Intrapartum care guidelines

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19 March 2024

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The active stage of labour (first stage)

Why the need for a re-think?

- **Friedman curve (active phase 3cm; progress 1cm/hour)**
- **Philpot- ‘alert’ and ‘action’ lines**
- **Since the early 2000s, studies using new statistical methods to study labour found evidence to suggest that the patterns of labour progression as described by Friedman may not be accurate for the current generation of women giving birth**
- **WHO BOLD (Better Outcome in Labour Difficulty) project**

Why the need for a re-think:

- **Dilatation rate of 1cm/hour (alert line) is inaccurate to identify women at risk for adverse outcome**
- **1cm/hour in the active phase is unrealistically fast for most women**
- **Labour may not naturally accelerate until cervical dilatation of 5cm is reached**

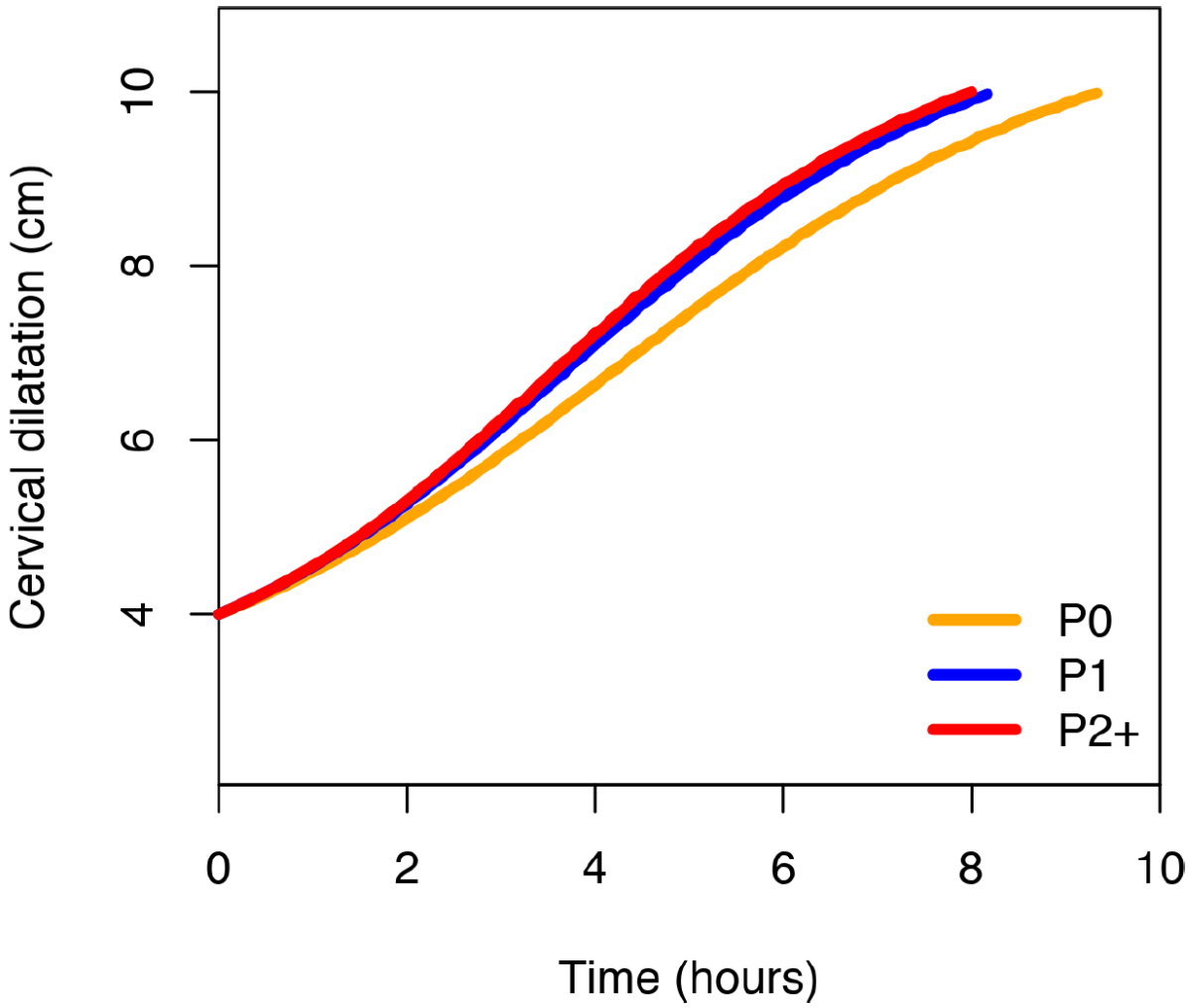
Progression of the first stage of spontaneous labour: A prospective cohort study in two sub-Saharan African countries

- **Prospective, multicentre, cohort study in Nigeria and Uganda**
  - 5,606 women with singleton, vertex, term gestation
  - who presented at <6 cm of cervical dilatation following a spontaneous labour onset
  - that resulted in a vaginal birth with no adverse birth outcomes

