SRI LAKSHMI NARAYANA INSTITUTE OF MEDICAL SCIENCES

Date:20.08.2021

From
Dr, Ambigai Meena ,
Professor and HOD,
Department of Obstetrics and Gynaecology,
Sri Lakshmi Narayana Institute of Medical Sciences,
Bharath Institute of Higher Education and Research,
Chennai.

To
The Dean,
Sri Lakshmi Narayana Institue Of Medical Sciences,
Bharath Institute of Higher Education and Research,
Chennai.

Sub: Permission to conduct value-added course: Basic Obstetrics and Gynaecological Surgical Skills – in Day to day practice

Dear Sir,

With reference to the subject mentioned above, the department proposes to conduct a value-added course titled: **Basic Obstetrics and Gynaecological Surgical Skills – in Day to day practice** on NOV 2021 - JAN 2022. We solicit your kind permission for the same.

Kind Regards

Dr. Ambigai Meena,

FOR THE USE OF DEANS OFFICE

Names of Committee members for evaluating the course:

The Dean: Dr.Jayalakshmi

The HOD :Dr. Ambigai meena

The Expert: Dr.Durga

The committee has discussed about the course and is approved.

Dean

Dr. G. JAYALAKSHMI, BSC., MBBS., DTCD., M.D.,
DEAN
Sri Lakshmi Narayana Institute of Medical Sciences
Osudu, Agaram, Kudapakkam Post,
Villianur Commune, Puducherry - 605502.

Subject Expert

ASSOCIATE PROFESS
DEPT. OF OBSTETRICS & GYNAEC
Sri Lakshmi Narayana Instit
Medical Sciences
OSUDU, PUDUCHERRY

HOD

PROFESSOR & HEAD
DEPT. OF OBSTETRICS & GYNAECOLOGY
Sri Lakshmi Narayana Institute of
Medical Sciences
OSUDU, PUDUCHERRY.

OFFICE OF THE DEAN

Sri Lakshmi Narayana Institute of Medical Sciences

OSUDU, AGARAM VILLAGE, VILLIANUR COMMUNE, KUDAPAKKAM POST,
PUDUCHERRY - 605 502.
[Recognised by Medical Council of India, Ministry of Health letter No. U/12012/249/2005-ME (P -II) dt. 11/07/2011]
[Affliated to Bharath University, Chennai - TN]

Circular

Date : 16.10.2021

Sub: Organising Value-added Course: Surgical Skills in obstetrics and gynaecology- reg

With reference to the above mentioned subject, it is to bring to your notice that Sri Lakshmi Narayana Institute of Medical Sciences, **Bharath Institute of Higher Education and Research**, is organising **"Surgical Skills in obstetrics and gynaecology"**. The course content and registration form is enclosed below."

The application must reach the institution along with all the necessary documents as mentioned. The hard copy of the application should be sent to the institution by registered/ speed post only so as to reach on or before 30.10.2021. Applications received after the mentioned date shall not be entertained under any circumstances.

Dean

Dr. G. JAYALAKSHMI, BSC., MBBS., DTCD., M.D.,
DEAN
Sri Lakshmi Narayana Institute of Medical Sciences
Osudu, Agaram, Kudapakkam Post,
Villianur Commune, Puducherry - 605502.

Encl: Copy of Course content and Registration form.

Course Proposal

Course Title: Basic Obstetrics and Gynaecological Surgical Skills in day to day Practice

Course Objective:

Overview of instrument in surgery

Learning objectives

Principles of safe surgery and good theatre etiquette

Suture materials and needles

Handling instruments

Practical exercise

Episiotomy Drill

Do's and Don't

Course Outcome: knowledge about basic obstetrics and gynaecological surgical skills

Course Audience: Final MBBS Undergraduates

Course Coordinator: Dr. Durga

Course Faculties with Qualification and Designation:

Dr. Ambigai Meena. Prof and HOD, OG

Dr. Durga , Associate Professor, OG

Course Curriculum/Topics with schedule (Min of 30 hours)

SlNo	Date	Topic	Time	Hours
1	2.11.2021	Overview of instrument in surgery	4.00pm -7.00pm	3
2	8.11.2021	Learning Objectives	4.00pm -7.00pm	3
3	15.11.2021	Principles of safe surgery and good theatre etiquette	4.00pm -8.00pm	4
4	27.11.2021	Suture materials and needles	4.00pm -8.00pm	4
5	4.12.2021	Handling Instruments	4.00pm -8.00pm	4
6	10.12.2021	Practical exercise	4.00pm-8.00pm	4
7	15.12.2021	Episiotomy Drill	4.00pm -8.00pm	4
8	02.01.2022	Do's and Don'ts in surgical skills	4.00pm -8.00pm	4
			Total Hours	30

REFERENCE BOOKS: (Minimum 2)

Willaims Obstetrics Edition 21

VALUE ADDED COURSE

1. Name of the programme & Code

Basic Obstetrics and Gynaecological surgical skills – in day to day practice, OBGY 5

2. Duration & Period

30 hrs & November 2021 - January 2022

3. Information Brochure and Course Content of Value Added Courses

Enclosed as Annexure- I

4. List of students enrolled

Enclosed as Annexure- II

5. Assessment procedures:

Multiple choice questions- *Enclosed as Annexure- III*

6. Certificate model

Enclosed as Annexure- IV

7. No. of times offered during the same year:

November 2021 - January 2022

8. Year of discontinuation: 2022

9. Summary report of each program year-wise

Value Added Course					
Sl. No	**Course Code**	**Course Name**	**Resource Persons**	**Target Students**	**Strength & Year**
1	OBGY 5	Basic surgical skills	Dr. K. Durga	FINAL YEAR	November 2021 - January 2022

10. Course Feed Back

Enclosed as Annexure- V

RESOURCE PERSON

ASSOCIATE PROFESS
DEPT. OF OBSTETRICS & GYNAEC
Sri Lakshmi Narayana Instit
Medical Sciences
OSUDU, PUDUCHERRY

COORDINATOR

Dr. G. JAYALAKSHMI, BSC., MBBS., DTCD., M.D.,
DEAN
Sri Lakshmi Narayana Institute of Medical Sciences
Osudu, Agaram, Kudapakkam Post,
Villianur Commune, Puducherry-605502.

BASIC OBSTETRICS AND GYNAECOLOGICAL SURGICAL SKILLS – IN DAY TO DAY PRACTICE

PARTICIPANT HAND BOOK

COURSE DETAILS

Particulars	Description
Course Title	BASIC OBSTETRICS AND GYNAECOLOGICAL SURGICAL SKILLS- IN DAY TO DAY PRACTICE
Course Code	OBGY 05
Objective	1. Introduction 2. Learning objectives 3. Principles of safe surgery and good theatre etiquette 4. Suture materials and needles 5. Handling instruments 6. Practical exercise **7.** Principles of suturing
Further learning opportunities	Practicing exercises
Key Competencies	On successful completion of the course the students will have skill in handling and observe various surgical skills
Target Student	Final MBBS Students
Duration	30hrs every April 2021 to August 2021 and September 2021 to January 2022
Theory Session	10hrs
Practical Session	20hrs
Assessment Procedure	Multiple choice questions

Introduction

- Each course will include:
- considerable hands-on practical experience
- high tutor to participant ratio
- course manual
- performance assessment with feedback to identify strengths and weaknesses.

It is hoped that this course will be a valuable early step in building safe and sound surgical and obstetric skills. It should be instructive, educational and fun. We hope that you will find the course both useful and enjoyable and that it provides you with a firm foundation for your future career in obstetrics and gynaecology.

Learning objectives

On completion of this module you will:

- Understand the principles of safe surgery and theatre etiquette
- Understand the importance of gentle handling of tissues and meticulous haemostasis
- Understand that careful and sound technique is more important than speed
- Demonstrate appropriate instrument handling
- Demonstrate appropriate suturing and knotting techniques
- Understand the importance of each member of the theatre team and treat-ing all with respect.

Principles of safe surgery and good theatre etiquette

The theatre team

Teamwork is essential for effective surgery. It is essential that the surgeon acknowl-edges and values the contribution of each member of the team. All staff should be treated courteously. Surgeons should be particular about maintaining

the highest standards and must ensure that their expectations are understood and that they are compatible with the goals of the other members of the team. The medical staff are complemented by nursing and ancillary staff who have the following roles:

Scrub nurse – prepares swabs, instruments, skin preparation and drapes andhands them over to the surgeon when required. The scrub nurse assists the sur-geon by counting the instruments present at the end of the operation and check-ing that the instrument count is correct.

Assistant nurse (runner) – assists with swab count, opens packs and additionalinstruments and needles as required. Will often assist with positioning the patient and applying diathermy plate. May assist with adjusting the stack system during laparoscopic procedures.

Operating department assistant – responsible for assisting the anaesthetist duringthe induction of anaesthesia and with positioning the patient and maintaining equipment during the operation.

Preparation for surgery

An optimum surgical approach allows the operation to proceed with as little stress as possible to the patient, the surgeon and assisting theatre staff.

Patient positioning

When transferring the patient to the operating table, care must be taken to avoid injury to both the patient and the staff. The use of a slide saves lifting. Care must be taken to ensure that, when the patient is placed on the operating table, none of the skin is in contact with the metal parts of the table. This reduces the risk of electrical leakage to earth when diathermy is activated. Operate with the table at an appropri-ate height and with the patient in the correct position to provide the optimum view of the operative field. This will often be in a Trendelenburg 'head-down' position so that bowel and omentum move away from the operative field of the pelvis, provided that there are few adhesions. Care should be taken that the patient is positioned so as to avoid her slipping off the operating table.

The surgeon and assistants should avoid unknowingly resting on any part of the patient's body.

Ensure good views

Ensure that a clear view with good illumination is maintained throughout the opera-tion and that there is adequate exposure. Always keep the operative field tidy with the minimum number of instruments in the wound.

