**Session: How to Improve the Results in Tibia Plateau Fractures**

**Mini Symposium**

***Friday, 10/7/16; 6:30am-7:30am***

Utku Kandemir: Introduction, initial management      15 min

Jackson Lee: How to decide on surgical approach(es) 15 min

Saam Morshed: Aids of reduction, bone void fillers            15 min

Utku Kandemir: Fixation: Location and type of construct   15 min

Q&A:                   30 Min

**Lecture: Initial Management**

**Utku Kandemir, MD**

* Soft Tissue Evaluation
	+ Degree of soft tissue injury
	+ Relevance re: timing of surgical intervention
	+ Vascular injury
* Radiographic Evaluation
	+ X-rays
	+ CT scan, timing: MRI, when
	+ Classification
* Initial Stabilization
	+ Splint, knee immobilizer
	+ Hinged Knee brace
	+ Exfix: which patterns
* Pitfalls of Exfix application
	+ Reduction
	+ Location of pin placement
* Compartment syndrome
	+ Predisposed patterns
	+ Incisions for fasciotomies and definitive fixation
	+ Timing of definitive fixation after fasciotomies

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**Lecture Topic: How to Decide on Surgical Approach?**

**Jackson Lee, MD**

* Closed/Minimal Surgical approaches
	+ Closed reduction and Percutaneous Fixation
		- Fluoroscopy assisted
		- Arthroscopy assisted
* Open Surgical approaches
	+ Anterolateral
		- Description
			* Incision – full thickness flaps
			* Submeniscal arthrotomy
			* Femoral distractor
		- Advantages – direct visualization of most of lat. Plateau, allows lat buttressing
		- Disadvantages - cannot see far posterior and barely see midline
	+ Medial
		- Description
		- Advantages – reducing medial based fx
		- Disadvantages - Limited joint visualization
	+ Posteromedial
		- Description - supine vs prone, incision, hamstring “windows”
		- Advantages - access to posteromedial fx
		- Disadvantages- indirect reduction of medial articular fx
	+ Posterior
	+ Posterolateral
		- Description
		- Advantages - reducing posterolateral shear fxs
		- Disadvantages – peroneal nerve anatomy
	+ Posterior
	+ Multiple Approaches
		- Which one first
* Which approach per fracture pattern?
* Potential complications associated with surgical approach

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**Lecture Topic: Reduction aids and bone void fillers**

**Saam Morshed, MD PhD**

1. Operative Treatment Principles
	1. Direct reduction and rigid internal fixation of articular segment
	2. Restore functional length, alignment, and rotation to the limb
	3. Respect soft-tissue viability
	4. Promote early mobilization and rehabilitation
2. Indirect Reduction – Techniques for acute and staged treatment
	1. Patient positioning and props
	2. External fixators
		1. Uniplanar
		2. Circular
	3. Universal distractor
3. Direct Reduction – Indications and Methods
	1. When you need direct visualization
		1. Articular impaction/depression
		2. Intra-articular debris threatening bearing surfaces or soft-tissue derangement
		3. Partial articular fragment reduction and buttress plate application
	2. Tools
		1. Head-lamp
		2. Osteotomes
		3. Bone tamps
		4. Freer and pick
		5. Kirschner wires
		6. Peri-articular and pointed reduction clamps
4. Bone Void Fillers – Indications, options and what I use
	1. Allograft
	2. Autograft
	3. Synthetics

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**Lecture: Location and Type of Construct**

**Utku Kandemir, MD**

* Fixation: and fixation construct options
	+ Fracture patterns
* Fixation Construct
	+ Type I, II, III,
	+ Type IV
	+ Type V, VI
	+ Buttress, Neutralization, Rafting
	+ Locking vs nonlocking
* Location of fixation
	+ Lateral only vs medial + lateral
	+ Posterolateral
* Pitfalls:
	+ Medial comminution and nonanatomic reduction
	+ Fracture dislocation
	+ Posteromedial shear fragment