2011 HOUSE INDUSTRY, BUSINESS AND LABOR

HB 1255

2011 HOUSE STANDING COMMITTEE MINUTES

House Industry, Business and Labor Committee
Peace Garden Room, State Capitol

HB 1255
January 19, 2011
Job #13058

☐ Conference Committee

Committee Clerk Signature Mary Maier

Explanation or reason for introduction of bill/resolution:

Minutes:

Chairman Keiser: Open the hearing on HB 1255.

Representative Weisz: The bill in front of you is very simple. It repeals the ban of the sale of bottle rockets that was implemented in the 2009 session. One – it is unfair to retailers and businesses in the state of North Dakota because we are not banning the use of them, we're merely banning the sale of them. Along your border cities, they can go elsewhere and purchase the bottle rockets but they can't purchase them from the retailers. I looked at is as the intent was to ban bottle rockets but all we did was punish the retailers. Second is it's philosophical, I believe that as individuals and parents, we have the right to decide what is acceptable. I did some checking. Every year there is roughly 6.6 million injuries to children ages 14 and under that requires emergency room treatment. Of those, 8500 deal with fireworks. Of those, approximately 20% of those deal with eye related injuries. That calculates to .0002% of injuries to children that require medical attention that are due to eye related injuries from fireworks. We're trying to get at something that is a small part of the risk that our children experience as they grow up and live and I think it should be in the parents hands to decide if their children are capable and that they supervise them and we should trust the citizens of the state of North Dakota and parents to make that decision.

Chairman Keiser: Are there any questions from committee members? Is there anyone else here to testify in support of HB 1255?

Representative Blair Thoreson, Dist. 44 in Fargo: I stand in support of this bill. I realize this is a change that took place in last session but comments I've received from constituents and people I've been speaking with were overwhelming disheartened with the actions taken last time around. I believe that we can fix this and most people know how to deal with these products. They know how to safely treat them and we can't fix all assumption of risk in our society. This is one of those things where the citizens would like to have the opportunity to use this product and use it safely and legally. I would stand for any questions and I would urge your support of this bill.

Representative Gruchalla: Your comment about constituent comments. Did you have any scientific poll or any data?

Representative Thoreson: The only scientific poll would be people calling me, e-mailing, stopping me at the grocery store in North Fargo and hearing comments from throughout the community as to why did you do this. What was the legislature thinking when they made this change. Did I go out and do a sample or a survey? No, I did not but I have not had one person say to me that this is a good thing but many have said the opposite.

Chairman Keiser: For the retailers, this does create a problem especially for the border state retailers. Somebody can go to Moorhead and buy bottle rockets.

Representative Thoreson: I'm not certain if they can in Minnesota. They have very strict limitations on what they can sell under fireworks and I believe that they do not allow any products that go over a certain level off the ground. But South Dakota certainly does. So does Montana and there are many on-line retailers that are still shipping into the state. You can obtain the product. It's just whether you want to follow the law of the state.

Chairman Keiser: Any further questions for Representative Thoreson? Any other testimony in support of 1255? Is there anyone here to testify in opposition of HB 1255?

Steve Nardello, Fire Chief, Mandan, North Dakota: I'm here on behalf of the North Dakota Fire Chiefs Association. I was able to pull the records from 2008 to 2010. In 2008, this law banning bottle rockets was not in effect yet. We had 9 fires that occurred as a direct result that we could prove from fireworks. In 2009, from banning of the bottle rockets, we went to 4, and in 2010 we had 5. So you can see there's a direct result of banning the fireworks for our jobs as fire fighters. That's just our community. I don't have other statistics from other communities. The fire chiefs of North Dakota oppose HB 1255 for safety reasons. I will try to answer any questions.

Representative Amerman: The fires that you talk about from fireworks. Do you know, were they from bottle rockets or something that shoots a lot of sparks.

Steve Nardello: The majority of our firework related fires is the result of aerial devices such as bottle rockets and mostly bottle rockets.

Representative Nancy Johnson: Do you know about other states around us? What their limitations are for fireworks?

Steve Nardello: I;m not familiar with the other states. I do know that Minnesota does not allow the sale of fireworks except under extreme conditions.

Vice Chairman Kasper: You said the majority of the fires are bottle rockets now. Have you been able to delineate between bottle rockets shot off by cities or entities that are doing the big fireworks display compared to bottle rockets that children are shooting off.

Steve Nardello: I am not aware when we are called to the scene, there is usually nobody there. In several instances, the Mandan Police Dept. was able to question some suspects and they were both children under the age of 14.

Representative Kreun: Does Mandan have a city ordinance opposing fireworks?

Steve Nardello: The city of Mandan does not. A few years ago, there was a discussion and a lot of the residents of Mandan would like to have banned the discharge of fireworks in the city of Mandan. It was a recommendation by the committee appointed by the city commission to ban fireworks completely in the city of Mandan. That did not pass by the city commission. The city of Mandan does allow it but they did restrict the dates that they are to be discharged to only 4 days rather than 6.

Chairman Keiser: Is there anybody else her to testify in opposition to HB 1255?

Bruce Levi, North Dakota Medical Association and North Dakota Society of Eye Physicians & Surgeons and Ophthalmologists: (see attached testimony #1 and handout 1).

Representative Ruby: Last 4th of July was the first that they were not selling bottle rockets in the state. Do you have any data that would show injuries by fireworks in general for last year?

Bruce Levi: Through the Society of Eye Physicians and Surgeons have a voluntary injury reporting form. In the weeks before the July 4th holiday, we send out to the hospitals and clinics and ask for voluntary reports so we can get a snapshot. I don't know how many are not reported but this last year we did get about 18 – 20 reports. I did bring the reports along. There were a wide variety of fireworks related injuries ranging from 1 or 2 bottle rocket injuries and injuries with the aerial fireworks but also had instances of children mixing stuff and making their own fireworks and things exploding. There was a wide range of injuries this last year.

Representative Ruby: What would be the next type of fireworks that is injuring more people?

Bruce Levi: We get a significant number from aerial - larger sky rockets, roman candle, bottle rockets, smoke bombs, fountains, super ball, artillery shells. Injuries occur with a large variety. I don't know what the next one would be? A lot of the other fireworks are controllable. The issue we have is that bottle rockets are that they ricochet and go in directions they're not intended and from our position, they are inherently dangerous.

Representative Ruby: Are you familiar with sparkler bombs?

Bruce Levi: I might have tried that when I was a child but I don't know specifically .....

Representative Ruby: I was just wondering if the next thing to ban would be sparklers because there is such a thing.

Bruce Levi: There are states that have looked at fireworks overall and have banned certain things. Sparklers typically aren't banned in those overall types of bans. I think what we've seen across the country is the need to look at the bottle rockets. We do have 39 states, particularly the east, that have looked specifically at the bottle rockets. South

Dakota, Montana and Wyoming still allow the sale, at least from the latest statistics that I found.

Chairman Keiser: I know it's a voluntary report that the Ophthalmologists provide, but you said last year, when the law was in affect that there was 18 – 20 instances. Of those, 1 or 2 were bottle rockets. What about the year before when we did not have the ban? What was the reporting rate?

Bruce Levi: I know the year before, we did have several bottle rocket reports and a couple of them were very serious cases.

Chairman Keiser: Could you give us the actual numbers. If we want to see whether we've had an impact or not, we need those numbers.

Bruce Levi: I did bring the reports. I can give you the actual reports from this last year and the year before.

Chairman Keiser: We would appreciate receiving that but it would be helpful for you in your testimony to report what that number of voluntary reports is. I know the ophthalmologists are very concerned and are likely to fill out those voluntary reports. I think the committee would appreciate it if you could figure that calculation out so we could see the impact.

Representative Nathe: Do you have Information from other states that show the decrease in bottle rocket injuries from the time they enacted the ban on bottle rockets?

Bruce Levi: I don't have that information. The only new information I have was the study that I included for you in terms of just looking at the overall cases.

Representative Amerman: I certainly understand the opposition from the eye physicians and surgeons to repealing this law. Something I don't understand is the law reads we just can't sell them, we can still use them. Selling them does not put the eyes out but when you use them, it puts the eyes out and I'm surprised you don't have an amendment from these organizations to ban the use of them. Was that ever discussed?

Bruce Levi: It was discussed. The notion was that, more and more states are prohibiting the sale of bottle rockets. The suppliers of bottle rockets will produce less and eventually there will be fewer bottle rockets out there to cause the injuries and for use by anyone. In states that have looked at this issue, they have banned the sale; I suspect it's very difficult to ban the use from a enforcement standpoint. I suspect that that's the reason why this is the methodology that's moved forward in terms of prohibiting the sale and diminishing the overall supply and use.

Vice Chairman Kasper: We have more murders in the US from guns than we do injuries to eyes by bottle rockets. Has your association ever talked about banning guns?

Bruce Levi: The North Dakota Medical Association has never looked at the issue of gun violence. I know at the national level, a number of national physician organizations and groups have looked at that issue over time in a general context of reducing violence.
Chairman Keiser: Is there anyone else here to testify in opposition of HB 1255?

