CORTICES

ADVANCING EVIDENCE-BASED ORTHOPEDIC CARE

RIMN COORDINATOR LAUNCH PRESENTATION

Introductions

- Tell us your name
- Site
- Role
- One of your favorite hobbies

Deadline

Ideally, we would like to have all of the Beta Test data entered into REDCap by **February 1st, 2025**

Please make sure to amend your site IRB's to include patients up until June 2024. Needs to be done before the first data pull.

Please make sure the PI in charge of measurements completes the App training before they identify open physes.

Study Overview

Primary Aim:
Quantify proximal tibial iatrogenic deformity at skeletal maturity in adolescents with diaphyseal tibial shaft fractures treated with antegrade rigid intramedullary nailing through an open proximal tibial physis

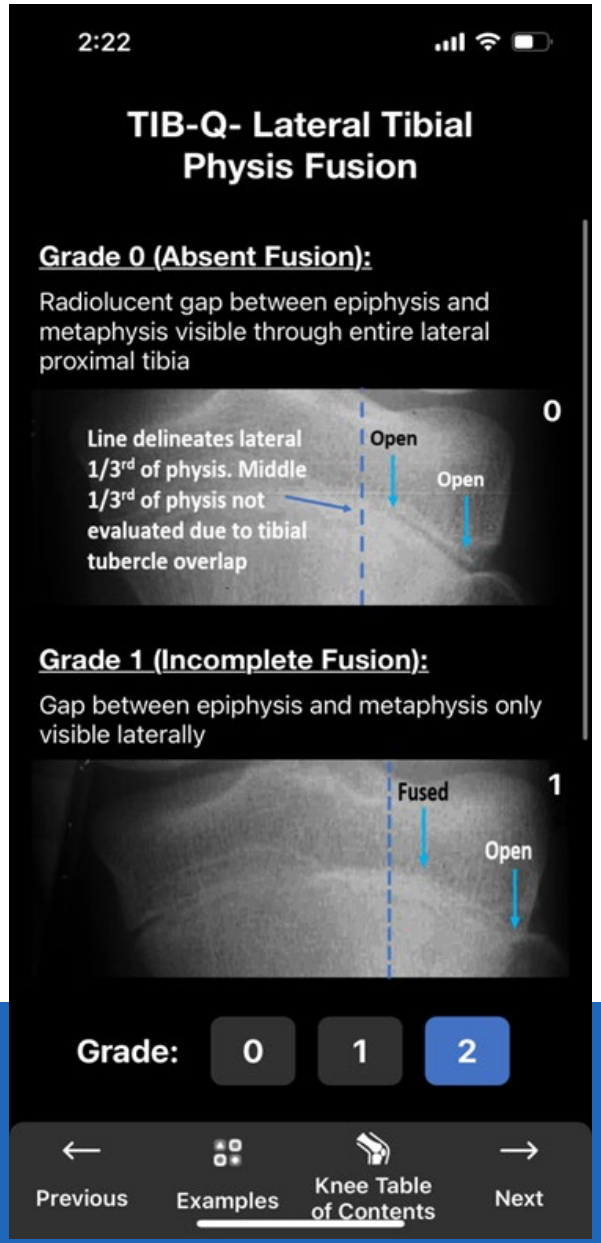
Hypothesis:
Antegrade rigid intramedullary nail fixation through open proximal tibia physis in adolescents nearing skeletal maturity will not cause clinically significant proximal tibial deformity (Mechanic axis deviation > 5mm, Leg length difference > 1 cm).

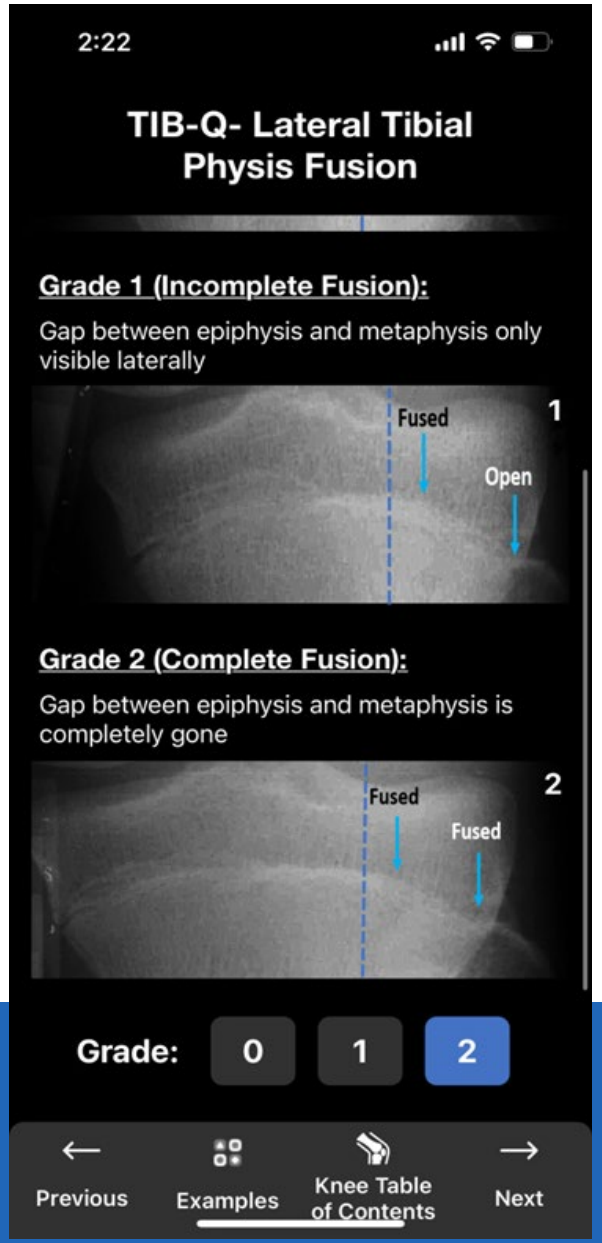
Study Overview Cont.