Patient and staff safety

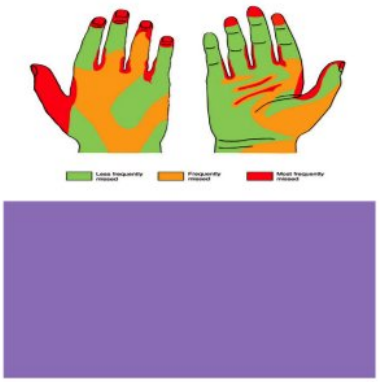
Check the integrity of instruments before use. This is especially important with electrical and endoscopic equipment. Sharp instruments should be handled in a way that reduces the risk of inadvertent injury, the blade of a knife should be guarded and the handle passed foremost, preferably via a kidney dish or suitable container. Patient safety as well as that of the theatre personnel remains the surgeon's responsibility. Always ensure that needles and blades are disposed of in a specific 'sharps' container.

Protective clothing and hand washing

Outdoor clothes should be removed and theatre scrubs and shoes worn. It is advised that a theatre hat, a mask and visor should be worn during all procedures. Hand washing is the single most important means of preventing the spread of infection. Areas most commonly missed when hands are washed are the thumbs, the backs of the hands, between the fingers and fingertips (Figure 1.1).

Hands should be washed before all procedures: when moving from patient to patient, after visiting the toilet, before handling food and when moving from a 'dirty' to a 'clean' task on the same patient. Hands must be washed even if gloves are worn.

The level of hand hygiene will also be determined by the activity or area of practice.



Surgical hand wash

- Use an antiseptic solution such as Hibiscrub® (AstraZeneca), chlorhexidine or iodine; this is more effective than soap.
- Remove all jewellery.
- Cover cuts and abrasions with a waterproof dressing.
- Wet hands before applying soap/antiseptic.

- Lather well and rub hands together, paying particular attention to the tips of the fingers, the thumbs and the areas between the fingers.
- Extend the wash to the arms as far as the elbows and rinse well afterwards.
- Use a nail brush for 30 seconds on each hand, then rinse.
- Wash a second time for 2 minutes – both hands up to the elbows, then rinse.
- Wash a third time for 1 minute – both hands up to one- third away from elbow, then rinse with hands uppermost, allowing water to drain towards the elbows
- Dry your hands and arms using individual towels and blotting away all moisture.
-

Asepsis and hygiene

An antiseptic solution, such as Hibiscrub® (AstraZeneca), should be used prior to invasive procedures, in high- dependency areas and after attending patients in isolation with known transmissible conditions. Hand rubs are used to rapidly decontaminate visibly clean hands and between patient contact if hands are not contaminated with blood or organic matter. The alcohol content of the hand gel should be greater than 60%. All areas of the hands must be covered by the gel and hands must be rubbed together until all the gel has evaporated.

Gown

Your gown should be put on by holding it in front of you and, as it unfolds, insert your arms into the sleeves. An assistant should pull the gown on from behind and tie the inside ties of the gown. A colleague who is scrubbed and gowned can assist you with the wrap-around tie.

Gloves

Gloves protect skin from contamination but only give minimal protection from sharps injuries. Gloves should be used for protection from exposure to blood/body fluids during procedures for all patients, including venepuncture, pelvic examin-ation, wound management and surgery. Latex- free gloves should be available for those who have latex allergy.

Key features of the ideal glove

It fits well and does not lose its shape.

It offers optimum sensitivity and durability.

It is powder-free, to reduce adhesions and allergy.

It contains low levels of latex protein.

Gloves are put on without touching the external surface of the gloves (closed gloving technique). Having done this, adopt a 'scrub position' by holding your hands in front of you and being careful not to contaminate yourself before starting surgery.

Suture materials and needles

Suture characteristics

The ideal suture would consist of a material which permits its use in any operation; the only variable being the size, as determined by the tensile strength. It should handle comfortably and naturally to the surgeon. The tissue reaction stimulated should be minimal and should not create an environment favourable to bacterial growth. The breaking strength should be high in a small-calibre thread. A knot should hold securely without fraying or cutting. The material must be sterile. It should not shrink in tissues. It should be non-electrolytic, non-capillary, non-allergenic and non-car-cinogenic. Finally, after most operations the suture material should be absorbed with minimal tissue reaction after it has served its purpose.

No single type of suture material has all these properties and, therefore, no one suture material is suitable for all purposes. Besides, the requirement for wound sup-port varies in different tissues for a few days for muscle, subcutaneous tissue and skin to weeks or months for fascia and tendon to long-term stability for vascular prosthesis.

Types of suture material

Suture materials are either absorbable or non-absorbable. Absorbable sutures offer temporary wound support over a period of time and thereafter are gradually absorbed either through a process of enzymatic reaction (catgut) or hydrolysis

(syn-thetic materials). It is important to recognise that losing tensile strength and losing mass absorption are two separate events, because a suture may support the wound for only a very short time and yet be present as a foreign body for a long period afterwards. The ideal suture would be one which disappeared immediately after its work was complete, but such a suture does not yet exist.

Non-absorbable sutures are not absorbed but some, especially those of biological origin, lose strength without any change in the mass of the suture material. Others gradually fragment over time. Yet other non-absorbable sutures, especially those of synthetic origin, never lose their tensile strength or change in mass following implantation.

Sutures can be subdivided into monofilament or multifilament. A monofilament suture is made of a single strand. It resists harbouring microorganisms but has poor tying qualities. A multifi lament suture consists of several filaments twisted or braided together. It is therefore easy to handle and ties secure knots.

A further classification is based on the origin of the raw material; it can either be from a biological source such as catgut or from man- made fibres. Sutures have been produced from a biological or natural source for many thousands of years. They tend to create greater tissue reaction than man-made sutures; the result can be local-ised irritation or even rejection. Another disadvantage is that factors present in the individual patient, such as infection and general health, can affect the rate at which enzymes attack and break down absorbable natural sutures. Man-made or synthetic sutures, on the other hand, are very predictable and elicit minimal tissue reaction. The most common man-made absorbable sutures are polymers of glycolide and lac-tin. Loss of tensile strength ranges from 10– 14 days (rapid) to 28– 30 days (medium), depending on the suture and coating used. For more prolonged tensile strength, poly-dioxanone monofilament may be used. The actual suture mass may take two to three times as long to be completely absorbed.

Suture selection

When repairing perineal lacerations after childbirth, prolonged tensile strength is not required, but rapid absorption of foreign body may reduce infection risk and speed the healing process. Repair of fascia, such as the rectus sheath after

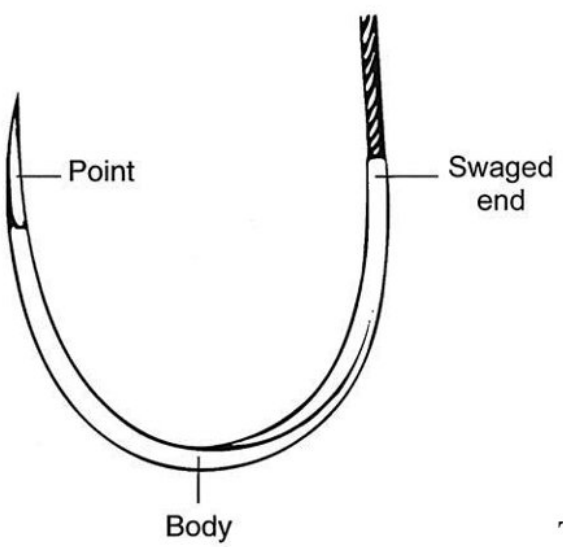
suprapubic trans-verse abdominal incision, requires retention of suture tensile strength for a longer period. Abdominal skin incisions are commonly repaired with a subcuticular mono-filament suture which is cosmetic and minimises risk of infection from skin flora drawn down the suture line. Absorbable subcuticular sutures should not be dyed for risk of leaving a visible residue. If a non-absorbable suture such as polypropylene is used, it is often removed after 5–7 days.

Selection of appropriate needles

Surgical eyeless needles are manufactured in a wide range of types, shapes, lengths and thicknesses. The choice of needle to be used depends on several factors, such as:

- The requirements of the specific procedure
- The nature of the tissue being sutured
- The accessibility of the operative area
- The gauge of suture material being used
- The surgeon's preference.

Regardless of use, however, all surgical needles have three basic components: the point, the body and the swage (Figure 1.2).



The point depends on the needle type (see next section). The body of the needle usu-ally has a flattened section where the

needle can be grasped by the needle holder. In addition, some needles have longitudinal ribs on the surface which reduce rotational movement and ensure that the needle is held securely in the jaws of the needle holder. If the needle does not have a flattened section, then it should be grasped at a point approximately two-thirds of the needle length from the tip (Figure 1.3).

The majority of surgical needles used are eyeless; that is, they are already swaged to the suture material. This has many advantages, including reduced handling and preparation and less trauma to the tissue (an eyed needle has to carry a double strand which creates a larger hole and causes greater disruption to the tissue) . A swaged (eyeless) needle has either a drilled hole or a channel at the end of the needle for insertion of the suture material. The drilled hole or the channel is closed round the needle in the swaging process. Needles are normally classifi ed accord - ing to needle type. The two main categories are round - bodied needles and cutting needles.

Round-bodied needles

Round-bodied needles are designed to separate tissue fibres rather than cut them and are used either for soft tissue or in situations where easy splitting of tissue fi bres is possible. After the passage of the needle, the tissue closes tightly round the suture material, thereby forming a leak - proof suture line, which is particularly vital in intes - tinal and cardiovascular surgery. Round - bodied needles are often used in obstetrics and gynaecology.

Blunt or taperpoint blunt needles have been proposed as a means of reducing glove puncture, especially in patients with blood - borne viruses, and can be used in all layers of caesarean section except the skin. They are also used to suture tissues that are friable.

Cutting needles

A cutting needle is required where tough or dense tissue needs to be sutured. This needle has a triangular cross- section with the apex on the inside of the needle cur - vature and is useful for suturing tissues such as skin, tendon or scar tissue. Some needles combine the properties of a cutting needle and a round - bodied needle by limiting the sharp triangular cross - section to the tip, which then tapers out to merge smoothly into a round cross-section . This preserves the initial penetration of the cut - ting needle but also offers the minimised trauma of a round - bodied needle.