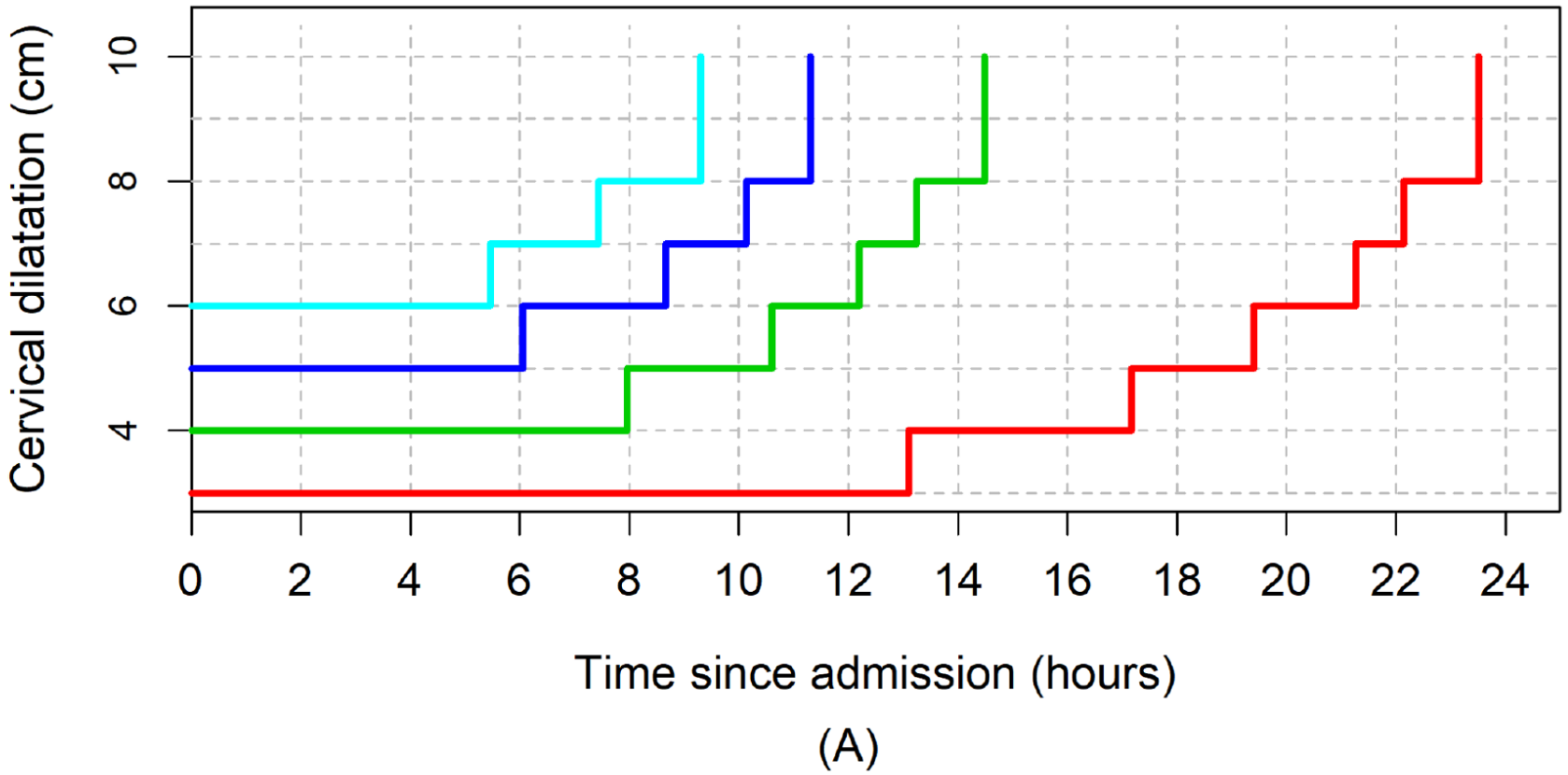
Main findings

- Labour slower than generally accepted
- <1cm per hour up to 5cm, then >1cm/hour
- Varies between individual women
- ‘Average’ curves not applicable to all women

Average duration of labour



95th centile for first stage ('slowest-yet-normal')



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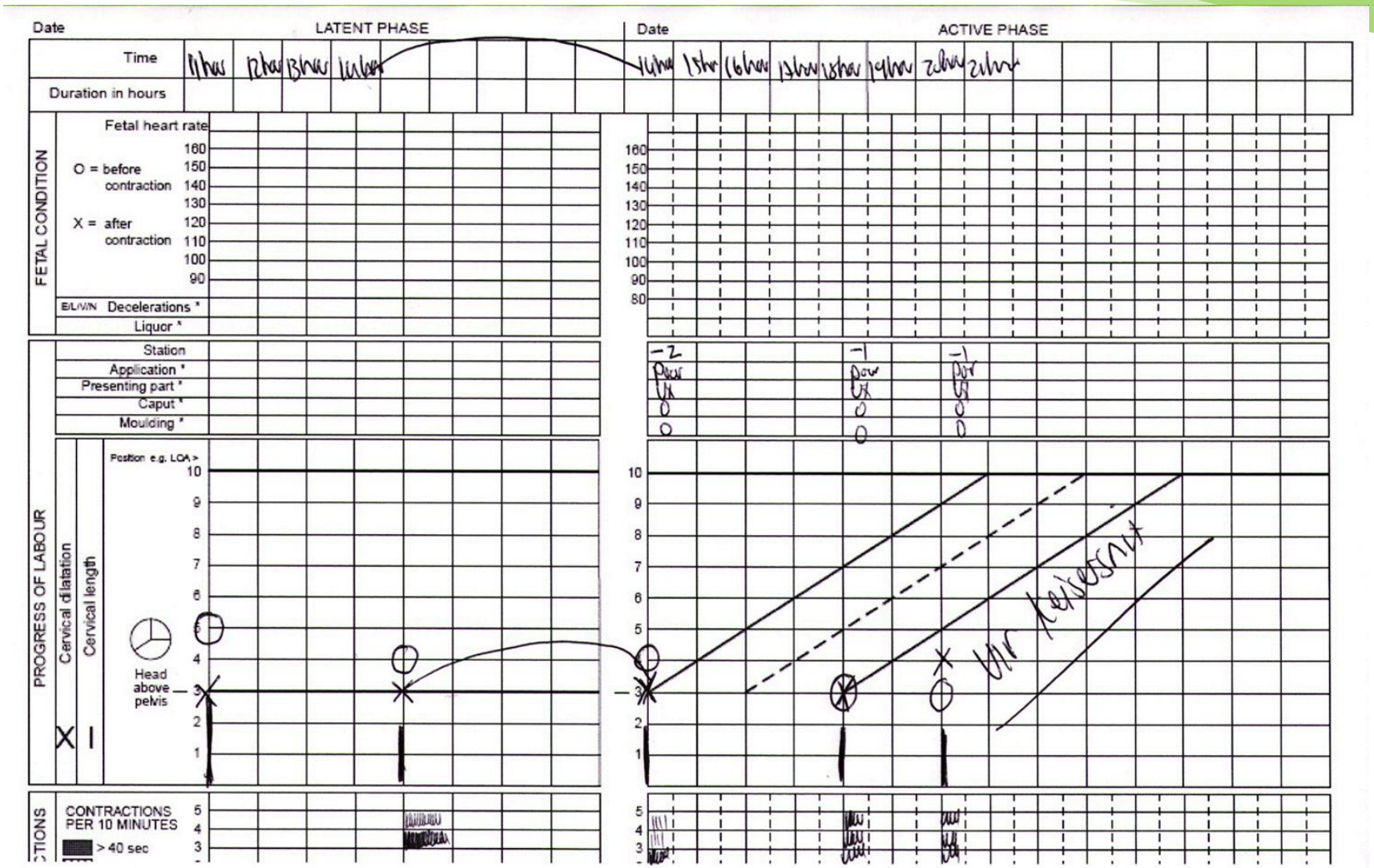
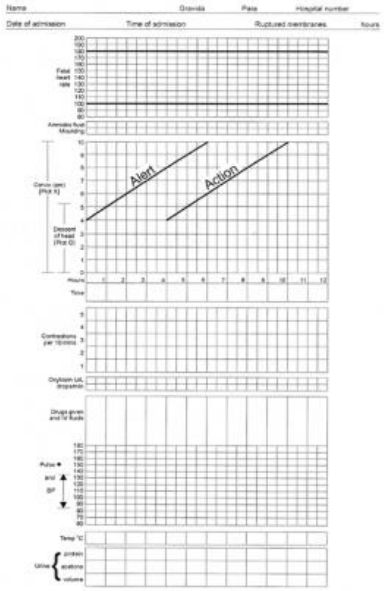
WHO intrapartum care guideline 2018


