**APPENDIX 1: STUDY SURVEY**

**Benign Headache Study**

*Management of Emergency Department Headache Patients*

Thank you for agreeing to participate in this survey. Please remember the responses will be kept confidential and are for research purposes only.

The questions focus on management of patients who present to the emergency department with **benign headache** (e.g., cluster, tension, migraine) and no sign of pathological headache (e.g., SAH, meningitis, or temporal arteritis).

1. What treatment do you ***routinely*** provide to a patient with moderate-severe benign headache (e.g., Headache pain ≥ 5/10 and nausea/vomiting) with no sign of pathological headache (e.g., SAH, meningitis or temporal arteritis)?

*[check all that apply]*

[ ]  IV Metoclopramide (Maxeran) ≥ 10 mg

[ ]  IV Ketorolac (Toradol) ≥ 30 mg

[ ]  IV Prochlorperazine (Stemetil) ≥ 5 mg

[ ]  IV Ondansetron (Zofran) 4-8 mg

[ ]  IV Fluid bolus (≥ 1 litre)

[ ]  IV Dexamethasone (Decadron) ≥10 mg

[ ]  IV narcotic (i.e., morphine, fentanyl, meperidine)

[ ]  IV/IM Dihydroergotamine (DHE) 1 mg

[ ]  S/Q Tritpans

[ ]  Oxygen administration

[ ]  Other (please explain): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What treatment do you ***routinely*** provide to a similar patient whose moderate-severe benign headache is not improving with your routine treatment?

*[check all that apply]*

[ ]  IV Metoclopramide (Maxeran) ≥ 10 mg

[ ]  IV Ketorolac (Toradol) ≥ 30 mg

[ ]  IV Prochlorperazine (Stemetil) ≥ 5 mg

[ ]  IV Ondansetron (Zofran) 4-8 mg

[ ]  IV Fluid bolus (≥ 1 litre)

[ ]  IV Dexamethasone (Decadron) ≥10 mg

[ ]  IV narcotic (i.e., morphine, fentanyl, meperidine)

[ ]  IV/IM Dihydroergotamine (DHE) 1 mg

[ ]  S/Q Tritpans

[ ]  Oxygen administration

[ ]  Other (please explain): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What investigations do you typically perform/order for patients with moderate-severe benign headache?

*[check all that apply]*

[ ]  None

[ ]  Complete blood count (CBC)

[ ]  Electrolyte panel

[ ]  CRP or ESR

[ ]  Urinalysis

[ ]  CT scan head

[ ]  MRI head

[ ]  Neurology Consultation

[ ]  Neurology or Headache Clinic Referral

[ ]  Other (please explain): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What investigations do you typically perform/order for patients with moderate-severe benign headache who are slow responders or not improving?
*[Check all that apply]*

[ ]  None

[ ]  Complete blood count (CBC)

[ ]  Electrolyte panel

[ ]  CRP or ESR

[ ]  Urinalysis

[ ]  CT scan head

[ ]  MRI head

[ ]  Neurology Consultation

[ ]  Neurology or Headache Clinic Referral

[ ]  Other (please explain): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

One component of headache management in the ED is assessing the patients’ need for diagnostic imaging. The next several questions focus on the use of imaging for **benign headache** patients and communicating the risks associated with having (or not having) imaging with patients.

This study focuses on the use of advanced imaging for benign headache patients.

1. How often do you order a head CT for a patient with moderate-severe headache in the ED (no signs of pathological headache)?

[ ]  Always

[ ]  Usually

[ ]  Frequently

[ ]  Sometimes

[ ]  Occasionally

[ ]  Rarely

[ ]  Never

1. How often you believe that CT scans for patients with benign headache are appropriate?

[ ]  Always

[ ]  Usually

[ ]  Frequently

[ ]  Sometimes

[ ]  Occasionally

[ ]  Rarely

[ ]  Never

How often do you believe any of the following groups of patients with suspected benign headache warrant a CT scan?:
*[Check all that apply]*

[ ]  None

[ ]  Benign headache patients responding to traditional therapy + afebrile

[ ]  Benign headache patients responding to traditional therapy + ***febrile***

[ ]  First benign headache presentation + afebrile

[ ]  Headache patients with severe pain (Visual analog pain scale ***≥ 8/10)***

[ ]  Headache patients not responding to traditional therapy + consulted to ***Specialist***

[ ]  Headache patients not responding to traditional therapy + being ***admitted***

[ ]  Other (please explain): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. How often do you believe your benign headache patients have an expectation of receiving a head CT in the ED?

