
Equivets Cornisa - Hugh Suffern

Field Caesarian In The Mare

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- I am not a surgeon , this is not a new technique .
- It is a technique that has been streamlined and simplified over the years to make it a viable and successful option for the equine practitioner in stud practice

Stashak, Vandeplassche 1992

- ….although in experienced hands most dystocias are managed by reposition, partial fetotomy and traction - caesarian section should **not** be considered a last resort.
- Delay in decision for surgery usually results in more trauma to the mare, and greater chances of losing the mare and foal….

- FARM PRACTICE VETS. BOVINE CAESARIAN SECTION

- examine a cow at calving and make a decision within a few moments as to whether caesarian required

- a caesarian operation holds no fear or trepidation to perform
- results are very good with a high success rate

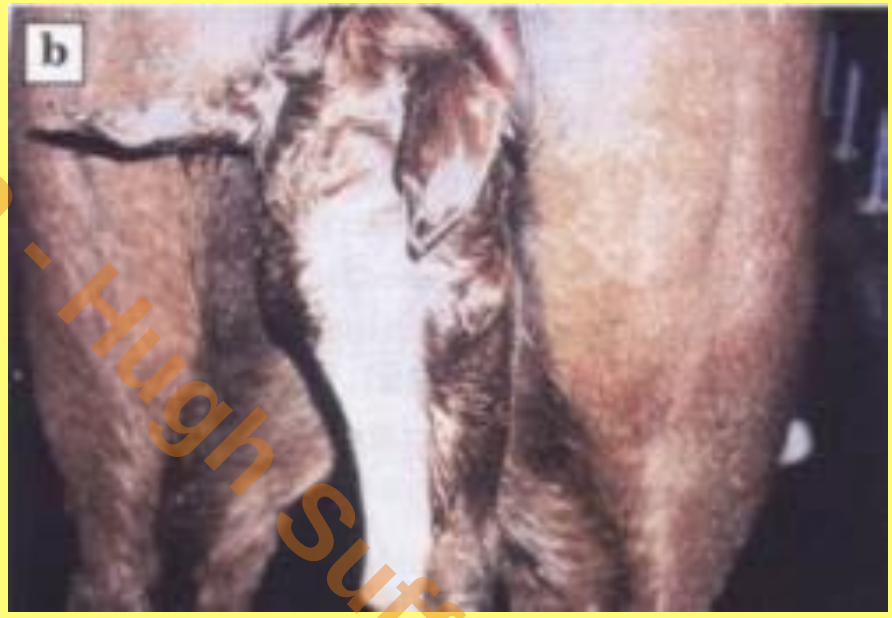
- 24 caesarians in 18 years
- 2 mare fatalities
- 8 dead foals
- 14 known to return in foal

Resolution of Dystocia : Choices

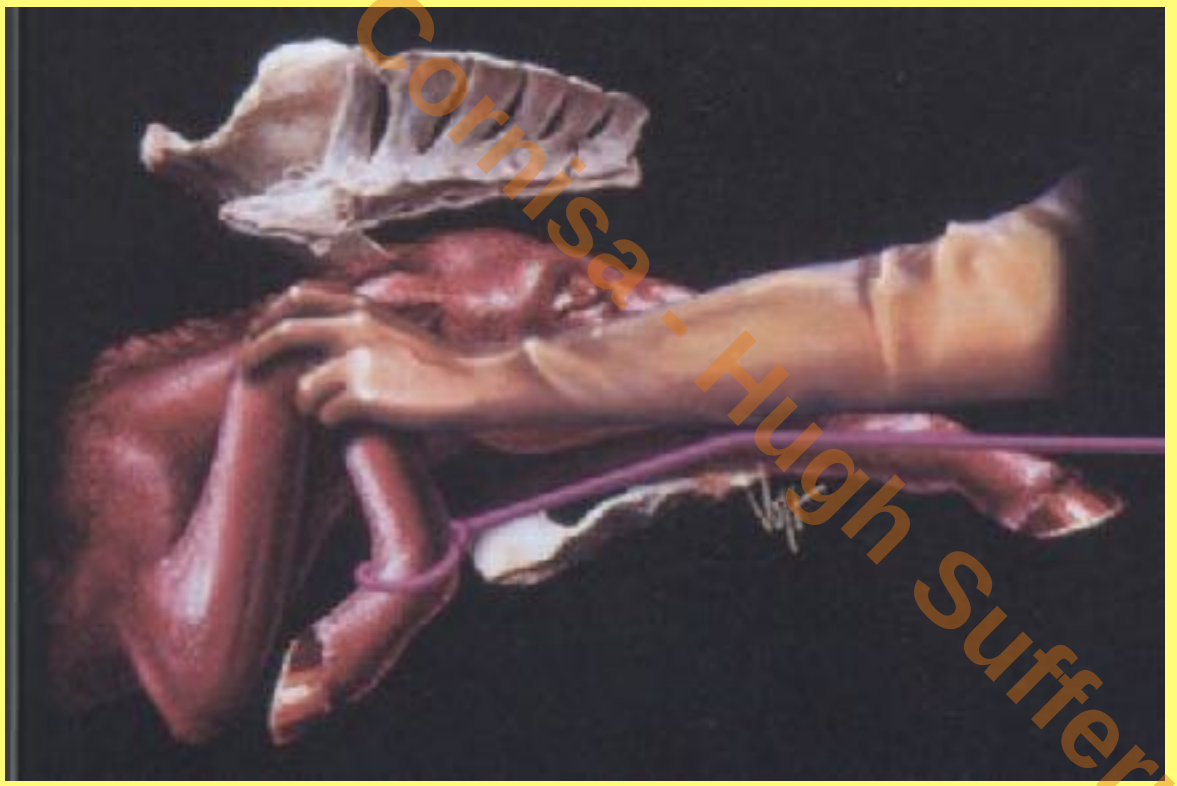
- repositioning of foetus and traction
- G.A and repositioning
- Fetotomy
- Caesarian
- Euthanasia!

