Form 0: Patient Identification

Participant (patient) ID Assigned by REDCap upon entry. Do NOT pre-fill.	Free Text Answer:
Medical record number To be entered ONLY to facilitate accuracy of local data capture. Will be accessible ONLY to researchers at the specific site where the patient was treated. Will NOT be accessible to the PI or to researchers from other participating sites.	Free Text Answer:

Form 1: PICU Provider's Application of the CDR

Instructions: Who should complete this data form or verify the accuracy of the data entered on this data form? A pediatric intensive care medical provider who is responsible—at least in part—for the child's medical care at or near the time of PICU admission. This provider should possess thorough knowledge and understanding of: (1) the child's acute clinical presentation, (2) the admission history, (3) findings on admission physical examination(s), and (4) findings on initial head CT or MR imaging studies. He or she should be prepared to provide a preliminary, independent estimate of the probability of abuse based solely on this data. **When should this data form be completed?** As soon as possible after completion of the admission history and physical examination and review of initial head imaging studies, *before* activating any plans regarding child abuse consultation, reporting or evaluation(s). **What is the purpose of this data form?** To capture data regarding the intensive care medical provider's: (1) initial estimate of abuse probability; (2) preliminary plans for child abuse evaluation (if any); and his or her (3) application of the AHT clinical decision rule as a screening tool. **Directions:** Answer every question in order, unless specifically directed otherwise. When accessed online, this data form utilizes embedded branching logic that facilitates skipping of some data fields when appropriate. **Sources of Information:** Caregivers, parents, EMT and ED records, inpatient medical records, physical examination, and/or cranial imaging studies.

Q1.1.3. Please enter the PICU provider's name.	Free Text Answer:

2. PICU Provider's Initial, Intuitive, Estimate of Abuse Probability and Preliminary Plans (if any) for Child Abuse Evaluation

Based solely on the child's acute clinical presentation, your admission history and physical examination(s), and your review of this patient's initial head imaging studies…

Q1.2.1. What is your initial, intuitive estimate of the probability that this child's acute clinical presentation, physical findings, and head injuries resulted from inflicted or abusive trauma? Expressed as a percentage (percent probability), from 0% to 100%.	Free Text Answer:
Q1.2.2. Are you inclined to order (or recommend) additional consultations, tests or evaluations *specifically* to evaluate this child further for abuse?	**Choose one:** • Yes or Probably • No or Probably Not

3. Application of the 4-variable Clinical Decision Rule as an AHT Screening Tool

To the best of your knowledge, did this acutely head-injured patient manifest or present with…

Q1.3.1. Any clinically-significant respiratory compromise at the scene of injury, during transport, in the ED, or prior to hospital admission? "Clinically-significant respiratory compromise" includes infrequent or labored respirations, apnea, or any requirement for intubation or assisted ventilation.	**Choose one:** • Yes or Probably • No or Probably Not
Q1.3.2. Any bruising involving the ear(s), neck *or* torso (that is, his/her chest, abdomen, GU region, back *or* buttocks)?	**Choose one:** • Yes or Probably • No or Probably Not
Q1.3.3. Any subdural hemorrhage(s) or fluid collection(s) that are bilateral *or* that involve the interhemispheric space?	**Choose one:** • Yes or Probably • No or Probably Not

Q1.3.4. Any skull fracture(s) *other than* an isolated, unilateral, nondiastatic, linear, parietal skull fracture?	**Choose one:** • Yes or Probably • No or Probably Not
Q1.3.5. Did you answer "Yes or Probably" to *any one or more* of the four previous questions (Q1.3.1 through Q1.3.4)?	**Choose one:** • Yes The AHT clinical decision rule categorizes your patient as "higher risk." To minimize missed cases, we recommend that every "higher risk" patient be thoroughly evaluated for abuse [go to: 1.4.1] • No The AHT clinical decision rule categorizes your patient as "lower risk." We recommend that "lower risk" patients be further evaluated for abuse only if and when your clinical experience or intuition compels you to do so. [go to: 1.5.1]

