TEMPERATURE FLUCTUATION EFFECTS ON PLASTIC SURGERY TRAUMA VOLUMES AT LEVEL 1 TRAUMA CENTER

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Prior studies show a strong correlation between trauma and temperatures.

A year’s trauma admissions and the effect of the weather in Plastic Surgery?

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Materials & Methods

- Retrospective Study:
  - July 2008 to July 2013
  - 3055 Electronic Medical Records
  - Maxillofacial and Hand Traumas
  - UC Davis Medical Center
  - Data: Mechanism, Dates, Age, Gender
Materials & Methods

- National Oceanic and Atmospheric Administration
  - Monthly Climatological Summary
  - Mean Maximum Temperature
  - Location: Sacramento Executive Airport
As temperatures increase,

- Hand & maxillofacial consults will increase
- Most consults will occur on weekends
- Young adult males will be most prevalent
- Aggressive behavior will increase
Trauma and Temperature

Number of Consults

Temperature (F)

R = 0.58
P-value < 0.001
Weekly Distribution

Department of Surgery
Division of Plastic Surgery

<table>
<thead>
<tr>
<th>Day</th>
<th>%</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Saturday</th>
<th>Sunday</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trauma</td>
<td>100.00%</td>
<td>10.00%</td>
<td>12.00%</td>
<td>10.00%</td>
<td>8.00%</td>
<td>10.00%</td>
<td>12.00%</td>
<td>14.00%</td>
</tr>
</tbody>
</table>

P-value < 0.001
Gender Distribution

Department of Surgery
Division of Plastic Surgery

Number of Patients

<table>
<thead>
<tr>
<th>Age Groups</th>
<th>Females</th>
<th>Males</th>
</tr>
</thead>
<tbody>
<tr>
<td>Peds and Teens (0-17)</td>
<td>300</td>
<td>100</td>
</tr>
<tr>
<td>Early Adult (18-40)</td>
<td>900</td>
<td>1000</td>
</tr>
<tr>
<td>Middle Aged (41-64)</td>
<td>400</td>
<td>600</td>
</tr>
<tr>
<td>Elderly (65 or older)</td>
<td>200</td>
<td>100</td>
</tr>
</tbody>
</table>

P-value < 0.001
Mechanisms of Injury

- Fall Accidents
- Aggressive Behavior
- Industrial Accidents
- Sport Related Injuries
- Animal Related Injuries
- Transportation Accidents
## Mechanisms Breakdown

<table>
<thead>
<tr>
<th></th>
<th>High Temperature Months (%)</th>
<th>Low Temperature Months (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transportation</strong></td>
<td>34</td>
<td>24</td>
</tr>
<tr>
<td><strong>Aggressive Behavior</strong></td>
<td>25</td>
<td>26</td>
</tr>
<tr>
<td><strong>Fall</strong></td>
<td>16</td>
<td>15</td>
</tr>
<tr>
<td><strong>Animal Related</strong></td>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td><strong>Non Trauma</strong></td>
<td>14</td>
<td>20</td>
</tr>
<tr>
<td><strong>Industrial Accidents</strong></td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td><strong>Sport Related Injuries</strong></td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
• Strong correlation between temperature and trauma

• Highest volume consult days: Saturday - Sunday

• Majority of consults: Adult Males

• Aggressive behavior not found related to temp
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- We welcome you all to our future conferences of OMICS International
- 7th Annual Global Pharma Summit
- On
- June 20-22, 2016 at New Orleans, USA

http://american.pharmaceuticalconferences.com/
Thank You