1. Hello, Thanks Denise and thanks to everyone, my name is Stella Maris Glowinski, are Argentinian, I live in Italy for 26 years, I devote myself to lymphedema treatment before arriving in Rome. I will present the side effects post-breast cancer surgery, oncology and rehabilitation stages of the disease. Working in a private way, collaborating with various institutions and doctors in Italy, especially with the Doctor Stefano Martella which is responsible for reconstructive plastic surgery department of the Hospital San Raffaele in Milan.

2. I will start my work speaking especially of women and the its path. The woman at the center, because it is clearly a stage where they begin to fight: a day are fine and the next day have a radical change in their lives both physically and emotionally. From that moment the choice of doctor, the specialist examination, diagnosis and surgery and multidisciplinary consultation for the choice of drug. The patient begins to have a state of anxiety, stress, anger, do not understand what is happening. Chemotherapy, radiotherapy, drug therapy, physical therapy. End of care.

3. The breast surgery can be simple or with quadrantectomy with lymphadenectomy and simple mastectomy or a lymphadenectomy.

4. From these interventions begin different types of capsule reconstruction, which can be with expander, with final prosthesis, with the muscle latissimus dorsi, the muscle cross-abdominal, with lipofilling, or with implants and muscle or no reconstruction.

5. the side effects after breast reconstruction in quadrantectomy in mastectomy final capsule or expander, can be: the scar and the 'edema, skin numbness and adherence (Awillary Web Syndrome) or lanyard.

6. in the reconstruction will be injected with lipofilling dell'adipe that will be taken by the patient herself, can be from thigh or abdomen and injected into the breast during various interventions. Then, it will take into account the indications of the doctor to proceed with physical therapy, until the injected fat will not be drained and taken away. In between time you can work on the other side-effects, if there were, or drain the surrounding areas.

7. The side effects of the reconstruction with the flap of the latissimus dorsi muscle are: posture, the momentary loss of balance (the patient feels move sideways while walking) edema, pain, hematoma, adhesion, insensitivity. Compromises muscles in this case are: the small and big round, the serratus, under the scapular and the rhomboid. First, the surgeon makes a mapping, then begins the intervention of reconstruction, it sends a pass or subcutaneous tunnel from the Grand Dorsal muscle flap until the pocket (v. Large photo), it has winds to form the capsule with the flap . Sometimes it is not enough to do it only with muscle, and you must also apply a prosthesis. Next, it does a skin graft, with the skin of the dorsal region and rebuilds the breast. Here you see that the fabric is of a different color, but with the passing of time this fabric is able to have almost the color of the skin of the breast. Until you take off the patch of the scar, you can not work on it, but it will drain all around the wound especially the serous sac that has been created. In some cases the patient will have to be addressed by the surgeon to extract the liquid from the bag because it is not sufficient with the user or with the drainage of the linfotaping technique. Normally, it also

puts an elastic bandage to compress the fabric, so that not to reform a new lymphocele. Physical therapy, in the first days after surgery will be done mostly with lymphatic drainage and linfotaping, to drain as much liquid as possible. We can also apply the neuromuscular taping, creating more support and that the patient feels more restrained. When passing the post operative period, there is no more drainage and lessens inflammation follow gymnastics assisted to stretch the muscles such as the small round, which looks painful and the patient in the early days unable to raise the limb.

8. With the reconstruction of the transversus abdominis muscle, the same thing happens: the patient posture problems, loss of balance, edema, pain, hematoma, adhesion, insensitivity. Conversely muscle Gran Dosale, will not have a lateralization of posture, but will move forward, because the patient feels pain in the abdominal region due to the scar.

9. The side effects after surgery are the serous bag under the armpit or thoracolumbar spine, the deficit motor shoulder joint and posture, the dysesthesia and limb ipsilateral armpit, hypoesthesia of the posterior triceps excess limb humerus-side, the upper limb axillary scar adhesion and the thoracic region, the scar post -operatoria and scar drainage, ipsilateral upper extremity lymphedema, asymmetry between the two breasts, nipple retraction, breast implant encapsulation.

