

NEW TENDENCIES OF MINIMALLY INVASIVE SURGERY



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The **Minimally Invasive Surgery**, as it is known, has increased a lot in range and in demand in the whole world. A procedure that originally was conceived to perform cholecystectomy (removal of the gallbladder) had spread to almost all surgical specialties, and includes many procedures, in which it has also become a state of art.

This is a phenomenon that has occurred in almost the whole world and fortunately, in our dear Guatemala, we have achieved to be at the vanguard with these advances that have led to new concepts regarding to what Minimally Invasive Surgery is about.

In the last four years there has been a strong tendency to look for the effects of minimizing, even further, the Minimally Invasive Surgery effects and the Laparoscopic Surgery, which is a part of this type of surgery. It has contributed a lot in the development and the advance of this surgical tendency, since the surgeons not only seek to do less damage to the tissues within our surgical proce-

dures, but also it has taken advance in the field of managing pain, and even that it is NOT our primary objective, the excellent aesthetic of this type of surgery are part of its great benefits.

In this wide development of different surgical techniques there are, at the moment, three big tendencies and different ways whereby it has been tried to minimize even further the Minimally Invasive Surgery; These three major trends are based on the fact that the same benefits should be sought in terms of pain and less external evidence of the processes that are carried out internally, however it differs substantially in the way of performing the same procedure.

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These three big tendencies that now haven been developed as different techniques, that besides pretend to turn them into the Gold Standard of the Minimally Invasive Surgery are:

- 1. Surgery by natural orifices**
- 2. Surgery by a single port**
- 3. Mini Laparoscopic Surgery**

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N.O.T.E.S.

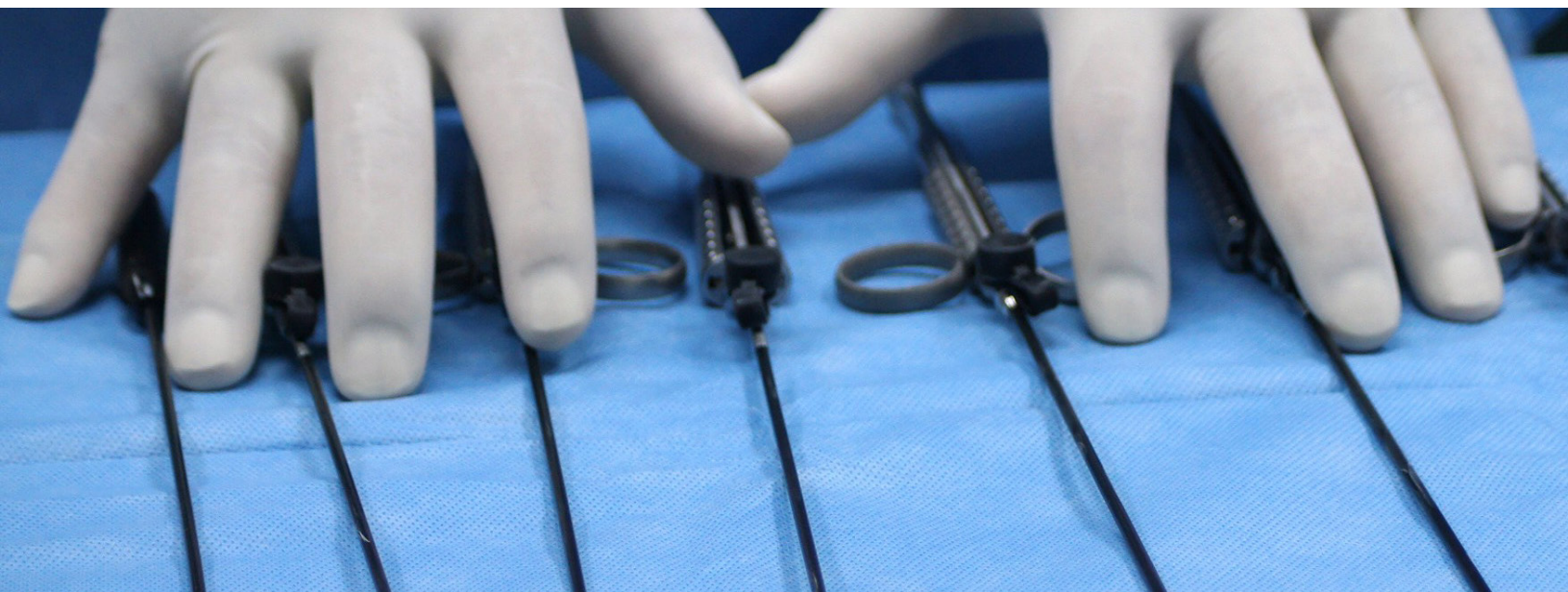
(Natural orifice transluminal endoscopic surgery)

