NATIONAL CAESAREAN SECTION GUIDELINES

Society of Gynaecologists & Obstetricians of Ghana (SOGOG)

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ACKNOWLEDGEMENT

The Society of Gynaecologists & Obstetricians of Ghana wishes to express its profound appreciation to the Committee of Experts that worked tirelessly to develop the first edition of the National Caesarean Section Guideline.

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Special thanks go to Professor Baafour Opoku for his leadership and guidance in developing this guideline.

Foreword

Clinical guidelines have become a very important tool for improving the quality of care provided in health services. These guidelines make us move from a situation where the clinician provides the type of care that is personally thought to be appropriate to where the care provided is based on existing evidence and is accepted by all members of the specialty as standard care.

In Ghana we have the Standard Treatment Guidelines that provide a general guide for all specialty areas and this has been helpful in general practice. It is however necessary to have more detailed guidelines that focus on different aspects of clinical care and this is what the SOGOG National Caesarean Section Guidelines is seeking to achieve.

Caesarean section in Ghana is provided by medical officers, obstetrics trainees as well as obstetricians. It is important to ensure that the level of care provided by all these categories of doctors meets a minimum standard and the best people to set this standard are obstetricians.

The National Caesarean Section Guidelines cover all aspects of care from the pre-operative stage to the post-operative stage. Contemporary topics such as the provision of caesarean section on request are also covered.

One impressive thing about this document is that SOGOG has committed to revise it by setting a validity period to it. Knowledge is constantly improving and so all the materials produced relating to patient care need to be revised within a reasonable time limit to ensure that the best care is provided all the time.

Many of the members of SOGOG are also Fellows of the Faculty of Obstetrics and Gynaecology of Ghana College of Physicians and Surgeons so these guidelines are a result of collaboration of the two bodies. The guidelines will therefore serve as a blueprint for resident training in obstetrics and gynaecology and they will also be extremely helpful in the training of medical students, and non-specialist doctors in the performance of caesarean section.

With this publication, SOGOG has become a pioneer in one of the roles that Ghana College of Physicians and Surgeons has in providing policy guidelines for health service delivery. This publication should serve as the first of many by SOGOG and should be emulated by all other societies of medical specialists.

Professor Richard MK Adanu

Rector, Ghana College of Physicians and Surgeons

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Purpose And Scope

The purpose of this guideline is to provide evidence-based recommendations for medical professionals involved in the care of mothers to improve the care given to women during the different stages of pregnancy, birth, puerperium and early parenthood.

This guideline aims to summarise the currently available knowledge on caesarean sections, focussing on its definition and classification, the indications, timing and implementation of the procedure, and the impact of caesarean birth on subsequent pregnancies and deliveries in order to determine the best approach in each individual case following a joint decision-making process.

Targeted Areas Of Care

- Inpatient care
- Intraoperative care
- Outpatient care

Target User Group / Target Audience

- Obstetricians/Gynaecologists
- Medical Officers
- House Officers
- Anaesthetists
- Critical Care nurses
- Midwives

Evidence

Statements from professional organisations including that of the National Institutes of Health, the American College of Obstetricians and Gynaecologists, the Society for Maternal Foetal Medicine, the Royal College of Obstetricians and Gynaecologists, and the Canadian Paediatric Society were reviewed for additional references. Randomised controlled trials conducted in pregnant women evaluating caesarean section and previous systematic reviews on the topic were eligible. Evidence from systematic reviews of non-experimental (cohort) studies was also eligible.

Adoption And Period Of Validity

This guideline is valid from 1st January 2022 to 30th December 2026. Because of the contents of this guideline, this period of validity is only an estimate. If changes are urgently required, the guideline may be updated earlier; if the guideline continues to reflect the current state of knowledge, then its period of validity may be extended.

INTRODUCTION

Dr. Sylvia Deganus

Caesarean section delivery is a surgical intervention which consists of making an incision first into the abdominal wall and then into the uterus for purposes of delivering the baby(ies). It is one of the most common surgical procedures performed globally and primarily is performed as a lifesaving intervention to save or protect the life of the pregnant woman and /or her baby when vaginal delivery is deemed likely to be associated with higher risk.

Over 20 million caesarean sections are estimated to be performed annually globally (21 % in 2018) and trends show that caesarean section deliveries rates have increased dramatically over the past 30 years worldwide. Currently about one in every five births are via C-Section compared to one in 15 in the 1990s. The average rate of increase is 4.4% with the highest caesarean rates mostly found in middle-income countries in Latin America and the Caribbean, North America, Europe, Australia and Southeast Asia, while the lowest rates are found in sub-Saharan Africa. See fig 1 below. The dramatic increases in caesarean section rates are being driven largely by increases in its performance for non- medical indications especially on maternal request and this has become a matter of great concern to all.

Trends over time

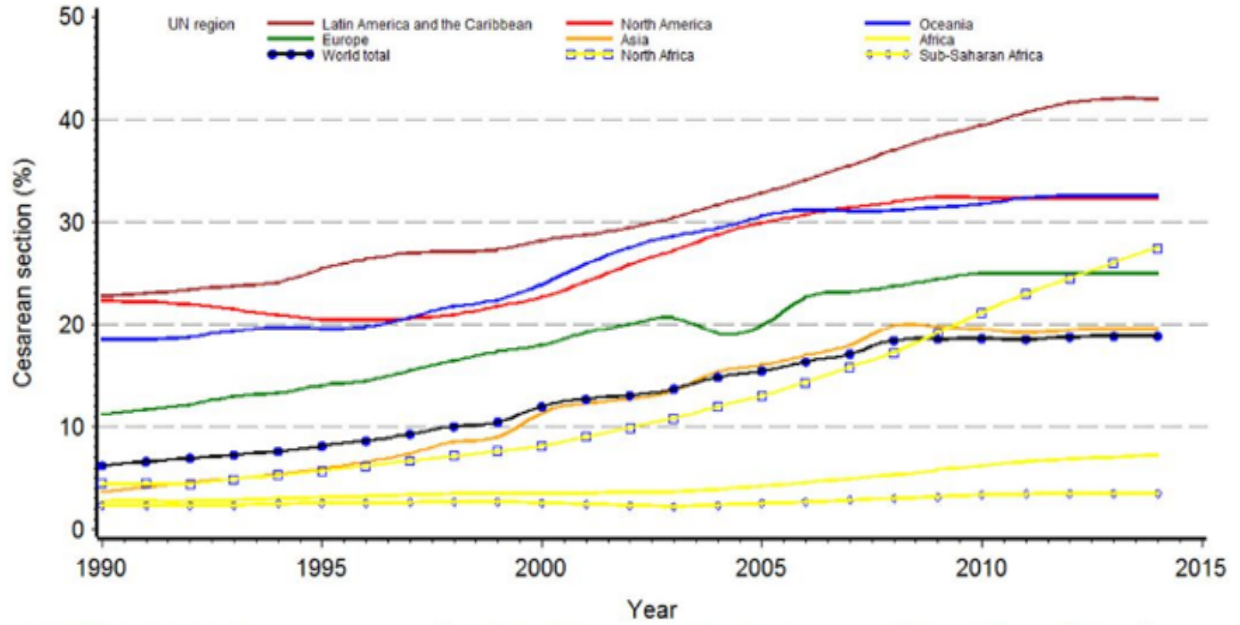
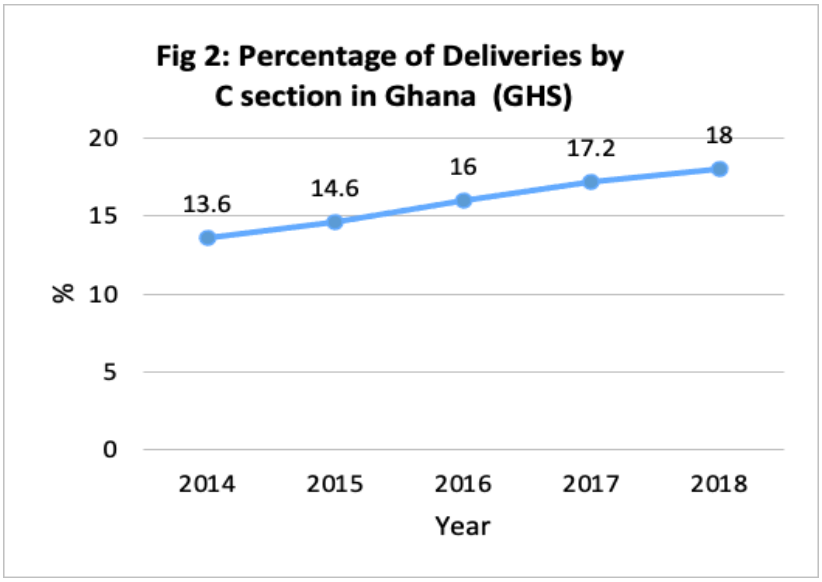