Needle size, shape and gauge

The choice of needle shape is frequently governed by the accessibility of the tissue to be sutured and the type of tissue. In a confined operative site, for example dur-ing vaginal surgery or deep in the pelvis, a greater curvature may be required with a smaller overall needle size. If access is open, such as an abdominal skin incision, then any needle type may be considered, even a straight needle. The wire gauge determines the strength of the needle; a relatively heavy wire gauge is used to suture uterine pedicles and fascial layers such as the rectus sheath.

Handling instruments

To achieve maximum potential from any surgical instrument, it will need to be han-dled correctly and carefully. The basic principles of all instrument handling include:

- Safety
- Economy of movement

- Relaxed handling
- Avoidance of awkward movements.

We shall demonstrate the handling of scalpels, scissors, dissecting forceps, haemo-stats and needle holders. Take every opportunity to practise correct handling, using the whole range of surgical instruments.

The scalpel

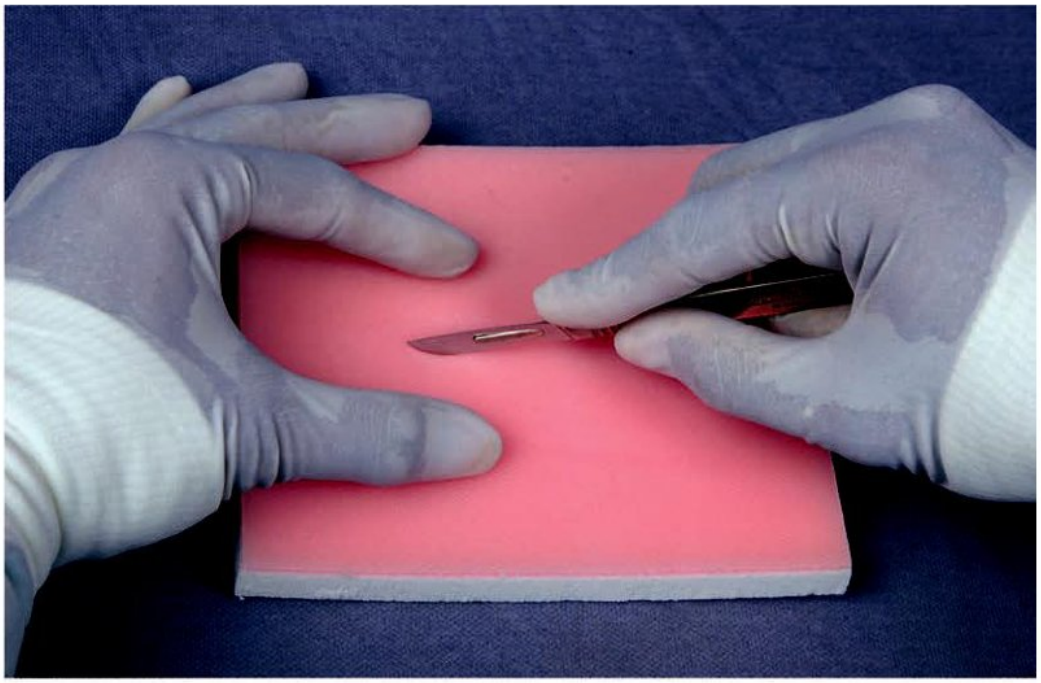
Handle scalpels with great care as the blades are very sharp. Practise attaching and detaching the blade using a needle holder. Never handle the blade directly.

For making a routine skin incision, hold the scalpel in a similar manner to a table knife, with your index finger guiding the blade. Keep the knife horizontal and draw the whole length of the sharp blade, not just the point, over the tissues (Figure 1.4a)

For finer work, the scalpel may be held like a pen. You can steady the hand by using the little finger as a fulcrum (Figure 1.4b).

Always pass the scalpel in a kidney dish. Never pass the scalpel point-first across the table.

(a)



(b)

Scissors

There are two basic types of scissors: curved for tissues that are soft, and straight for sutures

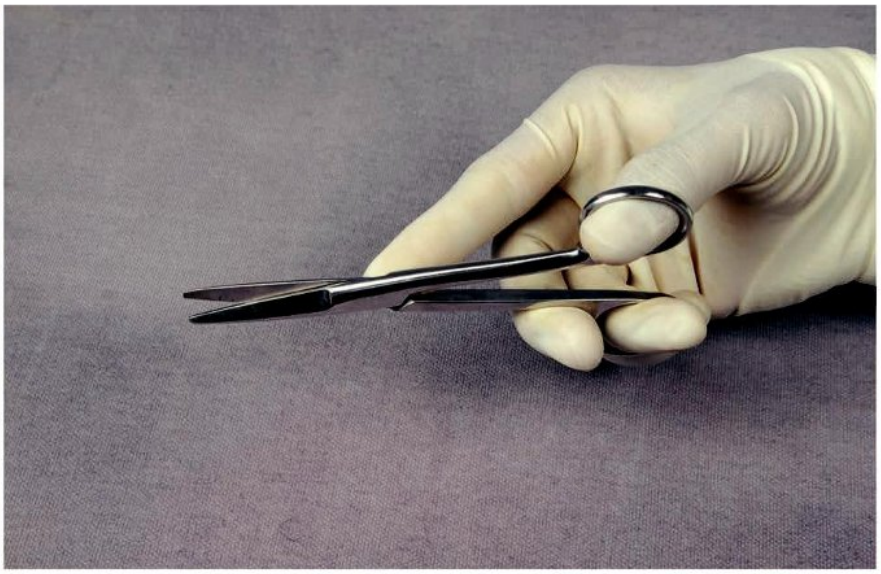
Insert the thumb and ring fingers into the rings (or bows) of the scissors so that just the distal phalanges are within the rings (Figure 1.5a). Any further advancement of the fingers will lead to clumsy handling and difficulty in extricating the fingers with ease.

Use the index finger to steady the scissors by placing it over the joint

When cutting tissues or sutures, especially at depth, it often helps to steady the scissors over the index finger of the other hand (Figure 1.5b).

Cut with the tips of the scissors for accuracy rather than using the crutch, which may run the risk of accidental damage to adjacent structures and will also diminish accuracy. You should also practise cutting with the non- dominant hand and attempt to become surgically ambidextrous.

(a)



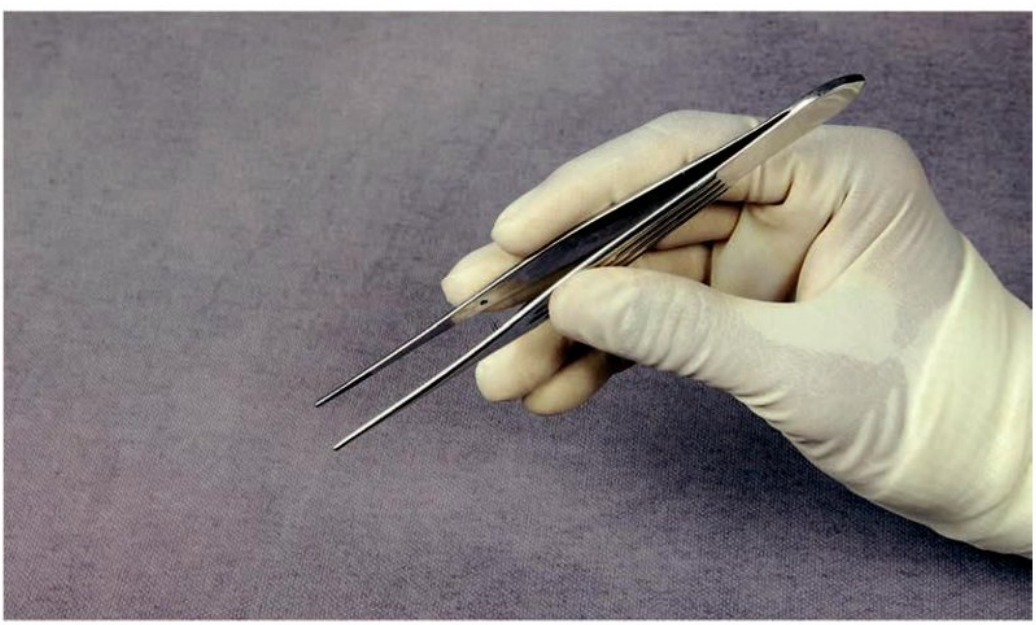
(b)

Dissecting forceps

Hold the forceps gently between thumb and fingers, the middle finger playing the pivotal role (Figure 1.6).

Two main types of forceps are available: toothed for tougher tissue, such as fascia, and non-toothed (atraumatic) for delicate tissues such as bowel and vessels.

Never crush tissues with the forceps but use them to hold or manipulate tissues with great care and gentleness.



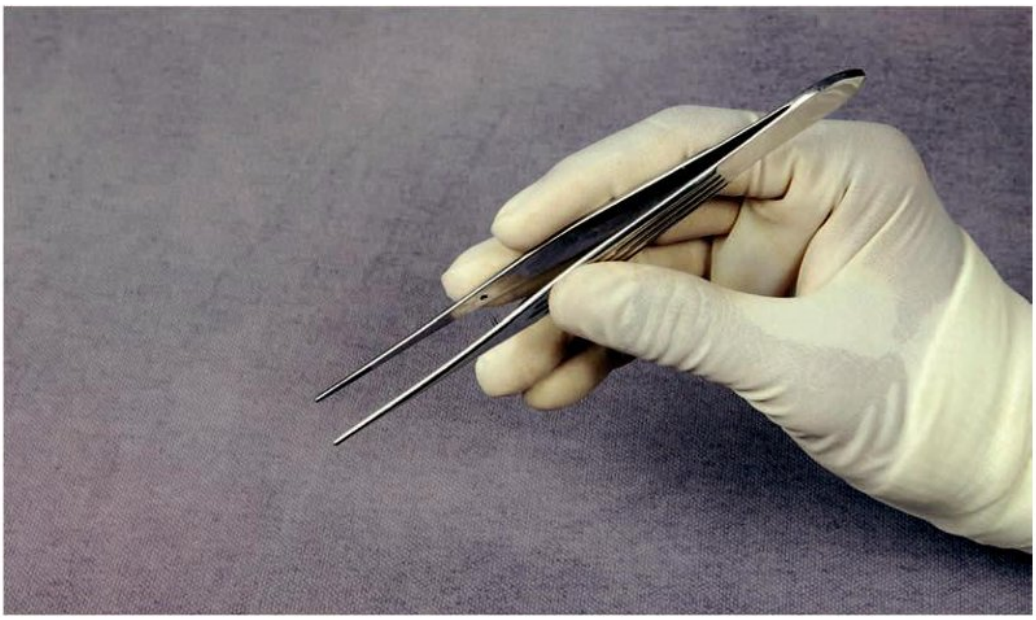
Artery forceps (haemostats)

Hold artery forceps in a similar manner to scissors.