- SURGERY BY NATURAL ORIFICES
- ENDOSCOPIC SURGERY: TRANSLUMINAL BY NATURAL ORIFICES.
- PROCEDURE THAT IS PERFORMED THROUGH THE STOMACH, BLADDER, VAGINA AND RECTUM WITHOUT INCISIONS IN THE SKIN.

It consists in performing the surgical procedures through instruments that are introduced in different natural orifices, like mouth, anus and principally the vagina. This is a technique that is still in process of development, where there is still a long way to go, since it is a small group of reduced surgeons who have the ability and possibility to do it. Within its potential advantages we can mention the following: it does not leave scars, it is a faster recovery, almost painless, less hospitalization staying, and less risks of hernias and infections associated to less lung problems, and less immunosuppression caused by the surgical procedure.

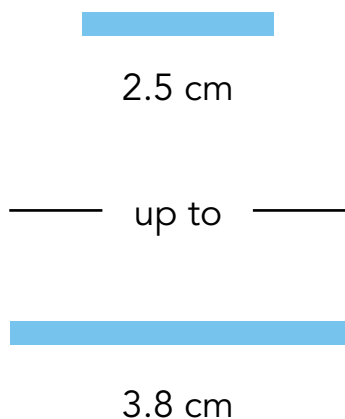
Within its disadvantages we can consider the following: Its technology has not developed well, neither the instruments to carry it out; besides, the training and the learning curve are very expensive and complicated; it is difficult to reproduce its results because there are no large series published since there is NO defined way to perform it, and we could say that it is still a very experimental one, and in Guatemala and in Central America there is NO experience nor way to perform it. In my opinion it will NOT be a procedure with many success.

THE SURGERY BY NATURAL ORIFICES FOR ITS ACRONYM IN ENGLISH IS THE FAMOUS N.O.T.E.S., IT HAS BECOME ONE OF THE MOST SOUGHT TECHNIQUES TO MINIMIZE PAIN, AND MOST OF ALL, THE WOUNDS IN THE SKIN.



SINGLE PORT SURGERY

This is a surgical concept based on the use of a single entry port to perform the whole surgical procedure, in which incisions on the skin are produced as of:



with the purpose of setting a device whereby a laparoscope can be introduced that gives image and also, two or three additional instruments that will be used to perform the surgery so that at the end of the procedure there will be less injuries in the skin.

Its advantages depend on the type of procedure that will be performed since specific indications have been determined, and they depend a lot on the surgeon's ability. Its limitations consist in: despite there is only one injury in the skin this is bigger in diameter, so it is painful compared with the other two techniques which this article is compared to; it has been clearly described that the greater the diameter of the injury in the skin the greater the post surgical pain.