Rigid Nail

Flexible Nail

Study Overview Cont.





Phase I

CPT/ICD9/ICD10 Codes Search Query

***CPT 27759**: Treatment of tibial shaft fracture (with or without fibular fracture) by intramedullary implant, with or without interlocking screws and/or cerclage*

CPT procedural codes are the same for flexible and rigid, so must look in OP report or x-ray to specify that we are finding patients who had surgery with a rigid intramedullary nail (IMN)

Although we know that CPT codes work for BCH and WashU we want to ensure that we collect all the patients that we have please also check the following diagnostic codes:

ICD codes:
ICD-10: S82.20
ICD-9: 78.57 and 0QHG06Z

S52.222A	S82.222B	S82.242B	S82.291C	S82.402A	Y24.9XXA
S82.192B	S82.231A	S82.251A	S82.292A	S82.402B	S82.451A
S82.201A	S82.231B	S82.251B	S82.292B	S82.422B	S82.451B
S82.201B	S82.232A	S82.251C	S82.302A	S82.431A	S82.452A
S82.201C	S82.232B	S82.252A	S82.841A	S82.432A	S82.452B
S82.202A	S82.235A	S82.252B	S82.492B	S82.432B	S82.491A
S82.202B	S82.241A	S82.262A	S89.121A	S82.441A	----------
S82.222A	S82.242A	S82.291A	S82.401B	S82.492A	----------

Phase I Cont.

- Go through all potentially eligible patient charts
- Include the rigid nails
- Exclude flexible nails

Rigid Nail

Flexible Nail

Implants:

Implant Name	Type	Inv. Item	Serial No.	Manufacturer	Lot No.	LRB	No. Used	Action
SMITH & NEPHEW/RICHCO /ORTHO TRIGEN META-NAIL 10MM 36CM TIBIAL NAIL INTRAMEDULLAR Y TITANIUM 71655136 - LOG11588750	Nail	SMITH & NEPHEW/RIC HCO/ORTHO Trigen Meta-nail 10mm 36cm Tibial Nail Intramedullary Titanium 71655136		Smith & Nephew/Richco/ Ortho	22CT6 1140	Right	1	Implanted

Phase I -> Phase II

MRN	NAME	X-Ray/Surgery DATE	Tib Q		DATE of XRAY	1: Post Op: AP and Lateral X-ray 2 to 4 month				Date of las	Was skeletal immaturity reached by last Post-op x-ray?	2: Post Op: If you saw skeletal maturity being				3: Post Op: Was there a standing AP 2-4 months post op If yes fill out the follo							4: Post Op: Was there a standing		
						MPTA:	LDTA:	PPTA:	ADTA:			MPTA:	LDTA:	PPTA:	ADTA:	MPTA Left:	MPTA: Righ	LDTA Left:	LDTA Right	AP Standir	Leg length	MAD (mec	MPTA Left:	MPTA: Righ	LDTA Left:
123456	Marino, Josh	11/11/2024																							
123457	Marino, Josh	11/12/2024																							
123458	Marino, Josh	11/13/2024																							
123459	Marino, Josh	11/14/2024																							
123460	Marino, Josh	11/15/2024																							
123461	Marino, Josh	11/16/2024																							
123462	Marino, Josh	11/17/2024																							
123463	Marino, Josh	11/18/2024																							
123464	Marino, Josh	11/19/2024																							
123465	Marino, Josh	11/20/2024																							
123466	Marino, Josh	11/21/2024																							

- RC's will fill out the highlighted section of the Physician Excel Sheet
- Once all patients with rigid nails have been identified and entered into this sheet, send this to your PI
- PI's will be responsible for the other columns

Phase II Cont.