Date
LATENT PHASE
Date
ACTIVE PHASE
Time
Duration in hours
FETAL CONDITION
Fetal heart rate
O = before contraction
X = after contraction
160
150
140
130
120
110
100
90
80
B/L/W/N Decelerations *
Liquor *
Station
Application *
Presenting part *
Caput *
Moulding *
PROGRESS OF LABOUR
Cervical dilatation
Cervical length
Position e.g. LOA >
10
9
8
7
6
5
4
3
2
1
Head above pelvis
CONTRACTIONS PER 10 MINUTES
> 40 sec
5
4
3

Philpot: Action Line

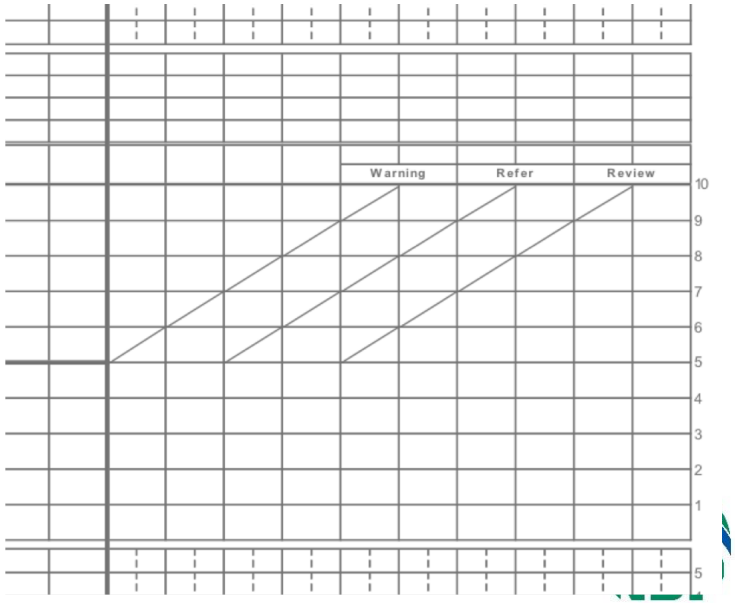
Actions when crossing the action line:



- Pelvic (re-)assessment to rule out cephalopelvic disproportion,
- a 6-hour ‘trial of oxytocin’ (only in primigravidas),
- (re-) hydration,
- Pain relief/ epidural block.
- A caesarean section is indicated if there is fetal distress or if augmentation fails

SA Department of Health partogram

- **Since 2003- ‘action’ line 2 hours away from alert line**
- **Functioned as ‘transfer’ line for CHCs/MOUs or re-evaluation function if in hospitals**



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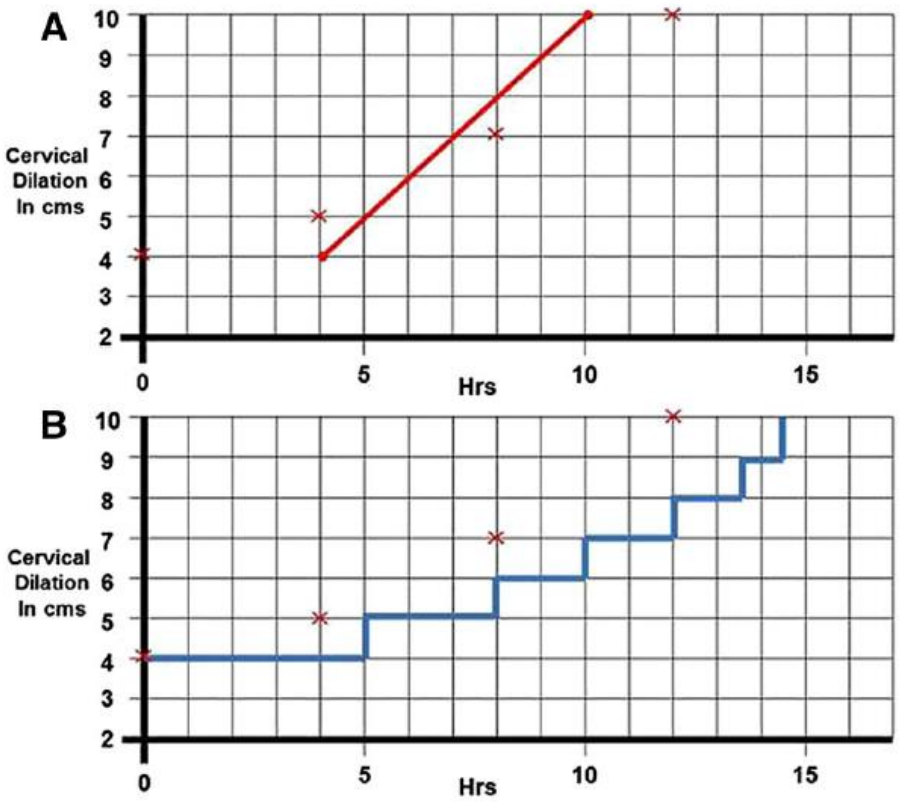
Two ways of graphically recording labour progress: “action line” or “dystocia line”?



