came to the emergency room in acute distress due to anteriorly subluxated globe and sudden visual loss in her left eye following bicycle handlebar accident two hours before

CLINICAL FINDINGS

Visual acuity was no light perception and 6/6 in left eye and right eye respectively. Her left globe was dislocated anteriorly, and the lids were tightly closed behind it. There was laceration in fornicis conjunctiva, but no laceration was observed in cornea, sclera and extraocular muscles. There were diffuse superficial punctate keratitis and corneal edema. The pupil was dilated and did not respond to light stimulation. Ultrasound examination revealed suspicion of optic nerve avulsion. CT-scan examination did not performed due to social-economic reason of the patient.

TREATMENT

Manual and lid retractor assisted globe reposition failed. Under deep general anesthesia, we performed sutures in superior and inferior tarsal plate, then the sutures were pulled superior and inferiorly. Furthermore the globe was able to be repositioned. Tarsorrhaphy was performed to keep the globe in position.

FOLLOW UP

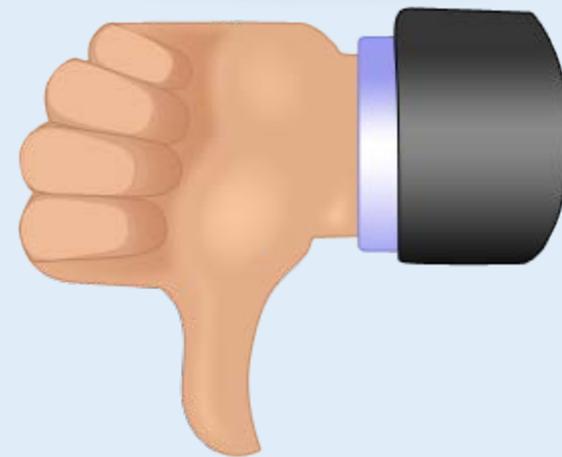
Postoperative vision was no light perception, which remained unchanged during follow-up. Retinal hemorrhage subsided and ocular motility is good.

CONCLUSION

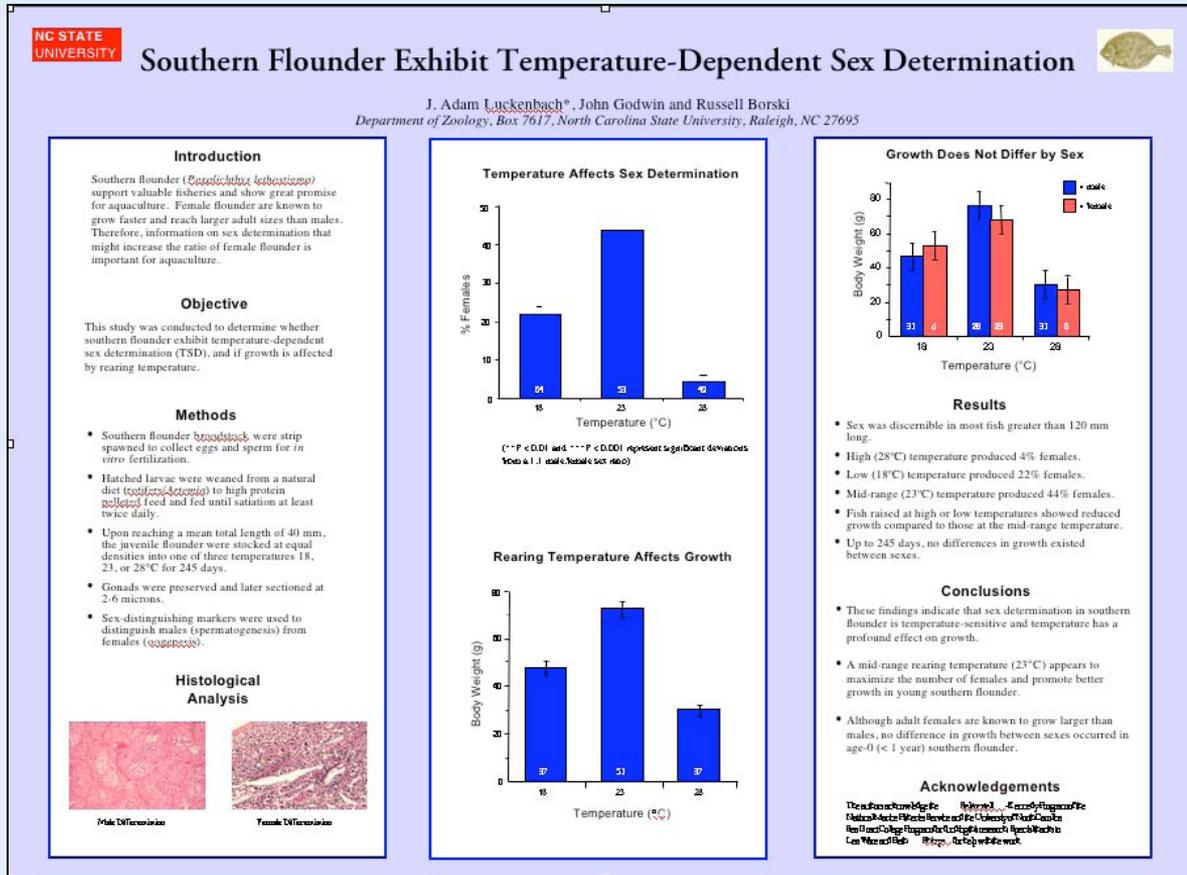
Our case represents a rare case of traumatic globe subluxation and optic nerve head avulsion due to bicycle handlebar. Reposition of the globe must be done as soon as possible to prevent further damage to the eye.

REFERENCES

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2. Zeller J., Murray S.B., Fisher J. Spontaneous Globe Subluxation in a Patient with Hyperemesis Gravidarum: A Case Report and Review of the Literature. *The Journal of Emergency Medicine* 2007;32:285-287.
3. Johnson S.M., Vesit R.Y. Lateral Tarsorrhaphy for Prevention of Postoperative complications Resulting from Globe Luxation. *J. Cataract Refract Surg* 2003;29:1831-1833.
4. Kunesch J.C., Katz S.E. Spontaneous Globe Luxation Associated with Contact Lens Placement. *Contact Lens Association of Ophthalmologists Journal* 2002;28(1):2-4.



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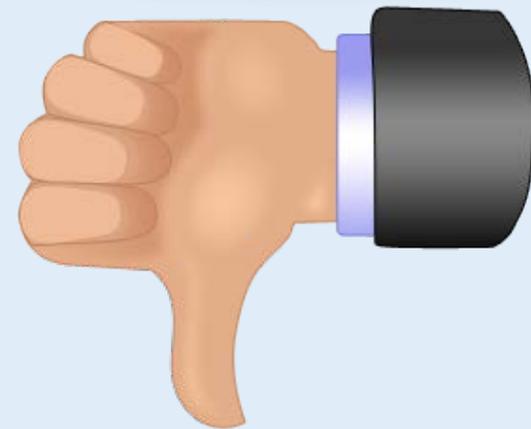
Much better.



Scientific Poster Design



Thank you,
Rainbow Brite, for
your submission.



Scientific Poster Design



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