MRN	NAME	X-Ray/Surgery DATE	Tib Q		DATE of XRAY	1: Post Op: AP and Lateral X-ray 2 to 4 month				Date of las	Was skeletal immaturity reached by last Post-op x-ray?	2: Post Op: If you saw skeletal maturity being				3: Post Op: Was there a standing AP 2-4 months post op If yes fill out the follo							4: Post Op: Was there a standing		
						MPTA:	LDTA:	PPTA:	ADTA:			MPTA:	LDTA:	PPTA:	ADTA:	MPTA Left:	MPTA: Righ	LDTA Left:	LDTA Right	AP Standir	Leg length	MAD (mec	MPTA Left:	MPTA: Righ	LDTA Left:
123456	Marino, Josh	11/11/2024																							
123457	Marino, Josh	11/12/2024																							
123458	Marino, Josh	11/13/2024																							
123459	Marino, Josh	11/14/2024																							
123460	Marino, Josh	11/15/2024																							
123461	Marino, Josh	11/16/2024																							
123462	Marino, Josh	11/17/2024																							
123463	Marino, Josh	11/18/2024																							
123464	Marino, Josh	11/19/2024																							
123465	Marino, Josh	11/20/2024																							
123466	Marino, Josh	11/21/2024																							

- The remaining columns involve all of the radiographic measurements and follow up data
- RC's will eventually enter this data into REDCap once the PI's finish their measurements
- Please make sure that PI's know to send this back to you (only applicable if you do not share the sheet with them on a shared drive site like WUSTL Box)

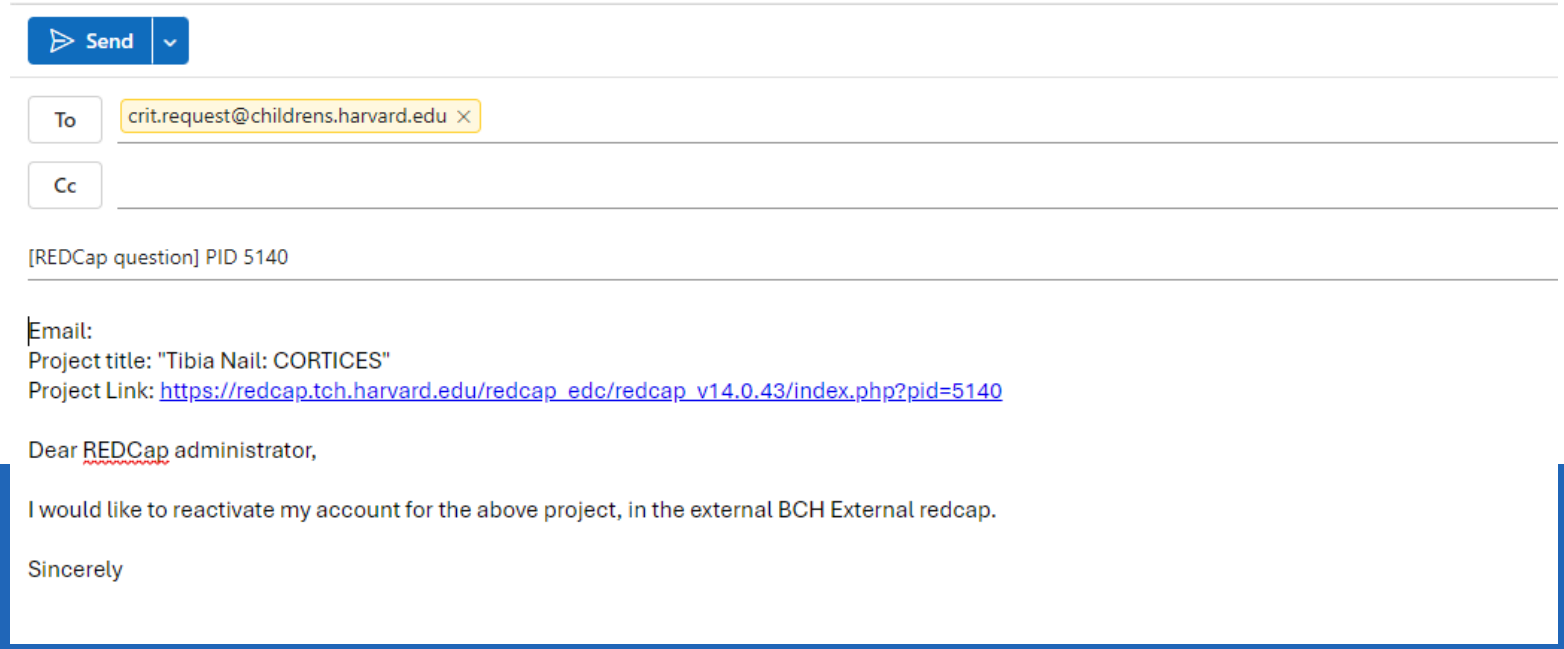
REDCap Accounts

New users

- Email mjoshua@wustl.edu with your **Name**, **Site email**, and **Site name**
- Will need Google Authenticator or Microsoft Authenticator