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A multicentre, cluster-randomised controlled trial

The frequency of intrapartum caesarean section use with the WHO partograph versus Zhang's guideline in the Labour Progression Study (LaPS): a multicentre, cluster-randomised controlled trial

Stine Bernitz, Rebecka Dalbye*, Jun Zhang, Torbjørn M Eggebø, Kathrine F Frøslie, Inge Christoffer Olsen, Ellen Blix†, Pål Øian†*

Summary

Background There is an ongoing debate concerning which guidelines and monitoring tools are most beneficial for assessing labour progression, to help prevent use of intrapartum caesarean section (ICS). The WHO partograph has been used for decades with the assumption of a linear labour progression; however, in 2010, Zhang introduced a new guideline suggesting a more dynamic labour progression. We aimed to investigate whether the frequency of ICS use differed when adhering to the WHO partograph versus Zhang's guideline for labour progression.

Published Online
December 20, 2018
http://dx.doi.org/10.1016/S0140-6736(18)31991-3

See Online/Comment
http://dx.doi.org/10.1016/S0140-6736(18)32274-8

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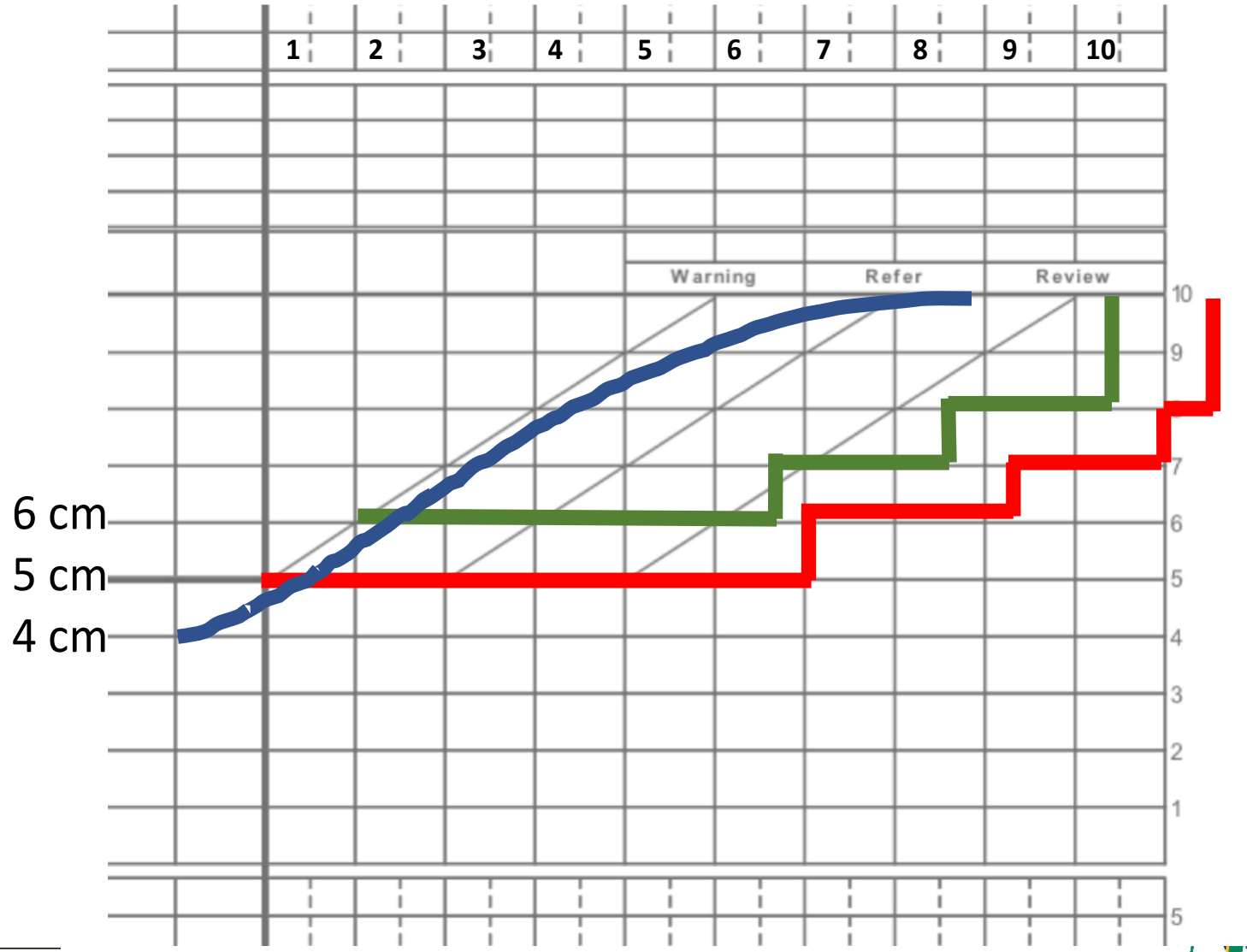