Neck deviation

Shoulder flexion

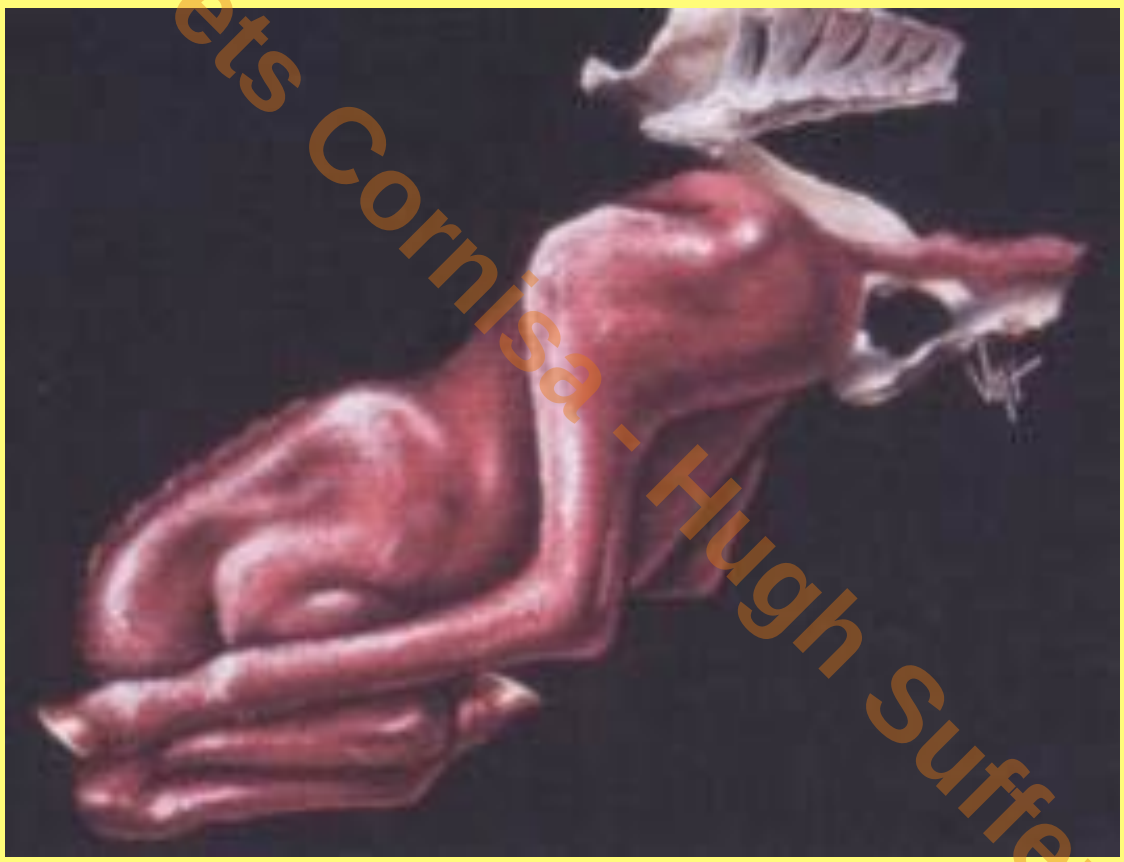


repositioning



Hock flexion

Hip flexion , Breech



Vaginal delivery under GA.

