

**МІНІСТЕРСТВО ОСВІТИ І НАУКИ УКРАЇНИ
СУМСЬКИЙ ДЕРЖАВНИЙ УНІВЕРСИТЕТ
КАФЕДРА ІНОЗЕМНИХ МОВ
ЛІНГВІСТИЧНИЙ НАВЧАЛЬНО-МЕТОДИЧНИЙ ЦЕНТР**

**МАТЕРІАЛИ
VIII МІЖВУЗІВСЬКОЇ НАУКОВО-ПРАКТИЧНОЇ
КОНФЕРЕНЦІЇ
ЛІНГВІСТИЧНОГО НАВЧАЛЬНО-МЕТОДИЧНОГО ЦЕНТРУ
КАФЕДРИ ІНОЗЕМНИХ МОВ**

“TO LIVE IN A SAFER WORLD”

(Суми, 28 березня 2014 року)

The eighth scientific practical student`s, postgraduate`s and teacher`s
LSNC conference

THE DA VINCI SURGICAL SYSTEM

V.V. Bondarenko – Sumy State University, group LS-306
O.A. Plygun – E L Adviser

A surgeon may have many problems during and after each surgery, they include: postoperative complications, difficulties during the procedure, long duration of it which causes tiredness of a surgeon. That is why medical engineers invented a new surgical system called da Vinci. It was established in 2010 and has got many supporters since that time.

Using the da Vinci Surgical System, the surgeon has a 3D image inside the patient's body (it translates from an endoscope, which is equipped with a high quality camera and the light source at the tip). The image from the patient's body is available on a large monitor (it means that other surgeons can view the procedure and give pieces of advice to the main surgeon). An advantage over the simple laparoscopic procedure is that da Vinci has 3D image, while laparoscopic generally has 2D.

The system accurately “translates” the surgeon's hand and finger movements into real-time movements of surgical instruments. They are designed with seven degrees of motion (even more than the human wrist). Bending angle is up to 90° which provides a high quality of work and greater maneuverability. Each instrument in this Surgical System has its own function such as clamping, suturing, and tissue manipulation. The da Vinci System allows quick changing instruments during the surgery. It has 3 or 4 robotic arms: 2 or 3 of them are instrumental, and one is endoscopic. Laparoscopic arms are working through 1 – 2 cm cuts which make the procedure less traumatic, less hemorrhagic, reduce postoperative pain and complications. The accuracy of the work performed is mastered through suppression of the natural hand tremor.

The da Vinci Surgical System is the only one system designed for sitting, which is not only more comfortable, but can also give clinical benefits because of less tiredness of the surgeon. Da Vinci system provides comfortable leveling for surgeon's eyes and hand on the surgical console.