Hours
1
2
3
4
5
6
7
8
9
10
Warning
Refer
Review
6 cm
5 cm
4 cm
10
9
7
6
5
4
3
2
1
5

WHO intrapartum care guideline 2018

- **Insufficient evidence to support the use of the alert line as a classifier to detect women at risk of adverse birth outcomes**
- **In hospital settings the use of the alert line and attempts to maintain cervical dilatation progression of 1 cm/hour lead to unnecessary interventions**
- **…continue to plot cervical dilatation versus time on a cervicograph as well as other partograph parameters to monitor the well-being of the woman and her baby and identify risks for adverse birth outcomes**

WHO Alert line

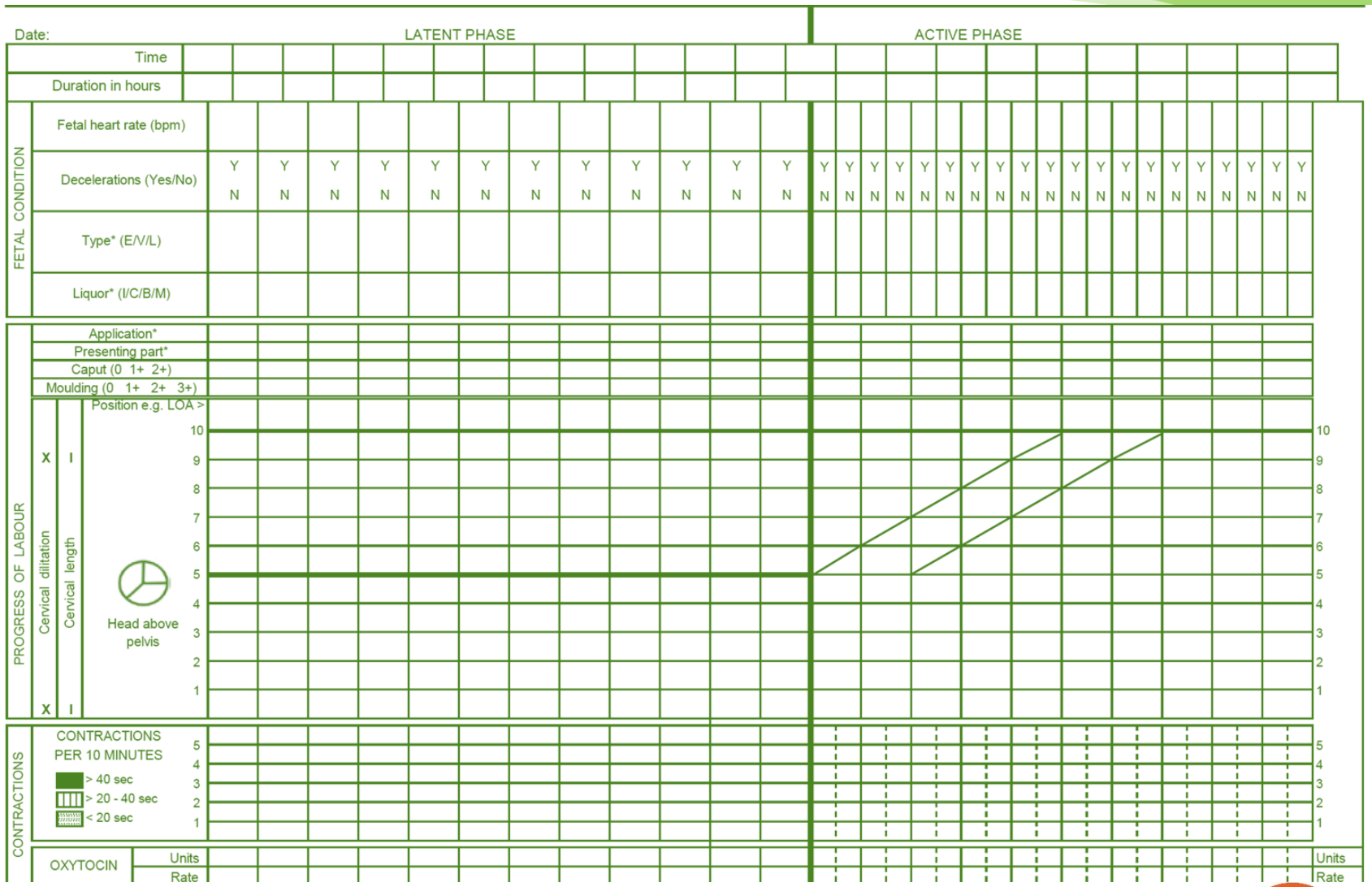
- **Where interventions such as augmentation and caesarean section cannot be performed;**
- **and where referral-level facilities are difficult to reach;**

→the alert line could still be used for triaging women who may require additional care.

- **In this instance, plotting should commence from a cervical dilatation of 5 cm, which signifies the onset of active first stage of labour for most women.**