Fig 2. Global and regional trends in caesarean section, 1990–2014. Sub-Saharan Africa includes Eastern, Middle, Southern and Western Africa subregions. For the purpose of this graph, a linear interpolation between available data from 1990 and 2014 was calculated. When data for 2014 were not available, the CS rate for the latest year available was used also for all subsequent years up to 2014.

doi:10.1371/journal.pone.0148343.g002

Reference: https://www.mhtf.org/2017/01/25/the-global-epidemic-of-unnecessary-cesarean-sections-part-2/

Caesarean section rates in Ghana, like in other countries, are also increasing steadily and were 18% of total reported deliveries in 2018. (See Figure 2 below).



The ideal C-Section rate is not agreed upon but generally rates of 10-15% are considered as acceptable by the WHO based on evidence that this rate is associated with significant decreases in maternal and new-born morbidity and mortality. At higher rates this benefit is lost and appears eroded by the increased risks to mother and baby associated with the procedure

Caesarean section may be performed upon identification of obstetrical or medical problems that may arise during or prior to labour. Conventionally, caesarean sections are generally classified as being either a planned /elective surgery or an unplanned /emergency operation.

Although generally considered a safe procedure, it is still important to recognize that a caesarean section like any other surgical procedure is not without risk especially in low resource settings where service delivery challenges are more marked. It is associated with short- and long-term risks some of which may occur beyond the current delivery period and affect the health of the woman, the child and future pregnancies. Caesarean section delivery increases the likelihood of requiring a blood transfusion, risks of anaesthesia complications, organ injury, thromboembolic disease, infectious morbidities and neonatal respiratory distress, *(6,7).* Caesarean section has also been associated with complications in subsequent pregnancies, such as uterine rupture, placenta accreta spectrum, placenta praevia, ectopic pregnancy, infertility, hysterectomy and intra-abdominal adhesions, with the risk of these morbidities progressively increasing as the number of previous caesarean deliveries increases and also, an increased risk of asthma and obesity in children delivered by Caesarean section.

Making decisions for caesarean section in these settings must therefore not be taken lightly. This guideline seeks to provide practising obstetricians, physicians and other key stakeholders involved in the care of the Ghanaian pregnant woman with evidence-based recommendations to enable them offer and provide safer caesarean section care to women needing this service. It addresses issues relating to when to offer caesarean birth, consenting issues, the procedural aspects of the operation, and care after caesarean birth.

CATEGORIES AND INDICATIONS

Dr. Kwabena Agyare-Gyane

Caesarean sections may be classified as either elective (delivery timed to suit mother and staff) or emergency.

The Emergency Caesarean sections may be subclassified into 3 categories based on their urgency. This ensures that babies are delivered in a timely manner according to their needs or those of the mother.

Category

Category	Description	Delivery within
1	Immediate threat to the life of the woman or the foetus	30 minutes
2	Maternal or foetal compromise that is not immediately life threatening	60 -75 minutes
3	No maternal or foetal compromise but needs early delivery	

Elective caesarean sections are performed for a variety of indications, including the following:

- Abnormal lie and malpresentation
- Breech presentation – in selected cases
- Twin pregnancy – when the first twin is non-cephalic, all cases of monoamniotic twins
- Higher Order Multiple pregnancies
- Maternal medical conditions– where vaginal delivery carries a higher risk to the mother's health.
- Foetal compromise (such as early onset growth restriction and/or abnormal foetal Dopplers) – where it is thought the foetus would not cope with labour.
- Maternal-to-Foetal Transmissible disease (e.g. HIV with unsuppressed viral load).
- Primary genital herpes (herpes simplex virus) in the third trimester – as there has been no time for the development and transmission of maternal antibodies to HSV to cross the placenta and protect the baby.
- Placenta praevia
- Maternal diabetes with a baby estimated to have a foetal weight >/4.0 kg.
- Previous 3rd/4th perineal tear where the patient is symptomatic.
- Maternal request – this covers a variety of reasons from previous traumatic birth to 'maternal choice'. (See the section on caesarean delivery on maternal request)

The recommendation i**s not to perform** an elective Caesarean section before 39 weeks, unless otherwise indicated, to reduce the chances of respiratory distress in the neonate.

INFORMED CONSENT FORM

Dr. Frank Ankobea

Summary

Meeting the ethical and legal obligations of informed consent in Ghana requires that the obstetrician gynaecologist gives the patient adequate, accurate, and understandable information. It also requires that the patient has the ability to understand and reason through this information and is free to ask questions and to make an intentional and voluntary choice which may include refusal of care.

Shared decision making is a patient-centred, individualised approach to the informed consent process. A shared decision-making approach facilitates meeting the highest ethical standard for the informed consent process.

SHARE

S - Seek your patient's participation
H - Help your patient explore and compare options
A - Assess your patient's values and preferences
R - Reach a decision with your patient
E - Evaluate your patient's decision

Emergency Situations

In life threatening emergency situations in which the patient is unable to consent and an appropriate advance directive or surrogate is not available, it is ethically acceptable for an Obstetrician Gynaecologist to provide life-saving treatment to the person using presumed consent.

Refer to Appendix 1 & 2

PROCEDURAL ASPECTS OF CAESAREAN SECTION

Dr Atta Owusu-Bempah

With the increasing numbers of caesarean sections, there is the need to utilize evidence-based procedures to optimize outcomes and minimize complications for women undergoing caesarean delivery in Ghana. This section provides recommendations to providers on the procedural aspects of C-section deliveries.

5.1 Timing Of Delivery

5.1.1. Caesarean delivery (CS) might be planned in advance if a medical reason calls for it, or it might be unplanned, especially during labour if certain problems arise. Recently, the definition of "the term pregnancy" has changed to cover three categories of **early term** (37–38 weeks+ 6 days), **full term** (39–40 weeks and 6 days), and **late term** (41-41 weeks + 6 days).

5.1.2. The committee recommends that uncomplicated planned elective term C-section for low-risk singleton pregnancy should not be routinely offered before 39 weeks' gestation to minimize the risk of neonatal respiratory morbidity.

5.1.3. Earlier planned elective caesarean delivery in women with maternal conditions (such as pre-eclampsia, or pre-existing medical condition), obstetric complications (such as PPROM, multiple pregnancies, placenta praevia, or placenta accreta spectrum) or fetal complications (such as IUGR, or multifetal pregnancy), may be necessary after weighing up the relative hazards of preterm delivery versus those associated with continuing the pregnancy. Scheduling of CS should follow protocols specific to the respective pregnancy complication.

5.2 Place Of Caesarean Section

5.2.1. The committee recommends that health facilities providing maternity care, without capacity for comprehensive obstetric care, should promptly refer a woman who needs a caesarean delivery to facilities with CS capabilities.

