Introduction:
Recently there has been attention of researchers to the problem of perioperative anemia. It was found that it increases the risk of death and postoperative complications. Threatening complication is multiple organ dysfunction syndrome (MODS).
Objective: to determine the level of serum iron in the perioperative period in patients with endoprosthetics of large joints, and with the presence of MODS in abdominal surgery.

Methods:
A prospective cohort study was conducted in 77 patients, including 18 men and 59 women, age 61.9 ± 15.1 years. Two groups were identified: 1st (control) - patients after endoprosthetics of large joints (n = 40), 2nd (main) - patients in abdominal surgery with the presence of MODS (n = 37). The presence of MODS was established based on the criteria for the 2016 SCCM / ACCP Conference. Serum iron was monitored using an AU 680 analyzer (USA). The study identified several stages: 1st - before surgery, 2nd - 1st day after surgery, 3rd - 3rd day, 4th - 7th day, 5th - 10th day.

Results:
When studying the indicators of serum iron, its significant decrease (p <0.05) in the postoperative period was established. In the 1st group: 1st stage - 15.2 (10-19.4) mmol / L, 2nd stage - 5.2 (3.9-7.6) mmol / L, 3rd stage - 6.6 (5-8.7) μmol / L, stage 4 - 9.7 (8.6-12.1) μmol / L, stage 5 - 9.4 (7.8-11 9) μmol / L. In the 2nd group: 1st stage - 11.9 (10-15) mmol / L, 2nd stage - 3.7 (1.7-4.1) mmol / L, 3rd stage - 3 , 6 (2.4-4.5) μmol / L, stage 4 - 6.5 (4.4-8.2) μmol / L, stage 5 - 7.6 (6.5-9 4) μmol / L. Moreover, in both groups, iron increased at the 4th stage against the 2nd stage (p <0.05). When comparing the level of iron between the groups, significant differences were found (p <0.05) at the 2nd, 3rd and 4th stages.

Conclusion:
In patients in the postoperative period, a decrease in serum iron is observed, the level of which rises by the 7th day, but does not reach the initial values. This decrease is more pronounced in patients with the presence of MODS after abdominal surgery.