Technology for Medical Emergencies at Sea

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Is it true ..... is telemedicine here?
YES – it is here - finally

Why – because accidents do happen and we want to ensure a similar quality of care on board a ship as onshore.

So how do we deal with injuries and diseases at such remote locations?
Well; the current situation is ....

- Telephone consultation
- Email
- And the option for providing still pictures via email

Not quite the same as onshore.
We are missing:

- Video
- Constant online transfer of physical personal data such as:
  - 12 lead ECG
  - Pulsoximeter
  - Blood pressure
  - Temperature
  - CO2
  - Glucose
  - Logging of communications
What are the challenges we need to solve with a telemedicine solution?

Well;

• There is no physician onboard
• It is a challenging situation for helpers
• Lack of training and education
• No possibility to make the right diagnosis
• Wrong decisions may have fatal outcome
So what is offered?

Onboard a set of equipment fulfilling all the requirements:

- Software
- PC with video
- Diagnostic module
- Blood pressure
- Glucose
- Temperature

Packed in a suitcase for moving to the place of the accident
And the backend?

- Service delivery by a clinic with experience in emergency medicine (e.g. Trauma Clinic Berlin)
- 24/7 high level telemedical emergency support by an experienced emergency physician
- Guaranteed response time 2 minutes
- Immediate analysis of all transferred vital data (e.g. ECG) and pictures etc
- Real-time audio-video communication between first responder and physician
- Telediagnosis by the physician
- Therapeutic instructions and support by the physician
- Monitoring of the patient, also after acute phase
And the backend?

Or await as we are to starting a 3 month trial/test with Radio Medical Denmark and a major nordic passenger line. The purpose is to have a 2016 solution offered in the market this year.

We have achieved:

- Thumbs up from Radio Medical
- Thumbs up from the maritime authorities
- Thumbs up from the passenger line
- Tested network in the hospital and surroundings
- Is to train crew of Radio Medical and the crew of the passenger line
The connection requirements are:

- Minimum: 128 kbit/s
- Optimum: 512 kbit/s

- Inmarsat FBB 500 with Streaming IP 256
- VSAT Ku Band with QoS
- 3G/4G/NMT
Some of the current users are:

- DGzRS and German MRCC Maritime Rescue Coordination Center, Bremen, Germany
- The City of Greifswald, Germany
- TenneT Offshore GmbH, Germany
- Seaways Heavy Lifting, Rotterdam, The Netherlands
- E.R. Offshore, Hamburg, Germany
Who are we

- **AescuLink/GHC at a Glance**
  - System house, specialized on emergency telemedicine
  - Founded in 2001 as technology-spin-off of the Charité
  - Partners: BMW, Charité, DGzRS, DTAG, ESA, HAPAG, Inmarsat, Lufthansa, Johanniter, ...
  - Competences: emergency telemedicine, medical engineering, telecommunication

- **Brandemann**
  - System reseller of AescuLink
  - Advisor and consultant of communications technologies
  - Advisor and consultant of IT technologies
Thank you for your attention

Questions