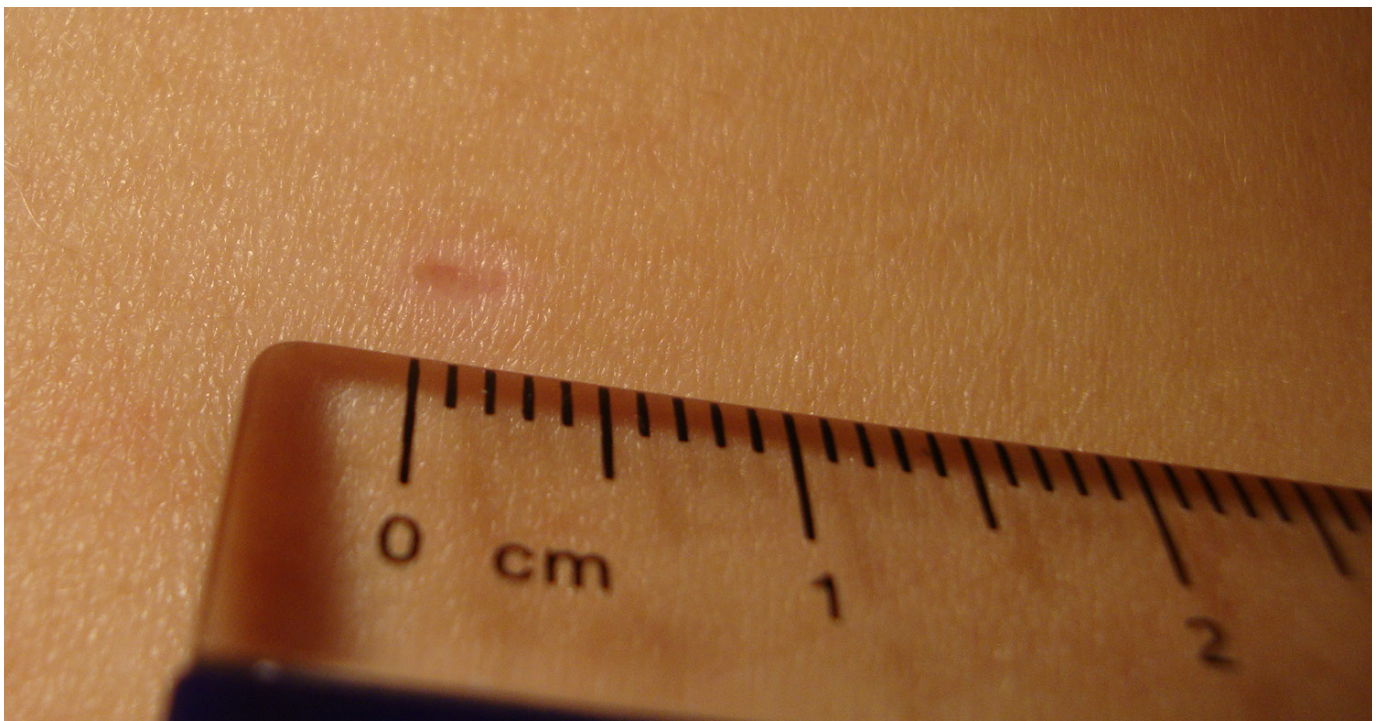
It is important to highlight that to perform that technique we have to have the necessary equipment, training and previous experience with the use of the special device that is used to perform that technique. This is not a procedure that should be used by laparoscopists without experience since it has a high level of difficulty, and might present uncountable complications when not dominating the technique well.

Laparoscopic Minimally Surgery is the other alternative that seeks to minimize the effects of the Surgery of Minimally Invasion and the Conventional Laparoscopic Surgery. Since its formation, during the last years of the last decade, it was called Acusopic Surgery which means Needle Surgery. The objective of this is to minimize the accesses and to diminish the size of the surgical injuries. As well as the laparoscopic Surgery it maintains the same surgical technique that revolutionized since its beginnings, more than two decades ago.

The current concept of Minimally Laparoscopic Surgery is simple, and it is based on having decreased the surgical injures at its minimal expression; instead of having incisions of 5 and 10 millimeters now these are of 2 and 3 millimeters. Additionally, an optical of 10 millimeters is been used as of the conventional laparoscopic surgery, which allows a better visibility than those provided by opticals of 3 millimeters that are the ones that were first used at the Acusopic Surgery.

Therefore, the differences in this method are founded on an suitable mangage of more fine instruments that causes less pain, almost invisible surgical injures, and gives a much better aesthetic result, with the same surgical technique already demonstrated by time.

