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**THE EFFECTS OF PRESERVATION METHODS ON THE
PROPERTIES OF BONE AND SOFT TISSUE**

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INTRODUCTION

- I. History
- II. Significance
- III. Relation to Anthropology

OBJECTIVES

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I.

To test and determine if any preservation method used has effects on the specimen which they are treated with.

- I. Strain <http://www.uwgb.edu/dutchs/structge/stress.htm>
- II. Youngs Modulus <http://www.wisegeek.com/what-is-youngs-modulus.htm>
- III. Hardness
- IV. Discoloration
- V. Thickness

Hypothesis: Preservation methods have effects on mechanical properties

METHODS

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I. Samples:

4 Cat humeri and 4 Chicken humeri

II. Materials:

Strain Gage

Vishay P-3500 Strain Indicator

Instron Rockwell Hardness Tester

Color Chart

Needle

Weights

METHODS: MATERIALS

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Strain Indicator



Weights



Strain Gage



Hardness Tester



DATA COLLECTION

- Location:
 - ▣ Engineering Building
 - ▣ Student Success Center
 - ▣ Garage



DATA COLLECTION

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Removal of Soft Tissue



Soft Tissue Storage



DATA COLLECTION

Prep of Strain Gage



Attachment of Strain Gage



DATA COLLECTION

Whole Cat

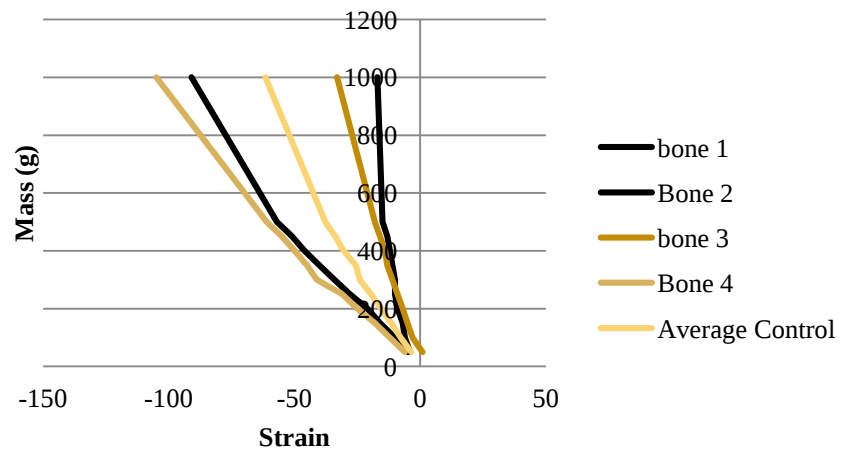


Cat with Legs removed

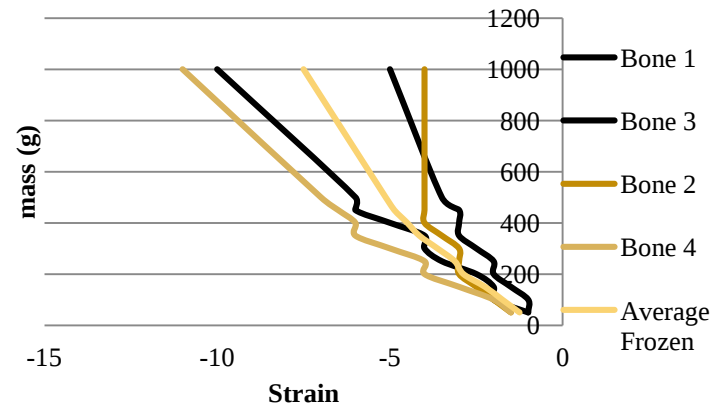


RESULTS

Control