10. early side effects occur during surgery, are made unintentionally in the operating room. Pain in the median region of the chest, due to internal sutures and those drainage. Pain and skin sensitivity due to surgical instruments for the extension of the skin. Blood effusion, edema, sensitivity, hematoma, caused cauterized kings and electric scalpel, the capsulitis caused by a bacterium that may have infiltrated from the catheter of the patient and the lymphocele that looks for a vessel lesion.

11. The side effects limb upper occur because the patient moves too many hours in the operating room with the limb in extension. It can produce an inflammation of the plexus bracelet that passes under the armpit or Langer arch as you see in the picture number 2 and number 3. It will be positioned at arm's length, and will depend on the type of reconstruction that you will have to do, which can be replacement of the capsule, which will last an hour, or otherwise, a reconstruction with the transverse abdominal or reconstruction with the flap of the latissimus dorsi muscle, and the patient will be in this position six or seven hours.

12. as a result, to make you better understand how they are caused side effects, I'll show you a speech by Dott. Stefano Martella. He is working on the pocket with the surgical instruments. As you can see, there is a greater extension of the skin, this is the extracellular matrix that will put before the prosthesis. Give the stitches between the matrix and the muscle then the patient will experience a transient pain in the days ahead. Other sutures are those which will set the prosthesis. So the patient will feel a pain in the medial area of the chest that over time will disappear. You see the extension of the skin. So is the first cause side effects derived from the surgery.

13. The patient may have the same side effects, at all stages of the treatment, from the first intervention, during medical therapies, if you were to replace the expander with the final prosthesis, if you it produces a rupture of the capsule, if there is an encapsulation of the prosthesis, or if he has a relapse. Side effects such as hematoma, scar, edema, and adherence to arise throughout the course of the disease.

14. To avoid encapsulation of the breast implant, after the intervention, it is appropriate to do early rehabilitation. When the patient is operated and is placed a prosthesis, it makes a circular massage near to the capsule, as seen in the first picture and is primarily teach the patient to do a self-massage, so that the prosthesis is always moving and there is not is a contracture of the capsule for residual scars or an excess of adipose tissue. the patient will feel the prosthesis hard and cause pain and discomfort. usually, if you spend a lot of time between the surgery and physical therapy and the patient will not be handled manually , you will have to intervene surgically freeing it with the capsulectomy.

15. the capsule may be too rigid, higher than the other, larger or smaller. Factors that may affect the asymmetry between the two breasts, **are the pectoral muscle** size,because until the surgeon intervenes does not know what will be the structure of **muscle,the body weight of the** patient,gain weight and lose weight can lead to negative effects on 'asymmetry between the two breasts, if the patient has a weight gain, will also increase the weight in the womb. Following you will see an intervention, where there is the encapsulation of the prosthesis: In this photo you see the fat that the surgeon takes off to follow the symmetry between the two breasts. During surgery, we see a fibrous plaque, very strained muscle, the pectoral muscle is extra rotation and fibrous plaque must be rimosa, creating more space between the tissue and muscle. This means that the prosthesis will have to be even greater than before to fill the pocket or to intervene with the lipofilling technique to fill the depressions that will form after surgery.

16. In the retraction of the nipple happens that since not the milk ducts, the mammary gland , nerve vessels and muscles that support the creation of a nipple introversion. It is very difficult to try to pull it out with only technical manuals. I had the idea to use a breast pump then you'll see in the video and it produces with its pompage effect stimulation, vascularization and oxygenation to the tissues creating a extroversion of the nipple. In the first picture, you see the nipple retraction, in the second photo you see the nipple everted by massage and breast pump, finally apply the taping, and the patient will keep him until the next session. The nipple will always tend to shrink, but if you follow this application will be like a stimulating gymnastics and the patient can also do alone at home as often as you want.

17. In this case the capsule after two discards in both breasts, reconstruction bilateral it would only be with the latissimus dorsi muscle. With early physical therapy (before surgery) during 3 months of cutaneous stimulation with massage therapy, linfotaping and mechanical pompage with the breast pump was possible surgery with bilateral permanent prosthesis without rejection of the capsules from August 2015 to date.

18. This is the breast pump and its function, has no known side effects or exert any form of traumatic suction cup on the nipple or areola.