5.2.2. Health facilities offering obstetric services with the capacity to perform a safe and Caesarean section, but lacking multi-disciplinary capacity/expertise (including haemotransfusion services) to handle complicated / difficult pregnancies requiring more complex care (such as maternal medical conditions, early preterm CS, PAS, placenta praevia,, placental abruption, and fetal anomalies), should timeously refer to facilities with appropriate resources and expertise.

5.3. Preoperative Testing And Preparation

5.3.1. Routine full blood count investigation is recommended within two weeks of scheduled caesarean delivery.

5.3.2. Blood sample for urea and creatinine, liver function tests, plus/or minus coagulation studies may be required based on indication for CS.

5.3.3. Blood grouping & save/cross-matching is recommended, especially for elective cases.

5.3.4. Pre-operative anaesthetic assessment of the pregnant woman is recommended within a week of the scheduled elective caesarean delivery. In emergency cases, an anaesthetic consult should be obtained once decision for CS is made.

● drug history should be reviewed and if the patient is taking any anticoagulants, should be instructed to stop these medicines 12-24 hours to the procedure, depending on whether it is prophylactic or therapeutic dose. (Refer to Section on Anticoagulation)

● there should/must be documentation of sensitivity/allergy to any drug, latex, iodine, tape, or anaesthetic agent.

● optimization of mothers' haemoglobin concentration with haematinics, ± blood transfusion to at least ≥10g/dl ***for elective cases***.

● document consent to procedure by obtaining signed informed consent. (Refer to section on Informed Consent)

5.3.5. Preoperative management.

● A minimum preoperative fasting time of at least 2 hours from clear liquids, 6 hours from a light meal, and 8 hours from a regular meal is appropriate. However, patients are usually asked not to eat anything for 12 hours prior to the procedure.

● Placement of an intravenous (IV) line, to run with a crystalloid infusion.

● Auscultation of fetal heart tone(s) at the OR, especially in caesarean deliveries with fetal compromise as indications.

● Ultrasound imaging for placental mapping in some cases of placenta anomalies to plan uterine incision

● Placement of a Foley catheter (to drain the bladder and to monitor urine output) prior to start of the procedure is recommended. (This could be done on the ward or in the OR after anaesthesia to ensure asepsis and patients' comfort).

● Pre-incision intravenous antibiotic prophylaxis is recommended, ideally within one hour of skin incision.

5.4. Implementation Of Surgical Safety Checklists

Use of a checklist reduces the chance of neglecting routine items, such as antibiotic prophylaxis and sponge, instrument, and needle counts. Surgical safety checklists, such as the one developed by the World Health Organization (WHO) have been shown to reduce serious perioperative complications and death by 30% to 40% when implemented across a wide range of hospital settings. A key principle is including only those items that are likely to be overlooked; not including such items as gowning and gloving of the operating personnel, placement of bladder catheter, antiseptic skin preparation, and patient draping.

5.4.1. Since caesarean delivery involves two patients (the mother and the fetus), each with separate health and safety considerations, dedicated surgical safety checklists for CS that include elements of care for both the mother and fetus are recommended.

5.4.2. The administration/implementation of the checklists should represent distinct time points:

(1) “Briefing”/sign in, which occurs upon arrival of patient in the OR before initiation of anaesthesia

(2) “Time-out”, which occurs before skin incision; and

(3) “Debriefing”/sign out, which occurs after completion of the final counts

5.4.3. We recommend either a ‘question-answer’ format or the briefer checklist format (appendix 3), depending on which may be preferred by the health facility. The health institutions should feel free to add, delete, or substitute items as needed to be consistent with their local practice, and can adopt either the ‘question-answer’ format, the brief format, or a hybrid format from both. Whatever format is chosen, we encourage each facility to adopt only one caesarean delivery OR checklists to ensure uniformity among providers.

5.4.4. In a time-critical emergency, necessitating that surgery must start without delay, efforts should be made to still complete the surgical checklist before, during or after the procedure, to ensure that standards are met.

5.5. Administration of Anaesthesia

All women scheduled for CS, especially those with concomitant medical disease, require a focused, directed clinical history, physical examination, and review of laboratory investigations prior to undertaking any anaesthetic procedure.

Principles of Anaesthesia for Caesarean Delivery

● In most situations, regional anaesthetic technique: spinal, epidural, or combined spinal-epidural (CSE), is preferable to general anaesthesia.

● **Single shot spinal anaesthesia** is quick, reliable, and simple, and is recommended for most cases of caesarean deliveries, including asymptomatic placenta praevia. However, single shot spinal anaesthesia is associated with hypotension; therefore not recommended for maternal conditions that cannot tolerate hypotension such as severe haemorrhage, and certain cardiac diseases including, but not limited to, pulmonary hypertension and aortic stenosis.

● **Epidural anaesthesia** is slower in onset and generally associated with less hypotension. Duration of anaesthesia can also be extended in the event of prolonged surgical operating times.

● In situations where regional anaesthesia may be contra-indicated, general anaesthesia is the technique of choice.

● Caution must be exercised to avoid iatrogenic pulmonary oedema, especially in women with preeclampsia or underlying cardiac disease.

- Caution must be exercised to keep the maternal blood pressure at 90% or more of baseline value and avoid decreases to less than 80% of baseline in women who develop hypotension after the spinal injection.
- Patients should be provided with information on the different types of post-caesarean birth analgesia, so that they can make an informed choice.
- **Antiemetic** (such as IV metoclopramide) and antacids (and H_2-receptor antagonists or proton pump inhibitors) may be offered before caesarean birth as per facility protocols.

- **Positioning:** Left lateral tilt of the patient up to 15 degrees or appropriate uterine displacement is recommended, once the woman is in a supine position to reduce risk of maternal hypotension.

5.6. Methods To Reduce Infectious Morbidity

Surgical site infection (SSI), endometritis, and UTI complicating a caesarean delivery may require readmission to hospital, and can give rise to more severe complications such as sepsis and necrotizing fasciitis. Evidence-based interventions must be applied for prevention and treatment of genital tract infections during labour, childbirth, and puerperium.

5.6.1. Pre-incision antibiotic administration is recommended rather than after umbilical cord clamping.

5.6.2. Non-pharmacological interventions that may be carried out before, during, and after surgery with the aim of reducing the risk of infectious morbidities include the following:

- use of alcohol-based chlorhexidine antiseptic solution for skin preparation. Iodine preparations can be used as an alternative if chlorhexidine is not available.
- Pre-operative vaginal cleansing with aqueous iodine solution or aqueous chlorhexidine vaginal preparation can be used as an alternative if the woman has allergies to iodine or if an iodine preparation is not available.
- Surgeons and scrub nurses should follow general recommendations for safe surgical practice, such as sterile draping of patient, gowning, wearing of surgical gloves, and goggles, during caesarean birth to reduce the risk of infection transmission.
- Minimize spillage of infective uterine content (amniotic fluid) into the peritoneal cavity
- Current evidence does not support use of routine intra-operative abdominal irrigation.
- Routine preoperative surgical site hair removal is not recommended. If deemed necessary hair removal through use of clippers/scissors, instead of razors, is suggested.

5.7. Caesarean Section Techniques

The original CORONIS trial* which involved 15,935 women in low-income and middle-income settings reported no clear differences in short-term maternal morbidity (up to 6 weeks post-surgery) when comparing the following five pairs of alternative surgical techniques for caesarean section.

1. blunt versus sharp abdominal entry

2. exteriorisation of the uterus for repair versus intra-abdominal repair

3. single versus double layer closure of the uterus

4. closure versus non-closure of the peritoneum (pelvic and parietal), and

5. chromic catgut versus polyglactin-910 for uterine repair

The findings from Coronis trial are not applicable for women with more than one previous caesarean section, or undergoing delivery by classical caesarean section through a vertical abdominal incision.