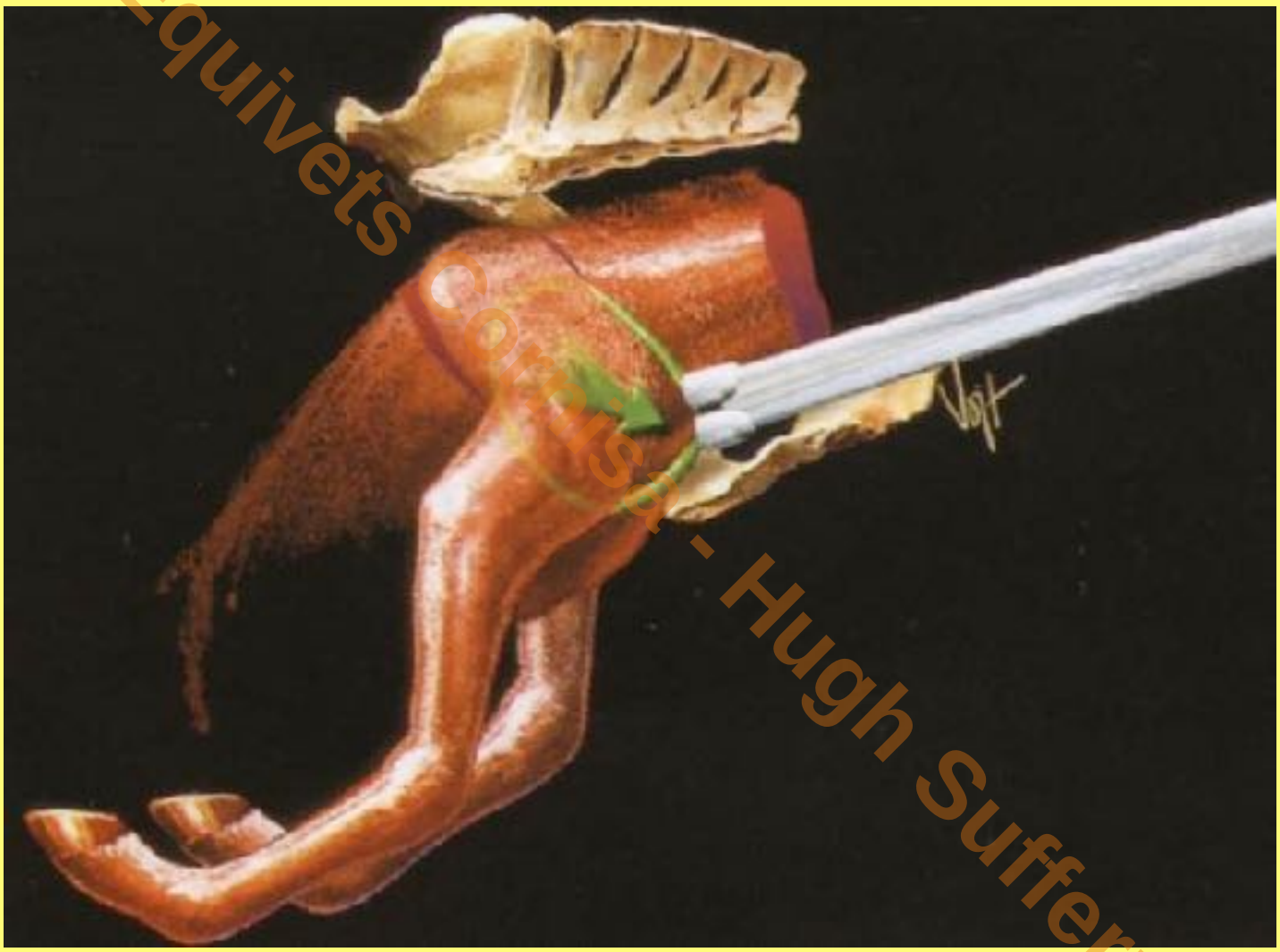
Lifting the hind legs by hoist or tractor can give more room for repositioning

Planipart will relax uterine wall

Inflate the uterus with warm water

Fetotomy

- Specialist equipment
- experience + skill
- long arms !!
- Dead foal
- lacerations
- cervical damage common
- not a quick resolution


Equivets cartoon - Hugh Suffern

Caesarian section

- Will usually arise as an emergency in the middle of a busy day (or night!)
- for a successful outcome - time is of the utmost importance
- No specialist equipment or drugs required
- Be prepared
- fail to prepare - prepare to fail

Caesarian kit in clinic, ready to go

Key requirements

- Safe field anaesthesia
- Simple, effective (and fast!) surgical technique
- Effective post operative care

Field surgery

- POSITIVES
- Less stress no boxing
- no travel time
- no strange surroundings or people
- a sense of urgency which can get lost in the hospital environment

- NEGATIVES
- imperfect knockdown and recovery facilities
- no effective resusitation ?
- asepsis ?