Place on vessels using the tips of the jaws (the grip lessens towards the joint of the instrument).

Secure position using the ratchet lock.

Learn to release the artery forceps using either hand. For the right hand, hold the forceps as normal, then gently further compress the handles and separate them in a plane at right angles to the plane of action of the joint. Control the forceps during this manoeuvre to prevent them from springing open in an uncontrolled manner. For the left hand, hold the forceps with the thumb and index finger grasping the distal ring and the ring finger resting on the undersurface of the near ring (Figure 1.7) and gently compress the handles and separate them again at right angles to the plane of action, taking care to control the forceps as you do so.



Needle holder

Grasp needle holders in a similar manner to scissors.

Hold the needle in the tip of the jaws about two-thirds of the way along its circum-ference, never at its very delicate point and never too near the swaged end.

Select the needle holder carefully. For delicate, fine suturing use a fine, short-handled needle holder and an appropriate needle. Suturing at depth requires a long-handled needle holder.

Most needle holders incorporate a ratchet lock, but some, such as Gilles, do not. Practise using different forms of needle holder to decide which is most applicable for your use.

There is a wide variety of needle and suture materials available and their use will depend on the tissues being sutured.

PRACTICAL EXERCISE

Practise the correct handling of each of the instruments (scalpels, scissors, dissecting forceps, artery forceps and needle holders) as demonstrated.

Knot tying

Knot tying is one of the most fundamental techniques in surgery and is often per-formed poorly. Take time to perfect your knot- tying technique, as this will stand

General principles of knot tying

The knot should include only the layers you are trying to approximate

The knot must be as small as possible to minimise the presence of a foreign object in thebodybody.

The knot must be firm and unable to slip.

During tying, do not damage the suture material by grasping it with artery forceps or needle holders, except at the free end when using the instrument tie technique.

Do not ‘saw’ the material against itself, as this will weaken the thread.

Avoid excess tension during tying, as this could damage the structure being ligated or even snap the suture material.

Avoid tearing the tissue being ligated by carefully controlling tension during the 'bedding down' of the knot using the index finger or thumb as appropriate.

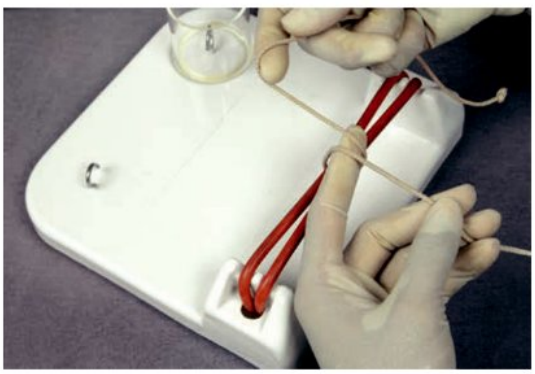
You will be taught and asked to demonstrate the following:

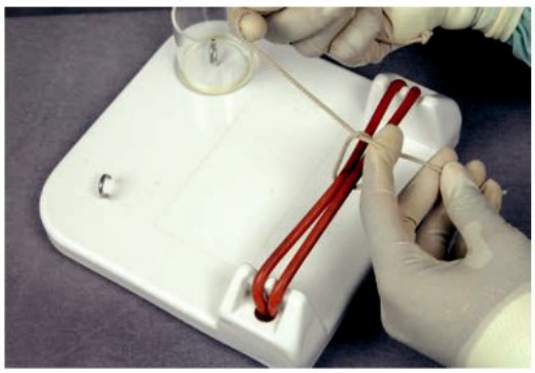
the one-handed square knot

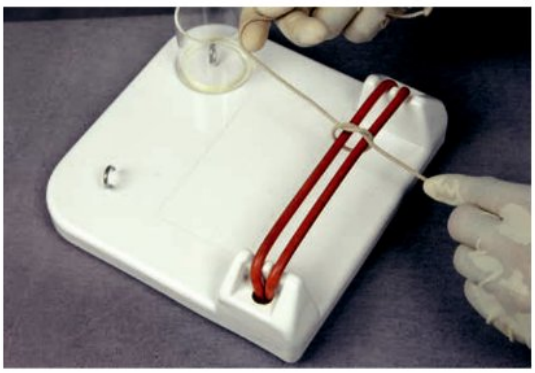
an instrument tie square knot

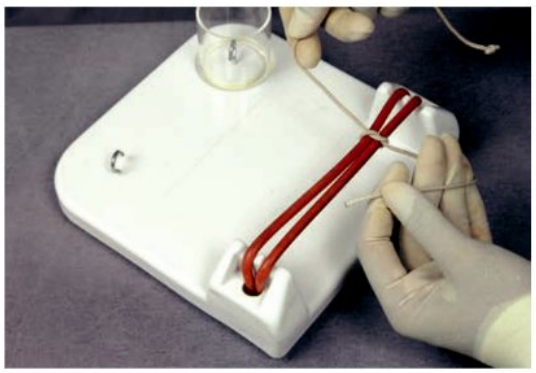
the surgeon's knot

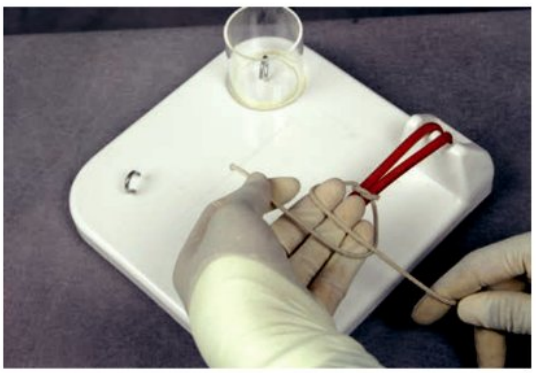
tying at depth

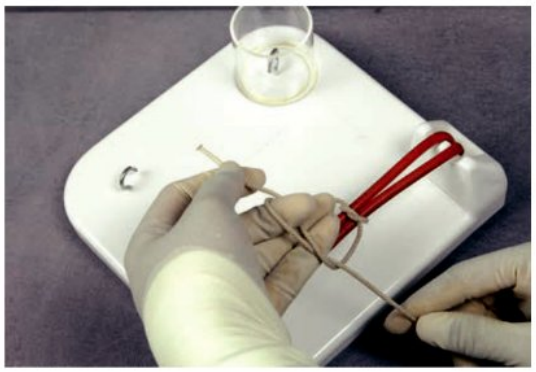


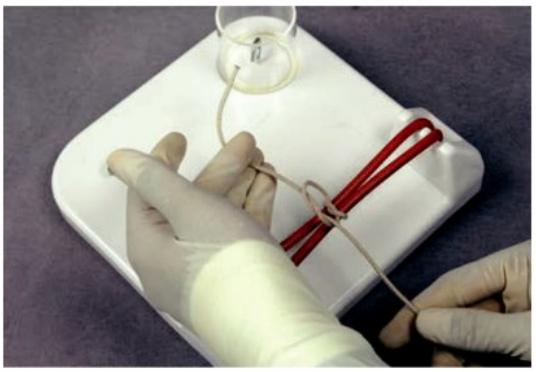


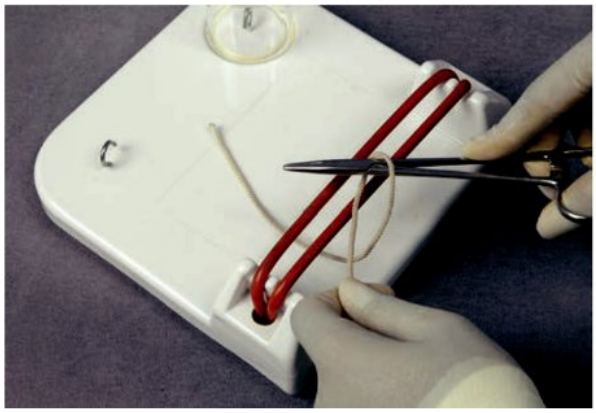


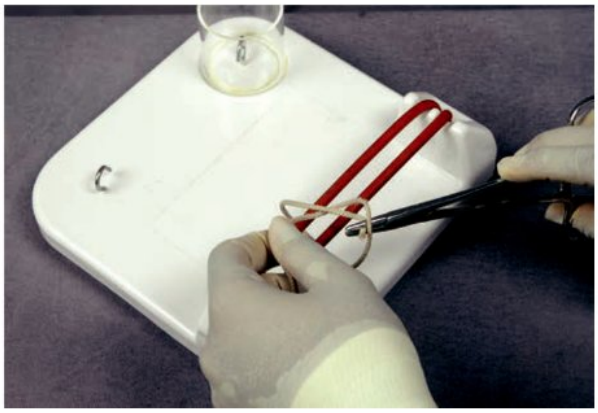


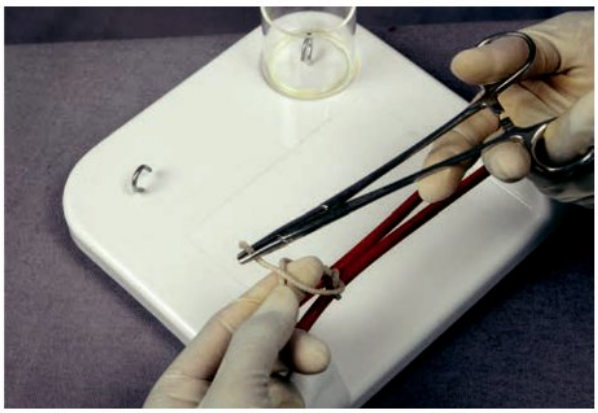


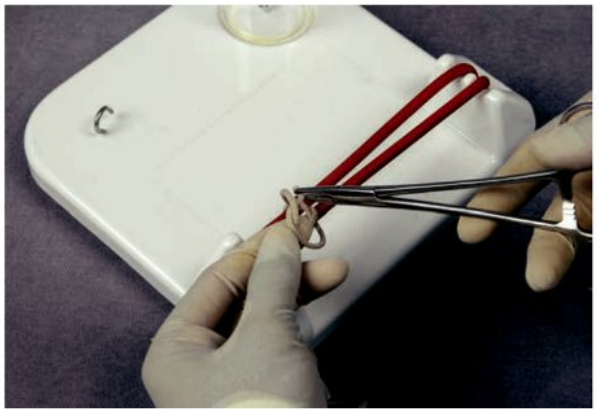


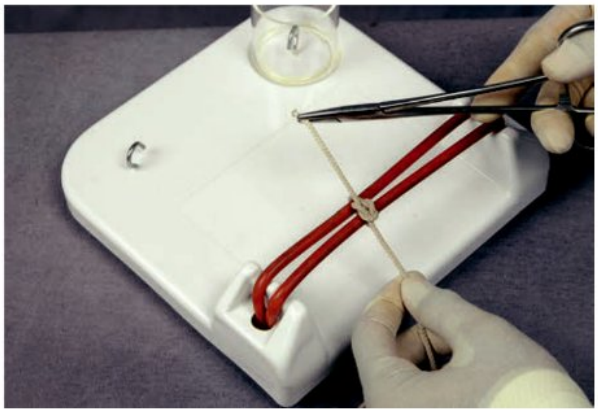


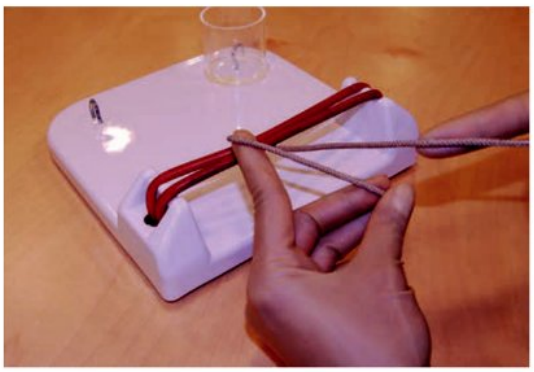


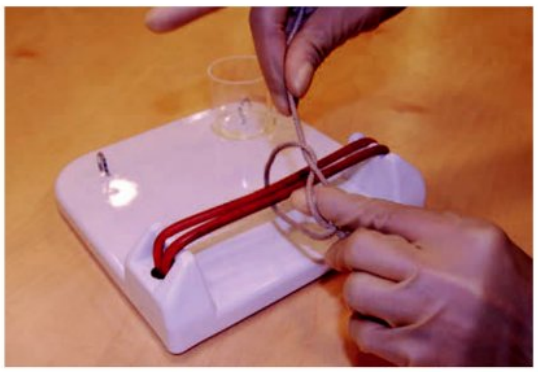


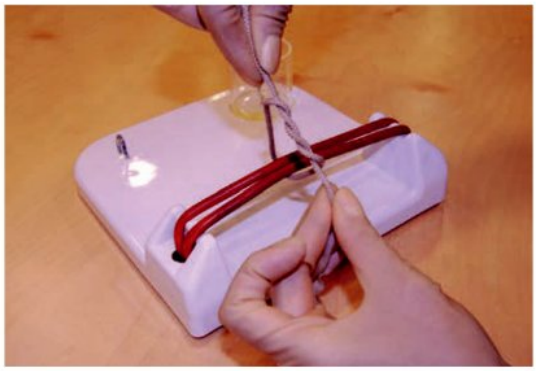


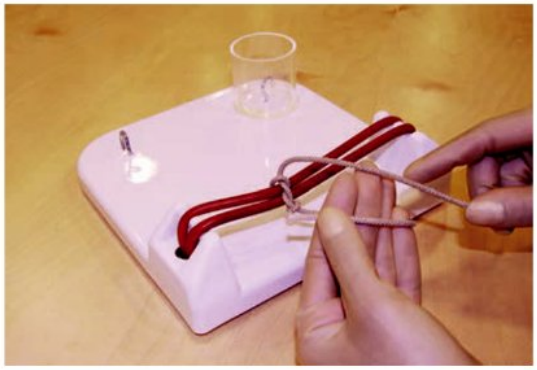


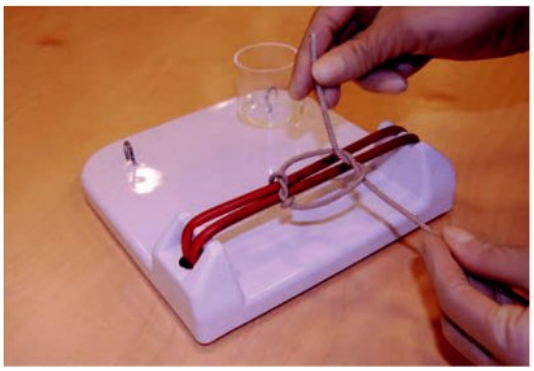


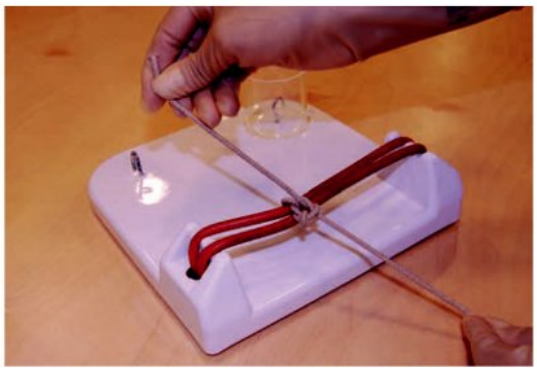












The square knot (reef knot)

The standard knot used in routine surgery is the square knot with a third throw for security. This can be tied using either the one- handed or two-handed method. The principles of the square knot are alternating ties of the 'index finger' knot and the 'middle finger' knot, with the hands crossing over for each throw. The single-handed technique will be the practised in the course (Figure 1.8), but you should be familiar with tying the square knot with both a two-handed and a single-handed approach.

The instrument tie

The instrument tie is useful when one or both ends of the suture material are short (Figure 1.9).

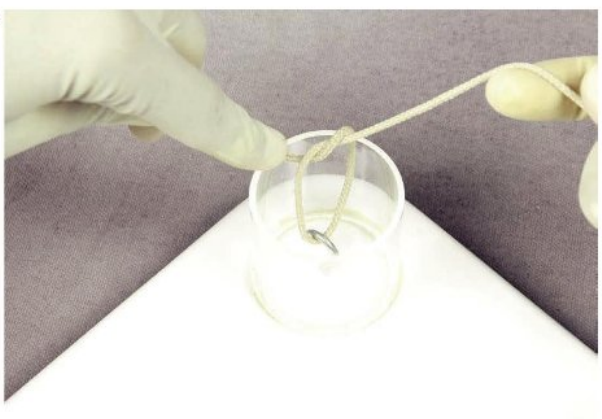
The surgeon's knot

The surgeon's knot is sometimes used so that the initial throw remains secure before the second throw is made (Figure 1.10). The disadvantage of the surgeon's knot is that it is less likely to tighten further with the second throw once an initial throw is made.

Tying at depth

Tying deep in the pelvis or in the vagina may be difficult. The square knot must be ‘snugged’ down, as in all situations. The operator must also avoid upward pressure, which may tear or avulse the tissue (Figure 1.11a,b).

(a)



(b)

Principles of suturing

The basic principles of handling sutures are as follows:

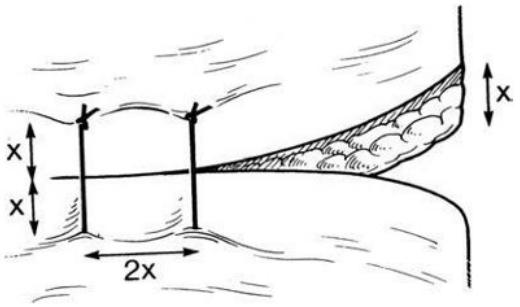
Handle needles with instruments and not with your fingers.

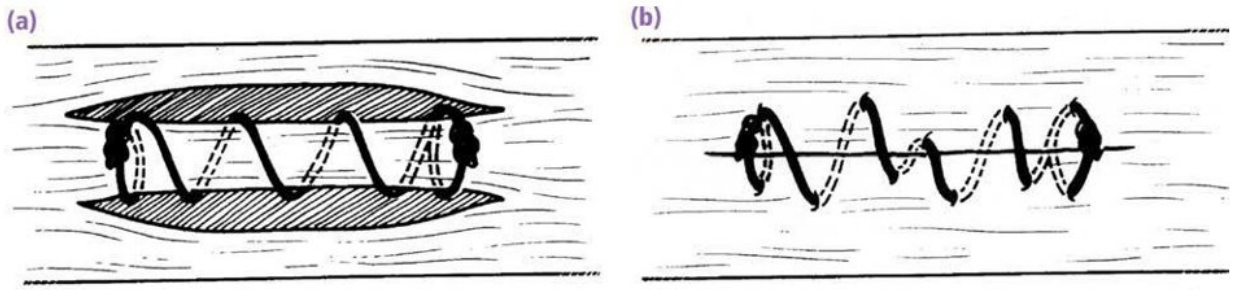
Insert the needle at right angles to the tissue and gently advance through the tis-sue, along the curve of the needle, avoiding shearing forces.