19. the side effects of the intervention, occur during any stage of the disease. In this case, I published an article, where I did a comparison of chemotherapy, radiotherapy, hormone therapy and immunotherapy and have seen over time and my experience with cancer patient, which occurs in chemotherapy peripheral neuropathy and also in radiotherapy . In hormone therapy are the leg cramps, tingling in the limbs of the immunotherapy. In chemotherapy are myalgia, joint pain. In radiation therapy, joint pain in the irradiated area and the shoulder and brachial plexus. In the hormone therapy osteopenia and joint and muscle pain. In immunotherapy, muscle tension and pain and tremors. Instead, as regards the part lymphatic, there are in the chemotherapy of swelling in the hands and feet. In radiation therapy lymphedema and edema. In hormone therapy fluid retention and in immunotherapy, edema and fluid retention.

20. The side effects after radiotherapy are skin burns, lymphedema, the scar adhesion, the color of the skin where the scar was performed as shown in photo number 2, which may be permanent, is the joint deficit shoulder joint. In this case, after the radiation therapy, as seen in photo number 1, it is a very important Lymphedema that will be the result of radiotherapy with lymphadenectomy burdened by a deficiency of the lymphatic system that the patient had previously.

21. In this photo, there they are the four quadrants: upper outer, upper inner, lower quadrant in the outside, the lower inner quadrant and will be most affected by radiation therapy where you will create the most damage. We know how the lymphatic system: the lymphatic capillaries have pores which collect metabolic wastes, such as water, protein, salt. Then, through the lymphatic collector, they are pushed towards the lymph nodes. With an edema of such entities, such as this that presents the patient, the capillary lumen is reduced. To achieve a result with physiotherapeutic massages, you can obtain it through the lymphatic drainage, or with linfotaping or elastic-compressive bandages, you will have to get to surgery.

22. Today there are intervention techniques "mini-invasive", which allow to create passages between vein and capillary. With this video I will show you the intervention of minimally invasive microsurgery. The first thing you do is a lymphography with contrast to see where are the healthy lymphatic vessels, to be able to step in and do the anastomosis. Here the hands of the patient who was injected the dye. Then with the infrared, the surgeon makes a limb mapping to see the veins, marks with a pen, then draws the cuts where do the anastomosis between lymphatic vein and capillary. This is a picture of a lagoon where lymphatic with a pen or a finger, you can move the liquid towards the healthy lymphatics. These cuts have already closed and these are the vessels that will affect him. This is the low light, I showed before, this is the vein and capillary, still without anastomosis. And here the live action, where he joins the two ends with a wire then removing it, swells the vein and it creates this passage of liquids. Then the flow of lymphatic fluid and metabolic waste will begin to pass through the vein and disposed of. The therapy will be with Linfotaping and lymphatic drainage, or elastic compression bandage for a few months after surgery and rehabilitation will not be able to do right after, because you have to heal the flaps between

vein and capillary respecting the recovery time after surgery that can be 15 / 20 days depending on the extent of the intervention. It will be the surgeon to tell you when you can proceed with the lymphatic therapy, bandaging or elastic-compressive sleeve.

23. To assess the physical therapy, it is not enough to know if carried out a quadrantectomy or a mastectomy, also it depends on the general state of the patient, It relates well past diseases. Other previous relapses, the type of tumor, the invasion of tissues and organs, the removal of lymph nodes if the sentinel node was removed, and the psychological state of the patient.

24. The physical treatment after surgery for breast surgery consists of reading medical records or discharge sheet. Complications in the case of previous illness, the patient card, where we have to score measures, weight, age, therapy he has done, the type of therapy that we do, observation, palpation of the skin, the test to verify the condition shoulder (the Roma, to see if he has the winged scapula or a frozen shoulder), anatomical and functional characteristics of the limb with the protractor, limb assessment level linfovenoso: we do not know if the patient has a lymphatic problem, venous or mixed limb until we do an evaluation of the skin or edema thickness, measuring ipsilateral limb compared with the contralateral, the evaluation of the scar, the evaluation part of the intercostal, pectoral and dorsal, the evaluation of the state psycho-physical-emotional of the patient, the choice of therapy for post-operative rehabilitation, both physical, motor, lymphatic or with linfotaping, and weekly sessions. Of course, each person has a protocol and a different therapy. Until I see a patient, I can not know how many sessions are needed. Normally 10 sessions. Then spent in rehabilitation can also increase or decrease depending on the case. Preventive prophylaxis is important information as to prevent further aggravation especially in lymphedema. Inform you that it is better to avoid the sun, not to cause cuts, treat interdigital mycosis or use comfortable clothing that does not obstruct the passage of the sap, such as a tight bra. We can also interact with the doctor to suggest an anti-edema by mouth in such a way that the liquids are drained with greater ease. Always with the doctor's permission the patient should keep with an anti-inflammatory cream, an antibiotic, or an anti-inflammatory for the mouth in case of sudden inflammation limb type lymphangitis.