4. Plans (if any) for Child Abuse Evaluation of Your "Higher Risk" Patient

Q1.4.1. Having learned that your patient sorts as "higher risk" and that the AHT clinical decision rule recommends a thorough evaluation for abuse… Are you still inclined—or now inclined—to order (or recommend) additional consultations, tests or evaluations *specifically* to evaluate this child further for abuse?	**Choose one:** • Yes or Probably [go to: 1.4.3] • No or Probably Not
Q1.4.2. Which of the following explain your current reluctance to evaluate your "higher risk" patient for abuse?	**Review each answer option carefully and choose ALL that apply:** • *Accidental* head injury was witnessed by an *unbiased, independent* observer • Head injuries resulted from a collision involving a motor vehicle • Neuroimaging revealed evidence of pre-existing *brain* defect, malformation, disease, infection or hypoxia-ischemia • Clinical intuition that this patient was *not* abused • Preference to avoid unnecessary abuse evaluations • Skepticism of guidelines and "cookbook medicine" • Diminished autonomy • Conviction that clinical judgment is superior to clinical prediction or decision rule • Conviction that physicians' decision making is not the root cause of "missed cases" of abusive head trauma • Distrust of the accuracy of the rule's predictors • Distrust of the "translation" of predictions into decisions • Weak incentives for using the rule consistently and accurately • Conviction that overruling the rule is frequently justified • Fear of unintended consequences of decision rule use • Lack of local *administrative* support for implementing practice change • Lack of local *leadership* support for implementing practice change • Lack of EMR-based clinical decision support tools • Other (If selected, please explain in Q1.4.2.1 below)
Q1.4.2.1. If you answered Q1.4.2. "Other," please explain.	Free Text Answer:

To access an evidence-based, patient-specific estimate of abuse probability for your patient, or to learn more about the diagnostic yields of specific abuse evaluations completed in patients who presented with the equivalent combination of these four early clinical variables, visit www.pedibirn.com.

Q1.4.3. Did you look up—or do you know—your "higher risk" patient's evidence-based estimate of abuse probability?	**Choose one:** • Yes • No [go to: 1.4.5]

Q1.4.4. If so, what is that estimate? Expressed as a percentage (percent probability), from 0% to 100%.	Free Text Answer:
Q1.4.5. Did you access the available information about the diagnostic yields of abuse examinations completed on equivalent patients?	**Choose one:** • Yes • No
Q1.4.6. Additional notes or comments? To complete this electronic data form, a response is required in this data field. If you have no additional notes or comments, enter 'None.'	Free Text Answer:

5. Plans (if any) for Child Abuse Evaluation(s) of Your "Lower Risk" Patient

Q1.5.1. Having learned that your patient sorts as "lower risk" and that our validated AHT clinical decision rule only recommends further evaluations for abuse if and when your clinical experience or intuition compels you to do so… Are you nevertheless inclined—or still inclined—to order (or recommend) additional consultations, tests or evaluations *specifically* to evaluate this child further for abuse?	**Choose one:** • Yes or Probably • No or Probably Not [go to: 1.5.3]
Q1.5.2. Which of the following explain your current intention to evaluate your "lower risk" patient for abuse?	**Review each answer option carefully and choose ALL that apply:** • The child's caregiver admitted abusive acts • *Abusive* head trauma was witnessed by an *unbiased, independent* observer • Clinical intuition that this patient *was* abused • Preference to avoid all possible "missed" cases of abuse • Disinterest in addressing system inefficiencies • Concern that improving efficiency will threaten patient safety • Skepticism of guidelines and "cookbook medicine" • Diminished autonomy • Conviction that clinical judgment is superior to clinical prediction or decision rule • Conviction that physicians' decision making is not the root cause of "missed cases" of abusive head trauma • Distrust of the accuracy of the rule's predictors • Distrust of the "translation" of predictions into decisions • Weak incentives for using the rule consistently and accurately • Conviction that overruling the rule is frequently justified • Fear of unintended consequences of decision rule use • Lack of local *administrative* support for implementing practice change • Lack of local *leadership* support for implementing practice change • Lack of EMR-based clinical decision support tools • Other (If selected, please explain in Q1.5.2.1 below)
Q1.5.2.1. If you answered Q1.5.2. "Other," please explain.	Free Text Answer:

To access an evidence-based, patient-specific estimate of abuse probability for your patient, or to learn more about the diagnostic yields of specific abuse evaluations completed in patients who presented with the equivalent combination of these four early clinical variables, visit www.pedibirn.com.

