
MINUTES CORTICES at EPOSNA: Tuesday, May 7, 2024

In person attendees: Arkader, Birch, Copley, Hill, Johnson, Kadado, Laine, Li, Livingston, May, McLaughlin, Miller, Ramalingam, Riccio, Rice-Denning, Rosenfeld, Schoenecker, Sigrist, Shore, Spence, Truong, Upasani, Baghdadi, Moore-Lotridge, Burgess, Marino, Venkatesh, Canizares.

Virtual attendees: Swarup, Rybacki, Taureen, Rowland, Blumberg, Onubogu, Baghdadi, Sanders, Swarup, Price, Phan, Larson, Valenzuela-Moss

3:00 Welcome

- Presenter: Ben Shore
- Thanked all for attending
- Announced that Maria “Fernanda” Canizares is transitioning to CORTICES to take over the role of CORTICES Operations Manager as well as Research Scientist given her background as a trained pediatric orthopedic surgeon (Argentina) and current PhD student (Outcomes research).

3:10 – 3:30 PM CORTICES Membership Update

- Presenter(s): Allan Beebe and Jennifer Laine
- Recap of the history of Membership application.
- Welcomed new members: Livingston (BCH), McGrath (Texas), Sigrist (Gillette), Souder (Rady), Touban (Texas).
- New Institutions discussion: Do we open up application cycle or we accept sites that have reached out, like Akron and Phoenix?
- Should we onboard new sites based on geography? When looking at a map of CORTICES institutions where are we located and where do we have a gap?
- Should we onboard sites based on case load and resources? This is how other registries operate to judge new sites.
- Should we onboard sites based on sustained interest? For example, Akron (Todd) would be the third center in OH, but they remained interested in joining for three consecutive years.

Action items:

- Tabled the discussion new sites for annual meeting in Seattle.
- Membership committee will re-start measuring “active membership” with point system based on Attendance, Data, Participation, and Productivity/Visibility. BCH will come up with how we will quantify the point system.

3:30 – 3:50 PM Tibia Nail- Retrospective (in progress-Beta test)

- Presenter(s): Mark Miller
- *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.*

- Question: if there is already established reliability of the xray measurements we will be using, if not, WUSTL team should think about measuring reliability as part of the study design.
- Discussion ensued about who will measure imaging? Members decided that it will be most appropriate for Investigators to determine skeletal maturity (open vs closed physis) and measure the angles around the knee and ankle. Investigators can enter measures, but can we save xrays in REDCap so we have a group of readers verify the reliability of measurements.
- Question of what to do with X-rays that don't show the full length of the tibia. Mark Miller clarified that as long as you have 2/3 of proximal tibia is ok.

Action items:

- For consistency, investigators will measure skeletal maturity using the Bone Age app. They will receive training materials for the use of the application training from Mark Miller.
- Based on the results of the Bone Age application the group decided to include only patients with a physis 0 and 1 and exclude type 2 physis (closed).
- BCH team will coordinate with WUSLT the initiation of the beta testing with Lurie, Vanderbilt, Nationwide, Rady and Colorado.

3:50 – 4:10 PM Necrotizing Fasciitis presentation (in progress-protocol Development)

- Presenter(s): Wendy Ramalingam, Lawson Copley, Stephanie Moore & Jon Schoenecker
- Lawson Copley presented the results of his single center study comparing NF in adults vs children
- Proposed the use of Necrotizing Skin/SQ Infections With (or w/o) Fascial Involvement (NSSI-WIFI) instead of NF.
- From their analysis they came up with ~78 parameters that we need to gather, they will be shared with interested sites.
- Question about immunocompromised: While immunocompromised status didn't play a role in this analysis, with all CORTICES center's data it could be a factor that shows significance.
- Question on how the cases were identified: ICD9 and ICD10 overestimated the incidence of NF, just few true cases were really (NSSI-WIFI)
- Question about General Surgery Literature: Current literature is based on retrospective study.

Action Items:

- Proposing team: Revise protocol to define aims and variables of interest for data collection at CORTICES institutions. Send a document with all the CPT codes to identify patients.
- Send protocol to BCH for review; once approved REDcap creation is next step

4:10 – 4:25 PM NAT presentation (in progress-manuscript writing)

- Presenter(s): Scott Rosenfeld (Ben Shore)
- Highlighted first the ongoing data cleaning efforts to make sure we have the right denominator for femur fractures and NAT cases get confirmation of what individual criteria was used.
- Colorado and Michigan have completed data entry. Plug for sites to complete data in the next one-two months.
- Once data cleaning has been completed, data re-analyzed, the paper will be circulated to PIs.
- *Aim(s): Utilize CORTICES multicenter database to report: 1) Compliance with screening, 2) Factors that influence who gets screened (biases?) 3) Overall rate of NAT 4) Risk Factors for NAT (including socio-economic) 5) Compounding of risk when multiple factors are present.*

- Comment: Members concerned that adding race as a compounding “risk factor” could be dangerous for perpetuating existing bias, and the overall message of the presentation could be missed, potential risk for negative media related to CORTICES in social media posts.

Action Items:

- Members considered that it would be better to remove race from NAT diagnosis from the presentation and instead use ADI as a more general variable of SES. Keep race in screening for the presentation.
- For paper analyze: Race in screened vs race in non-screened to see if we are screening a significantly different proportion of kids accounting for racial make up of the geographical location.
- We will also review the manuscript with the JEDI committee of POSNA to have someone review from a DEI lense.

