

Table 3. – Results of Us-densitometry (Laverage significances of T-criterion ± CKO)

Month of examination	Patients with osteoporosis (n = 19) T-criterion
March is primary examination	-2.87 ± 0.41
November is control in 6 months	-2.56 ± 0.26
May is control in 6 months	-2.19 ± 0.18
December is control in 6 months	-1.79 ± 0.31
March is control in 6 months	-1.55 ± 0.22
December is control in 6 months	-1.34 ± 0.19
March is control in 6 months	-1.22 ± 0.21
December is control in 6 months	-23 ± 0.36

Table 4. – The results of roentgenoabsorbtiometry (average) significanse of T-criterion ± CKO

Months of examination	Patients with revealed osteopenia (n=35) T-criterion
March is primary examination	-2.78 ± 0.37
May is secondary examination	-2.21 ± 0.31
March is control examination	-1.49 ± 0.24
March is control examination	-1.25 ± 0.18

**Conclusions:** Putting into practice of children's examination the method of Us-densitometry with the aim of diagnostic algorithm on revealing OP and OSP in children allows to make timely diagnosis, and, to treat the given pathology, that leads to decrease the fractures' number in the examining

contingent. The combination of distal Us-densitometry and roentgenoabsorbtiometry is high informative method of diagnosis and monitoring for OP and OSP in pediatric practice. Timely pharmacotherapy correction OP and allows to prevent the decrease of BMT and increase the given index.

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## Comparative evaluation of methods of amputation related to tibiotartus with severe forms of diabetic foot syndrome

**Abstract:** The results showed that the improvement of technology implementation in mioplastic amputation lead to a significant shortening of the surgery time, decrease the likelihood of infection of the wound surface during surgery and a dramatic reduction of postoperative wound infections from the amputation stump of the tibia from 15.4% to 3.5% of cases.

**Keywords:** mioplastic amputation, diabetic foot syndrome, critical limb ischemia.

The rise in the number of people suffering from diabetes is triggering a proportional increase in severe complica-

tions such as diabetic foot syndrome (DFS). The development of necrotic suppurative process in diabetes mellitus

and diabetic foot in 20–35% of cases leads to a compulsive amputation. Unfortunately a rising number of patients with diabetic foot syndrome with symptoms of critical limb ischemia — CLI [1; 3], marks the last decades. Development of critical ischemia indicates a complete circulatory decompensation that occurs in 30–42% of patients with severe diabetic foot syndrome [2; 5]. Expected mortality in CLI patients with DFS increases from 25% during the first development of DFS to 60–70% [4; 7; 8]. Accordingly, the necessity for a high amputation reaches 52–95% within 3 years and entails a mortality of 40% to 70% over the next 2–3 years.

So far, the reconstructive surgery has been the only efficacious form of treatment of patients with CLI DFS [1; 3; 7]. Traditionally used conservative therapy, which includes long-term intra-arterial therapy, anticoagulants, rheological agents, angioprotectors and local treatment (necrectomy, amputation of the foot) is not effective enough and is accompanied by loss of a limb in 37% of patients within 1 year. Revascularization of the arterial bed of the lower extremities in practice is possible only in 35–50% of patients. The latter is associated with questionable success of an isolated surgical revascularization in patients with multi-level type and predominantly distal lesion localization. In these situations, surgeries, which allow you to save the knee joint (amputation at the tibia), are welcomed and significantly improve the quality of life of patients in the postoperative period.

Nowadays, one of the topical problems in modern surgery is the application of less traumatic surgeries at lower leg DFS with CLI.

**Research objective.** Comparative efficacy evaluation of improved methods of amputation at the tibia at DFS with CLI.

**Material and methods.** The results of amputations at the tibia in 250 patients with a syndrome of diabetic foot and critical limb ischemia were analyzed. The pool included 170 (68%) men and 80 (32%) women. The age of patients ranged from 30 to 87. The majority of patients were with severe disorders of vital body functions. According to the technique of the surgery at the level of the tibia, all patients were divided into 2 groups; I — control group comprised 110 patients who underwent amputation at the level of the tibia with Mitish — Svetukhin. II- basic group consisted of 140 patients who underwent amputation at the level of the tibia, with an improved technique of Mitish-Svetukhin's proposed methodology. The indications of limb amputation were: occlusion of the main arteries of the lower limb with decompensation of collateral blood flow and widespread suppurative process on foot, spreading wet gangrene reaching to the lower third of the leg, total dry gangrene of the foot, the presence of anaerobic surgical infections in the lower limbs (clostridial or non-clostridial), critical limb ischemia not amenable to medical correction, the spread of local necrotic suppurative process on foot beyond the two anatomical regions with signs of development of systemic inflammatory response syndrome (SIRS).

