

Completed Emergency Epidemic Investigation (OMB) Form

OMB No.

EMERGENCY EPIDEMIC INVESTIGATIONS

EPI-AID NO: EPI-2003-03

FORM APPROVED  
OMB NO. 0920-0008  
EXP. DATE: 12/31/2006

TITLE OF INVESTIGATION:

Pulmonary health effects among hockey players exposed to ice resurfacer emissions, PA

USED FOR THE FOLLOWING PURPOSE:

To obtain descriptive data for health-related effects during July 2002.

DATE OF THE INVESTIGATION: BEGINNING: 10 / 10 / 2002 ENDING: 10 / 24 / 2002

Complete this section for each instrument used during the investigation

DATA COLLECTION METHOD:

PERSONAL INTERVIEW

TELEPHONE

MAIL

OTHER (please specify):

A. DESCRIPTION OF RESPONDENTS (i.e., individuals, households, physicians, state and local government)

individuals (amateur hockey players)

B. ESTIMATED NUMBER OF RESPONDENTS:

96

C. NUMBER OF RESPONSES PER RESPONDENT (i.e., one time only, once a week for 2 weeks)

one time only

D. BURDEN PER RESPONSE (i.e., time taken for a respondent to complete the data collection instrument)

15 minutes

TOTAL ANNUAL BURDEN (Multiply B X C X D):

1440

PROJECT OFFICER:

Name: Carlos A. Sanchez  
Title: EIS Officer  
CIO: NCEH  
Phone: (770) 488 3466

Public reporting burden of this collection of information is estimated to average 15 minutes per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. An agency may not conduct or sponsor, and a person is not to respond to a collection of information unless it displays a currently valid OMB control number. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden to CDC/ATSDR Reports Clearance Officer, 1600 Clifton Road NE, MS D-74, Atlanta, Georgia 30333; ATTN: PRA (0920-0008).

**Appendix B.**  
**MEDICAL ABSTRACTION FORM**

No.: \_\_\_\_\_ Team: \_\_\_\_\_

Sex: \_\_\_\_ Age: \_\_\_\_ years

Date at Emergency Room: \_\_\_\_ / \_\_\_\_ / \_\_\_\_ Time: \_\_\_\_\_ (24 hrs)

Time of onset before EMG: \_\_\_\_\_ hours Time after game: \_\_\_\_ hours

**Past Medical History**

Previous dx of asthma: ( ) What year?: \_\_\_\_\_ Use of Inhalor?: ( )

Other medical problems:

Medications: \_\_\_\_\_

**Symptoms**

Chief Complaint: \_\_\_\_\_

**Carbon Monoxide Intoxication**

Headache ( )  
Dizziness ( )  
Weakness ( )

Difficulty Concentrating ( )  
Confusion ( )  
Shortness of Breath ( )  
Visual changes ( )

**Nitrogen Dioxide Intoxication**

Hemoptysis ( )  
Mucous membrane irritation ( )  
- conjunctivitis, reinitis, burning throat-  
Cough ( )

Fever ( )  
Wheeze ( )  
Dyspnea ( )  
Cyanosis ( )

**Common to Both**

Nausea ( ) Vomiting ( )  
Chest pain ( )  
Loss of consciousness ( )  
Abdominal pain ( )  
Muscle cramping ( )

**Vital Signs**

Temperature: \_\_\_\_ °F Weight: \_\_\_\_\_ kgs Height: \_\_\_\_\_ mts

Tachypnea ( ) \_\_\_\_ resp. per minute  
Tachycardia ( ) \_\_\_\_ beats per minute

Oxygen saturation: \_\_\_\_\_ % Blood Pressure: \_\_\_\_\_ mmHg

## Physical Examination

Mucous membrane irritation ( )      Fatigue ( )      Lethargy ( )  
- conjunctivitis, retinitis, inflamed throat -      Cyanosis ( )      Pallor ( )  
Other: \_\_\_\_\_

Lung Exam: rales ( )    rhonchi ( )    wheeze ( )    breath sounds (^) (v)    Other: \_\_\_\_\_

**Cell Blood Count:**      [ WBC >  $\frac{\text{Hgb}}{\text{Hct}}$  < Plt.]  
WBC: \_\_\_\_    Diff: PMN \_\_\_\_    Lymph: \_\_\_\_    Hgb: \_\_\_\_    Hct: \_\_\_\_    Platelet: \_\_\_\_

Hemolysis: (1) (0)      Arterial Blood Gas    pH    /P<sub>a</sub>CO<sub>2</sub>    /P<sub>a</sub>O<sub>2</sub>    /HCO<sub>3</sub><sup>-</sup>

