

Tele-stroke prehospital assessment and routing

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Disclosures

- I have no interest in any of the products discussed.
- NECC 2016 and 2017 Mini-grant recipient

What is Medical Control?

Medical Control Today

- Physicians providing direct oversight of prehospital care providers
- Interactions with of prehospital care providers using telephone and radio
- Physicians may be called upon to perform telephone assessments of patients using data provided by paramedics
- May receive telemetry information using transmitted EKGs
- Physicians determine which patients go to which hospitals for specialty care

The Technology



The Technology



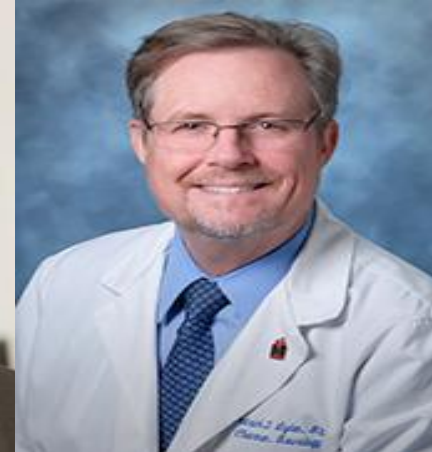
Already in Place – Not in use

May be used with multiple platforms

What's new?

- No current study has demonstrated the use of generally available technology for telestroke in the EMS environment
- No study has shown that emergency physicians can perform a telestroke assessment and make treatment and routing decisions safely
- No study has shown that existing networks and services set up for general use can support telemedicine in an EMS environment

Vascular Neurologist



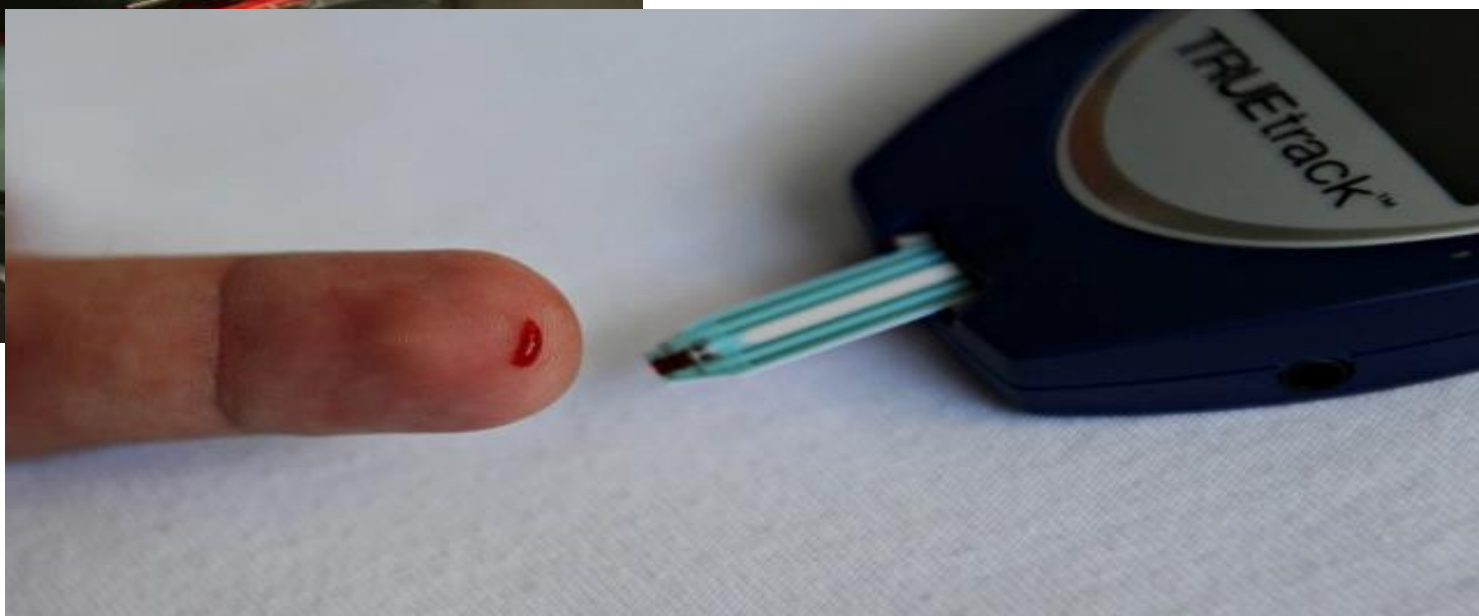
- 30 years experience
- 200 work days/year
- 4 patients/day
- 24,000 patients with stroke