Q1.5.3. Did you look up—or do you know—your "lower risk" patient's evidence-based estimate of abuse probability?	**Choose one:** • Yes • No [go to: 1.5.5]

Q1.5.4. If so, what is that estimate? Expressed as a percentage (percent probability), from 0% to 100%.	Free Text Answer:
Q1.5.5. Did you access the available information about the diagnostic yields of abuse examinations completed on equivalent patients?	**Choose one:** • Yes • No
Q1.5.6. Additional notes or comments? To complete this electronic data form, a response is required in this data field. If you have no additional notes or comments, enter 'None.'	Free Text Answer:

Form 2: Demographic Information

Instructions: **Who should complete this data form?** The research nurse coordinator. **When should this data form be completed?** As soon as possible after admission or transfer of an eligible, acutely-head injured patient to the pediatric intensive care unit (PICU). Data entry after hospital discharge is acceptable, but suboptimal. **What is the purpose of this data form?** To capture demographic data, to verify patient meets study inclusion criteria, and to verify patient does not meet exclusion criteria. **Directions:** Answer every question in order, unless specifically directed otherwise. When accessed online, this data form utilizes embedded branching logic that facilitates skipping of some data fields when appropriate. **Sources of Information?** Caregivers, parents, EMT and ED records, inpatient medical records.

2. Inclusion and Exclusion Criteria

Q2.2.1. Acute, closed or non-penetrating, traumatic cranial injuries confirmed by CT or MR imaging? Answer "Yes" if: (1) cranial CT or MRI demonstrate *any* finding(s) compatible with *acute* (closed) head trauma; and (2) treating clinicians consider acute (closed) head trauma to be the most likely explanation for the child's acute clinical and radiological findings. Patients who manifest CT or MRI finding(s) of acute (closed) head trauma and *also* reveal a low attenuation subdural collection should *not* be excluded.	**Choose one:** • Yes • No (If selected, patient is not eligible for study participation. Complete *this* data form, but there is *no* need to complete *any* additional data forms regarding this patient.)
Q2.2.2. Hospitalized in the PICU specifically for evaluation and/or treatment of the same, acute, traumatic cranial injuries? Answer "Yes" if the child was admitted first to a general pediatric ward and then transferred to the PICU for evaluation and/or treatment of his/her acute, traumatic cranial injuries. An acutely head-injured patient admitted for intensive care whose head injury is considered an incidental finding unrelated to his/her acute clinical presentation is *not* eligible for study participation.	**Choose one:** • Yes • No (If selected, patient is not eligible for study participation. Complete *this* data form, but there is *no* need to complete *any* additional data forms regarding this patient.)
Q2.2.3. Less than 36 months of age at the time of hospital admission?	**Choose one:** • Yes • No (If selected, patient is not eligible for study participation. Complete *this* data form, but there is *no* need to complete *any* additional data forms regarding this patient.)
Q2.2.4. Did the child's acute head injuries result from a collision involving a motor vehicle?	**Choose one:** • No • Yes (If selected, patient is not eligible for study participation. Complete *this* data form, but there is *no* need to complete *any* additional data forms regarding this patient.)

Q2.2.5. Any radiological evidence of pre-existing *brain* defect, malformation, disease, infection or hypoxia-ischemia? A low attenuation subdural collection should *not* be considered evidence of pre-existing *brain* defect, malformation, disease, infection or hypoxia-ischemia.	**Choose one:** • No • Yes (If selected, patient is not eligible for study participation. Complete *this* data form, but there is *no* need to complete *any* additional data forms regarding this patient.
3. Demographics	
Q2.3.1. Age (in months) at the time of hospital admission? Expressed in months, rounded to the nearest whole month.	Free Text Answer:
Q2.3.2. Gender?	**Choose one:** • Male • Female
Q2.3.3. Ethnicity? Select ONLY one.	**Choose one:** • Hispanic or Latino • Not Hispanic or Latino • Ethnicity unknown, not specified or refused to answer
Q2.3.4. Race? Select ONLY one.	**Choose one:** • White or White-Hispanic [go to: 2.4.1] • Black, African American or Black-Hispanic [go to: 2.4.1] • Other
Q2.3.5. Which other race(s)? Select ALL that apply.	**Choose all that apply:** • American Indian • Alaskan Native • Native Hawaiian • Other Pacific Islander • Asian (Asian Indian, Chinese, Filipino, Japanese, Korean, Vietnamese) • Mixed or Other • Race unknown, not specified, or refused to answer
4. Miscellaneous	
Q2.4.1. Additional notes or comments? To complete this electronic data form, a response is required in this data field. If you have no additional notes or comments, enter 'None.'	Free Text Answer:

Form 3: Child Abuse Consultant's Application of the CDR

Instructions: **Who should complete this data form or verify the accuracy of the data entered on this data form?** The child abuse consultant who was consulted to evaluate this patient for possible child physical abuse. This consultant should possess thorough knowledge and understanding of: (1) the child's acute clinical presentation, (2) the admission history, (3) findings on physical examination(s), and (4) findings on initial head CT or MR imaging studies. He or she should be prepared to provide a preliminary, independent estimate of the probability of abuse based solely on this data. **When should this data form be completed?** As soon as possible after completion of their history and physical examination and review of initial head imaging studies, *before* activating any plans regarding child abuse evaluation(s). **What is the purpose of this data form?** To capture data regarding the child abuse consultant's: (1) initial estimate of abuse probability; (2) preliminary plans for child abuse evaluation (if any); and his or her (3) application of the AHT clinical decision rule as a screening tool. **Directions:** Answer every question in order, unless specifically directed otherwise. When accessed online, this data form utilizes embedded branching logic that facilitates skipping of some data fields when appropriate. **Sources of Information:** Caregivers, parents, EMT and ED records, inpatient medical records, physical examination, and/or cranial imaging studies.

2. Child Abuse Consultant's ID Number; Initial, Intuitive, Estimate of Abuse Probability; and Preliminary Plans (if any) for Child Abuse Evaluation

Q3.2.1. Was a child abuse specialist or consultant officially asked to evaluate this patient?	**Choose one:** • Yes Address all remaining questions on this data form to that child abuse specialist or consultant. • No [go to: 3.5.6]
Q3.2.1.1. Please enter the child abuse consultant's name.	Free Text Answer:

Based solely on the child's acute clinical presentation, your admission history and physical examination(s), and your review of this patient's initial head imaging studies…

Q3.2.3. What is your initial, intuitive estimate of the probability that this child's acute clinical presentation, physical findings, and head injuries resulted from inflicted or abusive trauma? Expressed as a percentage (percent probability), from 0% to 100%.	Free Text Answer:
Q3.2.4. Are you inclined to order (or recommend) additional consultations, tests or evaluations *specifically* to evaluate this child further for abuse?	**Choose one:** • Yes or Probably • No or Probably Not

3. Application of the 4-variable Clinical Decision Rule as an AHT Screening Tool

To the best of your knowledge, did this acutely head-injured patient manifest or present with…

Q3.3.1. Any clinically-significant respiratory compromise at the scene of injury, during transport, in the ED, or prior to hospital admission? "Clinically-significant respiratory compromise" includes infrequent or labored respirations, apnea, or any requirement for intubation or assisted ventilation.	**Choose one:** • Yes or Probably • No or Probably Not
Q3.3.2. Any bruising involving the ear(s), neck *or* torso (that is, his/her chest, abdomen, GU region, back *or* buttocks)?	**Choose one:** • Yes or Probably • No or Probably Not
Q3.3.3. Any subdural hemorrhage(s) or fluid collection(s) that are bilateral *or* that involve the interhemispheric space?	**Choose one:** • Yes or Probably • No or Probably Not
Q3.3.4. Any skull fracture(s) *other than* an isolated, unilateral, nondiastatic, linear, parietal skull fracture?	**Choose one:** • Yes or Probably • No or Probably Not
Q3.3.5. Did you answer "Yes or Probably" to *any one or more* of the four previous questions (Q3.3.1 through Q3.3.4)?	**Choose one:** • Yes The AHT clinical decision rule categorizes your patient as "higher risk." To minimize missed cases, we recommend that every "higher risk" patient be thoroughly evaluated for abuse [go to: 3.4.1] • No The AHT clinical decision rule categorizes your patient as "lower risk." We recommend that "lower risk" patients be further evaluated for abuse only if and when your clinical experience or intuition compels you to do so. [go to: 3.5.1]