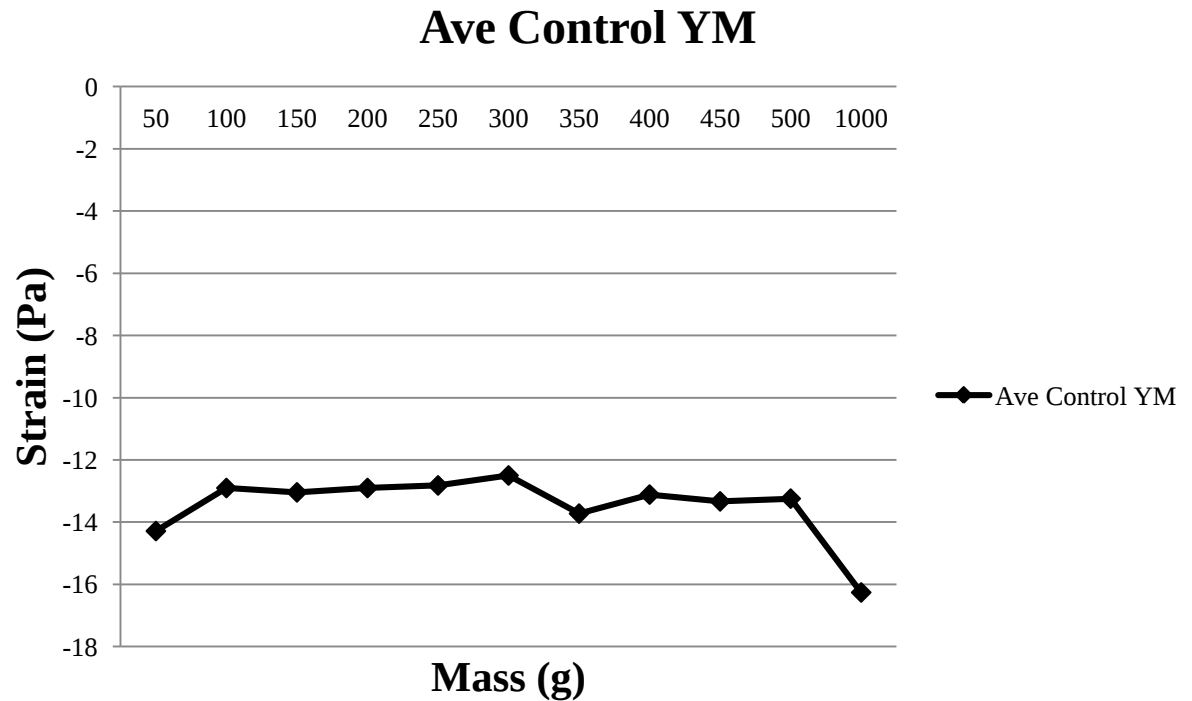
Frozen chicken



RESULTS: YOUNG MODULUS

YM= Stress/Strain

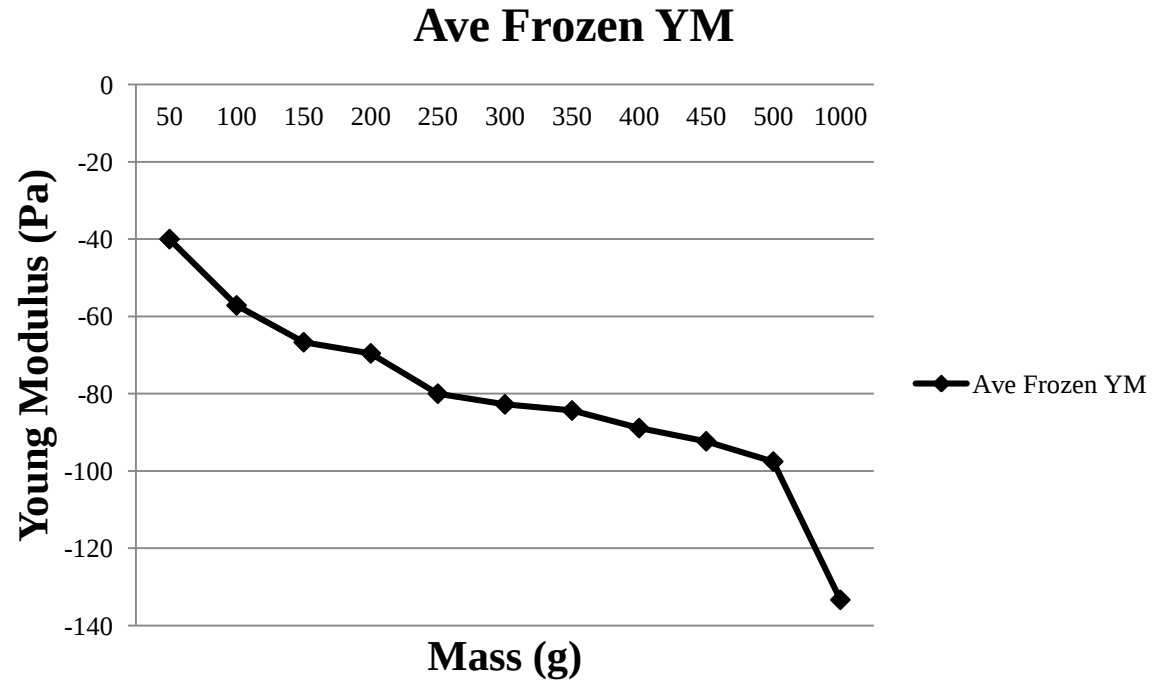
Ex: $50/-3.5 = -14.28$



RESULTS: YOUNG MODULUS

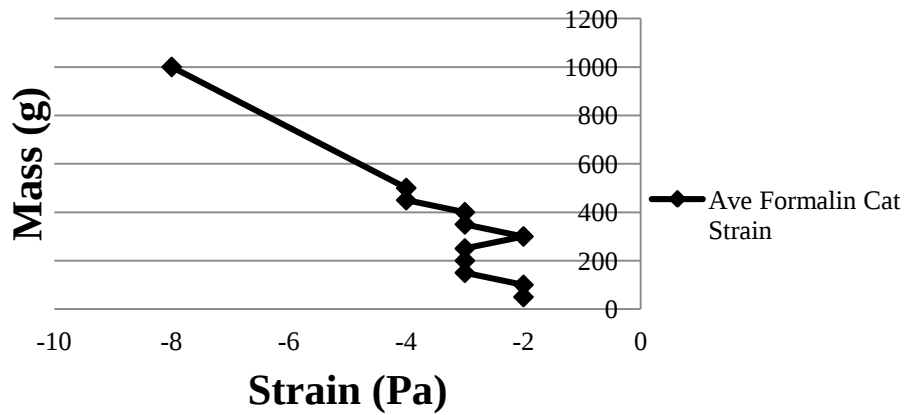
YM= stress/strain

Ex: $50/-1.25 = -40$

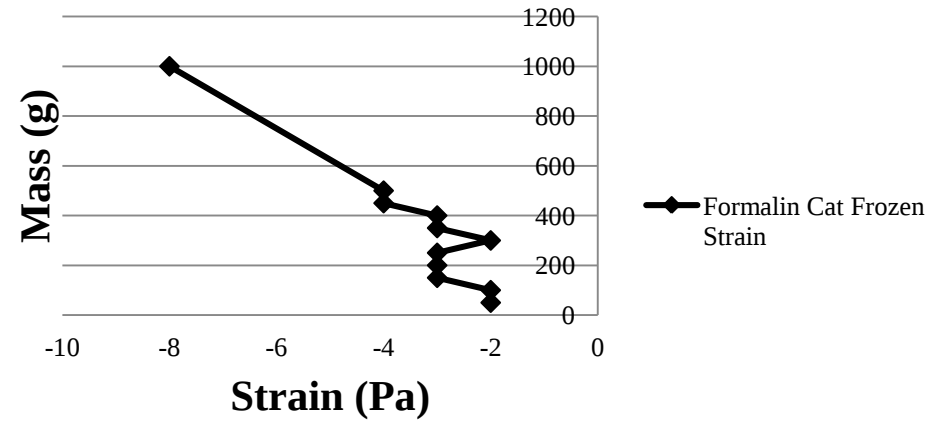


RESULTS:STRAIN

Ave Formalin Cat Strain



Formalin Cat Frozen Strain

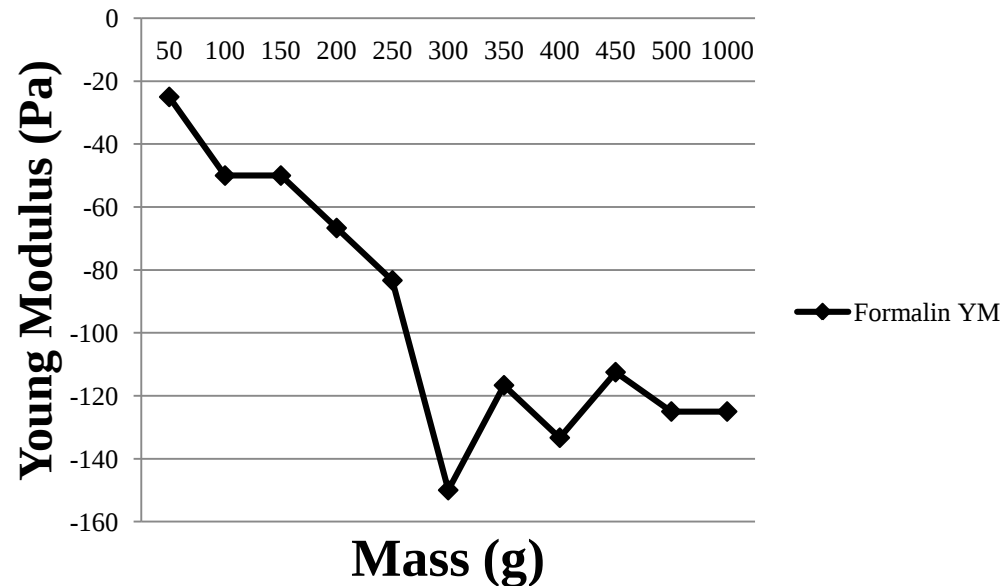


RESULT: CAT YOUNG MODULUS

YM= Stress/Strain

Ex: $50/-2 = -25$

Formalin/Frozen YM



RESULT: SOFT TISSUE

S1	S2	S3	S4	Ave
.5in	.4in	.4in	.4in	.425in
S1 Frozen	S2 Frozen	S3 Frozen	S4 Frozen	
.6in	.5in	.5in	.5in	.525in
S1 Thawed	S2 Thawed	S3 Thawed	S4 Thawed	
.5in	.4in	.4in	.4in	.425in

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