

# **BEST PRACTICE MODEL FOR TELECONSULTATION IN URGENT TRAUMA**

by Department of Informatics and Telemedicine of Donetsk R&D Institute of Traumatology and Orthopedics (Donetsk, Ukraine)  
<http://www.telemed.org.ua>

## **Background**

The increasing of quality of treatment for traumatized and polytraumatized patients is one of the most important problems in modern medicine. Due to telemedicine not only the doctor in charge or the staff of the local hospital are concerned with treatment of the patient, but the “collective intellect” of all the physicians of our planet.

## **Main goals**

- equipment and communication
- technologies

## **Decisions**

### ***Telemedical work station (TWS)***

Main TWS for urgent trauma:

- PC, SVGA monitor, multimedia equipment, CDROM
- high quality scanner
- digital photcamera with short video clips
- printer
- modem
- sets of any equipment for diagnostic and treatment
- auxiliary equipment
- mobile GSM phone with camera and MMS technology

Secondary TWS for urgent trauma:

1) Mobile 1:

- mobile GSM phone with camera and MMS technology

2) Mobile 2:

- PDA
- digital camera for PDA
- wi-fi card or mobile phone for GPRS

### ***Communications' ways:***

- direct Internet line (for big medical establishments)
- dial-up Internet line
- GPRS or Wi-Fi Internet line
- mobile phone+SMS+MMS line

Principal scheme for using of different kinds of TWSs is presented on fig.

## ***Priority of different medical datas and technologies for teleconsultation in urgent trauma***

### **Skeletal trauma:**

- data - digital x-rays (jpeg), locus morbi pictures (jpeg), CT, MRI (jpeg/dicom), short case history (important informations, tests etc only);
- technology – e-mail+ICQ/MSN, SMS+MMS, web-application+urgent call

### Maxillo-Facial trauma:

- data - digital x-rays (jpeg), locus morbi pictures (jpeg), short case history (important informations, tests etc only), CT (jpeg/dicom).
- technology – SMS+MMS, e-mail+ICQ/MSN, web-application+urgent call

### Polytrauma:

- data - digital x-rays (jpeg), locus morbi pictures (jpeg), CT (jpeg/dicom), MRI (jpeg/dicom), short case history (important informations, tests etc only)
- technology – videoconference, e-mail+ICQ/MSN, web-application+urgent call

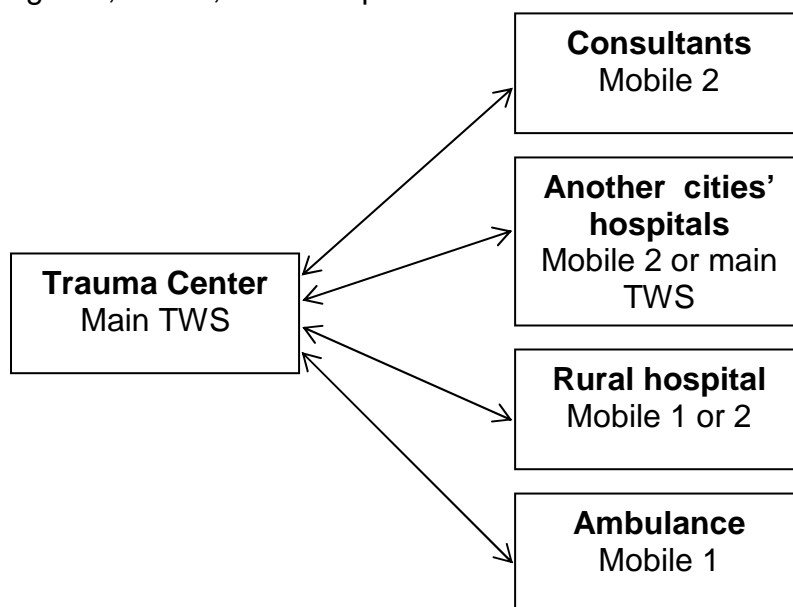
### Brain trauma:

- data - CT (dicom), MRI (dicom), short case history (important informations, tests etc only), digital x-rays, locus morbi pictures (jpeg)
- technology - e-mail+ICQ/MSN, videoconference, web-application+urgent call

### Abdomen/Thorax trauma:

- data - CT (dicom), short case history (important informations, tests etc only), MRI (jpeg/dicom), digital x-rays (jpeg)
- technology - e-mail+ICQ/MSN, videoconference, web-application+urgent call

Non-emergency cases for teleconsultation (confirmation of treatment, determination of complication prevention methods, the patient doubting diagnosis, treatment and its results, complaint analysis, search for alternative solutions for clinical tasks) – web or special application, mailing lists, e-mail, second-opinion.



*Fig. Scheme for using of different kinds of TWSs*

***NB! During usage of open technologies (mailing lists, forums, ICQ, MSN etc) it is necessary to pay special attention for confidentiality and anonymity of the medical information (patients consent, anonymisation, encryption, digital signature etc)***

### Contact

Anton Vladzomyrsky,  
M.D., Regional Telemedicine Director,  
Head of Dep.of Informatics and Telemedicine, R&D Institute of Traumatology and Orthopedics,  
Deputy-editor of "Ukrainian Journal of Telemedicine and Medical Telematics"  
ul.Artema,106, 83048 Donetsk, Ukraine  
E-mail: avv@telemed.org.ua  
ICQ: 94280429