Nancy Kopp, North Dakota Optometric Association: (see attached testimony).

Chairman Keiser: Are there any questions from committee members? When you say 8 – that's prior to the ban?

Nancy Kopp: That's correct.

Chairman Keiser: We don't have any numbers following the ban? That would be last year.

Nancy Kopp: I did not conduct a study last year but I certainly can.

Chairman Keiser: We'll see that Bruce can understand our frustration that we have an opportunity to get numbers and see whether or not we've had an impact and we don't have those. It's a hard argument to make when we could actually have numbers so if you can get them, we would appreciate that. Any other discussion? Questions? Is there anyone else here to testify in opposition to HB 1255? Is there anyone here to testify in a neutral position on HB 1255?

We will close the hearing on HB 1255 and we will take this up this afternoon so if you can get those numbers prior to this afternoon, we would be appreciative.

2011 HOUSE STANDING COMMITTEE MINUTES

House Industry, Business and Labor Committee
Peace Garden Room, State Capitol

HB 1255
January 19, 2011
Job #13111

☐ Conference Committee

Committee Clerk Signature Mary Main

Work Committee Minutes:

Chairman Keiser: Opens the meeting on HB 1255.

Bruce Levi: The state of Montana does prohibit bottle rockets so you're looking at the west & east. South Dakota, according to Nancy, is looking at a bottle rocket ban. You have a summary of voluntary fireworks injury reports that we started in 2007. These surveys included all fireworks, not just bottle rockets. I've pulled out the total number of reports that we've received and the reports that actually involve bottle rockets. When we talk to our ophthalmologists and clinics, I believe there are a lot more fireworks injuries not reported. (See attachment)

Chairman Keiser: Questions from committee member? What are your wishes?

Representative N Johnson: I make a motion for a do not pass on HB 1255.

Representative Gruchalla: Second

Chairman Keiser: We have a motion for a do not pass on HB 1255 seconded by Representative Gruchalla. Further discussion on the motion?

Vice Chairman Kasper: I voted to ban bottle rockets last session. I'm going to change my vote. Being this still allows for the use of bottle rockets but not sold, it's a business issue and I'm going to support the business owner.

Representative N Johnson: I made the motion for a do not pass because I think we did a good thing last session by eliminating the sale of them. I know you can still get them over the internet but as the sale becomes more prohibitive, 2 of our 3 surrounding states prohibit the sale of bottle rockets also, we will eventually get rid of the use of them because they will not be available in the marketplace.

Representative Ruby: It's not just the other states that can sell them. They can sell on the reservations too. We don't have control to limit there. Any stand within our reservations. I'm with Representative Kasper on this. I think if you're looking at injuries as a percentage of all injuries to children or even injuries dealing with fireworks, I think it's minuscule and overblown. I'm going to resist the motion.

Representative Gruchalla: My neighbor is an optometrist and he gets a lot of these cases referred to him. I asked him about the reporting. When someone comes in with an eye injury, it doesn't necessarily get filled out. In his estimation, these incident reports aren't that complete. They are from the emergency room as I understand it. The eye doctor may not even know what caused the injury. I think there are a lot more.

Representative Sukut: This issue is difficult; I get torn between the private enterprise part of it and the other aspects of it. I've had two or three experiences with bottle rockets that are outside of injury. We had a house lit on fire last 4th of July – the bottle rocket ended up on the roof and started a fire. A number of years ago, we had kids setting off bottle rockets we almost started a forest fire but managed to get it put out before there were any other problems. I think there are other issues involved there. It's a tough deal but I'm going to support the do not pass.

Chairman Keiser: Any further discussion? We'll ask the clerk to take the roll for a do not pass on HB 1255.

Chairman Keiser: The motion for a do not pass carries 9-3-2. I suspect that this will be an interesting floor exercise.

9 Yes 3 No 2 Absent Do Not Pass Carrier: Representative Gruchalla

Date: Jan 19, 2011

Roll Call Vote # 1

2011 HOUSE STANDING COMMITTEE ROLL CALL VOTES

BILL/RESOLUTION NO. 1255

House **House Industry, Business and Labor** Committee

☐ Check here for Conference Committee

Legislative Council Amendment Number _____

Action Taken: ☐ Do Pass ☒ Do Not Pass ☐ Amended ☐ Adopt Amendment

Motion Made By Johnson Seconded By Gruchalla

Representatives	Yes	No	Representatives	Yes	No
Chairman Keiser	✓		Representative Amerman	✓	
Vice Chairman Kasper		✓	Representative Boe	~~✓~~ No	
Representative Clark	✓		Representative Gruchalla	✓	
Representative Frantsvog	✓		Representative M Nelson	~~✓~~ No	
Representative N Johnson	✓				
Representative Kreun	✓				
Representative Nathe		✓			
Representative Ruby		✓			
Representative Sukut	✓				
Representative Vigesaa	✓				

Total Yes 9 No 3

Absent 2

Floor Assignment Gruchalla

If the vote is on an amendment, briefly indicate intent:

REPORT OF STANDING COMMITTEE

HB 1255: Industry, Business and Labor Committee (Rep. Keiser, Chairman) recommends **DO NOT PASS** (9 YEAS, 3 NAYS, 2 ABSENT AND NOT VOTING). HB 1255 was placed on the Eleventh order on the calendar.

2011 TESTIMONY

HB 1255

Testimony #1

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Testimony in Opposition to HB 1255
North Dakota Society of Eye Physicians and Surgeons
North Dakota Medical Association
January 19, 2011

Mr. Chairman and Committee Members, I'm Bruce Levi and I represent the North Dakota Society of Eye Physicians and Surgeons and the North Dakota Medical Association, both of which oppose HB 1255. Our efforts last session, with your help, resulted in the passage of SB 2366 which prohibited the sale of small bottle rockets in an effort to reduce the burden of bottle rocket-related injuries among both children and adults.

The North Dakota Society of Eye Physicians and Surgeons is the state professional membership for our state's Eye MDs, affiliated with the American Academy of Ophthalmology. The North Dakota Medical Association is the professional membership organization for all North Dakota physicians, residents, and medical students.

Bottle rockets can cause significant ocular injury in children, often with permanent loss of vision. In a very recent study published in the *Archives of Ophthalmology*, it was concluded that a disproportionate number of cases of severe eye damage and visual impairment are caused by bottle rockets:

> This study demonstrates that bottle rockets can cause significant ocular injury in children and adolescents and, in turn, cause their parents and themselves to incur expenses through emergency department visits, surgical interventions, and days missed from school and work. It has been shown that half of all fireworks-related ocular injuries, particularly those leading to permanent blindness or enucleation, are caused by bottle rockets. [Khan, Reichstein, Recchia, *Ocular Consequences of Bottle Rocket Injuries in Children and Adolescents*, Archives of Ophthalmology, January 2011]

Seemingly innocuous bottle rockets exact a toll of pain and suffering on many North Dakotans each year. Unwitting children often make up a large segment of those victimized, and the physical and emotional scars often last a lifetime. Our ophthalmologists and optometrists in the state talked with you about some of the injuries and personal stories last session. One particular

bottle rocket incident we discussed with you last session was highlighted in the media – Casselton high school student Beau Sinner received a lacerated cornea from a bottle rocket and the story of the implications of the injury on his life and recovery was covered by the media. The WDAY (transcript) and Fargo Forum stories are attached.

Overall, according to the U.S. Consumer Product Safety Commission, the typical fireworks victim is young and most fireworks injuries occur during the one month period surrounding the July 4th holiday.

Bottle rockets are inherently dangerous to both adults and children for two very simple reasons. First, the rate of travel of a standard bottle rocket can reach very high rates of speed, and they are very susceptible to ricochet--often traveling in any direction but the one intended. Second, the bottle rocket presents a significant fire hazard. When a bottle rocket detonates, the casing can burn from a few seconds to a few minutes.

According to the American Pyrotechnics Association, the following states prohibit bottle rockets (most on the list prohibit all skyrockets):

Arizona	Iowa	New Hampshire	South Carolina
California	Kansas	New Jersey	Texas
Colorado	Kentucky	New Mexico	Utah
Connecticut	Maine	New York	Vermont
Delaware	Maryland	North Carolina	Virginia
Florida	Massachusetts	Ohio	Washington
Georgia	Michigan	Oklahoma	Washington DC
Hawaii	**Minnesota**	Oregon	West Virginia
Idaho	**Montana**	Pennsylvania	Wisconsin
Illinois	Nebraska	Rhode Island	

North Dakota physicians are working to encourage the safe use of fireworks. Prior to the July 4th holiday, the Society of Eye Physicians and Surgeons typically provides public service announcements and often participates in radio talk shows to encourage safe use of fireworks. The Society has also developed a Fireworks Injury Reporting Form for voluntary use by hospitals, clinics and health professionals across the state to help track fireworks injuries that occur in our state.