4. Plans (if any) for Child Abuse Evaluation of Your "Higher Risk" Patient	
Q3.4.1. Having learned that your patient sorts as "higher risk" and that the AHT clinical decision rule recommends a thorough evaluation for abuse… Are you still inclined—or now inclined—to order (or recommend) additional consultations, tests or evaluations *specifically* to evaluate this child further for abuse?	**Choose one:** • Yes or Probably [go to: 3.4.3] • No or Probably Not
Q3.4.2. Which of the following explain your current reluctance to evaluate your "higher risk" patient for abuse?	**Review each answer option carefully and choose ALL that apply:** • *Accidental* head injury was witnessed by an *unbiased, independent* observer • Head injuries resulted from a collision involving a motor vehicle • Neuroimaging revealed evidence of pre-existing *brain* defect, malformation, disease, infection or hypoxia-ischemia • Clinical intuition that this patient was *not* abused • Preference to avoid unnecessary abuse evaluations • Skepticism of guidelines and "cookbook medicine" • Diminished autonomy • Conviction that clinical judgment is superior to clinical prediction or decision rule • Conviction that physicians' decision making is not the root cause of "missed cases" of abusive head trauma • Distrust of the accuracy of the rule's predictors • Distrust of the "translation" of predictions into decisions • Weak incentives for using the rule consistently and accurately • Conviction that overruling the rule is frequently justified • Fear of unintended consequences of decision rule use • Lack of local *administrative* support for implementing practice change • Lack of local *leadership* support for implementing practice change • Lack of EMR-based clinical decision support tools • Other (If selected, please explain in Q3.4.2.1 below)
Q3.4.2.1. If you answered Q3.4.2 "Other," please explain.	Free Text Answer:
To access an evidence-based, patient-specific estimate of abuse probability for your patient, or to learn more about the diagnostic yields of specific abuse evaluations completed in patients who presented with the equivalent combination of these four early clinical variables, visit www.pedibirn.com.	
Q3.4.3. Did you look up—or do you know—your "higher risk" patient's evidence-based estimate of abuse probability?	**Choose one:** • Yes • No [go to: 3.4.5]
Q3.4.4. If so, what is that estimate? Expressed as a percentage (percent probability), from 0% to 100%.	Free Text Answer:
Q3.4.5. Did you access the available information about the diagnostic yields of abuse examinations completed on equivalent patients?	**Choose one:** • Yes • No
Q3.4.6. Additional notes or comments? To complete this electronic data form, a response is required in this data field. If you have no additional notes or comments, enter 'None.'	Free Text Answer:

5. Plans (if any) for Child Abuse Evaluation(s) of Your "Lower Risk" Patient	
Q3.5.1. Having learned that your patient sorts as "lower risk" and that our validated AHT clinical decision rule only recommends further evaluations for abuse if and when your clinical experience or intuition compels you to do so… Are you nevertheless inclined—or still inclined—to order (or recommend) additional consultations, tests or evaluations *specifically* to evaluate this child further for abuse?	**Choose one:** • Yes or Probably • No or Probably Not [go to: 3.5.3]
Q3.5.2. Which of the following explain your current intention to evaluate your "lower risk" patient for abuse?	**Review each answer option carefully and choose ALL that apply:** • The child's caregiver admitted abusive acts • *Abusive* head trauma was witnessed by an *unbiased, independent* observer • Clinical intuition that this patient *was* abused • Preference to avoid all possible "missed" cases of abuse • Disinterest in addressing system inefficiencies • Concern that improving efficiency will threaten patient safety • Skepticism of guidelines and "cookbook medicine" • Diminished autonomy • Conviction that clinical judgment is superior to clinical prediction or decision rule • Conviction that physicians' decision making is not the root cause of "missed cases" of abusive head trauma • Distrust of the accuracy of the rule's predictors • Distrust of the "translation" of predictions into decisions • Weak incentives for using the rule consistently and accurately • Conviction that overruling the rule is frequently justified • Fear of unintended consequences of decision rule use • Lack of local *administrative* support for implementing practice change • Lack of local *leadership* support for implementing practice change • Lack of EMR-based clinical decision support tools • Other (If selected, please explain in Q3.5.2.1 below)
Q3.5.2.1. If you answered Q3.5.2 "Other," please explain.	Free Text Answer:
To access an evidence-based, patient-specific estimate of abuse probability for your patient, or to learn more about the diagnostic yields of specific abuse evaluations completed in patients who presented with the equivalent combination of these four early clinical variables, visit www.pedibirn.com.	
Q3.5.3. Did you look up—or do you know—your "lower risk" patient's evidence-based estimate of abuse probability?	**Choose one:** • Yes • No [go to: 3.5.5]
Q3.5.4. If so, what is that estimate? Expressed as a percentage (percent probability), from 0% to 100%.	Free Text Answer:
Q3.5.5. Did you access the available information about the diagnostic yields of abuse examinations completed on equivalent patients?	**Choose one:** • Yes • No
Q3.5.6. Additional notes or comments? To complete this electronic data form, a response is required in this data field. If you have no additional notes or comments, enter 'None.'	Free Text Answer:

Form 4: Clinical, Physical and Radiological Findings

Instructions: **Who should complete this data form or verify the accuracy of the data entered on this data form?** A pediatric intensive care medical provider on the child's impatient health care team or the involved child abuse specialist or consultant. **When should this data form be completed?** Prior to hospital discharge. Data entry after hospital discharge is acceptable, but suboptimal. **What is the purpose of this data form?** To capture data regarding the child's clinical, physical, and radiological findings of abusive *vs*. other head trauma. **Directions:** Answer every question in order, unless specifically directed otherwise. When accessed online, this data form utilizes embedded branching logic that facilitates skipping of some data fields when appropriate. **Sources of Information:** Caregivers, parents, EMT and ED records, inpatient medical records, physical examination, and/or cranial imaging studies.

2. Clinical Presentation and Course

Did your patient manifest…

Q4.2.1. Any clinically-significant *respiratory* compromise at the scene of injury, during transport, in the ED, or prior to hospital admission? "Respiratory compromise" includes infrequent or labored respirations, apnea, or any requirement for intubation or assisted ventilation.	**Choose one:** • Yes or Probably • None was reported, documented or observed
Q4.2.2. Any clinically-significant *circulatory* compromise at the scene of injury, during transport, in the ED, or prior to hospital admission? "Circulatory compromise" includes bradycardia, hypotension, delayed capillary refill, cardiac arrest, or any requirement for urgent volume expansion, chest compressions, or vasoactive therapy.	**Choose one:** • Yes or Probably • None was reported, documented or observed
Q4.2.3. Seizure(s) at the scene of injury, during transport, in the ED, or prior to hospital admission?	**Choose one:** • Yes or Probably • None were reported, documented or observed
Q4.2.4. A clear impairment or loss of consciousness at the scene of injury, during transport, in the ED, or prior to hospital admission?	**Choose one:** • Yes or Probably • None was reported, documented or observed [go to 4.3.1]
Q4.2.5. Did this child's clear impairment or loss of consciousness resolve prior to hospital admission?	**Choose one:** • Yes [go to 4.3.1] • No
Q4.2.6. Did this child's clear impairment or loss of consciousness last >24 hours after admission?	**Choose one:** • Yes • No [go to 4.3.1]
Q4.2.7. Was this child's clear impairment or loss of consciousness ever associated with flaccidity, decorticate or decerebrate posturing?	**Choose one:** • Yes • No

3. Findings on Initial Physical Examination(s)

Did your patient's physical examination(s) reveal…

Q4.3.1. Any craniofacial bruising, abrasion(s), subgaleal hematoma(s) or cephalohematoma(s)?	**Choose one:** • Yes • No
Q4.3.2. Any bruising involving the child's ear(s), neck or torso (that is, his/her chest, abdomen, GU region, back or buttocks)?	**Choose one:** • Yes • No