R.E. Clutton 1997

"...field anaesthesia works best for field surgery and disasters are likely when attempting to replicate theatre conditions in the field ,ie. time is wasted attaching monitors, laying drapes, administering fluids, and generally buggering about….."

Anaesthetic Timetable

- 1. Pre Medicate
- Place I/V Catheter, Prepare instruments etc
- 2. Induction with Ketamine (after 5 minutes)
- Scrub up
- 3. Top up (1/2 dose Ketamine plus 1/2 romifidine)
- Commence surgery and remove foal
- 4. Initiate Triple Drip Anaesthesia
- Completion of surgery

Anaesthesia

- Pre Med. Romifidine 40 m(4ml sedivet), Butorphanol 10mg.(1ml torbugesic)
- Induction. Ketamine 1 - 1.8g. (10-18ml).
- Top up Ketamine/romifidine (1/2 induction dose)
- Maintenance - Triple Drip Anaesthesia

Maintenance of anaesthesia other options

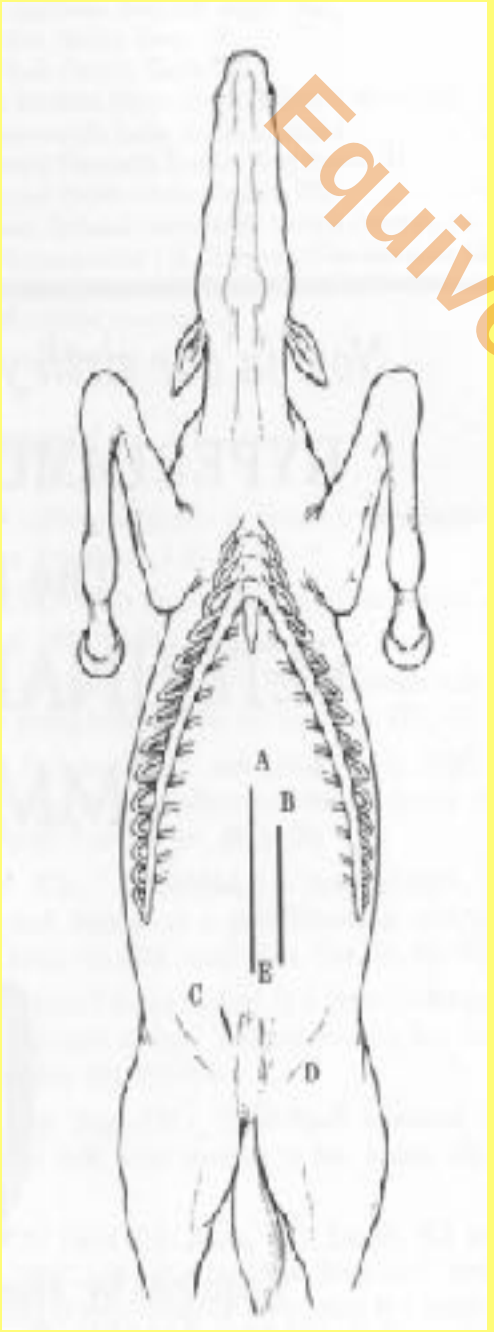
- Pentobarbitol
  Euthethal !! 200mg/ml.
  Saggital 6% w/v
- Deadly easy, easily dead!
- Usually a low dose required
- Cheap option if single handed
- Poor recovery is common
- NOT recommended

Guaiphenesen,Sedivet,Ketamine

- 500ml 15% Guaifenesin, 3.8ml Sedivet, 15ml Ketamine
- Infusian rate 1.1ml/ kg/ h
- 3 drops/second. higher initially slowing later
- best to have someone monitoring anaesthesia
- Overdosage possible
- less uterine haemorrhage?
- very safe

Surgical technique

- standing flank ?
- lateral recumbency flank ?
- APPROACH OF CHOICE = dorsal recumbency, ventral midline incision