As a rough rule of thumb, the distance from the edge of the wound should cor-respond to the thickness of the tissue and successive sutures should be placed at twice this distance apart, that is approximately double the depth of the tissue sutured (Figure 1.12).

All sutures should be placed at right angles to the line of the wound at the same distance from the wound edge and the same distance apart for tension to be equal down the wound length. The only situation where this should not apply is when suturing fascia or aponeuroses, when the sutures should be placed at varying distances from the wound edge to prevent the fibres parting (Figures 1.13a,b).

For longer wounds it is advisable that interrupted sutures are placed in the centre of the wound first, for accurate approximation of tissues.





No suture should be tied under too much tension. Too much tension results in oedema of the wound, which may delay healing.

In most cases, it is advisable to pick only one edge of the tissues at a time while suturing. If the edges lie in very close proximity and accuracy can be ensured then it is permissible to go through both edges at the same time.

A continuous 'locked' suture may be appropriate for uterine closure (caesarean section, myomectomy), as this spreads the suture tension and prevents the suture from tearing through tissue.

You will be taught and asked to demonstrate the following types of suturing:

interrupted sutures (including mattress and 'figure of eight')

continuous sutures (including locked and subcuticular) the art of 'following'

Interrupted sutures

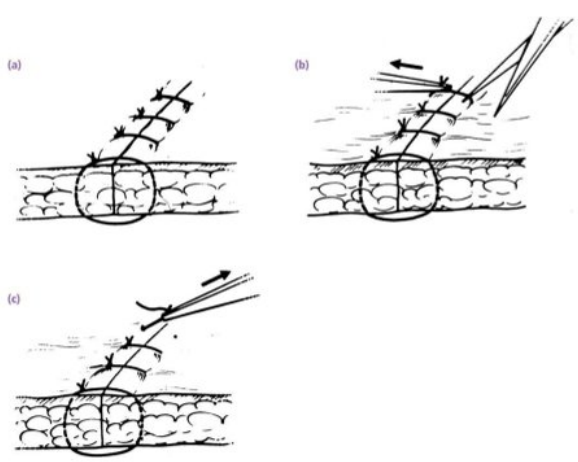
PRACTICAL EXERCISE

1. Place the suture carefully at right angles to the wound edges.

2. Tie a careful square knot and lay to one side of the wound.

3. Cut suture ends about 0.5 cm long to allow enough length for grasping when removing.

4. When removing sutures, cut flush with the tissue surface so that the exposed length of the suture, which is potentially infected, does not have to pass through the tissues below the skin (Figure 1.14b,c).



Continuous sutures

PRACTICAL EXERCISE

1. Place a single suture and tie a square knot but only cut the short end of the suture.

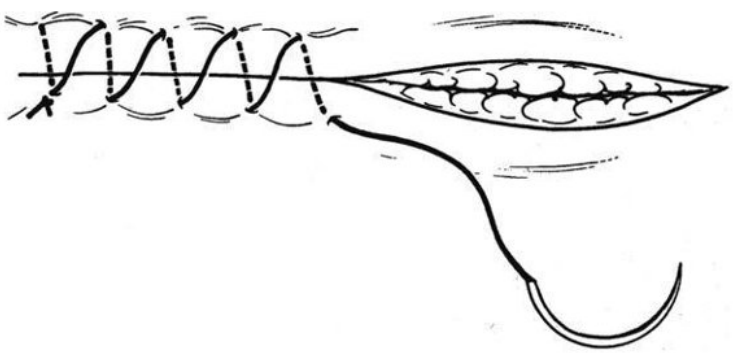
2. Continue to place sutures along the length of the wound. The assistant should maintain a steady tension while 'following' the suture.

3. Take care not to 'purse-string' the wound by too much tension.

4. Take care not to cause too much tension by using too little suture length.

5. Secure the suture at the end of the anastomosis by a further square knot.

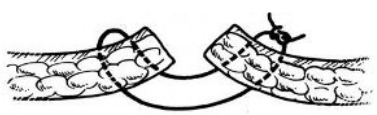
6. You should also practise a continuous 'locked' suture; this is often used during uterine closure.



Mattress sutures

Mattress sutures may be either vertical (Figures 1.16a, 1.17a) or horizontal (Figures 1.16b, 1.17b). They may be useful for ensuring either eversion (Figure 1.16) or inversion (Figure 1.17) of a wound edge.

(a)



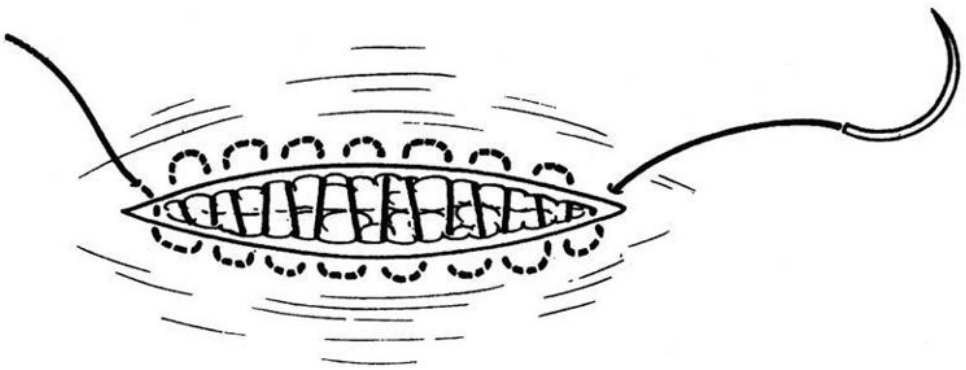
(b)

(a)

(b)

Subcuticular sutures

Subcuticular sutures (Figure 1.18) may be used with absorbable or non-absorbable sutures. For non- absorbable sutures, the ends may be secured by means of beads, etc. For absorbable sutures, the ends may be secured by means of buried knots. Small bites are taken of the subcuticular tissues on alternate sides of the wound and then pulled carefully together.



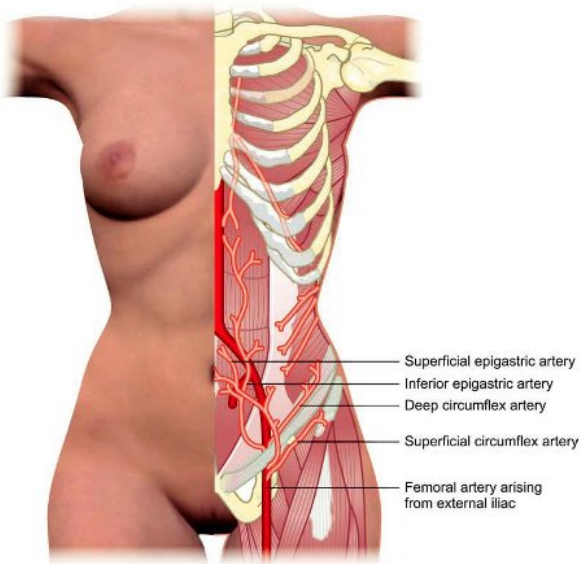
Anatomy of the anterior abdominal wall

Knowledge of the anatomy of the anterior abdominal wall is essential for both open and laparoscopic surgery. Consideration of the blood and nerve supply, muscles and underlying structures will limit complications during surgery and improve recovery.

Blood supply of the anterior abdominal wall

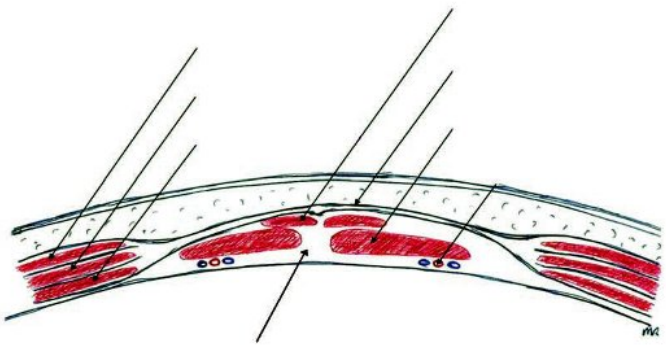
Superficial blood supply is derived from the femoral arteries. The deep blood supply is derived from the internal thoracic arteries from above and external iliac arteries from below. The vessels are illustrated in Figure 1.19.

In view of the location of these vessels, where would you place the secondary (lat-eral) ports at laparoscopy?



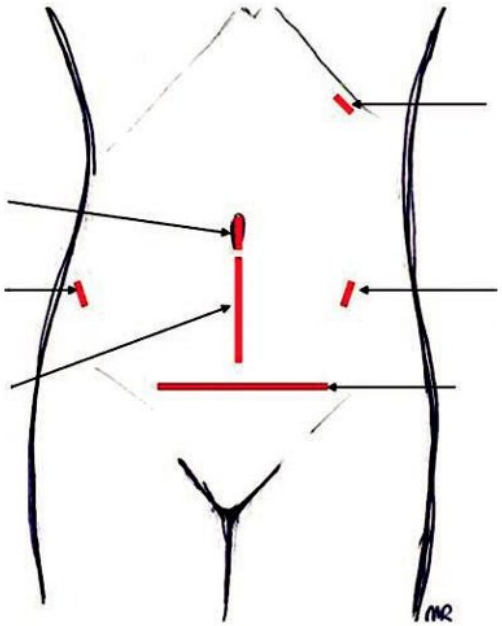
The nerve supply

The nerve supply of the anterior abdominal wall arises from the thoracoabdominal, ilioinguinal and iliohypogastric nerves. Their branches cross superiorly to inferiorly as they pass in an arc and medially across the abdomen. Lower transverse incisions are often slightly curved to run between nerves and limit nerve damage, as well as creating a favourable cosmetic effect, as the incision runs along natural skin lines.