Choice of surgical techniques included in the CORONIS trial should also be guided by surgeon preference, operating time, economic and organization factors.

**Brocklehurst P, Abalos E, Addo V, El Sheikh M, Mathews JE, Naz Masood S, et al. Caesarean section surgical techniques (CORONIS): A fractional, factorial, unmasked, randomised controlled trial. Lancet. 2013;382(9888):234–48.*

5.7.1. **Skin Incision**

● A transverse lower abdominal incision is recommended, since it is associated with less postoperative pain and an improved cosmetic effect compared with a midline incision.

● Sub-umbilical vertical skin incision may be recommended in instances where rapid and safer access to the uterus is needed (in cases such as coagulopathy, sepsis and in obstructed labour).

● Separate surgical knives should not be used to incise the skin and the deeper tissues in caesarean birth, as it does not decrease wound infection.

5.7.2. **Dissection versus omission of utero-vesical flap**

Routine bladder flap formation is not recommended in the absence of any specific indication, such as adherent urinary bladder to the lower uterine segment.

5.7.3. **Blunt vs sharp expansion of the uterine incision**

Routine extension of the uterine incision should be done bluntly rather than sharply in transverse lower uterine segment CS to promote less unintended extensions and favourable maternal outcomes. Vertical uterine incisions may be indicated under certain circumstances.

5.7.4. **Delivery of placenta**

Controlled cord traction, rather than manual removal, is recommended for delivery of placenta during CS. Manual removal of the placenta compared with removal of placenta by traction of umbilical cord has been associated with higher risk of endometritis

5.7.5. **Exteriorization versus intra-peritoneal uterine repair**

Use of routine exteriorization to repair the uterus is not recommended as it confers no benefit over intra-peritoneal repair. Exteriorization of the uterus at the time of CS may be considered for better visualization for repair in certain situations such as suspected uterine rupture in prolonged labour.

5.7.6. **Cervical dilatation**

There is insufficient evidence, presently, to justify dilatation of the cervix at non-labour caesarean section for reducing postoperative morbidity.

5.7.7. **Single layer versus double layer uterine repair**

Use of either single layer or double layer uterine closure is recommended in caesarean birth, depending on the clinical circumstances and surgeon preference. Single layer closure does not increase the risk of postoperative bleeding or uterine rupture in a subsequent pregnancy.

5.7.8. **Chromic catgut versus polyglactin-910 suture materials for repair of uterus**

●. The choice of suture material should be guided by surgeon preference and facility factors. There is no evidence to support the use of the substantially more expensive Vicryl (polyglactin-910)

5.7.9. **Closure of the peritoneum**

Routine suturing of the visceral or the parietal peritoneum is not recommended.

5.7.10. **Closure of abdominal wall**

Layered closure of the abdominal wall with delayed absorbable suture is recommended.

- For the fascia, closure in continuous, non-locking fashion using Vicryl (polyglactin 910) size 1 or 2 is desirable. Mass closure with slowly absorbable continuous sutures is favoured/preferred if a midline vertical abdominal incision is used in caesarean birth, as this results in fewer incisional hernias and less dehiscence.

5.7.11. **Suture closure of subcutaneous tissue**

Closure of subcutaneous tissue when thickness measures greater than 2 cm is recommended.

5.7.12. **Use of superficial wound drain**

Routine subcutaneous drain is not recommended, since it is not associated with decreased wound complications compared with standard suture re-approximation.

5.7.13. **Skin closure**

● Use of suture, rather than stapler, is recommended for caesarean section skin closure to lower risk of wound complications.

● Suturing type is important because impaired wound healing can increase the cost of the treatment. Either continuous subcuticular or interrupted full thickness sutures are recommended for routine skin closure. Interrupted skin suture is suggested in cases of CS for prolonged labour or chorioamnionitis.

● Either absorbable or non-absorbable suture materials are recommended for skin closure. Skin closure with Non-absorbable suture is preferred where the technique of concomitant closure of subcutaneous tissues is undertaken.

Open versus closed wound dressing.

- In uncomplicated CS, wound dressings can be removed between 24 and 72 hours after the procedure.

5.8. Documentation Of Surgical Operation Notes

Accurate and complete documentation is essential to ensure postoperative continuity of care of surgical patients, and forms an important medicolegal document.

5.8.1. All surgical operation notes must be completed immediately after the operation by the surgeon or the first assistant; as either typed or handwritten.

5.8.2. The record should include the patient's name, date of birth/age, hospital number, date and time of the operation, names of the surgeon and assistants, method of anaesthesia, and name of anaesthetist(s). It should also include the CS indication and category, and all pre-operative methods employed to minimize infectious morbidities.

5.8.3. **The remainder of the operation notes can be broken down into the following five main parts.**

- **Skin incision** and approaches for abdominal and uterine entry.

- **Findings**; all intra-operative findings, such as details on the new-born, characteristics of amniotic fluid, placenta location, any adhesions, anatomical variations, and estimated blood loss, should be documented..

- **Procedure**; should cover a step by step account of the operation from incision to closure (stating surgical techniques used), any additional procedures such as uterine brace suture or tubal ligation, surgical management of any major anatomical structures/adhesion encountered, any tissue excised, and finally any inadvertent complication/injury such as significant blood loss or iatrogenic bowel, bladder, or ureteric injury.

- **Closure**; should include uterine incision repair, and layers of abdominal closure (in order of peritoneum, fascia, subcutaneous tissue, skin) and the method of closure, including the material and technique.

- **Postoperative instructions**; must provide specific and clear follow-up instructions. It should include any medications to be administered (such as thrombo-prophylaxis, analgesics, and further antibiotics), any instructions to multidisciplinary team members, removal of urethral catheter, and when patient may drink/eat, or mobilize. Further instructions should specify any sample for histopathological evaluation, surgical wound dressing changes and suture removal.

5.8.4. Operation notes should accompany the patient into the recovery ward to enable continuity of care.

Anticoagulant Prophylaxis For Caesarean Section

Dr. Alim Swarray-Deen

Summary

- Caesarean section may be associated with an increased risk of venous thromboembolism.
- In cases of elective and emergency caesarean section in ***women without additional risk factors, hydration and early ambulation are adequate.*****
- In the ***presence of additional risk factors*** (see Table 2), use of low molecular weight heparin after Caesarean section is indicated

Prevention Of VTE After Caesarean Delivery

A significant contributor to maternal morbidity and mortality is venous thromboembolism (VTE). The estimated incidence of VTE during pregnancy and the postpartum period is 1 - 2 per 1000 deliveries. The risk of VTE is exceptionally high in the postpartum period, particularly after caesarean delivery.

There are several recommendations to prevent VTE during pregnancy, even after caesarean birth. However, due to the absence of clinical trials, the current guidelines from different professional organizations are based on observational research and expert judgments. As a result, these suggestions based on weak evidence are in dispute.

At present, the available evidence suggesting that universal (or near-universal) pharmacologic VTE prophylaxis effectively reduces maternal mortality is limited.

Prophylaxis should be provided after caesarean delivery to women with the following risk factors:

Long-term post CS anticoagulant prophylaxis (6−8 weeks)	— use of long term anticoagulant prophylaxis during pregnancy — episode of venous thromboembolism during the index pregnancy* *Treatment may extend beyond 8 weeks
Short-term post CS anticoagulant prophylaxis (2−7 days / until discharge)	***—occurrence of any of the following risk factors*** ○ BMI > 40 ○ asymptomatic thrombophilia ○ significant medical comorbidities (systemic lupus erythematosus, heart disease, or sickle cell disease) ○ significant postpartum infection, ○ postpartum haemorrhage of at least 1000 mL ○ need for re-operation
	— occurrence of at least two of the following risk factors • age > 35 years • BMI > 30 • multiparity > 3 • large varicose veins • smoking • generalised infection • multiple pregnancy • longer immobilisation or limited mobility (strict bed rest for at least 1 week) • pre-eclampsia • extended delivery > 24 h • postpartum treatments

*****Other non-pharmacological measures of preventing VTE, include adequate hydration and early ambulation.***

Pacheco LD, Saade G, Metz TD. Society for Maternal-Fetal Medicine Consult Series #51: Thromboembolism prophylaxis for cesarean delivery. Am J Obstet Gynecol. 2020;223(2):B11–7.