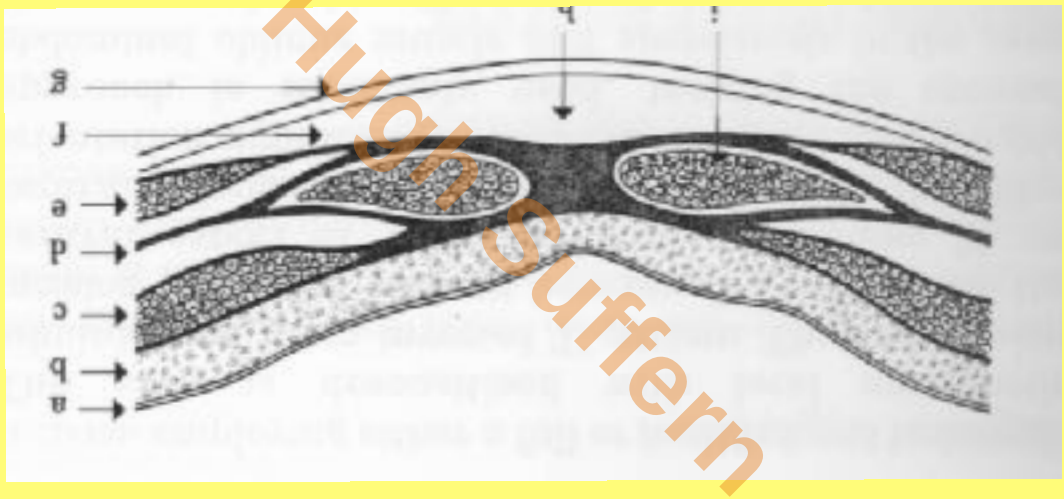


Abdominal incision

A. 30- 35 cms midline incision,
Commence at the anterior aspect of the mammary gland.
Can be extended if required, but try to keep minimal.

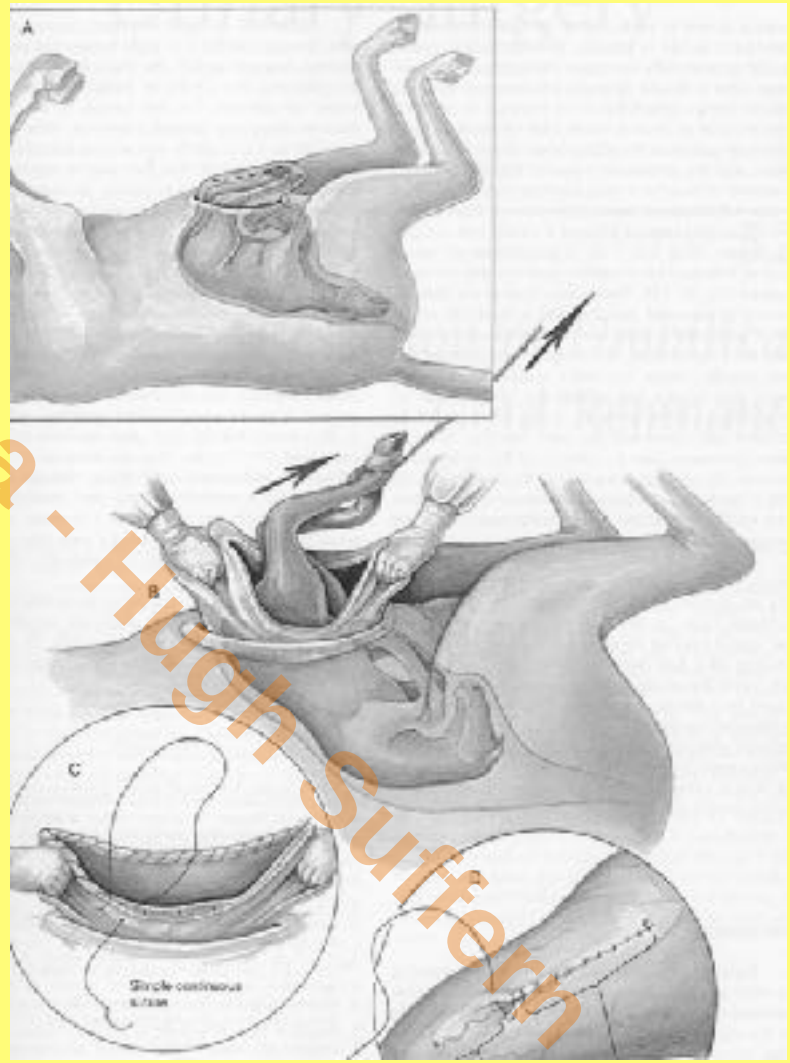
Ventral midline

- Linea alba
- minimum haemorrhage
- no involvement of muscle or nerves



Uterotomy

- Uterus lies directly under incision
- Grab limb through uterine wall
- exteriorise, pack?
- Incise length of cannon bone
- remove foal
- NB. No need for whip stitch as illustrated