Q4.3.3. Skin bruising, abrasion(s) or laceration(s) in two or more distinct locations other than knees, shins or elbows?	**Choose one:** • Yes • No
Q4.3.4. Any patterned skin bruising or dry contact burns?	**Choose one:** • Yes or Probably • No or Probably Not
Q4.3.5. Any scalding burn(s) with uniform depth, clear lines of demarcation and paucity of splash marks?	**Choose one:** • Yes or Probably • No or Probably Not
4. Findings on Head Imaging Studies	
Did your patient's head imaging studies reveal…	
Q4.4.1. Any skull fracture(s)?	**Choose one:** • Yes • No [go to: 4.4.3]
Q4.4.2. What skull fracture(s) did the child manifest? Select ALL that apply. "Complex skull fracture(s)" include skull fractures that are multiple, bilateral, branching or comminuted, diastatic, stellate or crossing suture line(s).	**Choose all that apply:** • Only an isolated, unilateral, nondiastatic, linear, parietal skull fracture • Complex skull fracture(s) • Other skull fracture(s)
Q4.4.3. Any epidural hemorrhage(s)?	**Choose one:** • Yes • No
Q4.4.4. Any subdural hemorrhage(s) or fluid collection(s)?	**Choose one:** • Yes • No [go to: 4.4.7]
Q4.4.5. How would you characterize the location(s) or distribution of the child's subdural hemorrhage(s) or fluid collection(s)? Select ALL that apply.	**Choose one:** • Unilateral, overlying only a single cerebral hemisphere • Bilateral, overlying both cerebral hemispheres • Involving or extending from the interhemispheric space
Q4.4.7. Any subarachnoid hemorrhage(s)?	**Choose one:** • Yes • No
Q4.4.8. Any brain parenchymal contusion(s), laceration(s) or hemorrhage(s)?	**Choose one:** • Yes • No [go to: 4.4.12]
Q4.4.9. Did these brain parenchymal contusion(s), laceration(s) or hemorrhage(s) involve the *cortical* brain?	**Choose one:** • Yes • No
Q4.4.10. Did these brain parenchymal contusion(s), laceration(s) or hemorrhage(s) involve the *subcortical* brain?	**Choose one:** • Yes • No
Q4.4.11. Are these brain parenchymal contusion(s), laceration(s) or hemorrhage(s) reasonably characterized as *diffuse traumatic axonal injury*? "Diffuse traumatic axonal injury" is defined as multiple, small, parenchymal *or* intraventricular hemorrhage(s). Parenchymal contusion(s), laceration(s) or hemorrhage(s) involving *both* the	**Choose one:** • Yes or Probably • No or Probably Not

cortical and subcortical (or deeper) brain are likely compatible with diffuse traumatic axonal injury.	
Q4.4.12. Any brain hypoxia, ischemia and/or swelling?	**Choose one:** • Yes • No [go to: 4.5.1]
Q4.4.13. How would you characterize the *depth* of this child's brain hypoxia, ischemia and/or swelling? Select ONLY one.	**Choose one:** • Limited to the cortical brain • Involving the subcortical (or deeper) brain
Q4.4.14. How would you characterize the *distribution* of this child's brain hypoxia, ischemia and/or swelling? Select ONLY one.	**Choose one:** • Unilateral, involving only a single cerebral hemisphere • Bilateral, involving both cerebral hemispheres
5. Miscellaneous	
Q4.5.1. Did your patient's physical examination or head imaging studies reveal any *other* traumatic injuries considered moderately or highly suspicious for abuse?	**Choose one:** • Yes • No [go to: 4.5.2]
Q4.5.1.1. Please list the "Other traumatic injuries" here.	Free Text Answer:
Q4.5.2. Additional notes or comments? To complete this electronic data form, a response is required in this data field. If you have no additional notes or comments, enter "None."	Free Text Answer:

Form 5: History, Forensic Evaluations, Impression and Response

Instructions: **Who should complete this data form or verify the accuracy of the data entered on this data form?** The child abuse specialist or consultant, if he/she completed a child abuse evaluation. Otherwise, an informed pediatric intensive care medical provider. **When should this data form be completed?** Prior to hospital discharge, when more complete historical information about the child's head injury event has become available, when tests to help confirm or exclude abuse (if ordered) are complete, and when the child's treating and consulting physicians have formulated a final, consensus, diagnostic impression of abusive versus other head trauma. **What is the purpose of this data form?** (1) To capture information that will facilitate categorization of study patients into comparison groups of abusive *vs*. other head trauma, and (2) To capture information about abuse evaluations, results and final diagnostic impressions. **Directions:** Complete this data form even if the child did *not* undergo a child abuse evaluation. Answer every question in order, unless specifically directed otherwise. When accessed online, this data form utilizes embedded branching logic that facilitates skipping of some data fields when appropriate. Data entry after hospital discharge is acceptable, but suboptimal. **Sources of Information:** Caregivers, parents, police and child protection investigators, EMT and ED records, inpatient medical records, consultation reports.