25. If this were not enough, we also suggest the patient to consult your doctor for further tests to follow such a visit angiological, an eco-color-doppler, ultrasound soft tissue, a lymphography with contrast media, electromyography, if there were doubts about the nerve termination, this clearly will help in the treatment, so that the patient can have a better result.

26. What do I mean by "comunicoterapia empathy" between healthcare provider and patient cancer?
the patient oncological rehabilitation starts from the moment they give our phone number and we call. It will be in a state of anxiety, grief, fear, anger, uncertainty, because they do not know what is happening or will happen in this new phase of physical rehabilitation. It can come right after surgery, even with drainage or some time after the surgery. The patient calls and we must be ready to accept it and to listen. We must understand when it comes to us from the medical record or discharge sheet type of intervention and the general state but also what she wants, what she needs, what he expects. Do not forget that it is an impaired

person, who has a problem breast, which has a scar, inside and out. We must try to bring it to have an image of themselves safer, more confident, because we need a lot to us that the patient serenity during care in order to work.
While they expressed their discount is good to try to make an anchor that means with a look, a word, change its negative state in a positive, it is not always easy, because sometimes crying, sometimes they are angry, but we must try to distract them, so they can relax and then, starting with a move, therapy.

27. the oncological physiotherapy decreases the physical and emotional tension. Physiotherapy has a benefit to the corporeal level, but also emotional. A somatic sensitivity of the nervous system. This system is called "system for algesia" and determines the block of pain at the level of the spinal cord. There is a stimulation of serotonin and enkephalin. Is that if the patient is seen supported physically and emotionally speaking with us, giving some suggestions for his image, kind of put a scarf, a wig, you feel more caring woman and more, this patient will have a better result and the benefit will be ours, because we are happy to be able to help and physiotherapy will have excellent results.

28. After the interaction with the patient, the therapy I choose to do. After that I check on his disability and the general state of the patient, beginning with physical therapy. Manual lymphatic drainage, if it has an excess of liquid, the linfotaping, Stretching, to peel adhesions, massage therapy of the chest muscle, respiration, gymnastics assisted, breast massage, self-massage the breast, scar treatment.

29. for a patient who presents a lymphedema part by observation and by palpation of the skin, mobilization of the limb of the various tests, the sign of the fovea to see the consistency of the edema, take the measures is that the contralateral limb ipsilateral by a comparison between the two arts, photos, selecting the bandages, and in order that manual lymphatic drainage therapy. If the patient has undergone an axillary lymph node dissection, the liquid will be deleted toward the contralateral area respecting the alternative paths, which are for the top: the front street, the rear cable and the suspender, (such as the bra strap), which communicates with both sides front and rear. Then there is the road that goes from the armpit to the groin that also involves liquid of the abdominal area, which will flow into the inguinal or suprapubic alternative. Upper limb there are two alternative ways, the front or via Mascagni or that deeper rear, which is the way Kaplan or triceps. The principle of lymphatic drainage and linfotaping is identical since this technique was created with the same principles of lymphatic drainage. With linfotaping you can create alternative routes and place both as a support bandage or elastic compression. This system will be a further contribution to help the liquid to flow.

30. A few examples of my work for the treatment of lymphedema with bandage, gymnastics, dynamometer.

31. Among lymphatic drainage and linfotaping shared effects on the circulatory and lymphatic system are the same. Why use so much the linfotaping? Because it increases the circulatory and lymphatic drainage, helping to reduce the load, it reduces the excess heat in the tissue, decrease muscle and joint pain, stimulates the subcutaneous lymphatic drainage,

reduces tissue inflammation. While the drainage is manual, the linfotaping is a tape that is cut in the shape of a fan or bands of different sizes depends on the depth to which you want to get there, working 24 hours 24 as if there were the therapist's hands to drain steadily . The tape does not contain any kind of substance, only the glue to adhere the tape to the skin and does not produce allergy. Beeper with the movements that the patient will do during the day and raising the fabric will favor the passage of the liquid up to the unloading area. It will advise the patient to place a support under the bra strap for non pressionare the elastic on the skin and block the drainage of the lymphatic load.