Returning Users

- Email the BCH REDCap team at crit.request@childrens.harvard.edu and fill out the email as shown below
- Project link: https://redcap.tch.harvard.edu/redcap_edc/redcap_v14.0.43/index.php?pid=5140
- For email input your site email that was used in the initial REDCap



Phase III

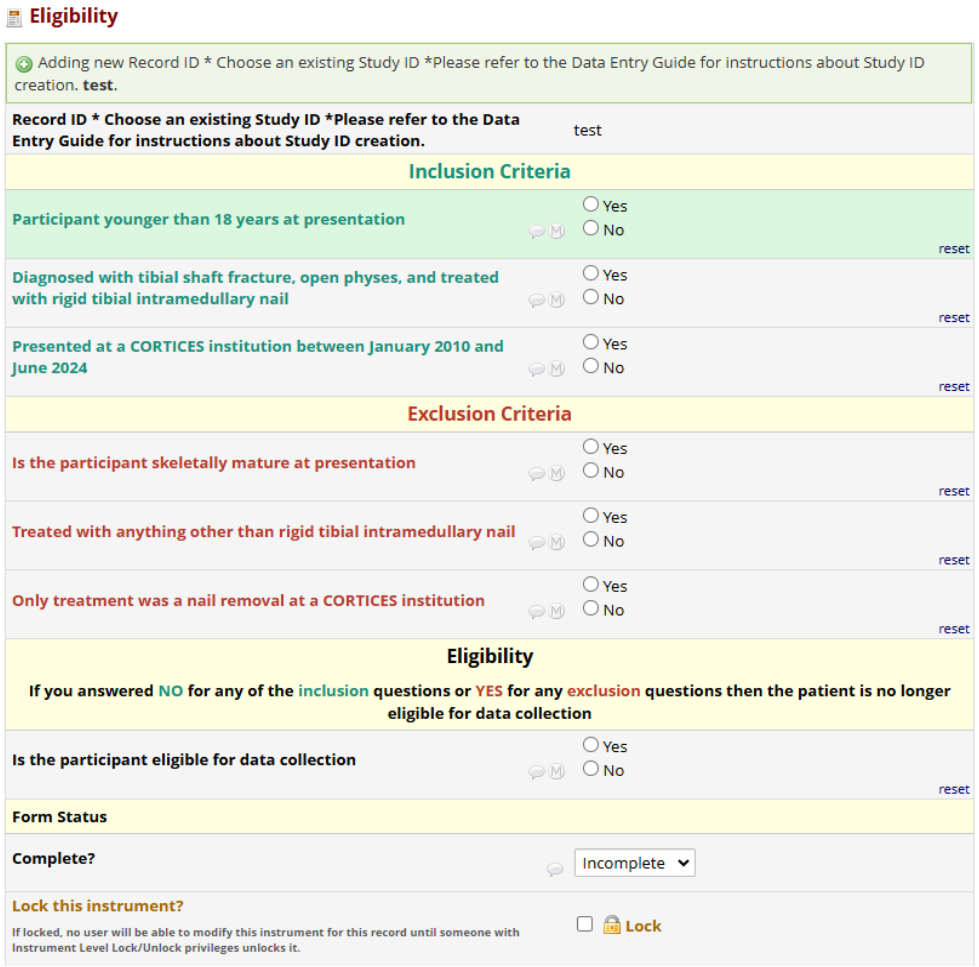
Data Collection Instrument	Status
Eligibility	
Demographics	
Injury Characteristics	
Radiographic Measurements	

Once PI's have identified all patients with open or partially open physes, data collection can begin for the first three sections

PI's will most likely identify eligible patients before finishing the measurements, so you can get a head start on data collection