General Comments

- All pregnant women at risk of VTE should be educated about the signs and symptoms of DVT and PE, and the need to seek urgent medical attention should they develop any of these symptoms. Objective assessment and management are mandatory if symptoms suspicious of DVT or PE occur.

- All women should undergo an individualized risk assessment for VTE prior to pregnancy, once pregnancy is achieved and throughout pregnancy as new clinical situations may arise.

- There is still an ongoing debate about the routine use of LMWH for thromboprophylaxis. When considering the use of thromboprophylaxis during pregnancy and/or the postpartum period, the absolute risk of VTE, the risk reduction with prophylaxis, drawbacks of prophylaxis, and the woman's values and preferences should all be taken into account.

- If the decision is made to use antepartum prophylaxis, it should be initiated early in pregnancy.

Peripartum Management Of Client On Anticoagulation

- All pregnant women receiving antenatal anticoagulant therapy should have an individualized delivery plan that addresses obstetric, anaesthetic and thrombotic concerns.
- All pregnant women on antepartum anticoagulation should have their platelet count checked regularly and especially prior to delivery, for thrombocytopenia ($<100 \times 10^6$).
- All pregnant women should be advised to discontinue anticoagulant therapy upon the onset of spontaneous labour.
- If there is a planned delivery, therapeutic LMWH should be discontinued at least 24 h prior to the expected time of epidural analgesia or delivery. Prophylactic LMWH should be stopped at least 12 hrs prior to epidural analgesia.
- For planned deliveries, intravenously administered unfractionated heparin should be stopped at least 6 hrs prior to the expected time of epidural analgesia or delivery and the aPTT checked to ensure normalization, if indicated.
- For therapeutic doses of unfractionated heparin administered subcutaneously, the last dose should be given no sooner than 12 h and preferably closer to 24 h prior to expected time of epidural analgesia or delivery and the aPTT checked to ensure normalization, if necessary.
- Prophylactic LMWH may be started/restarted 6–12 h after delivery (no sooner than 4 h after epidural catheter removal), as long as haemostasis is assured and there has not been a bloody or traumatic epidural. For prophylactic unfractionated heparin, the recommended time interval from epidural catheter removal is 4 hrs.
- Therapeutic LMWH may be started/restarted 24 h after delivery (no sooner than 24 h after epidural catheter removal), as long as haemostasis is assured and there has not been a bloody or traumatic epidural. Attainment of therapeutic levels of intravenous unfractionated heparin should be delayed for the same period of time.
- Women requiring long term post CS anticoagulation beyond 6 weeks ***may be*** switched to oral medications

Care Of Baby Born By Caesarean Section

Dr. Luitgard Darko

- Ensure that a health care practitioner appropriately trained in resuscitation of a new-born is present in theatre during CS
- In case of expected foetal problems, the presence of an experienced neonatal care provider / neonatologist in theatre is recommended
- Adequate thermal care must be given according to recommended care for new-born babies as CS babies are prone to hypothermia
- Offer and facilitate early skin to skin contact between mother and new-born baby
- Offer support to help start breastfeeding as early as possible

Baby Care and Infant Feeding

- Early skin contact between mother and baby should be encouraged and facilitated because it improves maternal perceptions of the infant, mothering skills, maternal behaviour, breastfeeding outcomes and reduces infant crying.
- Women who have had a CS are less likely to start breastfeeding in the first few hours after birth, but when breastfeeding is established, they are as likely to continue as women who have had a vaginal birth. Therefore, it is important that they are offered additional breastfeeding support as soon as possible after giving birth. Women who have a planned LSCS should be shown how to harvest and store their expressed breast milk after 36 weeks' gestation.
- Women should also be given assistance with baby care and personal hygiene until able to mobilise and care for their babies and themselves independently.
- All care planned and implemented should be documented in the maternal records.

CARE OF THE MOTHER AFTER CAESAREAN SECTION

Dr. Kwabena Agyare-Gyane

Immediate Post-operative Management

- Continuous monitoring of vital signs including; pulse, oxygen saturation, respiratory rate, blood pressure, and temperature - on a cardiac monitor if available, otherwise check every 15 minutes until patient is hemodynamically stable and has regained airway control and if surgery was done under general anaesthesia.
- Monitor for return of motor function of the lower limbs, where regional anaesthesia was used.
- Monitor urine output hourly.
- Palpate the fundus every 15 minutes while in the recovery area ensuring that it feels firm / well contracted.
- Monitor for vaginal bleeding.

Transfer to the ward

- Transfer to the ward only when the patient is fully consciousness, has control over her airway and lower limbs; is hemodynamically stable, passing a minimum of 30 mls of urine hourly, with a firm and contracted uterus and minimal bleeding per vaginam.
- Monitor vital signs hourly while on the ward for the first 6 hours and subsequently 4 hourly for at least 24 hours.
- If patient is unstable additional medical review is required to determine appropriate place of care and further management (High Dependency Unit or Intensive Care Unit)

Pain Management

The following treatment combinations can be administered based on the patient's pain threshold:

- IV Pethidine 50 mg 6 hourly for 24 hours, or IV Morphine 10 mg every 4 hours for 24 hours, and/or
- IV Paracetamol 1g 6 hourly for 24 hours, and/or
- Suppository Diclofenac 100mg 12 hourly for 24 hours (exclude if patient has renal disease, bleeding disorders or asthma)
- Continue with orals or rectal pain medication when the patient can tolerate it.
- Pain medications should be given as per schedule instead of as and when required.

Fluid Management

- Patients should receive approximately 3 – 4 L of IV fluids (preferably Ringers Lactate and Dextrose saline) in the first 24 hours, except patients on fluid restriction.
- IV fluids may be stopped when the patient can tolerate adequate oral fluids. (refer to section on Eating and Drinking)
- Monitor fluid output

Antibiotic prophylaxis for Elective CS options include:

- IV Co-Amoxiclav 1.2 g single dose, or IV Cefuroxime 750 mg single dose

Therapeutic Antibiotic course should be considered when indicated. Options include:

- IV Co-Amoxiclav 1.2 g 12hrly for 24 hours , or
- IV Cefuroxime 750 mg 8 hourly for 24 hours, Plus

- IV Metronidazole 500mg 8hourly over 24 hours,
- Consider IV Clindamycin in penicillin allergic individuals
- A determination should be made if a patient needs to continue with IV antibiotics after 24 hours, especially in circumstances where sepsis is suspected.

Bladder Care

- Consider removing the urethral catheter 12 – 24 hours postoperatively unless otherwise indicated.
- If the patient is unable to void within 6 hours after catheter removal, consider re-passing and retaining the catheter for an additional 12 – 24 hours.

Early Ambulation

- Encourage early ambulation (8 -12 hours postoperatively).

Breastfeeding

- Initiate breastfeeding as soon as mother can do so.

Postoperative Haemoglobin Check

- Check postoperative haemoglobin after 48 hours. This should be done sooner if a greater than average blood loss occurred.

Eating and Drinking

- Patients can start oral fluids 6 - 8 hrs after an uncomplicated CS.

Wound Care

- Remove dressings 24 to 48 hours postoperatively
- Assess the wound for signs of infection (such as increasing pain, redness, or discharge), separation or dehiscence
- encourage the woman to wear loose, comfortable clothes and cotton underwear
- Wounds should be cleaned and dried daily with a topical antiseptic solution.