Joe EMT

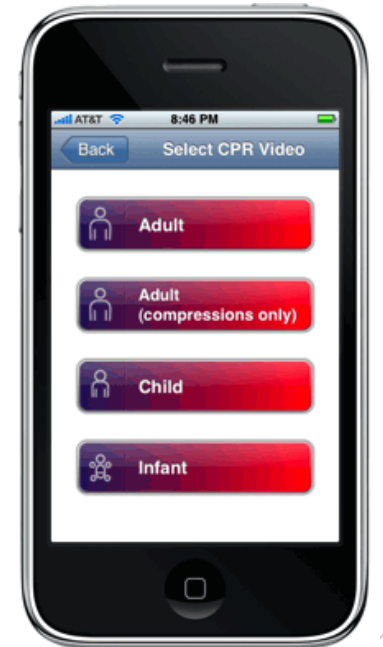


What tools does
the EMT have?





Another tool in
the toolbox



The Existing Evidence

Remote Assessment of Stroke Using the iPhone 4

Eric R. Anderson, MD, PhD,^{*} Bryan Smith, MD,^{*} Moges Ido, MD, MPH,[†]
and Michael Frankel, MD^{*}

Journal of Stroke and Cerebrovascular Diseases, Vol. 22, No. 4 (May), 2013: pp 340-344

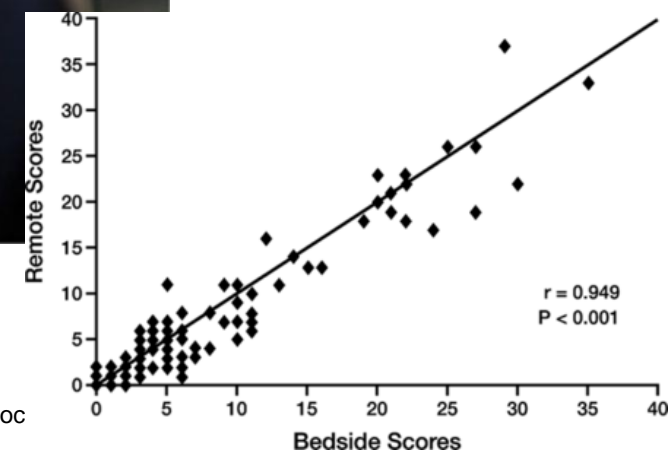
A, Photograph depicting the bedside National Institutes of Health Stroke Scale (NIHSS) assessment scenario.