Do not worry about until PI's complete the excel sheet

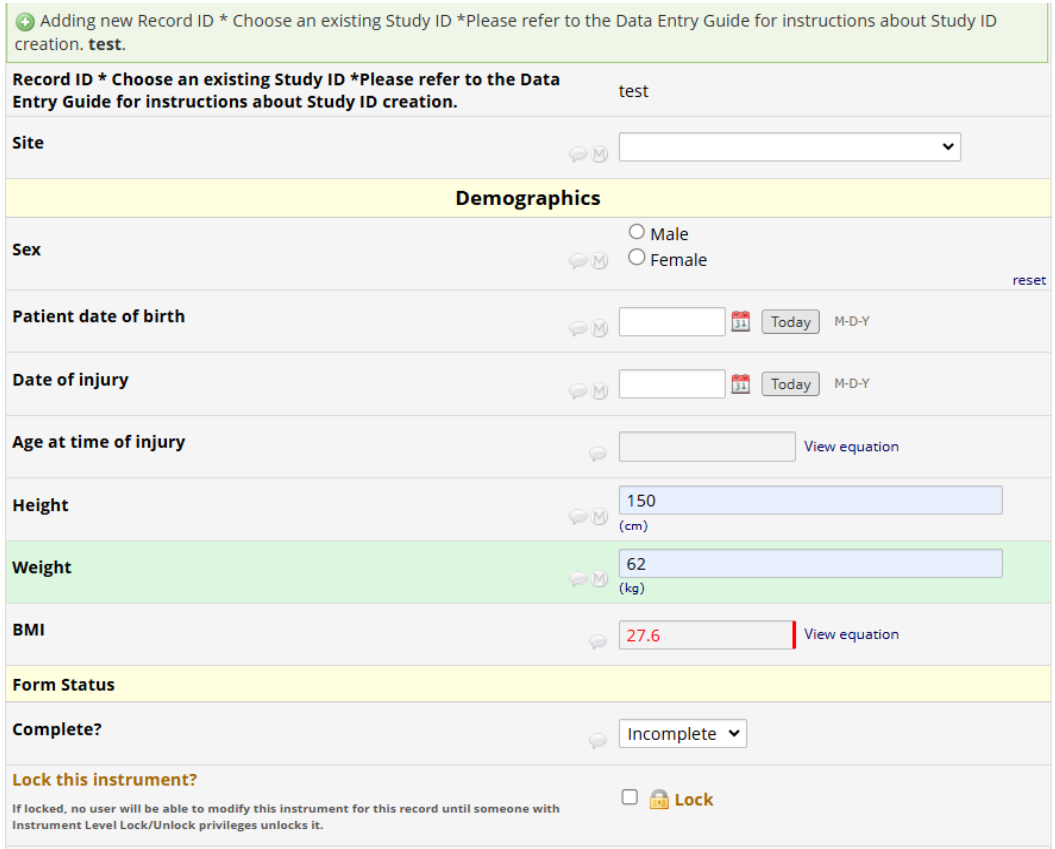
Phase III



Most important note for this section: If you mark **NO** on any of the Inclusion criteria or mark **YES** on any Exclusion criteria, that patient is **NOT** eligible

Do not enter any data for that patient

Phase III Cont.



When entering your patient data, you will be asked to enter a new or existing Record ID. Please use your 2-digit Unique Site Number (shown below) for your site's data.

SITE #	SITE	SITE #	SITE
20	Boston Children's	30	Le Bonheur Children's/Campbell Clinic
21	Levine Children's	31	Lurie Children's
22	Children's Atlanta	32	Nationwide Children's
23	Children's Colorado	33	Rady Children's
24	Scottish Rite for Children	34	Seattle Children's
25	Children's LA USC	35	St. Louis Children's
26	Children's Philadelphia	36	Texas Children's
27	Cincinnati Children's	37	Vanderbilt Children's
28	CS Mott Children's	38	UCSF Benioff Children's Hospital
29	Gillette Children's		

To generate your REDCap Record IDs, please use the following format (below), where 'S' is the 2-digit site code and 'P' is the 3-digit record ID. The IDs should be sequentially recorded.

