Mobile DSS: A Medical Teletriage System for Palm Handheld

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Purpose of Research

To develop a mobile triage system that enables appropriate and timely triage of the child with acute abdominal pain
Background research

Pilot study: retrospective abdominal pain chart study at CHEO 1997-2000
- identify important clinical signs and symptoms;
- develop clinical algorithm;
- prospectively test this algorithm at CHEO (70% triage accuracy).
Patient management in the ER

- Triage
- Detailed examination
- Management
  - In-hospital observation
  - Surgical consult
- Discharge
Clinical symptoms and signs

- Age
- Gender
- Duration of pain
- Location of pain
- Type of pain
- Number of times vomiting occurred
- Previous visit to ER in the last 48 hours
- Temperature
- Site tenderness
- Localized abdominal muscle guarding
- Localized abdominal rebound tenderness
- White blood cell count
Mobile teletriage: conceptual design

- Server
- Clinical algorithm
- Conduit
- Patients' data

Diagram showing the flow of patients' data through the server and clinical algorithm, and the conduit.
Mobile teletriage system: Palm handheld
Mobile teletriage system: patients’ data management

- Diagnosed patients
- Triaged patients

Server

Transfer and merge

Transfer

Client
Entering patient’s record
Clinical signs and symptoms
Gathering patient data
Gathering patient data (cont.)
Explaining medical terms
Triage support
Confidence of suggested triage
Beaming patient data
Future work

- Further enhancements to mobile abdominal pain triage system
- Limited testing of system’s prototype
  - Children’s Hospitals in Hamilton and Calgary
- Urology: scrotal pain