Bottle rockets are inherently dangerous. They have been removed from the list of saleable fireworks in the vast majority of states. On behalf of the North Dakota Eye Physicians and Surgeons and the North Dakota Medical Association, we urge the Committee to recommend a "DO NOT PASS" on HB 1255.

Testimony #2

NORTH DAKOTA
Optometric Association

HB 1255

Good Morning Mr. Chairman and members of the committee.

For the record, my name is Nancy Kopp. I represent the North Dakota Optometric Association.

I appear before you this morning in opposition to HB 1255 and echo the testimony provided by Mr. Levi. In an effort not to duplicate testimony, I offer some of the eye related injuries reported by some of our practicing optometrists.

The NDOA also has surveyed its members in July the last couple of years, on the number of eye related injuries caused by fireworks and particularly, bottle rockets.

The number of injuries reported, was approximately 8 per year. As that may not seem serious, the vision loss, predominately in children, could have been prevented.

To give you an idea of the extent of injuries:

1. One boy's left eye no longer has accurate depth perception.

2. As a result of another injury, the child required a corneal transplant and ended up with no vision at all in one eye.

3. Another injured is required to wear a patch over the injured eye to avoid excessive light.

By far, the most visually devastating eye injuries have been those caused by bottle rockets.

All states surrounding North Dakota, other than South Dakota and they are discussing the issue as we speak, prohibit the sale of bottle rockets, as a preventative health measure.

For these reasons, we respectfully ask that you do not support House Bill 1255

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Hand out 1

Bruce Levi

[redacted]:
To:
Subject:

Bursack, Carol [cbursack@forumcomm.com]
Monday, September 15, 2008 8:40 AM
Bruce Levi
Sinner

Publication: Forum; Date:2008 Aug 28; Section:Sports; Page Number: D3

ActivePaper

HIGH SCHOOL FOOTBALL

Squirrels' star to miss season

By Heath Hotzler hhotzler@forumcomm.com

Central Cass High School standout senior athlete Beau **Sinner** will miss at least his final prep football season after a freak fireworks accident last week severely damaged one of his eyes.

Sinner's right **eye** was injured when he was hit with a **bottle** rocket last Friday night while with friends in Casselton, N.D.

"We were just hanging out and someone let off a firework, and it found its way into my **eye**," **Sinner** said Wednesday. "... It's kind of an unfortunate thing. But I'm not going to dwell on it and feel sorry for myself. I have to get over it."

[redacted]er the accident, **Sinner** was immediately taken to Fargo's Innovis Hospital. He was transferred early [redacted]rday morning to the University of Minnesota Medical Center in Minneapolis.

Sinner said he had surgery Saturday to repair a lacerated cornea and iris. The **eye's** lens was also jarred out of place, **Sinner** said.

Sinner's father, Bernie, said he was very concerned when first told of his son's **eye** injury.

"When you hear fireworks, you assume that it's an explosion that has caused some damage," Bernie said. "When we saw him, it didn't look terrible. It didn't explode in his face, it didn't distort the skin. He just said that he couldn't see out of it."

Bernie **Sinner** said doctors can't determine how much damage has been caused to Beau's vision until after another surgery is performed on Sept. 11. Beau is scheduled to have another checkup today in Minneapolis.

Beau will likely have at least some impaired vision, Bernie **Sinner** said.

Beau, who will wear an **eye** patch for a few weeks, will need to wear glasses to protect both his eyes.

Beau said he is hopeful he will be able to play basketball and baseball for Central Cass later this year.

"I'm disappointed about not being able to play (football)," Beau said. "But I can get over that. Hopefully, I can look forward to some basketball and football."

Central Cass was defeated by Kindred 13-6 on Tuesday night in both teams' season opener.

Squirrels head coach Patrick Metzger said news of **Sinner's** injury was a shock to the team.

Sinner would have been a starting wide receiver and safety.

"The senior group is extremely close," Metzger said. "I think it was pretty draining on some of those guys. It was kind of like a balloon was landing. But we are not done by any means. There are a lot of games to be played."

Fireworks are illegal in the city limits of Casselton without a permit, according the Casselton City Auditor [redacted]ndy Pyle. **Sinner** and his friends did not have a permit. "Certainly, we are hopeful," Bernie **Sinner** said. [redacted]e have not been told that we shouldn't have hope. We are trying to keep a reality perspective on the severity of the injury."

Readers can reach Forum reporter Heath Hotzler at (701) 241-5562. Hotzler's blogs can be found at

Eye Health Center

Bottle Rockets Hurt Kids

Study Shows Risks to Eyes of Youngsters Who Use Fireworks

By Bill Hendrick
WebMD Health News

Reviewed by Laura J. Martin, MD

Jan. 10, 2010 -- Medical groups such as the American Academy of Ophthalmology have been warning for years about the dangers posed to children by fireworks, and now a new study warns that bottle rockets may be particularly dangerous.

It says bottle rockets can lead to permanent loss of vision, or at least significant and painful damage to young eyes.

The study says 1,400 of 9,200 fireworks-related admissions to emergency departments annually involve the eyes, and that a disproportionate number of the injuries are caused by bottle rockets.

Accidents Involving 10 Patients Studied

Mehnaz Kahn, MS, and colleagues at Vanderbilt University Medical Center studied injuries to 11 eyes in 10 patients, eight boys and two girls, age 18 or under who were seen in the Vanderbilt Children's Hospital emergency room for eye injuries caused by bottle rockets between 2006 and 2009.

Eight of the 10 patients were hurt within a month of the Fourth of July. Eight of the patients were launching bottle rockets, and two were bystanders. None was wearing protective eye gear at the time of the accidents.

Of the injuries studied, seven caused defects in the outer surface of the cornea, six involved bleeding in front of the eye, two involved traumatic inflammation of the iris, and four caused a tear of the iris. Other injuries included bleeding into the inner eye's vitreous fluid and cataracts.

The researchers say eight of the eyes required initial treatments such as surgical removal of the lens of the eye, or removal of damaged corneal tissue.

In three patients, additional procedures were required, including muscle surgery and placement of a new lens in one eye.

The most recent visual acuity was 20/30 or better in four eyes at follow-up, and 20/200 or worse in six eyes.

Bottle Rockets Can Cause Permanent Vision Loss

The researchers say permanent vision loss or damage was due mostly to traumatic maculopathy, or damage to the part of the retina that is responsible for central vision.

The authors say the study shows that bottle rockets "can cause significant" damage to the eyes of children and adolescents, cause youngsters avoidable surgery, and the loss of school or work days.

"If children, adolescents and parents choose to launch bottle rockets, it is important for parents not only to supervise children and adolescents in the vicinity of bottle rockets, but also to ensure that protective eyewear is used," the authors write.

The researchers sifted through 2,385 consultation medical records to find 10 patients with a history of bottle rocket injury.

They report that boys are more likely than girls to be hit in the eyes with bottle rockets and note that previous research has found that in more than half of such accidents, adults are not around to supervise.

Tips for Avoiding Fireworks Injuries to Children

The American Academy of Ophthalmology offers these tips for avoiding fireworks-related injuries:

- Never let children play with fireworks of any type.
- Make sure fireworks are viewed from at least 500 feet away.

Keep your eye on safety barriers set up by pyrotechnicians, and keep children away.

Let trained professionals light fireworks.

Do not touch unexploded firework remains.

Seek immediate medical help for any eye injury caused by fireworks.

The study is published online in advance of appearing in the May print issue of the *Archives of Ophthalmolo*

Top Picks

Slideshow: See Pinkeye and Learn to Treat It
Slideshow: Non-Surgical Cosmetic Procedures for the Face
Symptoms of Styes in the Eyes
How Well Do You See Far Away?

SOURCES:
News release, *Archives of Ophthalmology*.
Khan, M. *Archives of Ophthalmology*, online Jan. 11, 2011.
American Academy of Ophthalmology.
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What's this?

ONLINE FIRST

Ocular Consequences of Bottle Rocket Injuries in Children and Adolescents

Mehnaz Khan, MS; David Reichstein, MD; Franco M. Recchia, MD

Arch Ophthalmol. Published online January 10, 2011.
doi:10.1001/archophthalmol.2010.336

ABSTRACT

Objective To describe the spectrum of ocular injuries and associated visual morbidity in the pediatric and adolescent population caused by bottle rockets.

Methods Retrospective review of consecutive medical records of patients 18 years or younger seen during a recent 4-year period. Outcome measures were ocular injuries at time of visit, interventions required, visual acuity at most recent follow-up, and most recent anatomic findings.