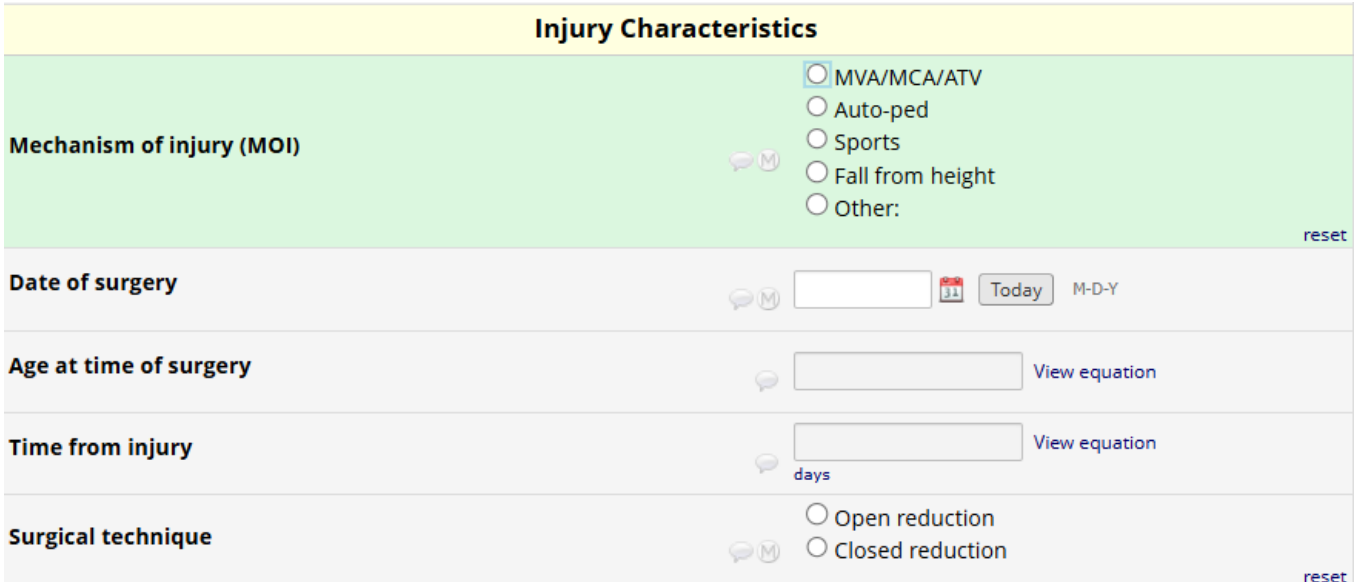
SS–PPP

2-digit Unique **Site** Number

3-digit Sequential **Patient** ID Number

For example, BCH's first patient would have a REDCap ID of "20-001". BCH's twentieth patient would have a REDCap ID of '20-020'. It is crucial that sites use the correct site ID to avoid duplicate REDCap IDs.

Phase III Cont.



MVA/MCA/ATV: MVA: Motor Vehicle Accident High impact, MCA: Motorcycles and moped Accident, All Terrain Vehicle Accident.

Auto-ped: Automatic vehicle vs. pedestrian, includes non-motorized bicycle vs. car, and children struck on skateboards and non-motorized scooters.

Sports

Fall from height: fall from greater than the height of the person

Other: Any mechanism not otherwise included

Phase III Cont.

Was there a Left hand xray obtained within 3 months of injury?	○ Yes ○ No reset
Was there an ipsilateral or contralateral knee radiograph obtained within 3 months of injury?	○ Yes ○ No reset

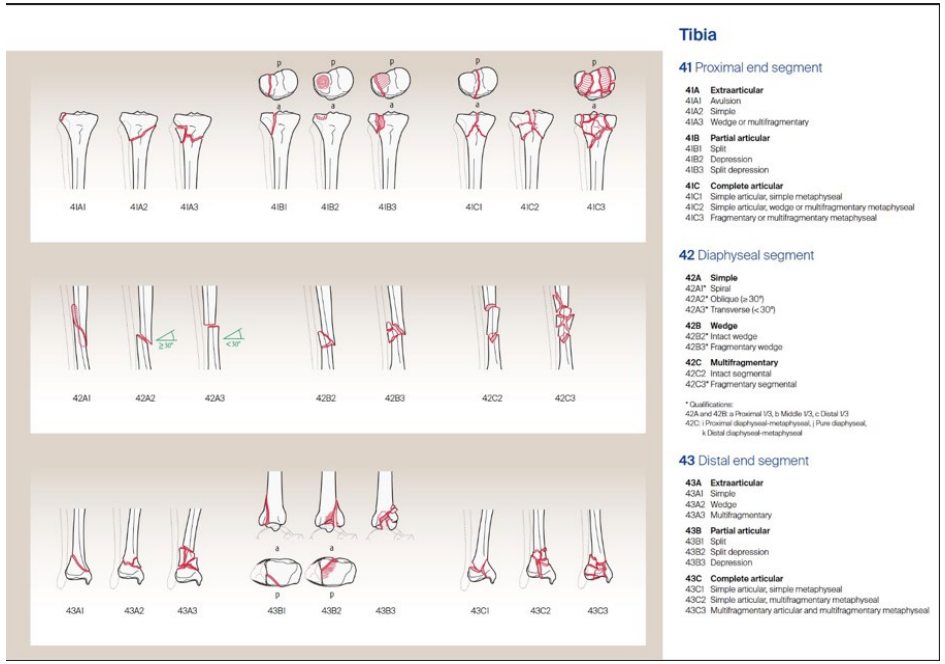
Will be calculated by the PI's when finding Tib Q using the skeletal bone age app

Phase III Cont.