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So, once received the necessary training to use suitably these instruments any expert surgeon in Conventional Laparoscopic Surgery could perform a Mini Laparoscopic Surgery, without changing his (her) surgical technique. Then, the suitable use of these instruments gives better results as of pain and aesthetic effect, combined that these are completely reusable, and this considerably reduces the costs of the procedures, making them more accessible to a greater number of patients. On the other hand, it is a surgery that is at least 50% less painful than the normal surgery; this reduces the hospital stay, the use of analgesics and eases an even earlier return to the patient's normal activities.

The problem with Mini Surgery lies in two important circumstances: First: it is necessary to count with the suitable instruments; currently only 3 to 4 companies in the world produce instruments to perform Mini Laparoscopies, which causes its accessibility to be very limited. Second: The surgeon must be very well trained in Advanced Laparoscopic Techniques in order to perform Mini Laparoscopic Surgeries, and in that way NOT having complications, getting excellent results.

GOLDEN RULES

- Secure
- Decisive
- Reproducible
- Easy process of learning
- Less invasive
- Less costs.



THEN, THE SUITABLE USE OF THESE INSTRUMENTS GIVES BETTER RESULTS AS OF PAIN AND AESTHETIC EFFECT, COMBINED THAT THESE ARE COMPLETELY REUSABLE, AND THIS CONSIDERABLY REDUCES THE COSTS OF THE PROCEDURES MAKING THEM MORE ACCESSIBLE TO A GREATER NUMBER OF PATIENTS.

WHY DO I PREFER MINI LAPAROSCOPIC SURGERY?



Whenever we are going to make a decision and we have to choose which tendency or technique to bet on, we should take into account a series of very objective criteria when comparing between the different options that we have to choose. We, who are dedicated to do so, call these criteria the Golden Rules to which all new procedure or surgical tendency must adjust to. In accordance to the brief presentation of each one of the techniques I have referred to, we are now going to apply these Comparison Golden Rules to define which one adapts better to our comparative criteria and needs.

In the following chart a good comparison is detailed between the three tendencies, and it even compares them in regard to the Conventional Laparoscopic Surgery from which the three have come from, always looking for the ideal evolution of the same. In this, we can see objectively that Mini Laparoscopic Surgery is the one that has best answered to the Comparison Golden Rules since it gathers the best results with respect to pain, scar, technical difficulties to perform them, better recovery at a less cost, and with the largest series of studies performed, which make it a well established procedure; besides, with a good training by experienced surgeons, it is easily reproducible, which is a factor that is far from being a reality in the other two techniques mentioned above:

MINI LAPAROSCOPIC SURGERY SIMPLIFYING AND REDUCING COSTS

- No disposable equipment
- Monopolar Electrocautery
- No staples, only knots
- No frag lens of 3 mm.
- Plastic bag

For these reasons we all, in the Group of Minimally Invasive Surgery of Guatemala, like and feel better with the Mini Laparoscopic Surgery that we have been performing since almost four years with good results, and the satisfaction to be the pioneers in Guatemala and Central America to offer this alternative that is taking place around of:

15 COUNTRIES OF THE WORLD TODAY!!

Our results have been very satisfactory and, more over, very promising, to the extend that producing companies of Mini Laparoscopic Surgery instruments, which there are about only 5 in the whole world, are looking for us as evaluators of their products; such is the case of the representatives of the German Enterprise Gimmi (which produces one of the best products), who visited us in Guatemala; whereby we consider that the future of Mini Laparoscopic Surgery in Guatemala and Latin America will be very prosperous in a short time, which is a great benefit for the population at large.

COMPARING	LAP	LAP	SILS	NOTES
Scars	small	very small	big	no scar
Somatic pain	++	+	+++	0
Available Equipment	yes	yes	yes	no
Difficulty	+	++	+++	++++
Recovery	fast	very fast	fast	very fast
Cost	+	++	++	++++
Starting year	1987	1996	2007	2007
Series Size	>10.000	>1.000	<100	<100
Pre-stablished	yes	yes	no	no