Results Eleven eyes from 10 patients (8 boys and 2 girls aged 5-17 years) were identified. Significant ocular injuries included corneal epithelial defect (7 eyes), hyphema (6 eyes), traumatic iritis (2 eyes), iridodialysis (4 eyes), cataract (4 eyes), retinal dialysis (1 eye), and vitreous hemorrhage (2 eyes). Eight eyes required primary intervention (lensectomy in 4 eyes, corneal debridement in 2 eyes, globe exploration in 1 eye, and retinal laser photocoagulation in 1 eye). Three patients required additional procedures. These secondary interventions included pars plana vitrectomy (1 eye), muscle surgery for sensory strabismus (1 eye), corneal debridement (1 eye), and intraocular lens placement (1 eye). Most recent visual acuity (10 eyes with follow-up) was 20/30 or better in 4 eyes and 20/200 or worse in 6 eyes (for 1 eye, the patient was unavailable for follow-up). Permanent visual impairment was typically due to traumatic maculopathy.

Conclusion Bottle rockets can cause significant ocular injury in children, often with permanent loss of vision.

INTRODUCTION

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Fireworks-related injuries are frequently seen among patients admitted to the emergency department because fireworks are a popular means of expression during Independence Day and other celebrations in the United States. In 2006, a total of 11 deaths and approximately 9200 emergency department admissions resulted from fireworks-related injuries, with most affecting boys and 36% of injuries occurring in individuals younger than 15 years.[1] An estimated 1400 cases annually involve injury to the eyes.[2] A disproportionate number of cases of severe ocular morbidity and visual impairment are caused by bottle rockets.[3-4]

A bottle rocket is approximately half the size of a normal firework and consists of 3 main parts: the core ("engine"), which is a tube filled with black powder or a similar explosive; the nose cone, which guides the

flight of the firework and may contain explosive components or other decorative items; and a guide stick, which stabilizes the rocket in flight. When ignited, the explosion propels the bottle rocket into the air, often setting off further colorful explosions, including star bursts, trails, or sparklers. Many manufacturers of bottle rockets also design them with whistles that shriek as the rockets climb into the air or explosives that make a concussive bang when they explode. The guide stick is typically stuck in the ground or braced in a bottle (hence the name) prior to launch. Injuries may result from direct high-velocity contact with the intact rocket, from parts of the rocket that may break off during flight, or from neighboring debris propelled by the force of the rocket's combustion.

Bottle rocket injuries, therefore, may bring significant costs to the individual, through loss of vision and decreased quality of life, and to society, through health care use and lost productivity. One step toward a rational discussion about the regulation of fireworks, particularly bottle rockets, is an analysis of the ocular complications that can result from their use. In addition, we hope that such studies will educate parents and children about the long-term repercussions of ocular injuries, guide pediatricians and ophthalmologists who care for and counsel these patients, and inform the public of the risks of bottle rockets. Several studies of ocular trauma have included bottle rocket injuries,[4-6] but none, to our knowledge, has detailed the extent and long-term outcomes of such injuries in children and adolescents. The objectives of this retrospective study were to describe the spectrum of ocular injuries and the long-term sequelae resulting from bottle rocket injuries in children and adolescents.

METHODS

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Approval from the institutional review board of Vanderbilt University Medical Center was obtained for this retrospective study. Consecutive medical records of all patients 18 years or younger seen in ophthalmic consultation through the Vanderbilt Children's Hospital emergency department between January 1, 2006, and December 31, 2009, were reviewed. Patients with a history of fireworks injury were selected for further study. Data collected included patient demographics (age and sex), date of the accident, method of injury, level of patient's involvement (having launched the bottle rocket or having been a bystander), visual acuity (VA) at first visit, ophthalmic findings at first visit, initial and secondary therapeutic interventions, VA at most recent follow-up, and anatomic findings at most recent follow-up.

RESULTS

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Of 2385 consultation medical records reviewed, 10 patients with a history of bottle rocket injury were identified (Table 1). Eight patients were boys and 2 were girls. The median age was 11 years (range, 5-17 years). Interestingly, 8 of the 10 patients identified were injured within a month of July 4. Eight patients were launching bottle rockets at the time of injury, whereas 2 were bystanders. Nine of 10 patients were injured in 1 eye and 1 patient in both eyes. Use of protective eyewear was not recorded in any of the patients.

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Table 1. Demographic and Historical Details of Children and Adolescents Treated for Ocular Injuries Associated With Bottle Rockets

On first visit, 7 of the 11 eyes had VA of 20/200 or worse (Table 2). Injuries to the eyelids, anterior segment, and adnexa included periocular burns (3 eyes), eyelid laceration (1 eye), corneal epithelial defect (7 eyes), hyphema (6 eyes), traumatic iritis (1 eye), iridodialysis (4 eyes), and cataract (4 eyes). Recorded injuries to the posterior segment included vitreous hemorrhage (2 eyes), intraretinal hemorrhage (2 eyes), commotio retinae (4 eyes), and retinal dialysis (1 eye). Eight of 11 eyes required primary intervention,

which included lensectomy (4 eyes), corneal debridement (2 eyes), anterior vitrectomy (1 eye), globe exploration (1 eye), and retinal laser photocoagulation (1 eye).

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Table 2. Anatomic Findings and Therapeutic Interventions in Children and Adolescents With Ocular Injuries Associated With Bottle Rockets

Secondary interventions included pars plana vitrectomy (1 eye), muscle surgery for sensory strabismus (1 eye), corneal debridement (1 eye), and intraocular lens placement (1 eye). One patient was unavailable for follow-up. In 3 patients (patients 5, 8, and 9), no active or vision-threatening ocular abnormality was seen, and these patients were discharged to care in their local area. Of the remaining 6 patients (representing 6 eyes), follow-up was available for at least 3 months (range, 3-37 months). In all 6 eyes, VA was 20/200 or worse, with limited visual potential. Permanent VA loss was attributed to corneal scarring, traumatic maculopathy, or a traumatic macular hole.

COMMENT

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This study demonstrates that bottle rockets can cause significant ocular injury in children and adolescents and, in turn, cause their parents and themselves to incur expenses through emergency department visits, surgical interventions, and days missed from school and work. It has been shown that half of all fireworks-related ocular injuries, particularly those leading to permanent blindness or enucleation, are caused by bottle rockets.[1] We specifically looked at bottle rocket–related ocular injuries because of the severity of these injuries compared with other fireworks-related ocular injuries,[4] their high incidence in children,[5] and the paucity of detailed clinical data for this subset of patients.[1]

Our study confirmed that the preponderance of trauma patients are male, as shown by a previous epidemiologic study.[4] The presence of adults was not uniformly documented in our records, but 1 study has shown that adult supervision was present in only 54% of pediatric fireworks-related injuries.[2] Indeed, adult supervision during fireworks launching may seem advisable, but it is not sufficient to prevent fireworks-related injuries in children.

Whereas most patients were launching bottle rockets at the time of injury, 2 were bystanders. In 1 of these cases, VA was reduced to finger counting. Also of note, none of the patients in this series were reported to have been wearing protective eyewear at the time of injury. Therefore, if children, adolescents, and parents choose to launch bottle rockets, it is important for parents not only to supervise children and adolescents in the vicinity of bottle rockets but also to ensure that protective eyewear is being used.

Follow-up of at least 3 months was available for 6 of 11 eyes. In all 6 eyes, VA was 20/200 or worse. In the 4 eyes with significant visual loss, the residual anatomic defects still present at the most recent follow-up included traumatic maculopathy (3 eyes) and corneal scar with aphakia (1 eye).

The main limitations of this study include the retrospective retrieval of clinical information and the possibility of ascertainment bias. Because only the cases of patients who visited our emergency department were reviewed, it is possible that those reported here are more severe. Thus, one cannot draw any conclusions regarding the incidence of bottle rocket–related ocular injuries or the true spectrum of their severity.

In this series, 8 of the injuries occurred within 1 month of Fourth-of-July festivities. Therefore, during such times, parents, children, and adolescents need to be particularly aware of the potential danger of injuries from bottle rockets. Not surprisingly, the US Consumer Product Safety Commission prohibits the sale of certain dangerous types of fireworks, including large firecrackers that contain more than 50 mg of explosive powder and aerial fireworks that contain more than 130 mg of flash powder.[7] Despite these

federal regulations and state prohibitions, approximately one-third of fireworks-related deaths between 2000 and 2005 involved fireworks illegally sold to customers.[8] Massachusetts, Delaware, New Jersey, New York, and Rhode Island are the only 5 states that ban the sale of all consumer fireworks. Whereas the US Consumer Product Safety Commission has issued mandatory safety regulations for firework devices and enforces them under the Federal Hazardous Substance Act, these regulations are clearly not enough to prevent the devastating ocular injuries incurred each year as a result of fireworks, particularly bottle rockets. Therefore, studies such as ours are important for the education of parents, children, adolescents, physicians, and the public regarding the repercussions of fireworks-related ocular injuries to active participants and to bystanders. Finally, studies such as ours can assist in modifying legislation to ban sales of bottle rockets in an effort to eliminate unnecessary ocular trauma and visual loss.

AUTHOR INFORMATION

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Submitted for Publication: June 9, 2010; final revision received October 26, 2010; accepted October 29, 2010.

Published Online: January 10, 2011. doi:10.1001/archophthalmol.2010.336

Financial Disclosure: None reported.