Bart M. Demaerschalk et al. *Stroke*. 2012;43:3271-3277



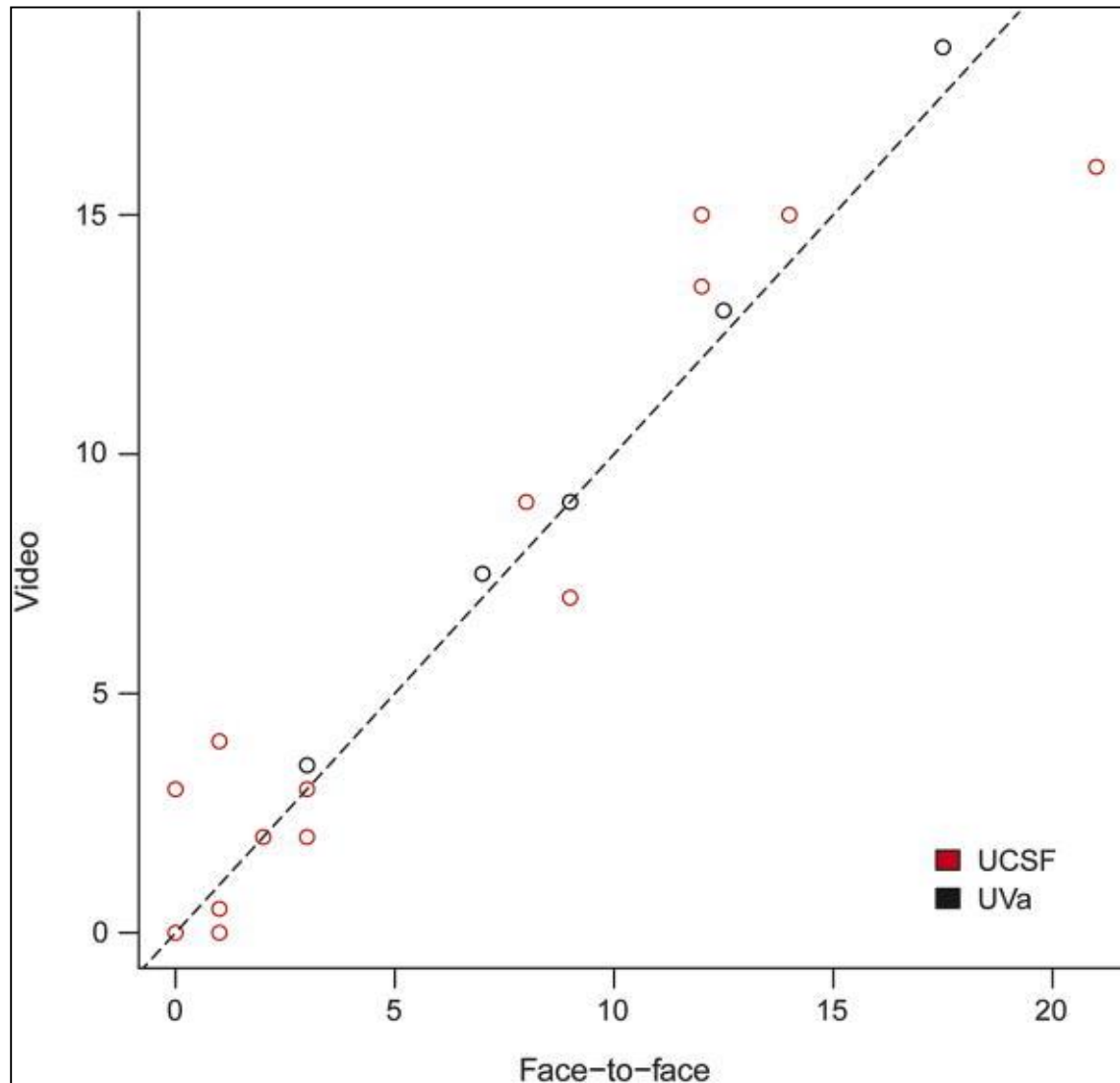
Copyright © American Heart Assoc



- Paramedics talk to neurologists
- Examine patients using iPads
- Needs some extra equipment

iTreat





A low-cost, tablet-based option for prehospital neurologic assessment: The iTREAT Study.

Chapman Smith, Sherita; Govindarajan, Prasanthi; MD, MAS; Padrick, Matthew; Lippman, Jason; McMurry, Timothy; Resler, Brian; Keenan, Kevin; Gunnell, Brian; Mehndiratta, Prachi; Chee, Christina; Cahill, Elizabeth; Dietiker, Cameron; Cattell-Gordon, David; MDiv, MSW; Smith, Wade; MD, PhD; Perina, Debra; Solenski, Nina; Worrall, Bradford; MD, MSc; Southerland, Andrew; MD, MSc

Neurology. 87(1):19-26, July 05, 2016.

DOI: 10.1212/WNL.0000000000002799

Correlation graph: Combined analysisFigure 2. Points in the plot above represent average video scores (remote) plotted vs average face-to-face scores (bedside) for each simulation scenario. UCSF = University of California, San Francisco (Bay Area); UVa = University of Virginia (central Virginia).

What do we
need??



Needs



A large red speech bubble graphic with a white border, containing the text 'Many Thanks'.

Many Thanks

- **Timothy Lukovits, MD**
- **Steven Levine, MD**
- **Curt Bashford**

