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Improving First-Time Quality of NeuroCT Exam Protocols in the Emergency Department and Hospital Setting

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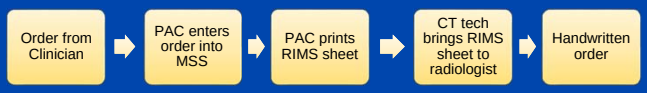
Background

Traditionally, CT imaging orders during on call hours, weekends, and holidays were handwritten on printed order sheets.



- Single paper document
- Handwritten order
- Ambiguous documentation
- Exams fall through the cracks

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Background

- Essential elements of a complete order
  - Specification for IV contrast
  - Examination protocol
  - Patient disposition
  - Radiologist signature and time stamp

Critical-to-quality (CTQ) elements

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Goal Statement

Improve first-time quality of NeuroCT orders from 24% to 95% within one month

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Results

- Of the orders reviewed:
  - 24 (24%) had all the necessary elements
  - 69 (69%) were missing the patient disposition
  - 32 (32%) were missing the signature/time stamp
  - 15 (15%) were missing the contrast order
  - 1 (1%) was missing the exam protocol

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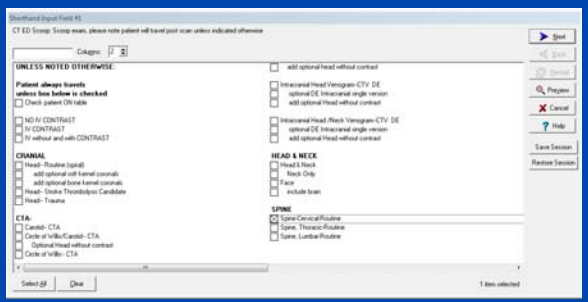
Interventions

- Investigation and affirmation of CTQ items
- Education on protocol process, structure and goals
- Implementation of an abridged electronic pick-list



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Post-intervention Results

- 100 orders reviewed
- 73 (73%) had all four CTQ elements
- 27 (27%) missing at least one CTQ element
  - 21 cases were missing a contrast order
  - 2 cases missing the time stamp
  - 1 case missing the disposition
  - 3 cases missing contrast order, time stamp and disposition

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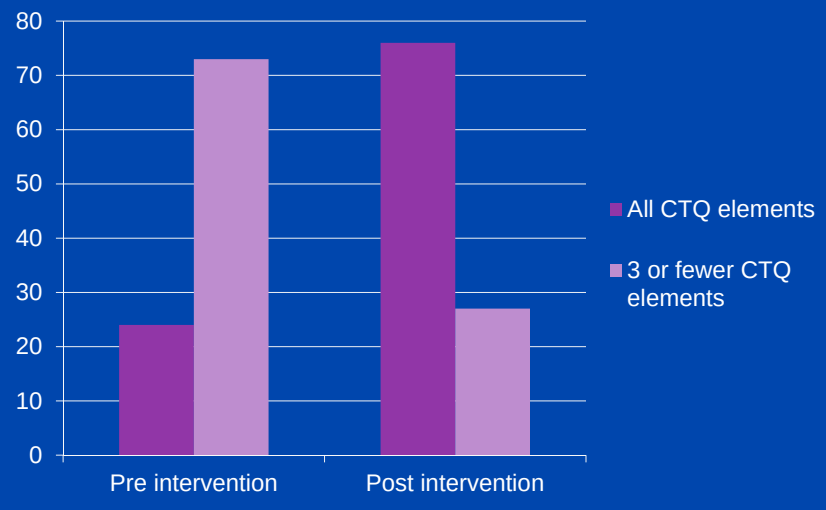
Summary of change in FTQ



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Control Phase

- Stretch goal of >95%
- Modify electronic pick list:
  - Build “NO IV CONTRAST” into routine non-contrast studies
  - Text to include “WITHOUT IV CONTRAST UNLESS OTHERWISE NOTED”
- Encourage use of abridged dictionary
- Educational modules

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Conclusion

Team-based process improvement resulted in increased FTQ of NeuroCT protocoling from 24% to 73% in the hospital and ED non-regular hours setting

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