Funding/Support: We are grateful for support from an unrestricted departmental grant from Research to Prevent Blindness, Inc.

Author Affiliation: Vanderbilt University School of Medicine (Ms Khan) and Division of Vitreoretinal Diseases and Surgery, Vanderbilt Eye Institute (Drs Reichstein and Recchia), Vanderbilt University Medical Center, Nashville, Tennessee.

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Bruce Levi
North Dakota Society of Eye Physicians & Surgeons
North Dakota Medical Association
January 19, 2011

Voluntary Fireworks Injury Reports
North Dakota Society of Eye Physicians and Surgeons

The North Dakota Society of Eye Physicians and Surgeons annually encourages physicians, clinics and hospitals to complete a report regarding fireworks injuries treated in North Dakota. The reports are voluntary and serve only to provide information on reports received and do not account for additional bottle rocket injuries that occurred. The prohibition on the sale of bottle rockets began with the 2010 fireworks season.

2010
Eighteen injury reports received, one of which was a bottle rocket injury to an eight-year old boy that resulted in corneal abrasion and burns.

2009
Fourteen injury reports received, five of which were injuries resulting from bottle rockets (2) or skyrockets (3). Bottle rocket injuries included burns, partial sight loss, abrasions and lacerations.

2008
Eleven injury reports received, two of which resulted in injuries to children caused by bottle rockets; one causing a lacerated cornea and iris to a high school student (bystander) and one causing second degree burns on the hands and two fingers of a thirteen-year old girl.

2007
Nineteen injury reports received, five of which were injuries to children caused by bottle rockets (4) and skyrockets (1).

FIREWORKS INJURY REPORTING

NORTH DAKOTA SOCIETY OF EYE PHYSICIANS AND SURGEONS

Please complete this form for each fireworks-related injury treated during the study period June 20 – July 31. This reporting is voluntary. We appreciate your assistance in determining the nature and extent of fireworks injuries treated in North Dakota.

Please do not include any identifying information, e.g., patient's name or date of birth.

Please fax this form to (701) 223-9476: Attn: Fireworks Injury
Or mail to: North Dakota Society of Eye Physicians and Surgeons
PO Box 1198, Bismarck, ND 58503
Or e-mail to: blevi@ndmed.com

RECEIVED
JUL 01 2010
BY:

Section 1: Site of Report

Facility or Practice Name SAMC Emergency Dept

Person reporting (name and phone number)
Donnette Weil RN 701-530-7001

Section 2: Patient Information

Gender
☒ Male
☐ Female

Age 8

Date of medical evaluation: 6/28/10

Date of injury: 6/28/10

City where injury treated: Napoleon Bismarck

City where injury occurred (or county if injury occurred outside city): Napoleon

Section 3: Nature of Injury

Type of injury (check all that apply)
☒ Abrasion, contusion, laceration
☒ Burn, 1st Degree
☐ Burn, 2nd Degree
☐ Burn, 3rd Degree
☐ Dismemberment
☐ Fracture / Sprain
☐ Hearing Loss, Partial
☐ Hearing Loss, Total
☐ Sight Loss, Partial
☐ Sight Loss, Total
☒ Other Corneal abrasion x2

Body part injured
☐ Hand / Finger
☐ Arm
☒ Eye(s) Right
☐ Face/Ears/Head
☐ Leg(s)
☐ Trunk
☐ Other

Section 4: Injury Information

Nature of fireworks causing injury
☒ Bottle rocket
☐ Fountain
☐ Skyrocket (larger than bottle rocket)
☐ Roman candle
☐ Ground spinner/flower
☐ Sparkler
☐ Firecracker
☐ Illegal fireworks (e.g., cherry bomb, M-80)
☐ Homemade or altered fireworks
☐ Smoke bomb
☐ Wheel
☐ Other

Reason for injury (if known)
☒ Malfunction / timing of firework
☐ Errant path of rocket
☐ Debris from aerial fireworks
☐ Mishandling (relighting, throwing, etc.)
☐ Other
☐ Unknown

Risk factors at time of injury
☐ Alcohol consumption by injured person
☐ Alcohol consumption by fireworks user (other than patient)
☐ Injured person was bystander
☒ Injured person or fireworks user was less than 12 years of age with no adult present
☐ Unknown

Eyewear worn
☒ Not worn
☐ Contacts
☐ Street spectacles
☐ Safety spectacles
☐ Sports spectacles
☐ Unknown

Section 5: Comments / Additional Information

FIREWORKS INJURY REPORTING

NORTH DAKOTA SOCIETY OF EYE PHYSICIANS AND SURGEONS

Please complete this form for each fireworks-related injury treated during the study period June 20 – July 31. This reporting is voluntary. We appreciate your assistance in determining the nature and extent of fireworks injuries treated in North Dakota.

Please do not include any identifying information, e.g., patient's name or date of birth.

Please fax this form to (701) 223-9476: Attn: Fireworks Injury
Or mail to: North Dakota Society of Eye Physicians and Surgeons
PO Box 1198, Bismarck, ND 58503
Or e-mail to: blevi@ndmed.com

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JUL 10 2009
BY:

Section 1: Site of Report

Facility or Practice Name Meritcare

Person reporting (name and phone number)
maria Weller MD
234-3600

Section 2: Patient Information

Gender
☒ Male
☐ Female

Age 9

Date of medical evaluation: 7/8/09

Date of injury: 7/5/09

City where injury treated: Meritcare SW (childrens WalkIn)

City where injury occurred (or county if injury occurred outside city): not sure if ND or MN

Section 3: Nature of Injury

Type of injury (check all that apply)
☐ Abrasion, contusion, laceration
☒ Burn, 1st Degree
☐ Burn, 2nd Degree
☐ Burn, 3rd Degree
☐ Dismemberment
☐ Fracture / Sprain
☐ Hearing Loss, Partial
☐ Hearing Loss, Total
☐ Sight Loss, Partial
☐ Sight Loss, Total
☒ Other tinnitis

Body part injured
☐ Hand / Finger
☐ Arm
☐ Eye(s)
☒ Face/Ears/Head
☐ Leg(s)
☐ Trunk
☐ Other

Section 4: Injury Information

Nature of fireworks causing injury
☒ Bottle rocket
☐ Fountain
☐ Skyrocket (larger than bottle rocket)
☐ Roman candle
☐ Ground spinner/flower
☐ Sparkler
☐ Firecracker
☐ Illegal fireworks (e.g., cherry bomb, M-80)
☐ Homemade or altered fireworks
☐ Smoke bomb
☐ Wheel
☐ Other

Reason for injury (if known)
☐ Malfunction / timing of firework
☐ Errant path of rocket
☐ Debris from aerial fireworks
☒ Mishandling (relighting, throwing, etc.)
☐ Other
☐ Unknown

Risk factors at time of injury
☐ Alcohol consumption by injured person
☐ Alcohol consumption by fireworks user (other than patient)
☐ Injured person was bystander
☐ Injured person or fireworks user was less than 12 years of age with no adult present
☒ Unknown

Eyewear worn
☒ Not worn
☐ Contacts
☐ Street spectacles
☐ Safety spectacles
☐ Sports spectacles
☐ Unknown

Section 5: Comments / Additional Information

(R) arm - superficial 1st degree burn also

FIREWORKS INJURY REPORTING

NORTH DAKOTA SOCIETY OF EYE PHYSICIANS AND SURGEONS

Please complete this form for each fireworks-related injury treated during the study period June 20 – July 31. This reporting is voluntary. We appreciate your assistance in determining the nature and extent of fireworks injuries treated in North Dakota.

Please do not include any identifying information, e.g., patient's name or date of birth.

Please fax this form to (701) 223-9476: Attn: Fireworks Injury
Or mail to: North Dakota Society of Eye Physicians and Surgeons
PO Box 1198, Bismarck, ND 58503
Or e-mail to: blevi@ndmed.com

Section 1: Site of Report

Facility or Practice Name Meritcare

Person reporting (name and phone number)
maria Weller MD
234-3600

Section 2: Patient Information

Gender
☒ Male
☐ Female

Age 9

Date of medical evaluation: 7/8/09

Date of injury: 7/5/09

City where injury treated: Meritcare SW (childrens Walk In)

City where injury occurred (or county if injury occurred outside city): not sure if ND or MN

Section 3: Nature of Injury

Type of injury (check all that apply)
☐ Abrasion, contusion, laceration
☒ Burn, 1st Degree
☐ Burn, 2nd Degree
☐ Burn, 3rd Degree
☐ Dismemberment
☐ Fracture / Sprain
☐ Hearing Loss, Partial
☐ Hearing Loss, Total
☐ Sight Loss, Partial
☐ Sight Loss, Total
☒ Other tinnitis

Body part injured
☐ Hand / Finger
☐ Arm
☐ Eye(s)
☒ Face/Ears/Head
☐ Leg(s)
☐ Trunk
☐ Other

Section 4: Injury Information

Nature of fireworks causing injury
☒ Bottle rocket
☐ Fountain
☐ Skyrocket (larger than bottle rocket)
☐ Roman candle
☐ Ground spinner/flower
☐ Sparkler
☐ Firecracker
☐ Illegal fireworks (e.g., cherry bomb, M-80)
☐ Homemade or altered fireworks
☐ Smoke bomb
☐ Wheel
☐ Other

Reason for injury (if known)
☐ Malfunction / timing of firework
☐ Errant path of rocket
☐ Debris from aerial fireworks
☒ Mishandling (relighting, throwing, etc.)
☐ Other
☐ Unknown

Risk factors at time of injury
☐ Alcohol consumption by injured person
☐ Alcohol consumption by fireworks user (other than patient)
☐ Injured person was bystander
☐ Injured person or fireworks user was less than 12 years of age with no adult present
☒ Unknown

Eyewear worn
☒ Not worn
☐ Contacts
☐ Street spectacles
☐ Safety spectacles
☐ Sports spectacles
☐ Unknown

Section 5: Comments / Additional Information

(R) arm - superficial 1st deg burn also

FIREWORKS INJURY REPORTING

NORTH DAKOTA SOCIETY OF EYE PHYSICIANS AND SURGEONS

Please complete this form for each fireworks-related injury treated during the study period June 20 – July 31. This reporting is voluntary. We appreciate your assistance in determining the nature and extent of fireworks injuries treated in North Dakota.