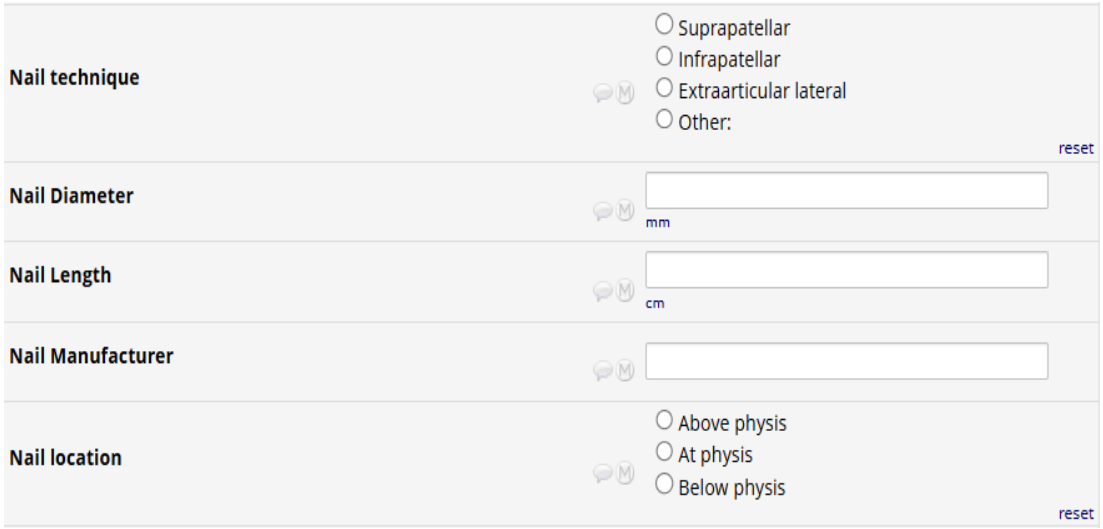
Fracture location	○ Distal 1/3 of shaft ○ Middle 1/3 of shaft ○ Proximal 1/3 of shaft	reset
Fracture characteristics	○ Transverse ○ Spiral ○ Oblique ○ Comminuted	reset
Fracture open	○ Yes ○ No	reset
Fibula fracture	○ Yes ○ No	reset
OTA Classification Attachment: ota.jpg (259.6 kB)		
Use the link provided above to identify the OTA Classification		

Fracture open
(not open or closed reduction)

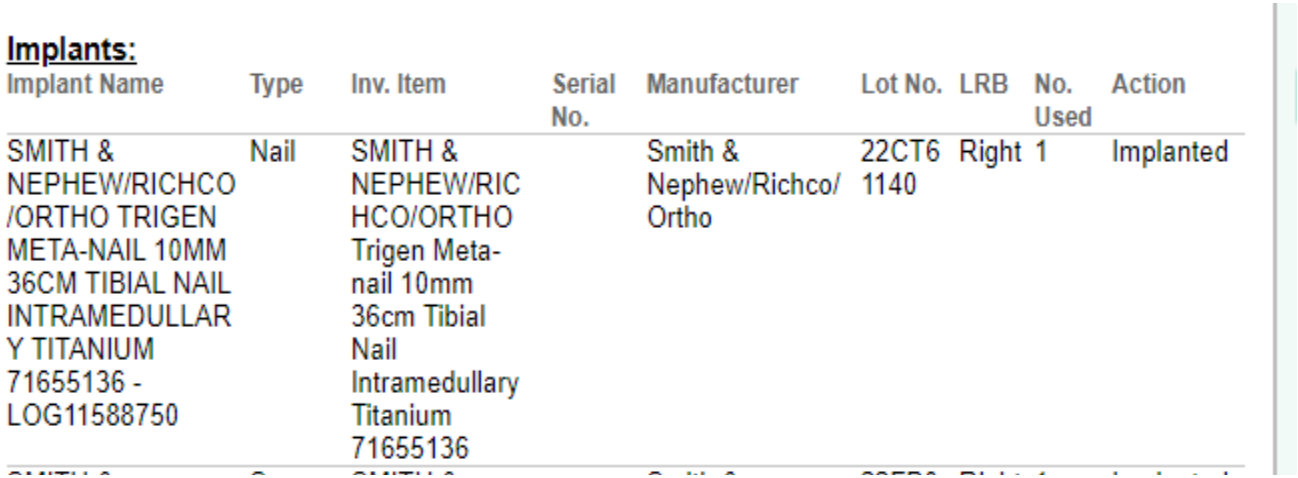
OTA



Phase III Cont.



Nail technique	○ Suprapatellar ○ Infrapatellar ○ Extraarticular lateral ○ Other: reset
Nail Diameter	mm
Nail Length	cm
Nail Manufacturer	
Nail location	○ Above physis ○ At physis ○ Below physis reset