32. The local lymphocele under the armpit can be temporary or permanent. In the first picture, there is a permanent lymphocele. The patient is to be a year in which the serous sac. Following the manual drainage and linfotaping you have a temporary result as seen in the second photo, regresses but not disappear, and the surgeon must intervene siringandola to empty because it reform. Therapy, as well as lymph drainage and linfotaping will be done gymnastics assisted with me and the patient at home. In the third picture, it has formed the serous bag after a reconstruction with the flap of the latissimus dorsi muscle. This patient very lean, has a reduction of edema after the path of physical therapy with lymphatic drainage, the linfotaping gymnastics and elastic-local compression and well being this lymphocele much more important, the result is permanent, it is no longer formed the bag after therapy.

33. for the evaluation of joint mobility you should consider the following elements: the permanent numbness or dysesthesia, motor deficit bachelor humeral articulation (ROM), posture, band gymnastics, dynamometer to measure the force of the hands, the protractor to measure the movement range of the degree of opening of the elbow, and breathing. In the first picture I take a test to assess whether the patient has the winged scapula or frozen. After that I follow the various tests for the evaluation begins with the therapy that may be the massage therapy, exercise, breathing, loosening, stretching and both linfotaping or neuromuscular taping. The patient will feel relief immediately.

34. The adhesion presumably the result of damage of the connective tissue which surrounds the blood vessels, lymphatics and nerves. They are easily visible, are in pain, have burning sensation, can occur immediately after surgery or after a few weeks or months, and may be formed at the point where the drain or in the thoracic region was inserted. The patient feels an electric shock that recurs throughout the limb, pain, burning and limitation in limb movements, you can occur in the arm, forearm to the back of his hand. It is presented in the form of breeze of different sizes rope. To act on the lanyard can be used several techniques, the breaking maneuver supporting thumbs in the extremities, the disconnect, stretching or massage.

35. If someone stood up to these symptoms the patient should immediately inform your doctor, then the doctor will send from us and then manually intervene with therapy that we believe appropriate, loosening, stretching, massage therapy or the maneuver to break the lines only performed by experienced operators. This is a vascular damage has arisen for breaking prematurely lanyards. In this case the patient will have to take antibiotics and anti-

inflammatory under prescription and stop physiotherapy until the payment will not be absorbed completely.

36. The patient can get to us immediately after surgery with scar still covered by bandages and with the post operative drainage. Before working on the scar you have to wait for the surgeon to take it off it is to time intervene in the surrounding areas to eliminate edema which was created after the reconstruction surgery. In between time, we can make an assessment at the humeral bachelor, delete the lines but do not touch the scar until it is completely healed. Once the surgeon authorized to work it, we can do the taping, the disconnect and palpation to feel if there is no inflammation or scar tissue in the waste to avoid the delay of radiotherapy that the patient will have to do after a month after surgery. In the photo number 3 the scar is inflamed, pink and open, if you notice an effect of this kind certainly in the subcutaneous adipose tissue there will be necrosis and will have to take a medical examination because it could be a liponecrosi. Once the wound is closed completely it proceeds with manual processing. With the tape can be placed on the scar gel or cream that advises the physician to treat it, being a porous structure penetrates anyway. The tape will be cut in more stripes because so works on the surface on the skin. The tape will be removed each session and placed back in the same way until the scar will not be soft and almost invisible. The patient can follow the application of the gel or cream from home, two or three times a day as prescribed.

37. Finally, I can say that collaboration with doctors is crucial to create a custom protocol for each patient, the side effects They will never be the same and never all on the same case. Usually when a patient is addressed to us, it is a physical problem post surgery and you will make a careful evaluation of the side effects that appear without neglecting his emotional state. Working with a team of specialists, such as the surgeon, the oncologist and psychologist means a cure at 360 ° for the cancer patient.

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**Thanks for your attention**