Please do not include any identifying information, e.g., patient's name or date of birth.

Please fax this form to (701) 223-9476: Attn: Fireworks Injury
Or mail to: North Dakota Society of Eye Physicians and Surgeons
PO Box 1198, Bismarck, ND 58503
Or e-mail to: blevi@ndmed.com

Section 1: Site of Report

Facility or Practice Name: Dakota Eye Institute

Person reporting (name and phone number):
Douglas Litchfield
701 - 222 - 3937

Section 2: Patient Information

Gender
- ■ Male
- ☐ Female

Age: 22

Date of medical evaluation: 7-14-09

Date of injury: 7-3-09

City where injury treated: Bismarck

City where injury occurred (or county if injury occurred outside city): Hettinger

Section 3: Nature of Injury

Type of injury (check all that apply)
- ■ Abrasion, contusion, laceration
- ☐ Burn, 1st Degree
- ☐ Burn, 2nd Degree
- ☐ Burn, 3rd Degree
- ☐ Dismemberment
- ☐ Fracture / Sprain
- ☐ Hearing Loss, Partial
- ☐ Hearing Loss, Total
- ■ Sight Loss, Partial
- ☐ Sight Loss, Total
- ☐ Other_____

Body part injured
- ☐ Hand / Finger
- ☐ Arm
- ■ Eye(s) Right
- ■ Face/Ears/Head
- ☐ Leg(s)
- ☐ Trunk
- ☐ Other

Section 4: Injury Information

Nature of fireworks causing injury
- ☐ Bottle rocket
- ☐ Fountain
- ■ Skyrocket (larger than bottle rocket)
- ☐ Roman candle
- ☐ Ground spinner/flower
- ☐ Sparkler
- ☐ Firecracker
- ☐ Illegal fireworks (e.g., cherry bomb, M-80)
- ☐ Homemade or altered fireworks
- ☐ Smoke bomb
- ☐ Wheel
- ☐ Other_____

Reason for injury (if known)
- ☐ Malfunction / timing of firework
- ☐ Errant path of rocket
- ☐ Debris from aerial fireworks
- ■ Mishandling (relighting, throwing, etc.)
- ☐ Other_____
- ☐ Unknown

Risk factors at time of injury
- ■ Alcohol consumption by injured person
- ■ Alcohol consumption by fireworks user (other than patient)
- ■ Injured person was bystander
- ☐ Injured person or fireworks user was less than 12 years of age with no adult present
- ☐ Unknown

Eyewear worn
- ■ Not worn
- ☐ Contacts
- ☐ Street spectacles
- ☐ Safety spectacles
- ☐ Sports spectacles
- ☐ Unknown

Section 5: Comments / Additional Information

Final outcome not known. Will need lensectomy, vitrectomy, Scleral intra-ocular lens.

FIREWORKS INJURY REPORTING

NORTH DAKOTA SOCIETY OF EYE PHYSICIANS AND SURGEONS

Please complete this form for each fireworks-related injury treated during the study period June 20 – July 31. This reporting is voluntary. We appreciate your assistance in determining the nature and extent of fireworks injuries treated in North Dakota.

Please do not include any identifying information, e.g., patient's name or date of birth.

Please fax this form to (701) 223-9476: Attn: Fireworks Injury
Or mail to: North Dakota Society of Eye Physicians and Surgeons
PO Box 1198, Bismarck, ND 58503
Or e-mail to: blevi@ndmed.com

Section 1: Site of Report

Facility or Practice Name: Innovis Health ER FARGO ND

Person reporting (name and phone number): John Bauch MD 701 364 8401

Section 2: Patient Information

Gender
- ☐ Male
- ☑ Female

Age: 12

Date of medical evaluation: 07/04/2009

Date of injury: 07/04/2009

City where injury treated: FARGO ND

City where injury occurred (or county if injury occurred outside city):

Section 3: Nature of Injury

Type of injury (check all that apply)
- ☐ Abrasion, contusion, laceration
- ☐ Burn, 1st Degree
- ☐ Burn, 2nd Degree
- ☐ Burn, 3rd Degree
- ☐ Dismemberment
- ☐ Fracture / Sprain
- ☐ Hearing Loss, Partial
- ☐ Hearing Loss, Total
- ☐ Sight Loss, Partial
- ☐ Sight Loss, Total
- ☑ Other: Laceration

Body part injured
- ☐ Hand / Finger
- ☐ Arm
- ☐ Eye(s)
- ☑ Face/Ears/Head
- ☐ Leg(s)
- ☐ Trunk
- ☐ Other

Section 4: Injury Information

Nature of fireworks causing injury
- ☐ Bottle rocket
- ☐ Fountain
- ☑ Skyrocket (larger than bottle rocket)
- ☐ Roman candle
- ☐ Ground spinner/flower
- ☐ Sparkler
- ☐ Firecracker
- ☐ Illegal fireworks (e.g., cherry bomb, M-80)
- ☐ Homemade or altered fireworks
- ☐ Smoke bomb
- ☐ Wheel
- ☐ Other

Reason for injury (if known)
- ☑ Malfunction / timing of firework
- ☐ Errant path of rocket
- ☑ Debris from aerial fireworks
- ☐ Mishandling (relighting, throwing, etc.)
- ☐ Other
- ☐ Unknown

Risk factors at time of injury
- ☐ Alcohol consumption by injured person
- ☐ Alcohol consumption by fireworks user (other than patient)
- ☑ Injured person was bystander
- ☐ Injured person or fireworks user was less than 12 years of age with no adult present
- ☐ Unknown

Eyewear worn
- ☑ Not worn
- ☐ Contacts
- ☐ Street spectacles
- ☐ Safety spectacles
- ☐ Sports spectacles
- ☐ Unknown

Section 5: Comments / Additional Information

2-5 cm laceration to Forehead.

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FIREWORKS INJURY REPORTING

NORTH DAKOTA SOCIETY OF EYE PHYSICIANS AND SURGEONS

Please complete this form for each fireworks-related injury treated during the study period June 20 – July 31. This reporting is voluntary. We appreciate your assistance in determining the nature and extent of fireworks injuries treated in North Dakota.

Please do not include any identifying information, e.g., patient's name or date of birth.

Please fax this form to (701) 223-9476: Attn: Fireworks Injury
Or mail to: North Dakota Society of Eye Physicians and Surgeons
PO Box 1198, Bismarck, ND 58503
Or e-mail to: blevi@ndmed.com

Section 1: Site of Report

Facility or Practice Name: Heart of America Med Ctr

Person reporting (name and phone number):
Janei Schmaltz
701-776-5261 x2305

Section 2: Patient Information

Gender
☒ Male
☐ Female

Age: 37

Date of medical evaluation: 7-4-09

Date of injury: 7-4-09

City where injury treated: Rugby

City where injury occurred (or county if injury occurred outside city): Unknown

Section 3: Nature of Injury

Type of injury (check all that apply)
☒ Abrasion, contusion, laceration
☒ Burn, 1st Degree
☐ Burn, 2nd Degree
☐ Burn, 3rd Degree
☐ Dismemberment
☐ Fracture / Sprain
☐ Hearing Loss, Partial
☐ Hearing Loss, Total
☐ Sight Loss, Partial
☐ Sight Loss, Total
☒ Other: Foreign body (L) eye

Body part injured
☐ Hand / Finger
☐ Arm
☒ Eye(s)
☒ Face/Ears/Head
☐ Leg(s)
☐ Trunk
☐ Other

Section 4: Injury Information

Nature of fireworks causing injury
☐ Bottle rocket
☐ Fountain
☒ Skyrocket (larger than bottle rocket)
☐ Roman candle
☐ Ground spinner/flower
☐ Sparkler
☐ Firecracker
☐ Illegal fireworks (e.g., cherry bomb, M-80)
☐ Homemade or altered fireworks
☐ Smoke bomb
☐ Wheel
☐ Other: _____

Reason for injury (if known)
☒ Malfunction / timing of firework
☐ Errant path of rocket
☐ Debris from aerial fireworks
☐ Mishandling (relighting, throwing, etc.)
☐ Other: _____
☐ Unknown

Risk factors at time of injury
☐ Alcohol consumption by injured person
☐ Alcohol consumption by fireworks user (other than patient)
☐ Injured person was bystander
☐ Injured person or fireworks user was less than 12 years of age with no adult present
☒ Unknown

Eyewear worn
☐ Not worn
☐ Contacts
☐ Street spectacles
☐ Safety spectacles
☐ Sports spectacles
☒ Unknown

Section 5: Comments / Additional Information

FIREWORKS INJURY REPORTING
NORTH DAKOTA SOCIETY OF EYE PHYSICIANS AND SURGEONS

Please complete this form for each fireworks-related injury treated during the study period June 20 – July 31. This reporting is voluntary. We appreciate your assistance in determining the nature and extent of fireworks injuries treated in North Dakota.

