**Conclusion**

Ground transport of STEMI patients to the regional PCI hospital in southwest Oklahoma was as effective as HEMS in achieving PCI within 120 minutes as is recommended by the American Heart Association. This study suggests that HEMS transport does not greatly improve door-to-balloon time when compared with ground EMS. In this study, a greater proportion of patients transferred by ground EMS achieved PCI within 120 minutes, however this was not statistically significant. Helicopter and ground ambulance availability, weather conditions, personnel requirements, and provider preference/experience must all be considered by the transferring provider. The transferring provider should use a first-available, most-appropriate transport method for STEMI patients when they require transfer to definitive care.

**Limitations**

- Helipad located 0.5 miles from hospital campus
- Only two facilities in the regional STEMI network utilized both air and ground EMS transport methods
- More patient transfers were performed using ground EMS
- This study did not scrutinize the specific time intervals and events that can affect total time to PCI

**References**


**Acknowledgments**

Thank you to Comanche County Memorial Hospital, emergency medicine faculty, air EMS services, and ground EMS services. Also, this research would not have been possible without the expertise of Alicia Webster, CCMH STEMI Coordinator.
**INTRODUCTION**

Acute corneal abrasions are a frequent complaint in the emergency department. Current emergency department management of acute corneal abrasions generally discourages prescribing topical ophthalmic anesthetics due to theories of delayed epithelial healing. Previous studies have shown promise that short-term topical anesthetics are safe but additional research is necessary to change current practice.

**OBJECTIVES**

This study intends to evaluate if patients can be safely discharged home with topical 0.5% tetracaine for simple corneal abrasions for improved pain control versus placebo eye drops, without the increased risk of delayed corneal healing.

As a secondary outcome, this study is interested in showing a reduction of narcotic pain medication.

**METHODS**

This study was a prospective, double-blind randomized controlled trial conducted in an urban community emergency department with affiliated emergency medicine residency.

*Study Group*
- Tetracaine 0.5% - one drop q30 mins prn
- Polymyxin B/trimethoprim ophthalmic
- Hydrocodone/APAP 7.5/325mg – 12 tablets

*Placebo Group*
- Systane artificial tear solution
- Polymyxin B/trimethoprim ophthalmic
- Hydrocodone/APAP 7.5/325mg – 12 tablets

*Both Groups*
- Instructed to use one drop of study medicine in affected eye every 30 minutes as needed for 24 hours and record pre and post pain scores

**RESULTS**

Mean Pain Score

<table>
<thead>
<tr>
<th></th>
<th>Tetracaine</th>
<th>Placebo</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-drop Pain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Post-drop Pain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Avg # Pain Pills</td>
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</tbody>
</table>

**Inclusion Criteria**

1) Age 18-80 years old
2) Corneal Abrasion
3) Obtained Informed Consent

**Exclusion Criteria**

1) Penetrating Eye Injury
2) Previous Corneal Surgery
3) Pregnancy
4) Contact Lens Use
5) Retained Foreign Body
6) Immunosuppression
7) Allergy to Study Medication
8) Injury > 36 hours old

**DISCUSSION**

There is limited research on topical anesthetic use in the treatment of pain associated with acute corneal injuries in the emergency department. The initial data written about corneal abrasions involved case studies of human subjects with unsupervised, prolonged anesthetic use, many with concomitant steroid use. More recent literature has shown no ocular complications or signs of delayed wound healing. This study found significant reduction in pain scores and hydrocodone use without evidence for complications.

**CONCLUSION**

Topical tetracaine, when used for uncomplicated corneal abrasions less than 36 hours old significantly decrease pain scores and may be safe for short-term use. A secondary outcome suggests this may also decrease the use of hydrocodone/APAP.

**REFERENCES**

## Initiating a Community-Based Blood Pressure Monitoring Program in Community Health Patients

**Gretchen Stroud DO, Sarah Cox DO, Ryan Winfrey DO**

### Background
Heart disease is the number one killer of Oklahomans, accounting for 1 in 4 deaths. Hypertension is one of the leading risk factors for stroke and heart attack. Heartland OK is a community-based BP monitoring program available through the local health departments across Oklahoma that was initiated by the state to aid in reducing morbidity and mortality due to hypertension. This program provides BP monitoring, diet and disease process education, and counseling on medication compliance through biweekly appointments with an RN.

### Purpose
In 2014, Lawton Community Health Center (LCHC) performed below the state and national average for blood pressure control. Based on this data, the researchers partnered with Comanche County Health Department to utilize Heartland OK to improve blood pressure control in our patient population, thereby reducing the morbidity and mortality of the community and state.

### Methods
Hypertensive adult patients at the LCHC who are not pregnant or on dialysis were included. Patients of the Residency Clinic at LCHC comprised the treatment group while the control group was comprised of the Nurse Practitioner Clinic at LCHC. Blood pressure control between the treatment and control groups was calculated using the HEDIS Dashboard associated with eClinical Works EHR based on a 12 month period prior to implementing the project. Patients in the treatment group with uncontrolled HTN were referred to Heartland OK. BP control was then compared between the groups after 7 months of the program. The health department provided weekly reports to the researchers regarding program participation. This data was reviewed to analyze the number of patients that were enrolled in the program, that declined the program and that were unable to be contacted by the health department.

### Hypothesis
Initiating a community-based blood pressure monitoring program will improve the percentage of adult patients with adequate BP control (<140/90) at LCHC.

### Results
The improvement in BP control in the treatment group was 15.7% whereas the improvement in the control group was 7%.

### Conclusions
After initiating a policy of referring uncontrolled hypertensives to Heartland OK, the percentage of patients meeting BP control (<140/90) in the treatment group increased over the project duration, and had greater improvement than the control group, supporting our hypothesis. We also saw our percentage of control increase to above the national average. Support for the hypothesis was weakened by the length of follow-up time being too short to evaluate for sustained changes and by confounding factors.

### Recommendations
Continue referring to Heartland OK. As data continues to be collected through ongoing follow-up, analyze the percent change in control and the absolute change in BP between those who accepted and declined the program. Develop ways the physician and staff can foster compliance with the monitoring program, potentially through novel methods. Develop methods of data collection and analysis that better control for comorbidities, include appropriately different blood pressure goals for different age groups, and other confounding factors. Continue to focus on ways to improve blood pressure control in our community.

### Confounding Factors
The data analyzing software was unable to control for comorbidities or exclude new diagnoses of HTN. Four providers in the treatment group and one in the control group were not included in the “before” data as they were not yet employed at the clinic. Medical experience has increased as the residents have progressed, likely improving BP control.

### References
8th Joint National Committee Guidelines; 2014 State of the State’s Health, Oklahoma State Department of Health; Heartland OK at Comanche County Health Department; American Heart Association Guidelines

### Acknowledgements
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