SA 2019 intra-partum care guidelines

- **Start alert line at 5cm**
- **2-hour refer/review line**



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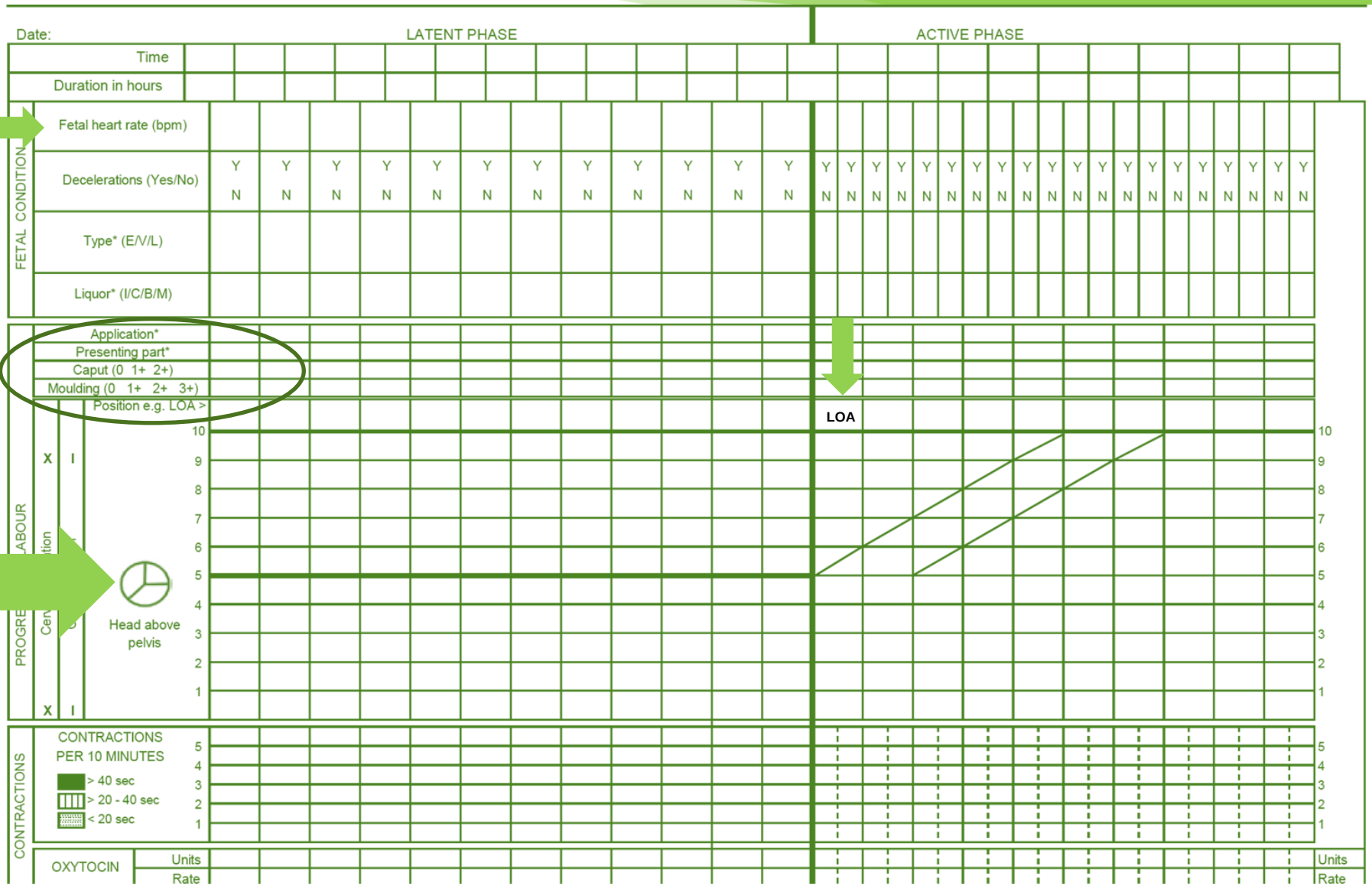