Uterine closure

- Foal to assistant
- Commence Triple drip Anaesthesia
- control Haem. ie. tie off individual bleeders
- Remove afterbirth if possible
- Modified Lembert ,double layer
- 5m vicryl
-

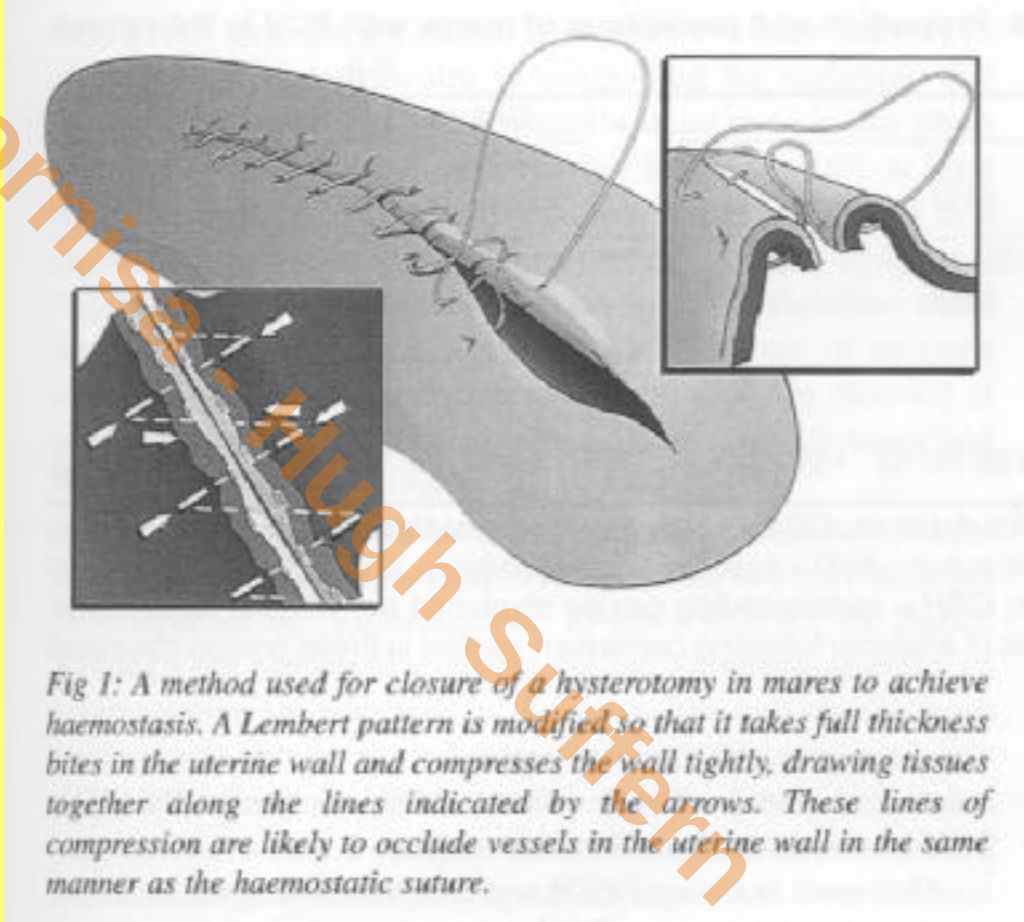


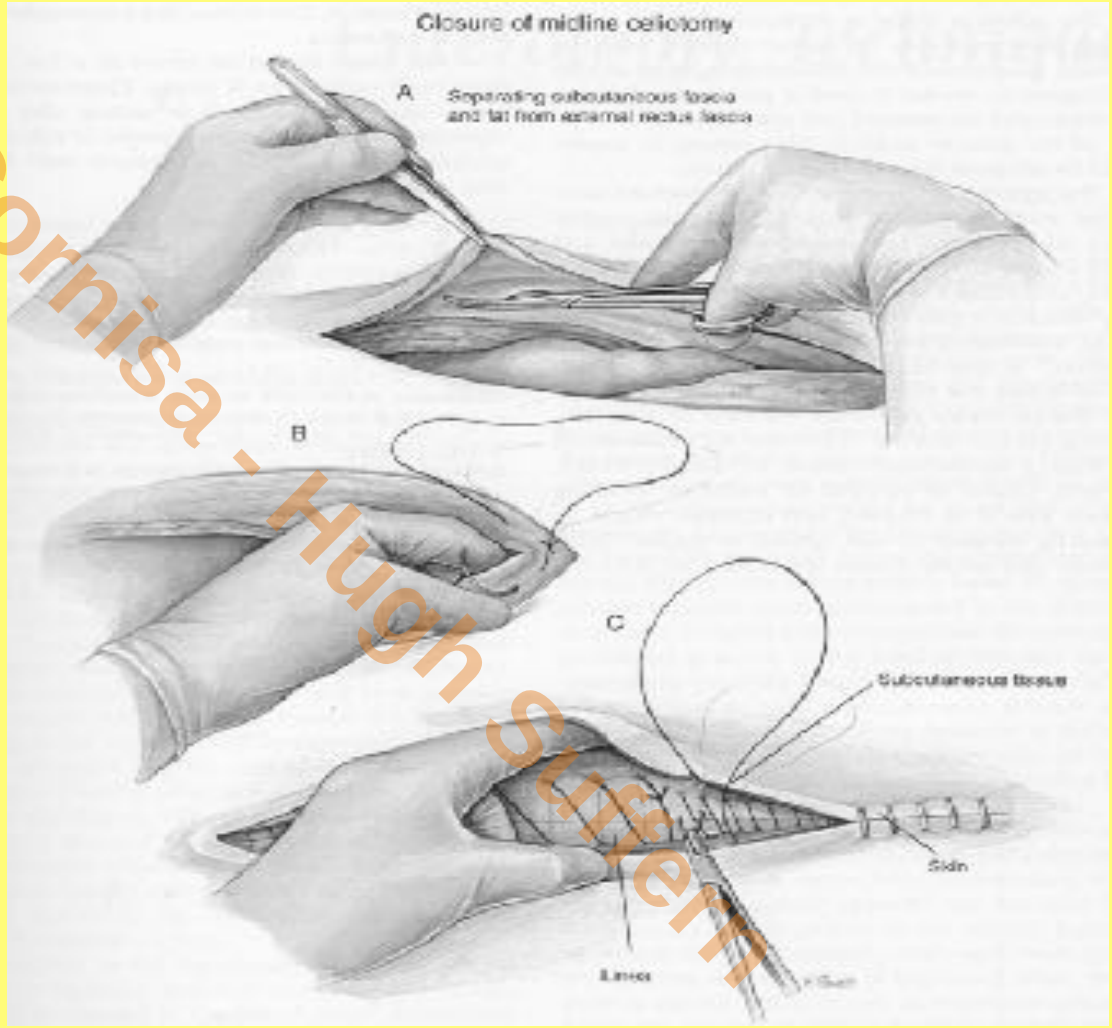
Fig 1: A method used for closure of a hysterotomy in mares to achieve haemostasis. A Lembert pattern is modified so that it takes full thickness bites in the uterine wall and compresses the wall tightly, drawing tissues together along the lines indicated by the arrows. These lines of compression are likely to occlude vessels in the uterine wall in the same manner as the haemostatic suture.