Contraception

- Discuss contraception before discharge (if patient did not have intrapartum BTL) and ensure that the patient is aware of where to access family planning service.

Discharge

- Aim to discharge a patient between 2 – 4 days after surgery if recovery has been uneventful.
- Patients should be debriefed about the indication and outcomes of the surgery, and provided with a written discharge summary

Follow Up

- Review the patient at least 7 days post-delivery and subsequently at 6 weeks.

PREVENTING UNNECESSARY CAESAREAN SECTIONS

Dr. Sylvia Deganus

- It is estimated that about a third of caesarean sections performed globally each year are without clear medical indications and are deemed "unnecessary". Unnecessary birth by caesarean section places needless risks to the life and well-being of the pregnant mother and her baby as the procedures still carry some risk even if generally considered safe. It also places additional demands on maternity services and the use of finite and inadequate health resources especially in low resource settings.

Interventions Targeting Pregnant Women

- During routine ANC education and counselling topics all pregnant women must be taken through discussions on why caesarean sections are done, the risks and benefits.

- To reduce client apprehension and fears about vaginal births, efforts must be made to promote quality and more client friendly obstetric care services. Service should include involvement of support persons, childbirth training workshops, and psychological supportive education for women with fear of pain and anxieties relating to childbirth,

- For women with previous caesarean section(s), the benefits and risks of vaginal birth as compared to repeat caesarean birth must be discussed taking into account their circumstances, concerns, priorities and plans for future pregnancies.

Interventions Targeting Care Providers

- Care providers must ensure they use evidence-based clinical criteria as the basis for deciding on and performing a caesarean section for their clients. This requires careful assessment of the client through history, examination and where necessary use of appropriate laboratory and other investigations.

- Common indications that may be misused and lead to higher incidence of unnecessary CS include suspected cephalopelvic disproportion, breech presentation and prolonged pregnancy. When making decisions for CS based on these indications, practitioners must not base their decisions solely on single clinical measurements such as ultrasound dating, foetal size, position estimations and pelvic pelvimetry. Efforts must also be made to confirm the indication/ diagnosis through other clinical assessments.

- Where doubt exists about the indication for caesarean section delivery a second opinion must always be sought from more experienced colleagues.

- Care providers must have the needed skills to identify promptly and manage potential complications that are amenable to non-surgical interventions such as external cephalic version for breech presentation and oxytocin augmentation for inadequate uterine contractions in order to reduce risk and need for CS.

- For situations in which caesarean section delivery is requested for on non-medical grounds the motive behind such request must be explored thoroughly. The risks and benefits of CS delivery as compared to vaginal delivery must be carefully explained to the client so she can make more informed decisions. If she still insists after such counselling efforts then the procedure should be delayed until after 39 gestation weeks.

Interventions targeted at Health Facility and Health Systems Managements

- Clear evidence-based guidelines must be available at facility level to guide care providers in this decision making process. Monitoring use of these guidelines must be done through regular caesarean section audits with timely feedback to health-care professionals in order to reduce rates of unnecessary caesarean births.

- Collaborative midwifery-obstetrician model of care (i.e. a model of staffing with labour/delivery care provided primarily by midwives, with 24-hour back-up from an obstetrician who provides in-house labour and delivery coverage without other competing clinical duties is recommended.

- Instituting strategies that ensure that there are minimal or no financial incentives for caesarean sections deliveries as compared to vaginal births for health-care professionals, facilities or organisations.

CAESAREAN DELIVERY ON MATERNAL REQUEST

Prof. Baafuor Kofi Opoku

Caesarean delivery on maternal request (CDMR) is defined as a primary caesarean delivery on maternal request in the absence of any maternal or foetal indications.
The incidence of caesarean delivery on maternal request and its contribution to the overall increase in the caesarean delivery rate are not well known in Ghana, although CS rates in the country are on the rise, with some referral centres recording rates of over 30%.

CDMR is not a well-recognized clinical entity. There have not been any randomised clinical trials that have compared CS with trials of labour for singleton term gestations with vertex presentation.

Estimated Prevalence of CDMR

- USA: 3-11%
- UK: 5-7%
- China: 28%
- Ghana: 1.9% (*Cape Coast*)

Reasons for CDMR

There are 2 main reasons:

1) Psychological (tocophobia): an intense fear of childbirth) is the main psychological cause for CDMR. Between 6–10% of women suffer from tocophobia. It may be primary or secondary.
   Primary tocophobia is usually expressed as fear of
   - pelvic floor injury
   - losing the baby in the course of labour
   - being left alone in labour
   - effect of vaginal delivery on sex life

   Secondary tocophobia is usually due to adverse experiences surrounding
   - previous labour and delivery
   - Emergency CS
   - Instrumental delivery
   - Traumatic birth–foetal loss, birth trauma
   - Health workers' attitude during labour

2) Sociocultural - CDMR is associated with women with the following:
   - Higher level of education
   - High social class
   - Late age at first delivery
   - Financial clout of patient
   - Financial benefits to providers
   - Desire to have a planned delivery to coincide with a particular date and day
   - For planned activities, e.g. travel

MANAGEMENT OF CDMR: WHAT IS BEST PRACTICE FOR GHANA?

- Vaginal delivery is still 4 times safer than CS
- Obesity increases the risk of operative vaginal delivery, emergency CS and pelvic floor damage. The overall risks in obesity appear to favour vaginal delivery
- The obstetrician should listen to the patient, her concerns and elaborate on the reasons that prompted her to seek CDMR. Rather than counselling women requesting CDMR about the risks, a better approach would be to explore the reasons for the request and address them
- For women who have fear of childbirth, adequate exploration of the fears, together with counselling (with a clinical psychologist, where available), has been shown to alleviate them
- Women who wish to have many children should be strongly counselled regarding the benefits of vaginal delivery and complications associated with repeat CS
- The obstetrician should provide clear, scientific and unbiased information to the patient emphasising on risk and benefits of elective CS
- In absence of any indication for early delivery, CDMR should not be performed before 39 weeks
- If in opinion of the obstetrician or most senior attending doctor CDMR will not be in patient's interest she should be referred to a second obstetrician for a 2nd opinion
- Patients who still want CDMR after ***adequate counselling*** should be offered the choice
- In cases of CDMR during labour, the patient should be reassessed, reassured and ***re-counselled*** and provided adequate support to make an informed decision. Such cases should be considered as a Category 2 CS if the patient insists.

CONCLUSION

In the absence of maternal or foetal indications for caesarean delivery, a plan for vaginal delivery is safe and appropriate and should be recommended.

After exploring the reasons behind the patient request and discussing the risks and benefits, if after adequate counselling the patient decides to pursue CDMR, her autonomy should be respected.

Caesarean Myomectomy

Dr Atta Owusu-Bempah

Uterine leiomyomas occur in 3 % to 10 % pregnant women, and the fibroids increase in size in 70 % of cases. Accumulating data have diminished the fear of performing caesarean myomectomy. With the advent of better anaesthesia, easy availability of blood and blood components, caesarean myomectomy is considered a safe surgical procedure **when performed by an experienced obstetrician** in **carefully selected patients, with appropriate haemostatic techniques**.

Potential contraindications of caesarean myomectomy may include age > 40 years, multiple myomas, cornual located myomas, posteriorly located myomas, increased tendency to bleed, and previous history of uterine rupture.

Recommended Approaches Of Caesarean Myomectomy Are:

1. Deliver the baby first, where feasible.
2. In circumstances where the myoma is in the lower segment and in the line of uterine incision, consider removal of the myoma(s) prior to the delivery of the foetus.

3. Following removal of the baby and the placenta, the uterus is exteriorized, uterine cavity is explored for any retained products and haemostasis secured.