Abdominal wall muscles (Figure 1.20)

The lateral muscles of the abdominal wall comprise the external oblique, the internal oblique and the transversus abdominis muscles, which combine below the arcuate line to form the rectus sheath. The rectus abdominis muscle arises from the pubic symphysis and pubic crest and is attached to the costal cartilages. The pyramidalis muscle arises from the pubic symphysis and converges into the linea alba. The linea alba is a tough midline structure formed from fusion of the aponeuroses of all these structures.



Peritoneal cavity

Surgical incisions into the abdomen

The main incisions used in gynaecology are the midline, suprapubic transverse (Pfannenstiel) and laparoscopic incisions (Figure 1.21).

Palmer's point –

alternative entry

Umbilical – primarylaparoscopic port

Lateral – secondary **Lateral** – secondary

laparoscopic port laparoscopic port

Midline – laparotomy **Suprapubic transverse**

(ovarian mass) (caesarean)

Midline incision

The midline incision incises through skin, subcuticular fat, the linea alba, transversa-lis fascia, extraperitoneal fat and peritoneum.

PRACTICAL EXERCISE

What are the indications for a midline incision?

What are its benefits?

What are the problems associated with it?

Suprapubic incision

The suprapubic transverse incision is an incision performed 2 cm above the pubic bone, extending beyond the lateral edges of the rectus abdominis. It is common to encounter superficial vessels within the subcutaneous fat of the lateral margins of the incision. The rectus sheath is then divided and reflected off the rectus abdominis muscle up to the level of the umbilicus and inferiorly well

below the pyramidalis muscle. Perforating vessels are separated with diathermy and scissors. The muscles are divided in the midline and the peritoneal cavity is entered. The bladder should be avoided inferiorly. The approach used during caeasarean section often uses blunt finger dissection of most of the layers except the skin and the initial sheath inci-sion (modified Cohen's incision). Variations in approach can be discussed with your supervisor or course facilitator.

PRACTICAL EXERCISE

What are the indications for a suprapubic transverse incision?

What are the benefits of this incision?

What are the problems associated with it?

Abdominal wall incisions for laparoscopic surgery

During laparoscopy, multiple small incisions are often made. Usually, the first inci-sion is made at the umbilicus in the midline and subsequent incisions, lateral and suprapubic. The inferior epigastric vessels must be avoided during lateral port place-ment and these are best visualised directly through the laparoscope. In patients with previous abdominal surgery (in particular through a midline incision or for bowel surgery), bowel adhesions to the anterior abdominal wall can occur. A Palmer's point entry is through an incision in the upper abdomen on the left side, just below the lowest rib edge in the midclavicular line. This avoids the falciform ligament and bowel adhesions from previous surgery are uncommon. An alternative entry is an open (Hassan) subumbilical incision.

PRACTICAL EXERCISES

Opening the abdomen

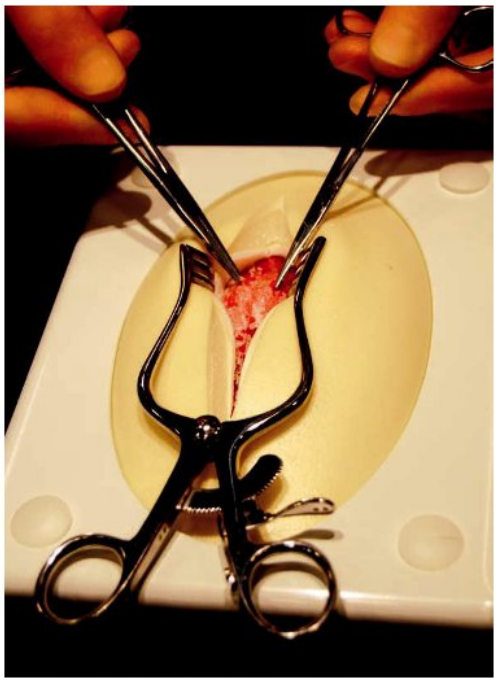
There are several layers of the abdominal wall including skin, subcutaneous fat, rec-tus sheath, muscle layer and peritoneum. You will be provided with a simulator rep-resenting the abdominal wall with two layers of material, the innermost representing the peritoneum. They will be stretched over an inflated balloon, which represents loops of bowel within the peritoneal cavity. The aim of the exercise is to enter the peritoneal cavity without damaging the inflated balloon.

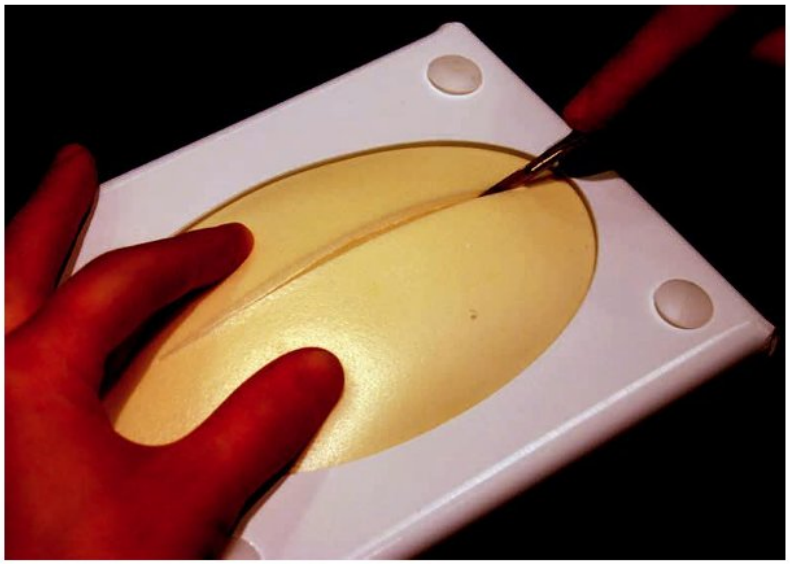
1. Make an incision in the simulated abdominal wall skin and subsequent layers (Figure 1.22).

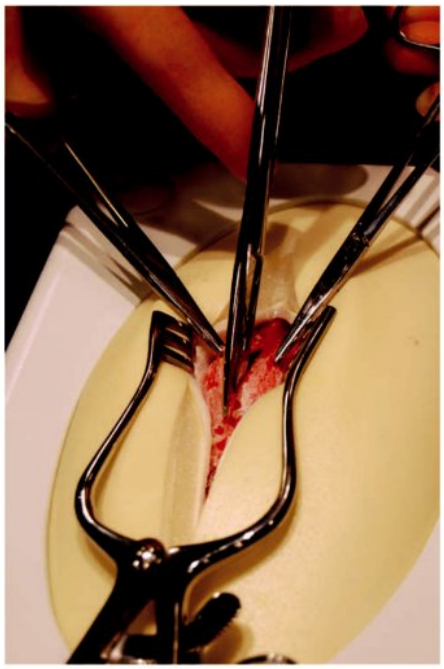
2. Expose the simulated peritoneum and lift up using artery forceps or tissue for-ceps (Figure 1.23).

3. Incise the peritoneum carefully ensuring no damage to the underlying balloon (Figure 1.24).

4. Enlarge the incision using scissors until the incision is adequate for the intended procedure (Figure 1.25).







Closing the abdomen

The simulator already used in the above section for abdominal incision is used for this exercise. The two layers now represent the rectus sheath and the skin

1. First insert a drain through all layers of the simulated abdominal wall. To do this, make a small skin incision to one side of the main incision. Pass an artery forceps bluntly through the incision to grasp the drain tubing without bursting the balloon and pull through the abdominal wall and fix the drain with a stitch on the skin.

2. Proceed to close the incision by inserting a number one (1–0) absorbable braided suture at one end of the incision, ligating the ends with the knot on the inside. Most surgeons would place at least one surgeon's knot. Some surgeons use a blunt needle for this procedure in order to minimise the risk of needle stick injuries.

3. Ensure that there is enough suture length to close the incision, which is nor-mally four times the length of the wound. If the suture length is not adequate, a further suture can be inserted starting at the other end of the incision.

4. Close the entire wound meticulously, ensuring that no loop of bowel or tissue is caught up by the suture material (Figure 1.26).

5. Tie the suture material at the end of the closure.

6. The skin may then be closed, using an absorbable or non- absorbable monofila-ment subcuticular suture (Figure 1.27).

Haemostasis

There are several methods by which haemostasis can be secured. Two such methods will be demonstrated using simulated vessels in a model. If a vessel can be identified clearly and a pedicle created then haemostasis can be achieved by ligation (either with or without transfixing it). Otherwise, a 'figure of eight' or 'box' stitch might be used where a vessel is difficult to identify (such as a uterine bleeding point during caesarean section).

PRACTICAL EXERCISE

Isolate a vessel in the model. Achieve a haemostatic suture by trying both of the following:

Place a 'figure of eight' or 'box' suture (similar to horizontal mattress) across it.

Isolate either end with a haemostat, divide the vessels between them and ligate the vessels in each haemostat with a three-throw reef knot.