Please do not include any identifying information, e.g., patient's name or date of birth.

Please fax this form to (701) 223-9476: Attn: Fireworks Injury
Or mail to: North Dakota Society of Eye Physicians and Surgeons
PO Box 1198, Bismarck, ND 58503
Or e-mail to: blevi@ndmed.com

Section 1: Site of Report

Facility or Practice Name: McKenzie Co Hospital

Person reporting (name and phone number): Brenda Fulwider RN 842-3000

Section 2: Patient Information

Gender
- ☐ Male
- ☒ Female

Age: 13

Date of medical evaluation: 7-6-08

Date of injury: 7-5-08

City where injury treated: Watford City ND

City where injury occurred (or county if injury occurred outside city): McKenzie ND

Section 3: Nature of Injury

Type of injury (check all that apply)
- ☐ Abrasion, contusion, laceration
- ☐ Burn, 1st Degree
- ☒ Burn, 2nd Degree
- ☐ Burn, 3rd Degree
- ☐ Dismemberment
- ☐ Fracture / Sprain
- ☐ Hearing Loss, Partial
- ☐ Hearing Loss, Total
- ☐ Sight Loss, Partial
- ☐ Sight Loss, Total
- ☐ Other_____

Body part injured
- ☒ Hand (Finger's) x2
- ☐ Arm
- ☐ Eye(s)
- ☐ Face/Ears/Head
- ☐ Leg(s)
- ☐ Trunk
- ☐ Other

Section 4: Injury Information

Nature of fireworks causing injury
- ☒ Bottle rocket
- ☐ Fountain
- ☐ Skyrocket (larger than bottle rocket)
- ☐ Roman candle
- ☐ Ground spinner/flower
- ☐ Sparkler
- ☐ Firecracker
- ☐ Illegal fireworks (e.g., cherry bomb, M-80)
- ☐ Homemade or altered fireworks
- ☐ Smoke bomb
- ☐ Wheel
- ☐ Other_____

Reason for injury (if known)
- ☐ Malfunction / timing of firework
- ☐ Errant path of rocket
- ☐ Debris from aerial fireworks
- ☒ Mishandling (relighting, throwing, etc.)
- ☐ Other_____
- ☐ Unknown

Risk factors at time of injury
- ☐ Alcohol consumption by injured person
- ☐ Alcohol consumption by fireworks user (other than patient)
- ☐ Injured person was bystander
- ☐ Injured person or fireworks user was less than 12 years of age with no adult present
- ☐ Unknown

Eyewear worn
- ☒ Not worn
- ☐ Contacts
- ☐ Street spectacles
- ☐ Safety spectacles
- ☐ Sports spectacles
- ☐ Unknown

Section 5: Comments / Additional Information

FIREWORKS INJURY REPORTING

NORTH DAKOTA SOCIETY OF EYE PHYSICIANS AND SURGEONS

Please complete this form for each fireworks-related injury treated during the study period June 20 – July 31. This reporting is voluntary. We appreciate your assistance in determining the nature and extent of fireworks injuries treated in North Dakota.

Please do not include any identifying information, e.g., patient's name or date of birth.

Please fax this form to (701) 223-9476: Attn: Fireworks Injury
Or mail to: North Dakota Society of Eye Physicians and Surgeons
PO Box 1198, Bismarck, ND 58503
Or e-mail to: blevi@ndmed.com

Section 1: Site of Report

Facility or Practice Name Innovis Hospital

Person reporting (name and phone number)_____

Section 2: Patient Information

Gender
☒ Male
☐ Female

Age 12

Date of medical evaluation: 7/3/07

Date of injury: 7/3/07

City where injury treated: Fargo

City where injury occurred (or county if injury occurred outside city): Hankinson

Section 3: Nature of Injury

Type of injury (check all that apply)
☐ Abrasion, contusion, laceration
☐ Burn, 1st Degree
☐ Burn, 2nd Degree
☐ Burn, 3rd Degree
☐ Dismemberment
☐ Fracture / Sprain
☐ Hearing Loss, Partial
☐ Hearing Loss, Total
☐ Sight Loss, Partial
☐ Sight Loss, Total
☒ Other transfer to Hennepin for further evaluation

Body part injured
☐ Hand / Finger
☐ Arm
☒ Eye(s)
☒ Face/Ears/Head
☐ Leg(s)
☐ Trunk
☐ Other

Section 4: Injury Information

Nature of fireworks causing injury
☐ Bottle rocket
☐ Fountain
☒ Skyrocket (larger than bottle rocket)
☐ Roman candle
☐ Ground spinner/flower
☐ Sparkler
☐ Firecracker
☐ Illegal fireworks (e.g., cherry bomb, M-80)
☐ Homemade or altered fireworks
☐ Smoke bomb
☐ Wheel
☐ Other_____

Reason for injury (if known)
☐ Malfunction / timing of firework
☐ Errant path of rocket
☐ Debris from aerial fireworks
☐ Mishandling (relighting, throwing, etc.)
☐ Other_____
☒ Unknown

Risk factors at time of injury
☐ Alcohol consumption by injured person
☐ Alcohol consumption by fireworks user (other than patient)
☐ Injured person was bystander
☒ Injured person or fireworks user was less than 12 years of age with no adult present
☐ Unknown

Eyewear worn
☒ Not worn
☐ Contacts
☐ Street spectacles
☐ Safety spectacles
☐ Sports spectacles
☐ Unknown

Section 5: Comments / Additional Information

FIREWORKS INJURY REPORTING

NORTH DAKOTA SOCIETY OF EYE PHYSICIANS AND SURGEONS

Please complete this form for each fireworks-related injury treated during the study period June 20 – July 31. This reporting is voluntary. We appreciate your assistance in determining the nature and extent of fireworks injuries treated in North Dakota.

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PO Box 1198, Bismarck, ND 58503
Or e-mail to: blevi@ndmed.com

Section 1: Site of Report

Facility or Practice Name: Presentation Med Center

Person reporting (name and phone number): Vicki Lindseth 701-477-3161

Section 2: Patient Information

Gender
- [x] Male
- [ ] Female

Age: 2

Date of medical evaluation: 7-3-07

Date of injury: 7-3-07

City where injury treated: Rolla

City where injury occurred (or county if injury occurred outside city): Rolette

Section 3: Nature of Injury

Type of injury (check all that apply)
- [ ] Abrasion, contusion, laceration
- [ ] Burn, 1st Degree
- [x] Burn, 2nd Degree
- [ ] Burn, 3rd Degree
- [ ] Dismemberment
- [ ] Fracture / Sprain
- [ ] Hearing Loss, Partial
- [ ] Hearing Loss, Total
- [ ] Sight Loss, Partial
- [ ] Sight Loss, Total
- [ ] Other

Body part injured
- [ ] Hand / Finger
- [ ] Arm
- [ ] Eye(s)
- [ ] Face/Ears/Head
- [ ] Leg(s)
- [ ] Trunk
- [x] Other neck

Section 4: Injury Information

Nature of fireworks causing injury
- [x] Bottle rocket
- [ ] Fountain
- [ ] Skyrocket (larger than bottle rocket)
- [ ] Roman candle
- [ ] Ground spinner/flower
- [ ] Sparkler
- [ ] Firecracker
- [ ] Illegal fireworks (e.g., cherry bomb, M-80)
- [ ] Homemade or altered fireworks
- [ ] Smoke bomb
- [ ] Wheel
- [ ] Other

Reason for injury (if known)
- [ ] Malfunction / timing of firework
- [ ] Errant path of rocket
- [ ] Debris from aerial fireworks
- [x] Mishandling (relighting, throwing, etc.)
- [ ] Other
- [ ] Unknown

Risk factors at time of injury
- [ ] Alcohol consumption by injured person
- [ ] Alcohol consumption by fireworks user (other than patient)
- [ ] Injured person was bystander
- [ ] Injured person or fireworks user was less than 12 years of age with no adult present
- [x] Unknown

Eyewear worn
- [x] Not worn
- [ ] Contacts
- [ ] Street spectacles
- [ ] Safety spectacles
- [ ] Sports spectacles
- [ ] Unknown

Section 5: Comments / Additional Information

FIREWORKS INJURY REPORTING

NORTH DAKOTA SOCIETY OF EYE PHYSICIANS AND SURGEONS

Please complete this form for each fireworks-related injury treated during the study period June 20 – July 31. This reporting is voluntary. We appreciate your assistance in determining the nature and extent of fireworks injuries treated in North Dakota.