4. Uterus is evaluated for the locations and the sizes of the myomas present to make a decision on which of the following 2 techniques will be employed (Serosal and Endometrial Approaches)

5. Minimise blood loss with ***tourniquet application*** (using Foley's catheter round the level of isthmus to encompass and compress both uterine arteries at the base of the broad ligament). The fallopian tubes and ovaries should be lifted and excluded from the tourniquet. This will ensure a relatively bloodless operating field.

6. Leiomyomas located close to the uterine incision site should be removed through the incision line.

7. In the Serosal Approach, the uterine incision ***should first be closed***. Incisions are made on the surface of the uterus over the myoma, which is thereafter enucleated. Myomas close to each other may be removed from the same incision to diminish adhesion formation.

- obliteration of the dead space using combinations of interrupted and continuous sutures with Vicryl 1 or 2 sutures in layers.

- serosal repair using either continuous locked or a baseball suturing technique.

- further haemostasis of resistant bleeding with U-sutures or Figure of eight sutures should be ensured

8. In the Endometrial technique, after the localizations of myomas are determined, incisions are made into the capsule via the endometrium and myoma(s) is removed. The main advantage of this surgical approach is to keep the uterine serosa intact.

- if multiple myomas are present and not close to each other, the endometrium is incised for each leiomyoma. Care must be taken to avoid opposing endometrial incisions as much as possible to minimise intrauterine adhesions

- the dead spaces must be repaired in layers as per the serosal approach

The endometrium must be repaired with a fine absorbable suture (Vicryl 2-0 / 3-0), where necessary.

● Serosal breach during endometrial myomectomy is an accepted complication which must be looked for and managed as previously described.

9. The applied tourniquet should be removed and haemostasis ensured.

10. The LUS incision should then be closed (if not already done).

11. While removing the myoma with either of the techniques, if the base carries a vascular pedicle, then the pedicle should be clamped and suture-ligated.

12 After the myomectomy, the uterus is replaced in the abdominal cavity. The suture lines, tubes and ovaries are rechecked for bleeding and haemostasis ensured.

13. Intra- and post-operative administration of uterotonics such as oxytocin and misoprostol is recommended to minimise blood loss.

TRIAL OF LABOUR AFTER CAESAREAN SECTION

Dr. Luitgard Darko

Successful TOLAC has an overall lower rate of complication than elective repeat caesarean section (ERCS). A successful VBAC can prevent complications arising from multiple CS such as increased risk of placenta praevia/placenta accreta syndrome, bladder injury etc. Promoting TOLAC reduces the overall rate of caesarean sections and cost implications on the health system. The wish of the mother and her partner for mode of delivery should be respected.

Prerequisites And Conditions That Must Be Met For TOLAC

A) Patient Selection

- No contraindications for vaginal birth (e.g. two or more CS,)
- Previous low transverse uterine incision
- Vertex presentation
- Singleton pregnancy
- Estimated foetal weight not greater than 3.5kg

B) Delivery Set-up

- Care during labour in a facility where immediate CS is possible with access to blood transfusion service.
- An obstetrician should be involved in the decision for or against TOLAC
- Adequate foetal monitoring is available (preferably continuous electronic monitoring)

Factors increasing likelihood of success

- Previous vaginal birth after caesarean section (VBAC)
- Previous vaginal delivery
- Spontaneous labour.
- Favourable cervix.

Factors decreasing likelihood of success

- Previous CS for dystocia (e.g. failure to descend in 2nd stage)
- Need for induction with cervical ripening.
- Gestational age above 40 weeks,

Factors that may increase the risk of uterine rupture

- Thickness of lower segment on ultrasound 4mm or less
- Fetal Macrosomia
- Short interval of delivery from CS (less than 18- 24 months)
- Maternal age above 40 years

Contraindications for TOLAC

- Any contraindications to vaginal delivery
- Uterine incisions other than transverse lower segment incisions (e.g. classical, J-shaped etc)
- Previous uterine rupture
- 2 or more previous CS
- Previous major uterine reconstruction (e.g. full thickness myomectomy, repair of Mullerian anomaly, cornual resection)

Intrapartum Monitoring

- Adequate monitoring of foetal and maternal wellbeing using the partograph.
- Adequate analgesia (e.g. epidurals)
- Routine IV line placement **is mandatory**
- No need to restrict activity

Summary:

TOLAC is recommended only in units that can carry out a Category 1 CS.

Contraindication: previous classical or inverted T incision, macrosomia, CS less than 18 months ago, myomectomy, 2 previous CS, and prostaglandins for induction of labour

Adequate analgesia is recommended.

PRETERM CAESAREAN SECTION

Dr Atta Owusu-Bempah

Preterm caesarean section **between 28 to 37 weeks of gestation** may be indicated for maternal and/or fetal indications. Preterm CS is sub-categorized as:

- Severe preterm if performed from 28-31^{+6} weeks of gestation.
- Moderate preterm if performed from 32-33^{+6} weeks of gestation.
- Late preterm if performed from 34-36^{+6} weeks of gestation.

Key Fetal/Neonatal Considerations:

- Antenatal corticosteroid therapy is recommended for CS prior to 34 weeks of gestation.
- A single repeat course of antenatal corticosteroids is recommended in severe and moderate preterm CS performed more than 7 days after the initial course.
- Antenatal corticosteroids may be considered for cases of late preterm CS without corticosteroid therapy prior to 34 weeks of gestation.
- A single dose/shot of antenatal corticosteroids administered few hours prior to an emergency severe/moderate preterm CS may offer some neonatal benefits in cases without initial corticosteroid therapy for lung maturation.
- Loading dose of 4g IV magnesium sulphate, followed with a 1g per hour maintenance dose is recommended in cases of severe preterm CS (< 32 weeks) for fetal neuroprotection; ideally within 4 hours of intended delivery.
- All CS prior to 34 weeks of gestation and/or EFW of less than 2kg should take place at facilities with capacity for neonatal intensive care.
- Instrumental delivery should be avoided as much as possible, especially in CS prior to 34 weeks of gestation.
- Health care personnel skilled in **new-born** resuscitation should be present at the operating room to care for the **new-born**.

Key Maternal Considerations:

- Mother should be **counselled** on possible neonatal outcomes and challenges, including longer NICU stay and need for Kangaroo mother care (KMC).
- Vertical uterine incision should be considered in cases of poorly formed lower uterine segment, especially in severe preterm CS, to minimize risks of maternal bladder injury, broad ligament laceration, and bleeding from the uterine artery.

QUALITY ASSURANCE METHODS

Dr. Kareem Mumuni

Quality assurance (QA) in health is a complex process that does not only guarantee patients /clients get predetermined high quality of care, but also continuously improves quality of care. It usually involves several professionals with different expertise in the care delivery chain.

1. QA methods for caesarean delivery start with ensuring appropriate and adequate logistics provision. All items including checklists for anaesthesia, surgical instruments and relevant professionals for the performance of each procedure must be available.

2. "***No surgery, no surgical morbidity and mortality"***. All final decisions for the caesarean section must be made by senior doctors / obstetricians.

3. Surgical Safety Checklist (e.g. WHO Surgical Checklist) for pre/intra and post-operative evaluation must be in place and used

4. Detailed clinical notes ***must be*** documented (including difficulties encountered, complications and their management in a chronological fashion).

5. Clinical audit of all cases of CS is recommended. Cases with complications must be audited preferably within 24 hours after CS.

6. Quarterly independent assessment of caesarean sections by peers must be conducted and reports issued with recommendations.

A core principle of qualitative assurance and improvement is that ***"what is not measured cannot be improved"*** and so caesarean section specific morbidity and mortality must be measured through 4-6 above.

INFORMED CONSENT FORM 1

MOH/GHS

Patient agreement to investigation and/or surgical treatment

Name of Health Facility:……………..........................……..........................……………...................................