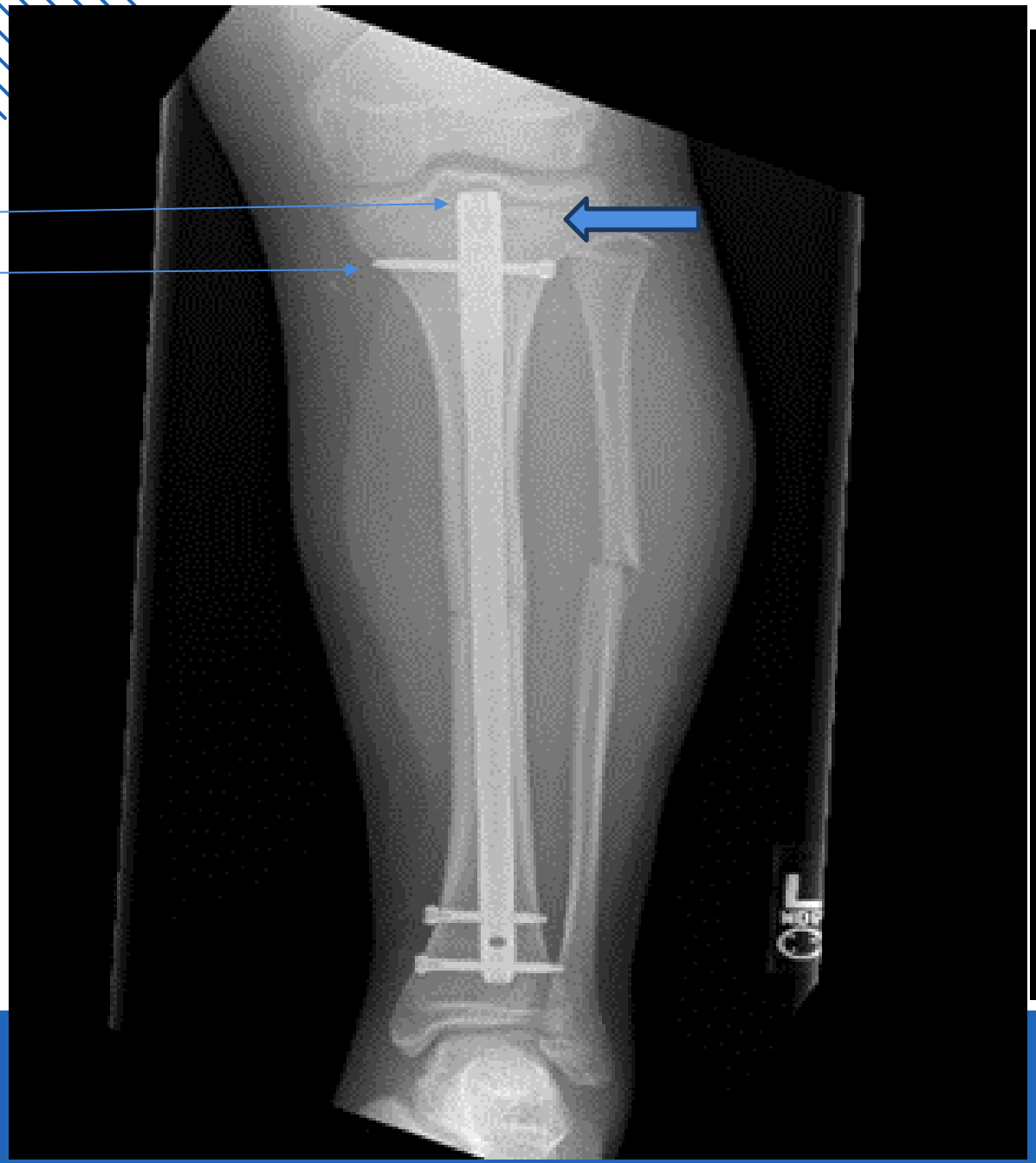
Implants:

Implant Name	Type	Inv. Item	Serial No.	Manufacturer	Lot No.	LRB	No. Used	Action
SMITH & NEPHEW/RICHCO /ORTHO TRIGEN META-NAIL 10MM 36CM TIBIAL NAIL INTRAMEDULLAR Y TITANIUM 71655136 - LOG11588750	Nail	SMITH & NEPHEW/RIC HCO/ORTHO Trigen Meta-nail 10mm 36cm Tibial Nail Intramedullary Titanium 71655136		Smith & Nephew/Richco/ Ortho	22CT6 1140	Right	1	Implanted

- In the op notes on the date of surgery you can find all of the specific nail information

Above

Below



Phase III Cont.

Date of x-ray depicting radiographic healing	Today M-D-Y
Time for radiographic healing	View equation weeks
Post-op immobilization	☐ Cast/splint ☐ Boot ☐ Other:
Date patient regained full weight bearing without assistance	Today M-D-Y
Time to full weight bearing without assistance	View equation weeks
Complications?	◉ Yes ○ No reset
Complications	☐ Infection ☐ VTE (Venous thrombosis) ☐ Nerve or vessel injury ☐ Physeal arrest ☐ Delayed/nonunion ☐ Unplanned return to OR (i.e. other than HWR) ☐ Ipsilateral extremity injury ☐ Other:
Return to OR for HWR	○ Yes ○ No reset
Full return to normal activities and sports?	○ Yes ○ No reset
Last date of follow-up after injury	Today M-D-Y

Healing

The date at which the physician has indicated that there is radiographic healing.

Complications

Only list complications that are **POST TREATMENT**.
Both deep and superficial infections are included.
Do not include Compartment syndrome or hardware removal as complications.

Feedback

Please reach out with any questions, comments, concerns!

- Data entry guide unclear
- REDCap errors, typos, access, etc.
- Unable to find certain data points

Customer Support 24/7: mjoshua@wustl.edu

Questions?