[ ]  Always

[ ]  Usually

[ ]  Frequently

[ ]  Sometimes

[ ]  Occasionally

[ ]  Rarely

[ ]  Never

1. On a scale of 1 to 7, how would you characterize the risk associated with ordering a head CT for a benign headache patient? (please write a number):

\_\_\_\_\_\_\_\_\_\_\_\_ (1=very low risk; 7=very high risk)

Please specify what risks you think exist in ordering a head CT for these patients:

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What is the radiation dose for head CT scans? \_\_\_\_\_\_\_\_\_ mRems [ ]  Unsure
2. How comfortable are you in discussing the risks of head CT scans with your patients?

[ ]  Completely comfortable

[ ]  Mostly comfortable

[ ]  Somewhat comfortable

[ ]  Neither comfortable or uncomfortable

[ ]  Somewhat uncomfortable

[ ]  Mostly uncomfortable

[ ]  Very uncomfortable

1. How often do you currently discuss the risks of head CTs with your patient prior to ordering the image?

[ ]  Always

[ ]  Usually

[ ]  Frequently

[ ]  Sometimes

[ ]  Occasionally

[ ]  Rarely

[ ]  Never

1. What risks/concerns do you ***routinely*** discuss about head CTs with your headache patients?

*[Check all that apply]*

[ ]  Radiation risk from CT scan

[ ]  Cost of a CT scan

[ ]  Utility of the test in patients with benign headaches

[ ]  Time/flow delays associated with ordering a CT scan of the head

[ ]  Previous normal CT head results

[ ]  Other (please explain): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[ ]  Not applicable – I rarely discuss risks of head CTs with this patient population

1. What concerns prevent you from discussing the risks of head CTs with your patients?

[ ]  I am concerned that they will worry excessively about the risks

[ ]  I am concerned they will not want the CT I’m recommending

[ ]  I often do not have the time to discuss the issues that may arise

[ ]  I am concerned that my patient will ask for alternative strategies

[ ]  I do not feel confident in my knowledge of the potential risks

[ ]  I do not think this is necessary for this type of imaging

[ ]  I do not think it will impact my patients’ expectations for imaging

[ ]  Patient is critically ill/Needs imaging immediately

[ ]  Not applicable – I almost always explain the risks

1. How do you typically communicate the risks associated head CTs to your patient?

[ ]  Descriptively (e.g., high, medium, low risk)

[ ]  Comparison with other imaging risks

[ ]  Comparison with other medical risks

[ ]  Comparison with everyday risks

[ ]  Other (please explain): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[ ]  Not applicable – I rarely communicate risks of head CTs to this patient population

1. What barriers do you see in your practice to limiting CT use for benign headache patients?

*[check all that apply]*

[ ]  Professional opposition to restricting access to CT scans

[ ]  Weak evidence in support of the recommendation

[ ]  Possibility of missing a severe condition(s)

[ ]  Fear of litigation, if condition is missed

[ ]  Requirement for emergency department consultation

[ ]  Patient request or expectation

[ ]  Delays resulting from explaining reasons to patient

[ ]  It is a change from my usual practice pattern

[ ]  Other (please explain): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[ ]  Prefer not to answer

1. What barrier is ***most*** difficult for you to deal with in your practice?

*[check one]*

[ ]  Professional opposition to restricting access to CT scans

[ ]  Weak evidence in support of the recommendation

[ ]  Possibility of missing a severe condition(s)

[ ]  Fear of litigation, if condition is missed

[ ]  Requirement for emergency department consultation

[ ]  Patient request or expectation

[ ]  Delays resulting from explaining reasons to patient

[ ]  It is a change from my usual practice pattern

[ ]  Other (please explain): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[ ]  Prefer not to answer

1. What would assist you in addressing that barrier?

[ ]  Patient handout explaining position

[ ]  Decision support tool for physicians

[ ]  Patient decision aid (to facilitate physician-patient discussion)

[ ]  Emergency Department posters

[ ]  AHS media campaign

[ ]  Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

As a part of this Headache Study, the research team is testing the acceptability of a patient-physician dialogue tool (i.e., discussion handout), to encourage patients and physicians to discuss when head CTs are necessary.

