

The Integrated Rescue System in the Czech Republic has been established as the system of connections that guarantees coordinated activities of all rescue services — medical services, firemen, police as the basic service, and strengthening services, particularly civil defense, armed forces, and specialized technical services. The Medical Services guarantee prehospital and hospital medical care.

The Emergency Medical Service performs prehospital care. In the case of an extraordinary situation, the service immediately is strengthened by both doctors and nurses from the hospital, and by the staff from surrounding hospitals. All possible means of transport are immediately mobilized, including the Air Rescue Service.

Hospital care is guaranteed organizationally by regional trauma centres. The centres send medical teams to the disaster site and prepare free bed capacity both in their own centre and in other regional hospitals, including the supplies of drugs and medical equipment.

Currently, communication using telephone links have been a weakness of the system. This mechanism for communication proved insufficient in actual disaster situations.

The mobile surgical team, TRAUMA TEAM, also is a part of the system that is can strengthen regional centres by providing staff and medical equipment. The Czech Ministry of Health can call this team into action.

Keywords: communications; coordination; Czech Republic; pre-hospital care; rescue systems; regionalization; rescue; responses; trauma centers

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Video Session

A-12

Comparison of the Materials Used in Chest Wall Reconstruction for Flail Chest

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Introduction: Flail chest is not uncommon following blunt chest trauma, and often it is complicated by respiratory insufficiency if it is not treated properly. Table 1 shows our strategy for the flail chest patients, which is based on the surgical intervention, according to the severity of the trauma. Our principle of surgical treatment for flail chest is to restore the continuity of fractured portions of the bony thorax, and to reconstruct the flail segment to the physiological chest wall. The comparison of the materials used in the chest wall reconstruction and the details of the operative procedures are shown in this video tape recording (VTR).

Materials and Discussion: Three kinds of materials were available: 1) Judet's titanium rib plates; 2) ceramic rib pins; and 3) titanium mini plates. These materials have been used to reconstruct the flail segments. These

materials have been studied as to the easiness of operative procedure, stability, elasticity, and radiopacity. The merits and demerits associated with the use of each of these materials are summarized in Table 2.

Table 1—Management of flail chest

Type	Condition	Treatment
I	Mild flail chest with mild intrathoracic injury	Conservative
II	Flail chest with mild intrathoracic injury	Chest wall reconstruction
III	Flail chest with Lung Contusion	IPPV Chest wall reconstruction at right time
IV	Flail chest with intrathoracic injury that required thoracotomy	Chest wall reconstruction IPPV, if necessary

Table 2—Comparison of materials

	Judet's Plate	Ceramic Pin	Titanium Plate
Surgical involvement	Large	Moderate	Least
Stability	Excellent	Moderate	Excellent
Elasticity	Moderate	Excellent	Moderate
Radiopacity	Poor	Good	Relatively poor
Application	Shaft	Sternum Shaft	Anywhere Cartilage

As to the operative procedures, Ceramic rib pin and Titanium are easy. On the other hand, about the stability of the reconstructed rib cage, Judet's plate and Titanium mini-plate are excellent with good stabilization.

For elasticity, the Ceramic rib pin seems to be the best of the three. And, it doesn't produce any detrimental effects on roentgenographic examinations.

Judet's plate and the titanium mini-plate have some effects on the x-ray findings, but it is much better than that of stainless materials.

Judet's plate can be applied only to rib shaft. The ceramic pin can be applied to sterno-costal fixation, and also can be applied to the cartilage. The titanium mini-plate can be applied to almost any place.

Conclusion: The most appropriate material should be chosen in the chest-wall reconstruction, according to the shape and the location of the fracture as shown in VTR.

Keywords: ceramic pin; chest wall reconstruction; flail chest; intrathoracic injury; Judet's plate; pulmonary contusion; titanium mini-plate; trauma

V-2

"Disaster Management" — The New US Standard

Gunnar J. Kuepper

Emergency and Disaster Management, Inc.,
Los Angeles, California USA

"Experience has shown again and again, that lives can be saved, damage can be reduced by preparing for a catastrophic situation before it occurs."

In the USA, a new standard for "Disaster Management" finally is on its way. The National Fire Protection Association (NFPA) is developing Standard No. 1600 that establishes a common set of criteria for disaster manage-