**Chemistry:**    Glucose: \_\_\_\_      Sodium (Na): \_\_\_\_      Chlorine (Cl): \_\_\_\_  
Potassium (K): \_\_\_\_      Bicarb (HCO<sub>3</sub>): \_\_\_\_      BUN: \_\_\_\_      Creatinine: \_\_\_\_

Calcium (Ca): \_\_\_\_      Phosphorus (P): \_\_\_\_      Magnesium (Mg): \_\_\_\_

Total Bilirubin: \_\_\_\_      Direct: \_\_\_\_      Indirect: \_\_\_\_

AST: \_\_\_\_    ALT: \_\_\_\_    Alc Phos: \_\_\_\_    Gluthione (GST): \_\_\_\_    GGTP: \_\_\_\_

CarboxiHemoglobin (COHb) : \_\_\_\_ %      Methemoglobin (MOHb): \_\_\_\_ %

Other: \_\_\_\_\_

## Pulmonary Tests

Chest X-ray findings: \_\_\_\_\_

Peak Flows: \_\_\_\_    FEV1: \_\_\_\_    FEV2: \_\_\_\_    Comments: \_\_\_\_\_

## Cardiac

ElectroCardiogram: \_\_\_\_\_

## Emergency Room Diagnosis

Primary: \_\_\_\_\_

Secondary: \_\_\_\_\_

Other: \_\_\_\_\_

Hospitalization – Admitted ( )      Date of discharge: \_\_\_\_ / \_\_\_\_ / \_\_\_\_      Time: \_\_\_\_ hrs

Treatment: Hyperbaric O2 ( )      Normobaric O2 ( )      Other: \_\_\_\_\_

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**Appendix C.  
Questionnaire**

Did you attend a game at the Lehigh Valley Ice Rink on September 29<sup>th</sup> 2002? Yes (1) No (0)

Team: \_\_\_\_\_ Date of Interview: \_\_\_ / \_\_\_ / \_\_\_

Case (1) Control (0) Age: \_\_\_\_\_ DOB: \_\_\_ / \_\_\_ / 19\_\_\_ Sex: M F

Weight \_\_\_\_\_ lbs Height \_\_\_\_\_ ft

Do you live in a dorm (1) house or an apartment (2) other (3) \_\_\_\_\_

What type of heater do you have where you live? don't know (99)  
oil (1), natural gas (2), wood (3), electric (4), kerosene (5)

**Game Night**

0- What was your role on your Team? Staff (0) Goalie (1) Center (2) Other (3) \_\_\_\_\_

Now I am going to ask you some questions about the time you spent at the ice rink.

1- What time did you arrive and what time did you leave the ice rink on September 29<sup>th</sup>?

From: \_\_\_\_\_ (24 hrs) To: \_\_\_\_\_ (24 hrs)

2- How many minutes did you spend playing on the ice? 3- How many minutes on the bench?

don't know (99)  
Before the game: \_\_\_\_\_ min  
1<sup>st</sup> Period: \_\_\_\_\_ min  
2<sup>nd</sup> Period: \_\_\_\_\_ min  
3<sup>rd</sup> Period: \_\_\_\_\_ min

don't know (99)  
Before the game: \_\_\_\_\_ min  
1<sup>st</sup> Period: \_\_\_\_\_ min  
2<sup>nd</sup> Period: \_\_\_\_\_ min  
3<sup>rd</sup> Period: \_\_\_\_\_ min

4- Compared to your usual/normal level of activity during any given game, how would you rate the level of physical activity at the September 29<sup>th</sup> game on a scale of 1 to 5?

(1) (2) (3) (4) (5)

Very easy,  
not strenuous

Very difficult,  
most strenuous

5- In September, had you played at this rink before the 29<sup>th</sup>? Yes(1) No(0) Don't know (99)

5a. If yes, how many times in the month of September? \_\_\_\_\_ times

Now I have some questions about the time you spent in the locker room.

6- Did you go to the locker room... (0) Never went 7- How many minutes?

6a- Before the game? Yes (1) No (0) 7a- \_\_\_\_ minutes

6b- After the First Period? Yes (1) No (0) 7b- \_\_\_\_ minutes

6c- After the Second Period? Yes (1) No (0) 7c- \_\_\_\_ minutes

6d- After the Third Period? Yes (1) No (0) 7d- \_\_\_\_ minutes

8- Which locker room? (1) (2) (3) (4) don't know (99)

9- In September, how many times had you used this locker room? \_\_\_\_ don't know (99)

10- Had you been in any other locker rooms at this rink in September? (1) (2) (3) (4) No (0)

11- Now I am going to ask you a question about where you sat the most in the locker room. If you are standing in the middle of the room facing the wall of the shower room, did you sit on the bench ...

to your right (1) to your left (2) behind you (3) in front of you (4) don't know (99)

12- Did you see the Zamboni running on the ice while at the rink? When?