Please review the handout below carefully as some of the following questions address the usability of the handout in your clinical practice.

![](data:application/pdf;base64...)

1. Is there anything about the handout that you would change *(e.g., missing information, difficult to understand, etc.)*?

[ ]  Yes

[ ]  No

[ ]  Prefer not to answer

**If Yes…**

1. What would you like to change? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. How comfortable would you be using this handout with your patients to discuss their need for a CT?

[ ]  Completely comfortable

[ ]  Mostly comfortable

[ ]  Somewhat comfortable

[ ]  Neither comfortable or uncomfortable

[ ]  Somewhat uncomfortable

[ ]  Mostly uncomfortable

[ ]  Very uncomfortable

As a part of this Benign Headache Study, the research team is interested in whether physicians would benefit from having regular information on head CT ordering rates for patients with benign headache.

1. How would you like to receive information about the CT ordering rate for benign headache patients?

[ ]  By AHS Zone (region)

[ ]  By Emergency Department site

[ ]  By individualized physician

[ ]  I would not like to receive this information

[ ]  Prefer not to answer

1. How interested would you be in knowing your own CT ordering rate for benign headache patients?

[ ]  Extremely interested

[ ]  Very interested

[ ]  Moderately interested

[ ]  Neither interested or uninterested

[ ]  Moderately uninterested

[ ]  Very uninterested

[ ]  Not at all interested

1. How much do you think knowing your own CT ordering rate for benign headache patients would help inform your practice?

[ ]  To an extremely large extent

[ ]  To a very large extent

[ ]  To a large extent

[ ]  To a moderate extent

[ ]  To a small extent

[ ]  To a very small extent

[ ]  To an extremely small extent

1. What would be the best way of communicating your CT ordering rate to you?

[ ]  E-mail

[ ]  Printed by administrative personnel and personally distributed

[ ]  Publicly reported (on public website)

[ ]  Other (please explain): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[ ]  Prefer not to answer

[ ]  Not applicable (I would not like to receive this information)

1. Who would be the best person to communicate your CT ordering rate to you?

[ ]  No one. I don’t want to have someone provide me with this information.

[ ]  ED Chief

[ ]  Zone Clinical Section Chief

[ ]  External non-clinical research staff

[ ]  Other (please explain): \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[ ]  Not applicable (I would not like to receive this information)

For analytic purposes, we also need to collect some information about you.

1. What is your sex?

[ ]  Male [ ]  Female [ ]  Prefer not to answer

1. What is your age group?

[ ]  < 30 years old

[ ]  30 – 39 years old

[ ]  40 – 49 years old

[ ]  50 – 59 years old

[ ]  ≥ 60 years old

[ ]  Prefer not to answer

1. What is your highest level of emergency medicine certification?

[ ]  FRCP

[ ]  CCFP(EM)

[ ]  ABEM

[ ]  CCFP

[ ]  Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. How many years have you been practicing as an emergency department physician?

[ ]  Less than 5 years

[ ]  5-9 years

[ ]  10-14 years

[ ]  15-19 years

[ ]  20 or more years

[ ]  Prefer not to answer

1. Where do you currently perform the majority of your emergency shifts?

[ ]  Grey Nuns Community Hospital

[ ]  Misericordia Hospital

[ ]  Northeast Community Health Centre

[ ]  Royal Alexandra Hospital

[ ]  Strathcona Hospital

[ ]  Sturgeon Community Hospital

[ ]  University of Alberta Hospital

[ ]  Other: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

As a part of this study, we are looking for physicians who are willing to further discuss the issue of asthma care in the emergency department, specifically the use of chest x-rays and supporting patient-physician dialogue in test, treatment and/or procedure decisions.

**If you are willing to participate in a discussion, please provide your contact information below.**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Phone number: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Email: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Preferred contact method: □ Phone □ Email

Thank you for participating in this study; we greatly appreciate your comments and opinions.