



**FEATURES OF PRACTICAL THINKING AMONG MASTER'S  
STUDENTS IN MAXILLOFACIAL SURGERY IN MEDICAL  
ORGANIZATIONS OF THE REPUBLIC OF UZBEKISTAN**

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***Abstract:*** *This article examines the features of practical thinking among master's students in maxillofacial surgery in the Republic of Uzbekistan. The impact of stressful professional conditions, time constraints, limited diagnostic resources, and the high social significance of clinical decisions is analyzed. Special attention is given to mechanisms of categorization and stereotyping, development of clinical intuition, as well as the formation of irrational attitudes and cognitive biases (heuristics) in decision-making. The material is based on concepts from the psychology of professional thinking and international research reflecting the specifics of surgical practice [1–7].*

***Keywords:*** *maxillofacial surgery, professional thinking, clinical decision-making, categorization, stereotyping, cognitive biases, heuristics, surgical safety.*

### **Introduction**

Maxillofacial surgery is one of the most intellectually and emotionally demanding specialties in clinical medicine. Surgeons, including master's students, often have to make decisions under time constraints, multifactorial clinical uncertainty, incomplete patient information, and high responsibility for treatment outcomes [1; 2].



Recent research on cognitive processes in medicine and surgery confirms that clinicians rely on heuristics and pattern recognition, using subjectively acquired diagnostic signs and accumulated experience, particularly under stress and time pressure [3; 4].

#### Stressful Conditions as a Factor in Thinking Development

Master's students in maxillofacial surgery in Uzbekistan face multiple stressors:

- highly dynamic clinical situations;
- limited time for preoperative preparation;
- restricted diagnostic equipment;
- interaction with patients of diverse social profiles;
- night shifts and disrupted circadian rhythms;
- high stakes associated with surgical outcomes.

These factors generate constant emotional tension, influencing cognitive processes, decision-making speed, and the structure of clinical thinking [5; 6].

#### Practical Thinking of Master's Students in Maxillofacial Surgery

##### Categorization and Stereotyping

Surgeons identify the most clinically significant signs: edema, asymmetry, occlusion disorders, pain localization, respiratory problems, signs of phlegmon, and traumatic injuries.

Stereotyping enables immediate association of the situation with previously encountered cases: “submandibular space phlegmon,” “condylar process fracture,” “orbital trauma with risk of retrobulbar hematoma” [3; 4].

##### **Clinical Intuition**

Clinical intuition develops as a result of accumulated experience and constitutes a specific form of professional categorization. It is particularly engaged in emergencies, where rapid analysis and prognosis are critical [2; 5].

##### Irrational Attitudes and Cognitive Biases

Surgeons also develop irrational attitudes and cognitive biases:

Catastrophizing — overestimating the severity of the patient's condition;



Frustration intolerance — negative reaction to unexpected complications;  
Excessive responsibility — tendency to perceive any complication as personal fault;

Perfectionism — striving for an ideal result, potentially leading to emotional burnout [6; 7].

These tendencies are amplified in critical situations, such as complications under anesthesia, severe bleeding, major facial trauma, or sudden deterioration of the patient's condition.

#### Specifics of Social Interaction with Patients

In Uzbekistan, particular attention is given to surgeon–patient communication:

explaining diagnosis and procedures in culturally comprehensible terms;  
considering family and social expectations in clinical decision-making;  
managing patient emotional tension.

Practical thinking is reflected in identifying key information, evaluating the reliability of patient statements, and predicting behavior [1; 5].

#### Conclusion

Professional activity of master's students in maxillofacial surgery in the Republic of Uzbekistan is characterized by high stress and cognitive load. This leads to the formation of specific practical thinking based on:

categorization and stereotyping of clinical situations;  
clinical intuition;  
rapid decision-making under limited information;  
partial development of irrational attitudes as a result of emotional tension [2; 4; 7].

Therefore, the training of master's students should include psychological training, development of critical and analytical thinking, simulation exercises, and stress-management strategies.



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