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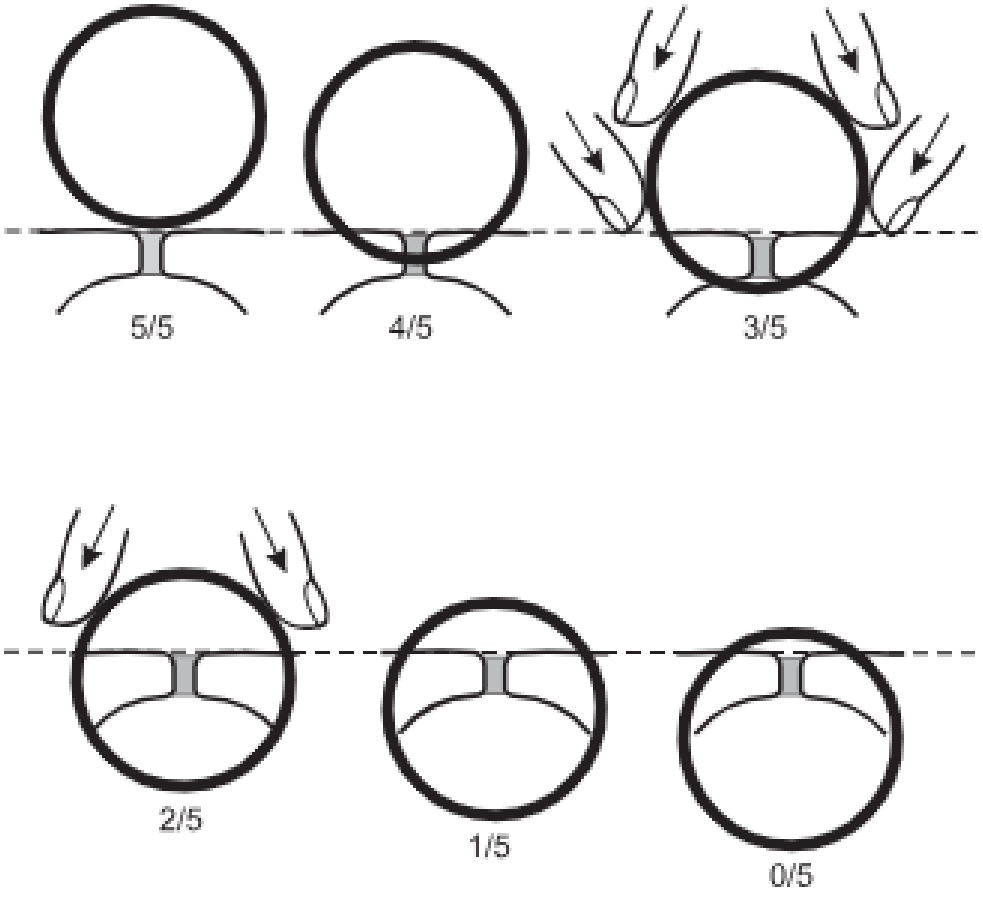
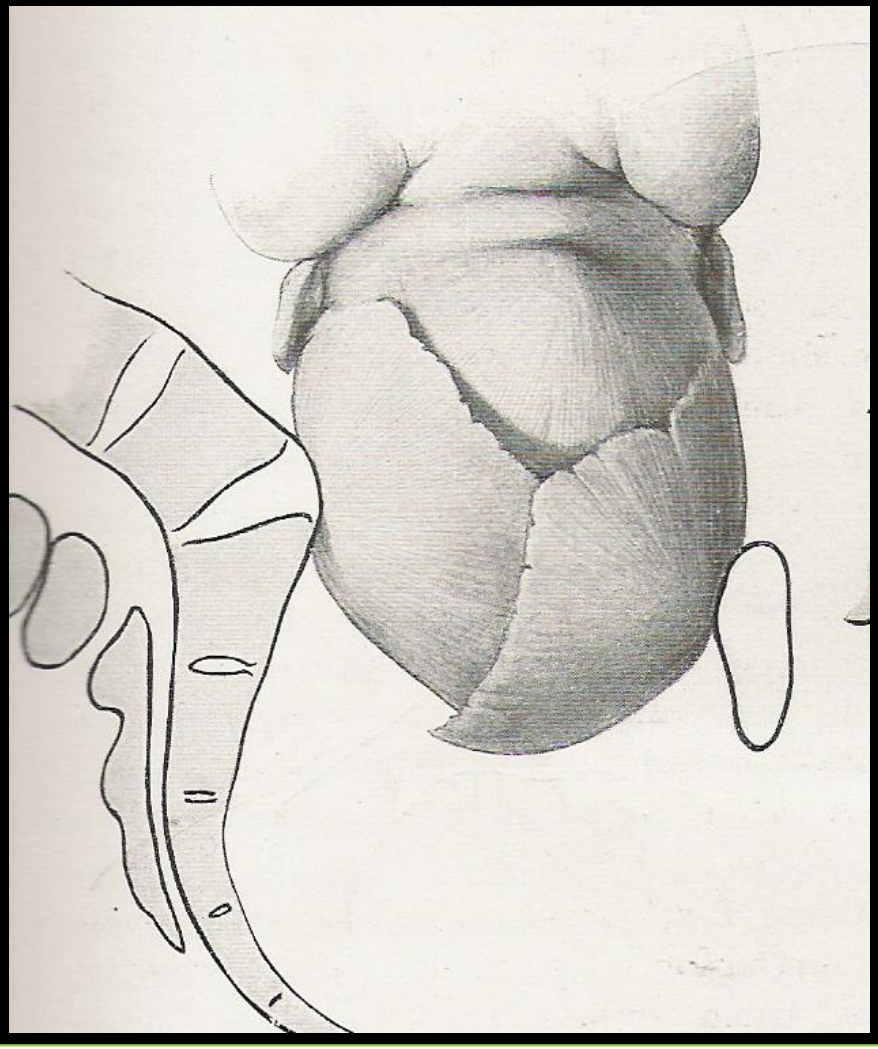
Head above brim





SA 2019 intra-partum care guidelines

Observations in active phase of labour		
Foetus	Fetal heartrate	*Every 30 minutes*
Mother	Maternal heartrate	*Every 30 minutes*
	Blood pressure	*4-hourly*
	Respiratory rate	
	Temperature	
	Urine	*When passed*
Labour	Contractions (frequency & duration)	*2-hourly*
	Vaginal examination & head above brim - Dilatation - Cervical length - Membranes	*4-hourly till 8 cm* *then 2 hourly*

SA 2019 intra-partum care guidelines

- **When should the vaginal examination be repeated earlier than the 4 or 2-hourly interval?**
  - If the maternal and/or fetal condition is non-reassuring
  - If the woman has an urge to bear down
- **When should the woman be referred (from MOU to hospital) or the doctor be called (in hospital)?**
  - If the maternal and/or fetal condition is non-reassuring
  - If there is meconium stained liquor AND delivery is NOT imminent
  - If there is poor progress of labour.

SA 2019 intra-partum care guidelines

- **What is poor progress in the active first stage?**
  - Clinics without CD facilities: when the 2-hour ‘review’ line is crossed
    - *(with active phase starting from 5 cm, the median duration of labour was 3.8–4.3h)*
  - Hospitals with CD facilities:
    - *If there is no progress with next examination*
    - *Exclude CPD, poor contractions*
    - *AROM*
    - *Augmentation with oxytocin (if no contra-indications)*

Second stage of labour

Second stage

- When does the 2nd stage start?
- What is a safe duration?
- How should the fetus be monitored?

When does the 2nd stage start?

- NICE 2007
  - *10cm, with a passive phase and active phase*
- ACOG
  - *2014/6- complete cervical dilation to delivery*
  - *2019 update- no 'delayed pushing' phase with epidural- increase in morbidity*
- FIGO 2012
  - *From full dilatation of the cervix up to the birth*
- Figo Consensus Statement on Intrapartum Fetal Monitoring
  - *Fully dilated and pushing*
- WHO 2018
  - *Period of time between full cervical dilatation and birth of the baby*

WHO 2018- systematic review of 37 studies evaluating the duration of labour in low-risk women with normal perinatal outcomes

NULLIPAROUS WOMEN						
Study	N	Epidural analgesia (%)	Reference points	Median duration (minutes)	5th percentile (minutes)	95th percentile (minutes)
Paterson 1992 *(143)*	8 270	0.0	10 cm or urge to bear down	45	NR	NR
Oladapo 2018 *(62)*	2 166	0.0	10 cm to birth	14	3.0	65
Zhang 2002 *(18)*	1 162	48	10 cm to birth	53	18	138[a]
Zhang 2010 *(16)*	21 524	100	10 cm to birth	66	NR	216
Zhang 2010 *(16)*	4 100	0.0	10 cm to birth	36	NR	168
				Mean duration (minutes)	SD (minutes)	+2SD (minutes)
Abdel-Aleem 1991 *(144)*	175	0.0	Undefined	43	24	91*
Albers 1996 *(63)*	347	NR	10 cm to birth	53	47	147
Albers 1999 *(64)*	806	0.0	10 cm to birth	54	46	146
Chen 1986 *(145)*	500	0.0	Undefined	43	NR	NR
Diegmann 2000 (African-American women) *(146)*	373	0.0	10 cm to birth	32	23	78[a]
Diegmann 2000 (Puerto-						

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How long can the second stage last?