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Please fax this form to (701) 223-9476: Attn: Fireworks Injury
Or mail to: North Dakota Society of Eye Physicians and Surgeons
PO Box 1198, Bismarck, ND 58503
Or e-mail to: blevi@ndmed.com

Section 1: Site of Report

Facility or Practice Name: MeritCare

Person reporting (name and phone number): Steven Thom MD
701-234-2305

Section 2: Patient Information

Gender
- [x] Male
- [ ] Female

Age: 9

Date of medical evaluation: 7-5-07

Date of injury: 7-4-07

City where injury treated: Fargo

City where injury occurred (or county if injury occurred outside city): Fargo

Section 3: Nature of Injury

Type of injury (check all that apply)
- [x] Abrasion, contusion, laceration
- [ ] Burn, 1st Degree
- [ ] Burn, 2nd Degree
- [ ] Burn, 3rd Degree
- [ ] Dismemberment
- [ ] Fracture / Sprain
- [ ] Hearing Loss, Partial
- [ ] Hearing Loss, Total
- [ ] Sight Loss, Partial
- [ ] Sight Loss, Total
- [ ] Other

Body part injured
- [ ] Hand / Finger
- [ ] Arm
- [x] Eye(s) (Conjunctiva)
- [ ] Face/Ears/Head
- [ ] Leg(s)
- [ ] Trunk
- [ ] Other

Section 4: Injury Information

Nature of fireworks causing injury
- [x] Bottle rocket
- [ ] Fountain
- [ ] Skyrocket (larger than bottle rocket)
- [ ] Roman candle
- [ ] Ground spinner/flower
- [ ] Sparkler
- [ ] Firecracker
- [ ] Illegal fireworks (e.g., cherry bomb, M-80)
- [ ] Homemade or altered fireworks
- [ ] Smoke bomb
- [ ] Wheel
- [ ] Other

Reason for injury (if known)
- [ ] Malfunction / timing of firework
- [ ] Errant path of rocket
- [ ] Debris from aerial fireworks
- [x] Mishandling (relighting, throwing, etc.)
- [ ] Other
- [ ] Unknown

Risk factors at time of injury
- [ ] Alcohol consumption by injured person
- [ ] Alcohol consumption by fireworks user (other than patient)
- [ ] Injured person was bystander
- [x] Injured person or fireworks user was less than 12 years of age with no adult present
- [ ] Unknown

Eyewear worn
- [x] Not worn
- [ ] Contacts
- [ ] Street spectacles
- [ ] Safety spectacles
- [ ] Sports spectacles
- [ ] Unknown

Section 5: Comments / Additional Information

FIREWORKS INJURY REPORTING

NORTH DAKOTA SOCIETY OF EYE PHYSICIANS AND SURGEONS

Please complete this form for each fireworks-related injury treated during the study period June 20 – July 31. This reporting is voluntary. We appreciate your assistance in determining the nature and extent of fireworks injuries treated in North Dakota.

Please do not include any identifying information, e.g., patient's name or date of birth.

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Or mail to: North Dakota Society of Eye Physicians and Surgeons
PO Box 1198, Bismarck, ND 58503
Or e-mail to: blevi@ndmed.com

Section 1: Site of Report

Facility or Practice Name: Meritcare

Person reporting (name and phone number):

Section 2: Patient Information

Gender
- [x] Male
- [ ] Female

Age: 8

Date of medical evaluation: 7-5-07

Date of injury: 7-4-07

City where injury treated: Fargo

City where injury occurred (or county if injury occurred outside city): Mahnomen

Section 3: Nature of Injury

Type of injury (check all that apply)
- [ ] Abrasion, contusion, laceration
- [ ] Burn, 1st Degree
- [ ] Burn, 2nd Degree
- [ ] Burn, 3rd Degree
- [ ] Dismemberment
- [ ] Fracture / Sprain
- [ ] Hearing Loss, Partial
- [ ] Hearing Loss, Total
- [ ] Sight Loss, Partial
- [ ] Sight Loss, Total
- [ ] Other

Blunt Burn + Contusion L. cornea

Body part injured
- [ ] Hand / Finger
- [ ] Arm
- [x] Eye(s)
- [ ] Face/Ears/Head
- [ ] Leg(s)
- [ ] Trunk
- [ ] Other

Section 4: Injury Information

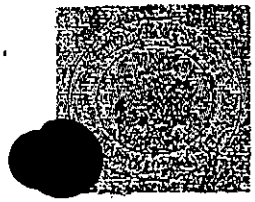
Nature of fireworks causing injury
- [x] Bottle rocket
- [ ] Fountain
- [ ] Skyrocket (larger than bottle rocket)
- [ ] Roman candle
- [ ] Ground spinner/flower
- [ ] Sparkler
- [ ] Firecracker
- [ ] Illegal fireworks (e.g., cherry bomb, M-80)
- [ ] Homemade or altered fireworks
- [ ] Smoke bomb
- [ ] Wheel
- [ ] Other

Reason for injury (if known)
- [ ] Malfunction / timing of firework
- [ ] Errant path of rocket
- [ ] Debris from aerial fireworks
- [ ] Mishandling (relighting, throwing, etc.)
- [ ] Other
- [x] Unknown

Risk factors at time of injury
- [ ] Alcohol consumption by injured person
- [ ] Alcohol consumption by fireworks user (other than patient)
- [ ] Injured person was bystander
- [ ] Injured person or fireworks user was less than 12 years of age with no adult present
- [x] Unknown

Eyewear worn
- [ ] Not worn
- [ ] Contacts
- [ ] Street spectacles
- [ ] Safety spectacles
- [ ] Sports spectacles
- [x] Unknown

Section 5: Comments / Additional Information



FIREWORKS INJURY REPORTING

NORTH DAKOTA SOCIETY OF EYE PHYSICIANS AND SURGEONS

Please complete this form for each fireworks-related injury treated during the study period June 20 – July 31. This reporting is voluntary. We appreciate your assistance in determining the nature and extent of fireworks injuries treated in North Dakota.

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Please fax this form to (701) 223-9476: Attn: Fireworks Injury
Or mail to: North Dakota Society of Eye Physicians and Surgeons
PO Box 1198, Bismarck, ND 58503
Or e-mail to: blevi@ndmed.com

Section 1: Site of Report

Facility or Practice Name Bergstrom Eye + Laser

Person reporting (name and phone number)
Heather Cowden, OD
701-235-5200

Section 2: Patient Information

Gender
☐ Male
☒ Female
Age 8

Date of medical evaluation: 7/4/07

Date of injury: 7/4/07

City where injury treated: Fargo

City where injury occurred (or county if injury occurred outside city): Casselton

Section 3: Nature of Injury

Type of injury (check all that apply)
☒ Abrasion, contusion, laceration
☐ Burn, 1st Degree
☐ Burn, 2nd Degree
☐ Burn, 3rd Degree
☐ Dismemberment
☐ Fracture / Sprain
☐ Hearing Loss, Partial
☐ Hearing Loss, Total
☐ Sight Loss, Partial
☐ Sight Loss, Total
☐ Other

Body part injured
☐ Hand / Finger
☐ Arm
☒ Eye(s)
☐ Face/Ears/Head
☐ Leg(s)
☐ Trunk
☐ Other

Section 4: Injury Information

Nature of fireworks causing injury
☒ Bottle rocket
☐ Fountain
☐ Skyrocket (larger than bottle rocket)
☐ Roman candle
☐ Ground spinner/flower
☐ Sparkler
☐ Firecracker
☐ Illegal fireworks (e.g., cherry bomb, M-80)
☐ Homemade or altered fireworks
☐ Smoke bomb
☐ Wheel
☐ Other

Reason for injury (if known)
☐ Malfunction / timing of firework
☒ Errant path of rocket
☐ Debris from aerial fireworks
☐ Mishandling (relighting, throwing, etc.)
☐ Other
☐ Unknown

Risk factors at time of injury
☐ Alcohol consumption by injured person
☐ Alcohol consumption by fireworks user (other than patient)
☒ Injured person was bystander
☐ Injured person or fireworks user was less than 12 years of age with no adult present
☐ Unknown

Eyewear worn
☐ Not worn
☐ Contacts
☒ Street spectacles
☐ Safety spectacles
☐ Sports spectacles
☐ Unknown

Section 5: Comments / Additional Information