In the publications we have covered the results of the new method of surgical intervention at the level of the tibia at DFS CLI. This method of amputation (used in the control group patients) lead to a dramatic reduction of postoperative complications from the amputation stump leg and creates favorable conditions for the prosthesis (knee saved). But the technical execution of this surgery is sorely time — consuming (soleus muscle is dissected for subsequent hysterectomy formed in the tunnel between the tibia and the back skin and musculo-fascial flap). Increasing the amount of time of the surgery under severe CLI leads to possible risk of infection of the surgical area, and creates conditions for suppurative complications. This has led to an attempt to improve the surgery mode, which would eliminate the drawbacks mentioned above.

The proposed surgical technique has some peculiarities. First, the skin and subcutaneous tissue are cut, then the fascia shin. The rear flap is cut longer than the front one parallel to the edges of the shinbone along the lower third of the leg where the overlap occurs. Further the process of sterilization of NVB and over splitting of tibia. This technique allows a complete overview of the operating wound. Gastrocnemius muscle bluntly is separated from the soleus, the latter very easily peeled from the gastrocnemius muscle, which is located more superficially and also from deep muscles of the back layer of the shin. Further, m. soleus bluntly, using a palm is taken out to the point of attachment at the fibular head. Clipped distally 3–4 cm. distal, simultaneously it is stitched to the remaining fragment of muscles, thereby eliminating the possibility of bleeding. Formed rear gastrocnemius musculo — cutaneous flap sutured by the front flap formed cylindrical shape right tibia stump. The proposed technique performing amputations dramatically shortens the surgery time and improves visibility of the surgical area. This amputation technique was performed in the main group of operated patients.

**Results and discussion.** 110 patients in group I were performed at the level of amputation tibia Mitish — Svetukhin. The pool included 30 (27.3%) patients with apparent signs of renal failure, and 25 (22.7%) patients with distinct signs of myocardial ischemia, 12 (10.9%) patients with postinfarction cardio sclerosis having the signs of heart vascular insufficiency, 55 (50%) patients who had signs of systemic inflammatory response syndrome, 17 (15.4%) of which were septic shock with multiple organ failure phenomena (MON). Analysis of postoperative complications of the amputation stump showed that patients in the control group developed a wound infection in 17 (15.4%). Mortality rate of the investigated groups achieved 6.5%, and the generalization of wound infection was the cause of deaths in 8% of cases. In 5 (4.5%) cases due to the progression of wound infection, there was a need for a consecutive amputation at hip level. In 140 patients in group II — who had undergone amputation with an improved method comorbidities and indicators of systemic inflammatory response with the development of septic shock were comparable in patients in the control group.

Patients of the main group, the development of post-operative wound infection from the amputation stump was observed in 5 (3.5%) patients, which was ceased by local ointment wound bailouts and adequate antibiotic therapy. While deaths related to wound infection and generalization of infection were not observed.

Thus, a comparative analysis of surgery involvements at tibia in diabetic foot with signs of CLI patients of the groups I and II showed that the technology implementation improvement of mioplastic amputation with the removal of the m. soleus led to a significant shortening of the operative time (without changing the essence of the surgery itself), infection likelihood reduction of the wound

surface during surgery and a dramatic reduction of post-operative wound infections from the amputation stump of the tibia.

#### Conclusions:

1. In the diabetic foot syndrome with obvious signs of critical limb ischemia by selecting a high amputations method is mioplastic amputation with removal of m. Soleus, since it increases the functionality of the stump and improved opportunities for its further prosthetics.

2. Improvement of technology implementation of mioplastic amputation with the removal of m. Soleus, leads to a reduction in the number of postoperative wound infections from 15.4% to 3.5% of cases.

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## Optimization of therapy methods for children with epispadia associated with extrophy

**Abstract:** a modification of sphyncteroplasty by Dershavin and a new method of removal of symphysis dfiastis have been used in 32 patients. Good and satisfactory outcomes accounted for 90.6% patients. In 2 months following the operation no rentgen picture divergence of symphysis has been detected in the patients.

**Keywords:** epispadia, extrophy of bladder, cyst plastics, symphysis, total urine incontinence.

**Introduction.** Recently the interest of specialists to the problems of urine incontinence in cases of severe forms of epispadia is growing, as the number of patients with these defects is also increasing. In this group of patients aging aggravates not only morphologic and functional disorders of

urinary system, but also other organs and systems [3; 6]. In spite of the topicality of the problem in literature there is no enough information on the problem of epispadia associated with bladder extrophy and accompanied by urine incontinence [1; 5]. The available few works mostly cover the