ACOG 2016:

A specific absolute maximum length of time spent in the second stage of labour beyond which all women should undergo operative delivery has not been identified.

How long can the second stage last?

- SA- <45 minutes (G0) or <30 minutes (G1)
- NICE 2007
  - *Active second stage >2 hours (G0) or >1 hour (G1+)- refer*
- ACOG 2016: Pushing at least 3 hours (G0) or at least 2 hour (G1+)
- Figo 2012
  - *G0 women should not actively push for more than 2 hours and G1+ women for more than 1 hour*
- WHO 2018 (starting at 10cm)
  - *Nulliparous <3 hours*
  - *Multiparous <2 hours*

WHO 2018- systematic review of 37 studies evaluating the duration of labour in low-risk women with normal perinatal outcomes

- **Nulliparous**
  - Median 14–66 minutes, with 95th percentile up to 138 minutes
- **Nulliparous with epidural**
  - Median of 53–66 minutes; 95th percentile up to 216 minutes
- **Multiparous**
  - 6 to 30 minutes (maximum limits up to 78 minutes)

WHO 2018 (fully dilated to delivery):

- **This is an inexact science**
- **Onset of the second stage of labour in clinical practice is often not precisely known.**
- **A woman may feel the urge to bear down before complete dilatation**
- **If complete dilatation is found on vaginal examination, it remains uncertain for how long this cervical status has been present.**

WHO 2018 (fully dilated to delivery):

- **No grounds for intervention in second stage if:**
  - Woman's condition is satisfactory AND
  - fetus is in good condition AND
  - there is evidence of progress in the descent of the fetal head

<3 hours

Multiparous <2 hours

How to translate this into practice for SA (time to refer)?

SA 2019 intrapartum care guideline

- **Full cervical dilatation, but no urge to bear down and is not actively pushing yet:**
  - Allow 1 hour for the head to descend.
  - Rule out CPD
  - Continue the observations as during the active phase of labour and document on the partograph*

* under normal circumstances at the end of the first stage of labour, uteroplacental perfusion and fetal oxygenation only start to deteriorate once active pushing commences.

SA 2019 intrapartum care guideline

- **1 hour of descent PLUS:**
- **Duration of <u>active pushing</u> (cannot do CD onsite):**
  - 45 minutes (then refer)
  - Multiparous 30 minutes (then refer)
- **Duration of <u>active pushing</u> (theatre for CD 24 hours onsite):**
  - 2 hours (but call doctor at 45 minutes)
  - Multiparous 1 hour (but call doctor at 30 minutes)

In all cases- refer or get senior help if there is no progress in the first 15 minutes of pushing

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Fetal monitoring during the second stage:

- **FIGO: At least every 5 minutes or after each contraction (low risk, low resource country)- expert opinion only!**
  - Intermittent auscultation with hand-held doppler device
  - Is this feasible?
- **SA: Every 5 minutes or after every second contraction (whichever comes first; must listen after a contraction)**
- **Continuous CTG (high risk pregnancy)**

Summary of labour

SUMMARY OF LABOUR

FROM FULL DILATATION TO DELIVERY

Method of delivery: NVD | Breech | Twins | Caesarean section | Instrumental | Other: .....

Delivered by: ..... Assisted by: .....

Complications: .....

Maternal position during labour: .....

Fetal monitoring: normal ☐ abnormal ☐ if abnormal specify:

SUMMARY OF DURATION OF LABOUR

	STARTED AT:		DURATION:		MEMBRANES	
	Date	Time	Hours	Minutes	AROM	SROM
Latent phase					Time of ROM:	
Active phase (≥5cm)						
Full dilatation					Time of delivery:	
Bearing down					Duration of ROM:	
Third stage						
Total duration of labour:						

Summary of labour (second stage definition)

FOURTH STAGE (FIRST TWO HOURS AFTER DELIVERY- COMPLETE OBSERVATIONS ON SEPARATE PAGE)

Time of observation: ..... Observed by: .....

Temp: ..... Resp: ..... Pulse: ..... BP: ..... Urine passed: Yes | No Catheter: Yes | No

Uterus contracted: Yes | No Uterus ruptured: Yes | No Cord/maternal blood taken: Yes | No

Cervical tears Yes | No Details: .....

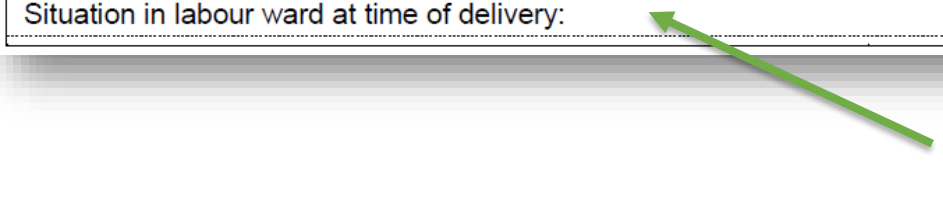
Perineum | Intact | 1st ° tear | 2nd ° tear | 3rd /4th ° tear | Episiotomy | Repaired by: .....

Detail of repair: ..... All swabs/tampons removed from vagina: Yes

Blood loss: Normal ☐ Excessive ☐ If excessive give details of management: .....

Feeding initiated Yes | No Breast feeding initiated if method of choice: Yes | No If no, give reasons: .....

Situation in labour ward at time of delivery: .....



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