Did not see it working (0) Before the game? (1)

After 1st Period? (2) After 2nd Period? (3) After 3rd Period? (4)

13- Where was the Zamboni between the periods? don't know (99)

on the ice or next to the rink (0) in the room next to the locker room (1) other (2): \_\_\_\_\_

13a- If yes, was it running? don't know (99) Yes (1) No (0) Not applicable (77)

Did you smell the exhaust from the Zamboni ...

14- during the game?

15- when you were in the locker room?

Did not smell (0)

Did not smell (0)

Before the game? (1)

Before the game? (1)

After 1<sup>st</sup> Period? (2)

After 1<sup>st</sup> Period? (2)

After 2<sup>nd</sup> Period? (3)

After 2<sup>nd</sup> Period? (3)

After 3<sup>rd</sup> Period? (4)

After 3<sup>rd</sup> Period? (4)

16- Did you hear the Zamboni running when you were in the locker room? When?

No (0), did not hear

Before the game? (1)

After 2<sup>nd</sup> Period? (3)

After 1<sup>st</sup> Period? (2)

After 3<sup>rd</sup> Period? (4)

**Health**

Now I am going to ask you some questions about your health in general.

17- Have you ever been told by a doctor or other health care professional that you have, any of the following: 18- If yes, how old were you

- no disease (0) \_\_\_\_\_ years old
- asthma (1) \_\_\_\_\_ years old
- exercise induced asthma (2) \_\_\_\_\_ years old
- chronic bronchitis (3) \_\_\_\_\_ years old
- or any other lung disease (4) \_\_\_\_\_ ? \_\_\_\_\_ years old
- allergies (5) \_\_\_\_\_ \_\_\_\_\_ years old
- don't Know (99)

19- Do you have any type of heart condition? Yes (1) \_\_\_\_\_ No (0) Don't Know (99)

20- Do you smoke tobacco? Yes (1) No (0)

20a- If yes how many cigarettes/pipes/cigars per day \_\_\_\_\_

21- Do you live with someone who smokes? Yes (1) No (0)

Now I am going to ask you some questions about how you were feeling before, during and after the game. I am interested in knowing if you felt any of the following more than you normally do. Did you have the following:

22. Before the Game Friday-September 27	23. During the Game Sunday-September 29 <sup>th</sup>	24. After the Game Monday-September 30 <sup>th</sup>	25. Do you still have any of them?
More tired than usual (1)	More tired than usual (1)	More tired than usual (1)	More tired than usual (1)
Dizziness (2)	Dizziness (2)	Dizziness (2)	Dizziness (2)
Headache (3)	Headache (3)	Headache (3)	Headache (3)
Nausea (4)	Nausea (4)	Nausea (4)	Nausea (4)
Vomiting (5)	Vomiting (5)	Vomiting (5)	Vomiting (5)
Rash (6)	Rash (6)	Rash (6)	Rash (6)
Cough (7)	Cough (7)	Cough (7)	Cough (7)
Coughing up blood (8)	Coughing up blood (8)	Coughing up blood (8)	Coughing up blood (8)
Shortness of Breath (9)	Shortness of Breath (9)	Shortness of Breath (9)	Shortness of Breath (9)
Tightness in your chest (10)	Tightness in your chest (10)	Tightness in your chest (10)	Tightness in your chest (10)
Burning in your throat (11)	Burning in your throat (11)	Burning in your throat (11)	Burning in your throat (11)
Sneezing (12)	Sneezing (12)	Sneezing (12)	Sneezing (12)
Fever (13)	Fever (13)	Fever (13)	Fever (13)
Joint Pain (14)	Joint Pain (14)	Joint Pain (14)	Joint Pain (14)

26- At what time did you feel the worst? \_\_\_\_\_ hrs \_\_\_\_ / \_\_\_\_ / \_\_\_\_ (99) Don't know

27- Did you go to a doctor or clinic for any of these conditions? Yes (1) No (0)

27a- If yes, Family doctor (1) Local Emergency Room (2) Urgent Care Clinic (3)

27b- If yes, what day did you go? \_\_\_\_ / \_\_\_\_ / 2002

27c- Where? \_\_\_\_\_

Thank you,

Please See Back Form

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