2. History	
Q5.2.1. Was the child's head injury event witnessed and described thoroughly by an *unbiased, independent* observer? Select ONLY one.	**Choose one:** • Yes, and was described by this observer as an 'accidental' or 'nonabusive' head injury event [go to:5.3.1] • Yes, and was described by this observer as an 'inflicted' or 'abusive' head injury event [go to: 5.3.1] • No or Unknown
Q5.2.2. Was the person responsible for this child when he or she was head-injured—or first became clearly and persistently ill—asked to explain what happened? Answer "Yes" if—prior to the child's hospital discharge—any member or the child's health care team acquired a description of the caregiver's account of the child's head injury event—either directly from the caregiver *or* from police or child protection investigator(s) who interviewed the caregiver.	**Choose one:** • Yes • No [go to: 5.2.6]

Q5.2.3. Which of the following statements best summarizes this caregiver's explanation for the child's head injuries and acute clinical presentation? Select ONLY one.	**Choose one:** • The caregiver described an 'accidental' or 'nonabusive' head injury event • The caregiver clearly admitted 'inflicted' or 'abusive' head trauma [go to: 5.3.1] • The caregiver specifically denied that the child experienced any head trauma before he or she became symptomatic [go to: 5.2.6] • The caregiver refused to explain what happened [go to: 5.2.6]
Q5.2.4. Was the caregiver's explanation *developmentally* consistent with the child's known (or expected) gross motor skills? Select ONLY one. "Developmentally consistent" means that the caregiver's explanation did *not* include a requirement for the child to have utilized gross motor skills that he or she had not previously demonstrated.	**Choose one:** • Yes or Probably • No or Probably Not
Q5.2.5. Did the caregiver provide an explanation that was *historically consistent* with repetition over time? Select ONLY one. An explanation that is "historically consistent" with repetition over time is one that did not change substantively over time with repetition. As used here, "historical consistency" has *nothing* to do with whether or not you believe that the caregiver's explanation actually explains the child's injuries and acute clinical presentation.	**Choose one:** • Yes or Probably • No or Probably Not
Q5.2.6. To the best of your knowledge, was the child cruising or walking prior to hospital admission?	**Choose one:** • Yes • No

3. Child Abuse Evaluations and Results

Q5.3.1. Which of the following diagnostic tests were completed on this child? Select ALL that apply.	**Choose all that apply:** • Cranial CT scan(s) • Cranial MRI scan(s) • Abdominal CT scan(s) • Complete blood count • Coagulation testing or screening • Liver function tests • Pancreatic function tests • Radiological skeletal survey • Bone scan • Ophthalmology evaluation
Q5.3.2. Which of the following *additional* traumatic injuries (or potential markers of traumatic injuries) did this child reveal? Select ALL that apply. A response is required. If none of the listed injuries or 'potential markers' were revealed, select the final answer: "None of the above."	**Choose all that apply:** • Classic metaphyseal lesion fracture(s) or epiphyseal separation(s) • Rib fracture(s) • Fracture(s) of the scapula or sternum • Fracture(s) of digits • Vertebral body fracture(s) or dislocations or fracture(s) of spinous process(es) • Serum hepatic transaminase (AST or ALT) >80 IU/L any time after hospital admission • Confirmed intra-abdominal injuries • Retinoschesis confirmed by an ophthalmologist

	• Retinal hemorrhage(s) described by an ophthalmologist as dense, extensive, covering a large surface area and/or extending to the ora serrata • None of the above
4. Treating Physicians' Final Diagnostic Impression and Response	
Q5.4.1. Which of the following best describes the final, consensus, diagnostic impression of the treating and consulting physician(s) caring for this child at the time of the child's hospital discharge? Select ONLY one.	**Choose one:** • Definitive abusive head trauma • Probable abusive head trauma • Undetermined • Probable nonabusive head trauma • Definitive nonabusive head trauma
Q5.4.2. Did a child abuse consultant evaluate this patient and contribute to this final diagnostic impression?	**Choose one:** • Yes • No
Q5.4.3. Did any professional from your medical treatment facility make (or verify) a report of suspected child maltreatment regarding this child to a child protection or investigative agency?	**Choose one:** • Yes • No
5. PICU Length of Stay	
Q5.5.1. How many days did this patient remain in the PICU before his/her discharge, transfer or death?	
6. Miscellaneous	
Q5.6.1. Additional notes or comments? To complete this electronic form, a response is required in this data field. If you have no additional notes or comments, enter "None."	Free Text Answer:
Q5.6.2. Did this patient—or any of the PICU providers or child abuse consultants involved in his or her care—experience any adverse event(s) that were possibly, probably, or definitively related to their participation in this research study? If “Yes”, notify the Study PI and your local IRB representative ASAP.	**Choose one:** • Yes • No