4:25 – 4:35 PM Burst Fracture (in progress-protocol Development)

- Presenter(s): Craig Birch
- Aim(s): *1. Survey to assess current trends: Who takes call? Who performs surgery? What surgeries are performed? What are the demographic and surgery characteristics? 2. Retrospective study to assess outcomes with current practice.*
- To the question of who takes the call? Instead of only having Orthopedics only, team should break down in General Pediatric Orthopedic Surgeon, and Pediatric Spine surgeon (fellowship in spine).
- Comments: Some centers will stop the survey after the first two questions as they don’t operate of these fractures, is it worth making this a two step process where you first ask who treats these cases, and only sending a second survey to those that indeed treat these patients.
- Question: Would we include the use of steroids. Yes.
- Question: Who follows non-op cases? Not for the survey as the main aim is surgical treatment patterns.
- Question: There is imaging variability so in the survey add cases that have CT vs others that get MRI.

Action Items:

- BCH team to formalize the survey in two parts with the first two questions, and those that treat it will send the second survey. Craig will work with Ying and Ishaan.
- Draft the protocol for retrospective study to determine how are these fractures treated, comment on steroid use and specialties involved, if enough data at follow up we can comment of the status of the junction.

4:35 – 4:45 PM Femoral Neck Fracture (Jill Larson) (in-progress: protocol development)

- Presenter(s): Soroush Baghdadi
- Aim(s): *1) To determine the incidence and risk factors of adverse outcomes (AVN, non-union, repeat surgery, etc.) after femoral neck fractures. 2) To identify the demographic and clinical factors associated with a higher incidence of femoral neck fractures in children treated at CORTICES institutions.*
- Lurie team presented REDCap survey with main datapoints to be collected.
- For imaging measures would be collected and stored in Boston and have one surgeon making measurements.
- Comments: If open, was capsulotomy and pressure measurement performed.
- Comment: In MRI or bone scan was blood flow measured.

Action item(s):

- Protocol with Boston stats team for data analysis and power calculation.

- REDCap needs updates derived from this meeting, after those are done the REDCap will be built at BCH.
- Start IRB and SSA with those interested.

4:45 – 4:55 PM Lisfranc study) (in-progress protocol Development)

- Presenter(s): Megan Johnson & Tony Riccio
- Aim(s): 1) Retrospectively characterize pediatric lisfranc injuries with regard to age, mechanism of injury, radiographic injury patterns, treatment, outcomes and compare to historical cohorts of adult Lisfranc injuries. 2) To compare outcomes between operatively and non-operatively managed patients and determine if a threshold of displacement exists beyond which worse outcomes can be expected with non-operative management.
- Investigators that have expressed interest: Jaime Rice Denning, Collin May, Keith Baldwin

Action item(s):

- Protocol and Data dictionary ready, REDCap almost done, they will pilot xray measurements with 10 cases that they will send after the meeting. They need to set up DICOM file transfer.
- Survey on practice variation about which cases should be treated.

5:30 – 5:45 PM MSKI- Prospective Study (in-progress protocol Development)

- Presenter(s): Stephanie Moore-Lotridge & Jon Schoenecker
- Grant Application for Prospective MSKI is almost ready and will be circulated in the upcoming months.
- They will share protocol when finalized.
- * Rank Ordinal Hierarchy Consensus survey underway, let Jon/Stephanie know if someone has not received the survey.
- If you have other suggestions of cases or scenarios i.e how long should we follow patients.

Action item(s):

- Next step is to meet with the group and rank cases. Members agreed that it could be done over zoom over the next couple of months and then in Seattle in September.
- Consider also using this technology for the next stage of the SH#2 Distal tibia study of Ishaan

5:20 – 5:30 PM CORTICES Study Development and Launch Overview

- Presenter(s): Meghana Venkatesh & Fernanda Canizares
- **Lead site (LS)** will discuss study @ CORTICES meeting and get placed on Priority List for the year.
- LS will **develop protocol** using CORTICES template and submit to BCH for review by the research team
- LS has the ability to conduct surveys and perform systematic reviews/meta-analyses without regulatory oversight from BCH (IRB & DUA).
- BCH will coordinate with LS to ensure DUA/SSA are in place
- LS creates **variable list/data dictionary** and sends to BCH who will create/host **REDCap** to follow the CORTICES DUA
- LS needs to conduct **Alpha testing** at their own site to ensure research is sound. This can occur at any point after REDCap creation and once the site DUA/IRB is in place and verified by BCH.
- LS to conduct **Beta testing** with ~5 sites including BCH.
- LS will need to create a **Data entry guide** which lays out step by step data entry will be done.
- **Virtual Study Launch** occurs with all Coordinators/Pis of the Beta Sites, the launch will be recorded and disseminated to other sites for the Study Go-Live

- **Study Go Live** is when the REDCap is final & study is launched to all interested sites
- Once data entry is done, the BCH team will generate individual **data cleaning sheets** that will be shared to each institution to address missing data point or questionable entry
- For retrospective chart reviews per DUA only BCH & CHOP can analyze the data, expect turn around time ~6 wk.
- LS is responsible for **writing abstracts, manuscripts and publication.**
- LS will distribute final manuscript to members that participated with data, and co-authors need to review and approve final version.
- **CORTICES Study Group** is to be included in the byline and members included in the footnote. LS confirm with journal that co-authors will be linked via PubMed.

5:45 –6:00 PM Closing comments

- Go support CORTICES presentations at POSNA
- Check your calendars and confirm if you will be traveling to Seattle in the fall. **Sep 27-28, 2024.**