District:.. Region :..

Address...

....

Patient details (or pre-printed label)

Date (dd mm yy)……………….......................................… Patient's name..……………….....…...

Date of birth ……………………………........... Age……….........……........ Sex [ ] Male [ ] Female

Folder Number……………………………….NHIS number (or other identifier)……….......…...................................

PART 1

Diagnosis(es): ……………………………...…. **Type of Operation**

……………………………........……........……......

Type of Surgery [ ] Elective [ ] Urgent [ ] Emergency

Site of proposed procedure (include brief explanation if medical term is not clear)………………………

…………………………………………………………………………………………..

Prognosis: According to current medical knowledge, the prognosis of this condition if the above procedure or treatment option is:

carried out is: ………………………….................. **not carried out** is:

………………......…………………….......……

Other factors that are likely to influence the treatment outcome in this patient include:……….......................

....

Statement of health professional (to be filled by health professional with appropriate knowledge of proposed procedure)

SEE TABLE ON NEXT PAGE

I have explained the procedure(s) to the patient. In particular, I have explained that:

a) Frequently occurring/material risks include:

SEE TABLE ON NEXT PAGE

b) Any extra procedures which may become necessary during the procedure include:

[ ] Blood transfusion………………...........................

[ ] Other procedure (please specify)...........................

...............................………………………......…...........

Alternative forms of treatment

I have also, to the best of my ability, discussed and explained to the patient the alternative forms of treatment currently available including **no treatment** and any particular concerns of this patient have been duly taken into consideration.

Anaesthetic Consideration

NB: Where there is no Anaesthetist and anaesthesia is given by the Surgeon, the Surgeon shall be responsible for explaining the details of the anaesthetic procedure.

This procedure will involve (tick as appropriate): [ ] General anaesthesia [ ] Regional anaesthesia [ ] Local anaesthesia [ ] Sedation

Contact details (if patient wishes to discuss options later) …..………………….……………………………

Statement of interpreter (where appropriate)

I have interpreted the information above to the patient to the best of my ability in the language and in a manner in which she or he seemed to have understood.

Signed ………………………….………....................... Date:

……………..…......... Name (PRINT) and Contact details

Part 1 of Form 1 accepted by patient: [ ] **yes** [ ] **no** (please tick appropriately)

PART 2

Statement of Patient

Please read this form carefully. If your treatment has been planned in advance, you should already have your own copy of the first part of this form (**Part1**) which describes the benefits and risks of the proposed treatment. If not, you will be offered a copy now. If you have any further questions, do ask – we are here to help you.

I agree to the procedure or course of treatment described on this form.

I understand that I have the right to change my mind at any time, including after I have signed this form. **I understand** that you cannot give me a guarantee that a particular person will perform the procedure. The person will, however, have the appropriate experience.

I understand (where appropriate) that I have to discuss the details of anaesthesia with an anaesthetist before the procedure, unless the urgency of my situation prevents this.

Alternative forms of treatment have been explained to me satisfactorily and I have chosen this procedure as my method of treatment.

I understand that any procedure in addition to those described on this form will only be carried out if it is necessary to save my life or to prevent serious harm to my health.

I have been told about additional procedures which may become necessary during my treatment. I have listed below any procedures **which I do not wish to be carried out** without further discussion.

……..

By endorsing this form, I acknowledge that I have read or have had the contents of this form read and explained to me satisfactorily in the language I understand and that I fully understand its contents and implications.

Patient's signature…......................or Thumbprint…...................... or Mark(Specify type of Mark)……..............

Name (PRINT).. Date..

A witness should sign below if the patient is unable to sign but has indicated his or her consent.

Signature ....or Thumb print............................ or Mark (specify type of Mark)..................

Name (PRINT).. Date ………...................................

Confirmation of consent (to be completed by a health professional when the patient is admitted for the procedure, if the patient has signed the form in advance)

On behalf of the team treating the patient, I have confirmed with the patient that s/he has no further questions and wishes the procedure to go ahead.

Name (PRINT) ………………….....................

*Notes (tick if applicable)

- ☐ See advance directive/living will e.g. Jehovah Witness
- ☐ Patient has withdrawn Consent (Patient must sign and date)

Statement / explanaton from health professional	Delivery of baby/babies through a cut in the abdomen (tummy) and uterus (womb) in a situation where the risks of vaginal delivery are more than those of caesarean section operation. Both incisions are usually transverse. If any other incisions are being considered, the woman must be informed of the reasons and the added risks.
Maternal	Frequent risk o Persistent wound and abdominal discomfort in the first few months after surgery o Increased risk of repeat caesarean section when vaginal delivery attempted in subsequent delivery o Readmission to the hospital o Haemorrhage o Infection
	Serious but RARE risk o Emergency hysterectomy o Need for further surgery at a later date o Thromboembolic disease o Bladder injury o Ureteric injury o Death
	Future pregnancies o Increased risk of uterine rupture during subsequent pregnancies/deliveries o Increased risk in subsequent pregnancies of placenta praevia and placenta accreta
Fetal	· Minor cuts to the baby's skin

.

WHO Surgical Safety Checklist

SIGN IN (To be read out loud)

Before induction of anaesthesia

Has the patient confirmed his/her identity, site, procedure and consent?
- ☐ Yes

Is the surgical site marked?
- ☐ Yes/not applicable

Is the anaesthesia machine and medication check complete?
- ☐ Yes

Does the patient have a:

Known allergy?
- ☐ No
- ☐ Yes

Difficult airway/aspiration risk?
- ☐ No
- ☐ Yes, and equipment/assistance available

Risk of >500ml blood loss (7ml/kg in children)?
- ☐ No
- ☐ Yes, and adequate IV access/fluids planned

Name:

Signature of Registered Practitioner:

PATIENT DETAILS

Last name:

First name:

Date of birth:

NHS Number:*

Procedure:

*If the NHS Number is not immediately available, a temporary number should be used until it is.

TIME OUT (To be read out loud)

Before start of surgical intervention
for example, skin incision

Have all team members introduced themselves by name and role?
- ☐ Yes

Surgeon, Anaesthetist and Registered Practitioner verbally confirm:
- ☐ What is the patient's name?
- ☐ What procedure, site and position are planned?

Anticipated critical events

Surgeon:
- ☐ How much blood loss is anticipated?
- ☐ Are there any specific equipment requirements or special investigations?
- ☐ Are there any critical or unexpected steps you want the team to know about?

Anaesthetist:
- ☐ Are there any patient specific concerns?
- ☐ What is the patient's ASA grade?
- ☐ What monitoring equipment and other specific levels of support are required, for example blood?

Nurse/ODP:
- ☐ Has the sterility of the instrumentation been confirmed (including indicator results)?
- ☐ Are there any equipment issues or concerns?

Has the surgical site infection (SSI) bundle been undertaken?
- ☐ Yes/not applicable
  - Antibiotic prophylaxis within the last 60 minutes
  - Patient warming
  - Hair removal
  - Glycaemic control

Has VTE prophylaxis been undertaken?
- ☐ Yes/not applicable

Is essential imaging displayed?
- ☐ Yes/not applicable

Name:

Signature of Registered Practitioner:

SIGN OUT (To be read out loud)

Before any member of the team leaves the operating room

Registered Practitioner verbally confirms with the team:
- ☐ Has the name of the procedure been recorded?
- ☐ Has it been confirmed that instruments, swabs and sharps counts are complete (or not applicable)?
- ☐ Have the specimens been labelled (including patient name)?
- ☐ Have any equipment problems been identified that need to be addressed?

Surgeon, Anaesthetist and Registered Practitioner:
- ☐ What are the key concerns for recovery and management of this patient?

Name:

Signature of Registered Practitioner:

0861a January 2009