Suture material for Uterine Wall closure

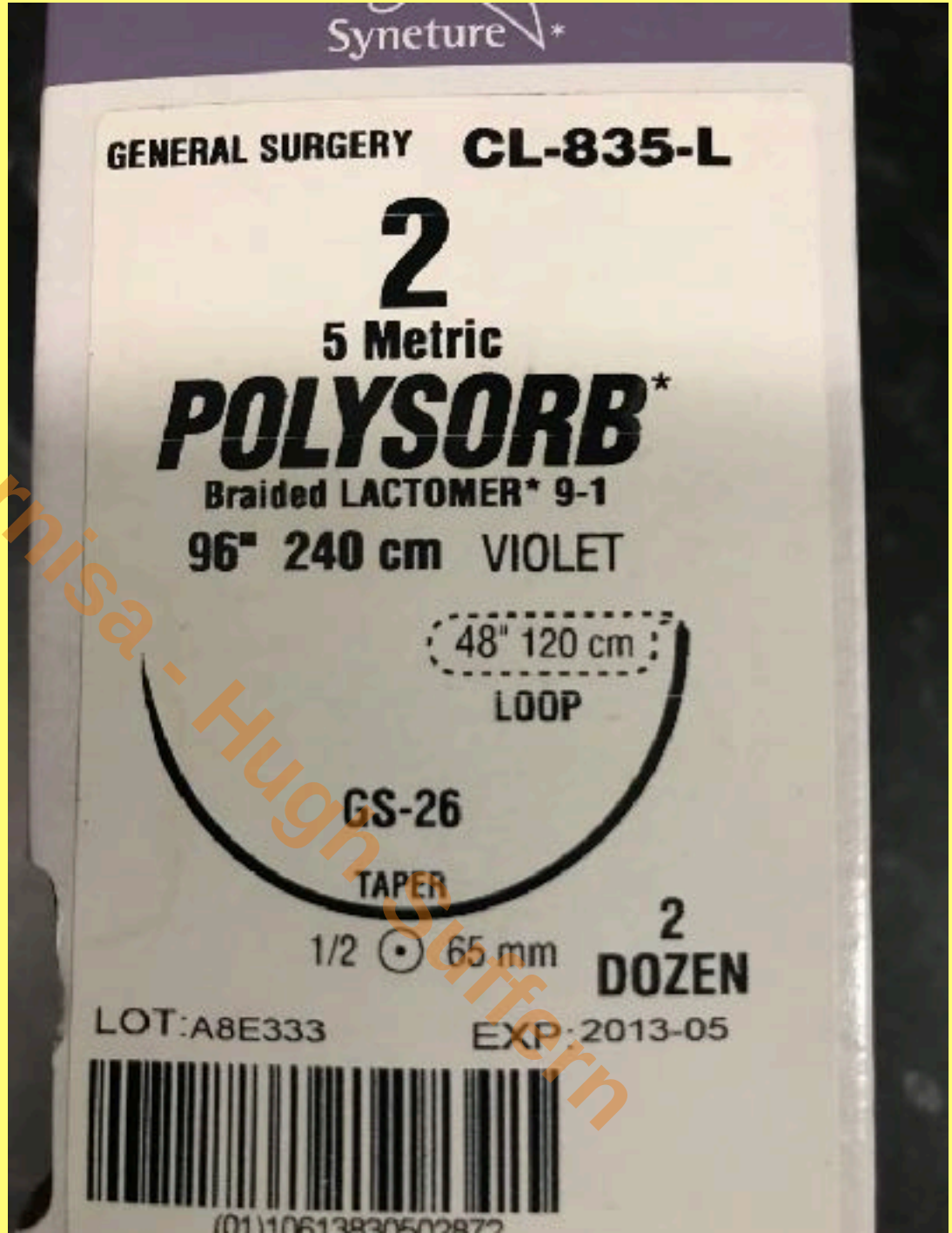
NB. round bodied needle !

Abdominal wall closure

- Linea Alba double strand 5m vicryl simple continuous
- Tie off every 8 cms
- subcutaneous - 5m vicryl single strand simple continuous (usually 2-3 layers)



suture material for abdominal wall closure



Skin Closure

- Simple interupted
- Blanket stitch
- Staples

Option for skin closure if there are likely difficulties in removing sutures

Aftercare

- Tet. Antitoxin.
- I/V fluids 20 – 30 Lts. Intra and post op.very important
- Aggressive prophylactic antibiotic therapy to help counteract unsterile surroundings. Pene/ Gent.
- afterbirth removal / gentle uterine lavage
- Oxytocin 1 cc before GA recovery , then ½ cc TID
- NSAID s
- DMSO I/V
- Gentle palpation/ mobilisation of uterus per rectum, 2-3 days post op.

RESULTS 1999 - 2018

	GA	Foal	Mare	ID.
JAY Breech	GG	Dead	/	ID
HS # Pelvis	Pentobarb	/	Hernia	JS
TJA Deformed Foal	GG	Dead	/	IR
HS Shoulder Flx	GG	/	/	TT
TJA Dog Sitter	GG	/	/	
HS Mare Colic	GG	Died	Died	GA
HS Neck Flx	GG	Dead	/	PM
HS Oversized Foetus	GG	/	/	VC
HS Shoulder Flx	GG	Dead	/	SR
HS Shoulder Flx	GG	/	/	WR
HS Oversize	GG	/	/	BC
HS Shoulder Flx	GG	/	/	GW
HS Oversize Foetus	GG	/	/	JS
HS Oversize Foetus	GG	/	Small Hernia	IY
HS Shoulder Flx	GG	Dead	/	P McK
TJA	GG	Dead	Dead. GA OD.	TS
HS 26yo oversize foet.	GG	Dead	/	™
HS 24 yo shoulder flx	GG	Dead	/	MI
HS breech	GG	/	/	ID
HS deformed foal	GG	Dead	/	CB
HS fractured pelvis	GG	/	/	PD

Complications

- infection
- retained afterbirth
- haemorrhage
- laminitis
- wound breakdown
- herniation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