(5)

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rticipant list of Value added course: **Basic Obstetrics and Gynaecological Surgical Skills in day to day practice**

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8	U14MB248	GUBENDIRAN. R	
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10	U14MB250	HEMALATHA. K	
11	U14MB251	HEMANTHKUMAR.T	
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19	U14MB259	KABITH VAJAN.A	
20	U14MB260	KARPAGAM.S	

BASIC OBSTETRICS AND GYNAECOLOGICAL SURGICAL SKILLS – IN DAY TO DAY PRACTICE

MULTIPLE CHOICE QUESTIONS

ANNEXURE VI

1 Which of the following is true statement regarding elliptical incisions ?

a) Two times as long as it is wide

b) Five times as long as it is wide

c) Four times as long as it is wide

d) Three times as long as it is wide

2 Consider following statements regarding abdominal incisions :

1. Transverse incisions tend to be associated with fewer respiratory complications
2. Transverse incisions tend to be associated with better cosmetic outcome
3. Midline incisions tend to be associated with fewer respiratory complications
4. Midline incisions tend to be associated with better cosmetic outcome

Identify true statements from the following ?

a) Both 1 and 3 are true

b) Both 1 and 2 are true

c) Both 2 and 4 are true

d) Both 3 and 4 are true

3 For abdominal wall closure, what should be the ration of the length of the suture material to the length of the wound to be closed?

a) 3:1

b) 4:1

c) 2:1

d) 5:1

4 Skin grafting is a form of:

a) Primary Intention Healing

b) Secondary Intention Healing

c) Tertiary Intention Healing

d) Quaternary Intention Healing

5 In Vascular anastomosis the suture material used should be all except:

a) Non Absorbable

b) Elastic

c) Non Elastic

d) Monofilament

6 In Biliary anastomoses, the suture material should have all properties except:

a) Absorbable

b) Does not promote tissue reaction

c) Should Promote good fibrotic reaction

d) Does not promote stone formation

7 The diameter of 0 silk in mm is:

a) 0.500–0.599

b) 0.400–0.499

c) 0.350–0.399

d) 0.300–0.349

8 Which of the following statement is false about bowel anastomosis?

a) Seromuscular technique is currently the most widely accepted technique of bowel anastomosis

b) Extramucosal technique is currently the most widely accepted technique of bowel anastomosis

c) Submucosa has a high collagen content

d) Submucosa is the most stable suture layer in all sections of the gastrointestinal tract

9 Which of the following is false regarding the absorption of following suture materials:

a) Chromic is absorbed by Phagocytosis and enzymatic degradation

b) Polyglactin is absorbed by hydrolysis

c) Polyglyconate is absorbed by enzymatic degradation

d) Polydioxanone is absorbed at 180 days

10 Vicryl is

a) Polyester polymer

b) Copolymer of glycolic acid and trimethylene carbonate

c) Polymer of polyglycolic acid

d) Copolymer of lactide and glycolide

11 Which of the following statements is false wrt to bowel anastomosis?

a) Suture materials should be of 2/0–3/0 size

b) Absorbable polymers are used to suture

c) Both braided or monofilament can be used

d) Suture bites should be approximately 6-8 mm apart

12 Which of the following technique is used in cases of minor discrepancy in the size of anastomotic bowel ends?

a) Kocher's Maneuver

b) Baley's Technique

c) Petersen's Technique

d) Cheatle Technique

13 Internal hernias which occur in the potential space posterior to a Roux en y gastrojejunostomy is known as:

a) Laugier's Hernia

b) Richter's Hernia

c) Petersen's Hernia

d) Narath's Hernia

14 What is the suture size used for vascular anastomoses involving Aorta?

a) 1/0

b) 2/0

c) 3/0

d) 4/0

15 Which of the statements regarding vascular anastomosis is false?

a) Outside to inside on the graft and from inside to outside on the artery

b) Double ended sutures make the procedures easier

c) This is done to minimise the risk of intimal flap formation

d) Inside to outside on the graft and from outside to inside on the artery

16 Which of the following statement regarding the use of T tube is false?

d) 20,000-1,00,000 Hz range

BASIC OBSTETRICS AND GYNAECOLOGICAL SURGICAL SKILLS – IN DAY TO DAY PRACTICE

(5)

MULTIPLE CHOICE QUESTIONS

7/10

Reg No: U14 NB 247

1 Which of the following is true statement regarding elliptical incisions ?

A) Two times as long as it is wide

b) Five times as long as it is wide

c) Four times as long as it is wide

d) Three times as long as it is wide

2 Consider following statements regarding abdominal incisions :

A) Transverse incisions tend to be associated with fewer respiratory complications

✓ Transverse incisions tend to be associated with better cosmetic outcome

3. Midline incisions tend to be associated with fewer respiratory complications

4 Midline incisions tend to be associated with better cosmetic outcome

3. Identify true statements from the following ?

A) Both 1 and 3 are true

b) Both 1 and 2 are true

✓ Both 2 and 4 are true

d) Both 3 and 4 are true

4 For abdominal wall closure, what should be the ration of the length of the suture material to the length of the wound to be closed?

✗ 3:1

b) 4:1

c) 2:1

Sri Lakshmi Narayana Institute of Medical Sciences

Affiliated to Bharath Institute of Higher Education & Research

(Deemed to be University under section 3 of the UGC Act 1956)

CERTIFICATE OF MERIT

This is to certify that **DINESH KUMAR** has actively participated in the Value Added Course on **BASIC SURGICAL SKILLS IN OBSTETRICS AND GYNAECOLOGY** held during Nov 2021-Jan 2022 Organized by Sri Lakshmi Narayana Institute of Medical Sciences, Pondicherry- 605 502, India.

RESOURCE PERSON

ASSISTANT PROFESSOR
DEPT. OF OBSTETRICS & GYNAECOLOGY
Sri Lakshmi Narayana Institute of
Medical Sciences
OSUDU, PUDUCHERRY.

Dr. Jayalakshmi

COORDINATOR

Dr. G. JAYALAKSHMI, BSC., MBBS., DTCD., M.D.,
DEAN
Sri Lakshmi Narayana Institute of Medical Sciences
Osudu, Agaram, Kudapakkam Post,
Villianur Commune, Puducherry - 605502.

Sri Lakshmi Narayana Institute of Medical Sciences

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CERTIFICATE OF MERIT

This is to certify that **HEMASRI.C** has actively participated in the Value Added Course on **BASIC SURGICAL SKILLS IN OBSTETRICS AND GYNAECOLOGY** held during Nov 2021-Jan 2022 Organized by Sri Lakshmi Narayana Institute of Medical Sciences, Pondicherry- 605 502, India.

RESOURCE PERSON

ASSISTANT PROFESSOR
DEPT. OF OBSTETRICS & GYNAECOLOGY
Sri Lakshmi Narayana Institute of
Medical Sciences
OSUDU, PUDUCHERRY.

COORDINATOR

Dr. G. JAYALAKSHMI, BSC., MBBS., DTCD., M.D.,
DEAN
Sri Lakshmi Narayana Institute of Medical Sciences
Osudu, Agaram, Kudapakkam Post,
Villianur Commune, Puducherry - 605502.

Annexure 4

Course/Training Feedback Form

Course:
Date:
Name:
Reg NO.
Department: Obstetrics and Gynaecology

Q 1: Please rate your overall satisfaction with the format of the course:

a. Excellent b. Very Good c. Satisfactory d. unsatisfactory

Q 2: Please rate course notes:

a. Excellent b. Very Good c. Satisfactory d. unsatisfactory

Q 3: The lecture sequence was well planned

a. Excellent b. Very Good c. Satisfactory d. unsatisfactory

Q 4: The lectures were clear and easy to understand

a. Excellent b. Very Good c. Satisfactory d. unsatisfactory

Q 5: Please rate the quality of pre-course administration and information:

a. Excellent b. Very Good c. Satisfactory d. unsatisfactory

Q 6: Any other suggestions:

Comments:

Thank you for taking the time to complete this survey, your comments are much appreciated.

***OPTIONAL Section*:** Name _____
Signature _____ Date _____

Annexure 4

Course/Training Feedback Form

Course: BASIC SURGICAL SKILLS
Date: 18/08/2021
Name: DINESH-B
Reg NO. U14MB242
Department: Obstetrics and Gynaecology

Q 1: Please rate your overall satisfaction with the format of the course:

a. Excellent b. Very Good c. Satisfactory d. unsatisfactory

Q 2: Please rate course notes:

a. Excellent b. Very Good c. Satisfactory d. unsatisfactory

Q 3: The lecture sequence was well planned

a. Excellent b. Very Good c. Satisfactory d. unsatisfactory

Q 4: The lectures were clear and easy to understand

a. Excellent b. Very Good c. Satisfactory d. unsatisfactory

Q 5: Please rate the quality of pre-course administration and information:

a. Excellent b. Very Good c. Satisfactory d. unsatisfactory

Q 6: Any other suggestions: NILL

Comments:

Thank you for taking the time to complete this survey, your comments are much appreciated.

***OPTIONAL Section*:** Name _____
Signature _____ Date _____

Annexure 4

Course/Training Feedback Form

Course: BASIC SURGICAL SKILLS
Date: 18/08/2021
Name: DINESH-B
Reg NO. U14MB242
Department: Obstetrics and Gynaecology

Q 1: Please rate your overall satisfaction with the format of the course:

a. Excellent b. Very Good c. Satisfactory d. unsatisfactory

Q 2: Please rate course notes:

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Q 3: The lecture sequence was well planned

a. Excellent b. Very Good c. Satisfactory d. unsatisfactory

Q 4: The lectures were clear and easy to understand

a. Excellent b. Very Good c. Satisfactory d. unsatisfactory

Q 5: Please rate the quality of pre-course administration and information:

a. Excellent b. Very Good c. Satisfactory d. unsatisfactory

Q 6: Any other suggestions: NILL

Comments:

Thank you for taking the time to complete this survey, your comments are much appreciated.

***OPTIONAL Section*:** Name _____
Signature _____ Date _____

Date: 24.02.2022

From
Dr. Durga
Associate Professor,
Obstetrics and Gynaecology,
Sri Lakshmi Narayana institute of Medical sciences,
Bharath Institute of Higher Education and Research,
Chennai.

Through Proper Channel

To
The Dean,
Sri Lakshmi Narayana institute of Medical Sciences,
Bharath Institute of Higher Education and Research,
Chennai.

Sub: Completion of value-added course: Basic Obstetrics and Gynaecological Surgical Skills in day to day practice

Dear Sir,

With reference to the subject mentioned above, the department has conducted thevalue-added course titled: **Basic Obstetrics and Gynaecological Surgical Skills in day to day practice** on NOV 2021 - JAN 2022 . We solicit your kind action to send certificates for the participants, that is attached with this letter. Also, I am attaching the photographs captured during the conduct of the course.

Kind Regards

Dr. Durga

ASSOCIATE PROFESS
DEPT. OF OBSTETRICS & GYNAEC
Sri Lakshmi Narayana Instit
Medical Sciences
OSUDU, PUDUCHERRY

Encl: Certificates

Photographs

VALUE ADDED COURSES

OBGY 5 BASIC SURGICAL SKILLS IN OBSTETRICS AND GYNAECOLOGY