

WHO Labour Care Guide
**a tool to support good-
quality, evidence-based,
respectful care during
labour and childbirth**



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**World Health
Organization**

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*I have no conflicts
of interest to
declare*



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LECTURE OUTLINE

INTRO

01

Unresolved Issues in Intrapartum Care

- Evolution of Childbirth
- Adverse Birth Outcomes
- Over-medicalization of Childbirth
- Ineffective and Potentially Harmful Practices
- Quality of Care

02

Going Back to the Basics

- Origin of the 1-cm/h rule
- Historical Perspective of WHO Partograph
- Emerging Evidence on Labour Patterns
- Debate on 'New' Guidance

03

Labour Research and New Guidance

- Labour Progression in Spontaneous Labour
- Diagnostic Accuracy of Alert Line
- 2018 WHO Intrapartum Care Recommendations
- WHO Intrapartum Care Model

04

Next Generation Partograph

- Why a New Tool is Needed
- Aims of LCG
- LCG versus Partograph
- Who, Where, and When
- Future of LCG
- Recommended Resources

GIVING BIRTH IN 1500

Midwives - who had learned their trade from their own mothers - were the experts, rubbing ointment on the swollen bellies of their patients to speed up delivery and sprinkling herbs over the floor to make it smell nice and help the mothers relax.

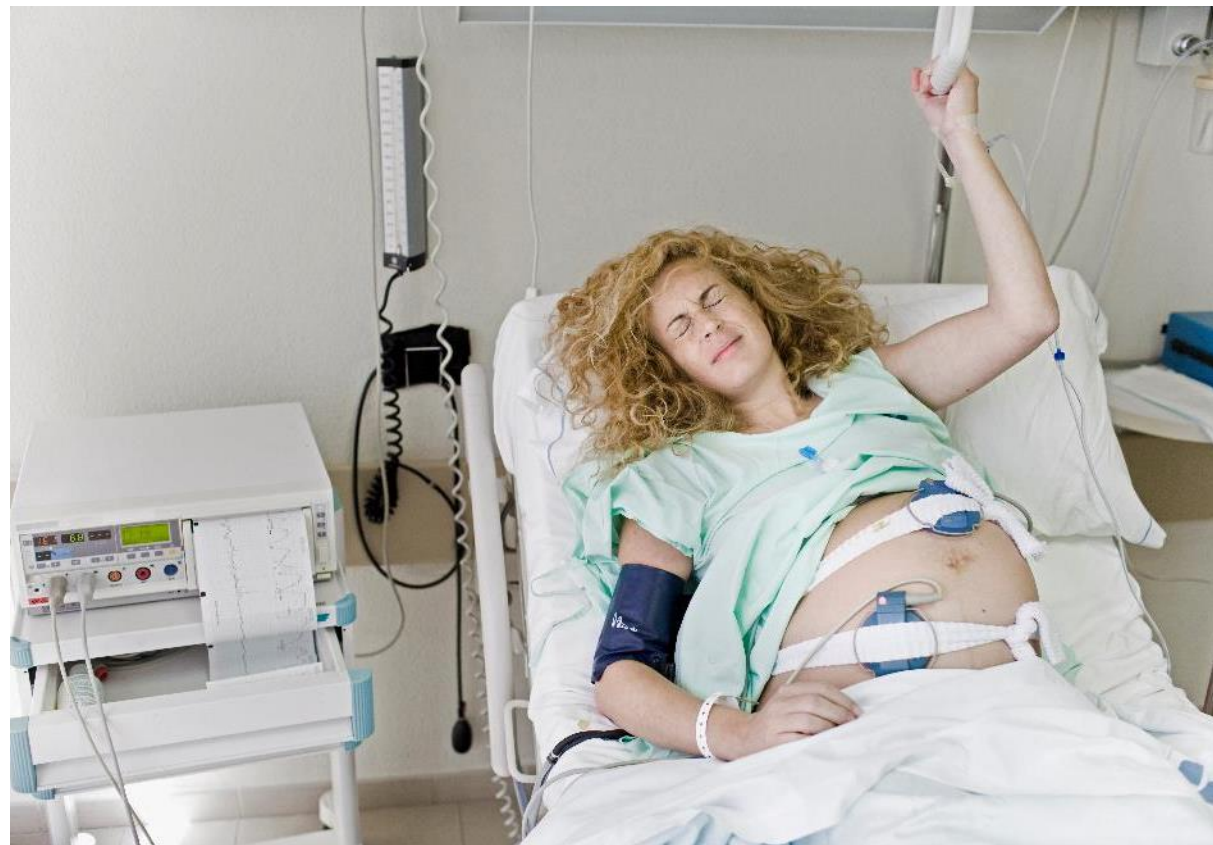


GIVING BIRTH IN 1965

Three pregnant women relax in medical 'space-suits' in 1965 in an attempt to ease childbirth and raise the intelligence of their offspring. A suction pump next to the chairs lowers pressure inside the suits, while a gauge in front of them gives a constant reading.



There has been a substantial increase over the last two decades in the application of a range of labour practices to initiate, accelerate, terminate, regulate or monitor the process of labour.



INTRAPARTUM CARE – UNRESOLVED ISSUES

High levels of adverse maternal and newborn clinical outcomes

- 2 million stillbirths (42% intrapartum)
- 2.4 million neonatal deaths (1/3 within first day of birth)
- 40% of maternal deaths

Poor labour and childbirth experience

- High levels of mistreatment of women across settings and levels of health care
- Impact on future health and well-being likely to be high



INTRAPARTUM CARE – UNRESOLVED ISSUES

Overmedicalization of childbirth

- Global increase in CS rates
- High rates of oxytocin augmentation
- Routine antibiotic use for normal birth
- High episiotomy rates and continuous EFM

Use of ineffective and potentially harmful practices

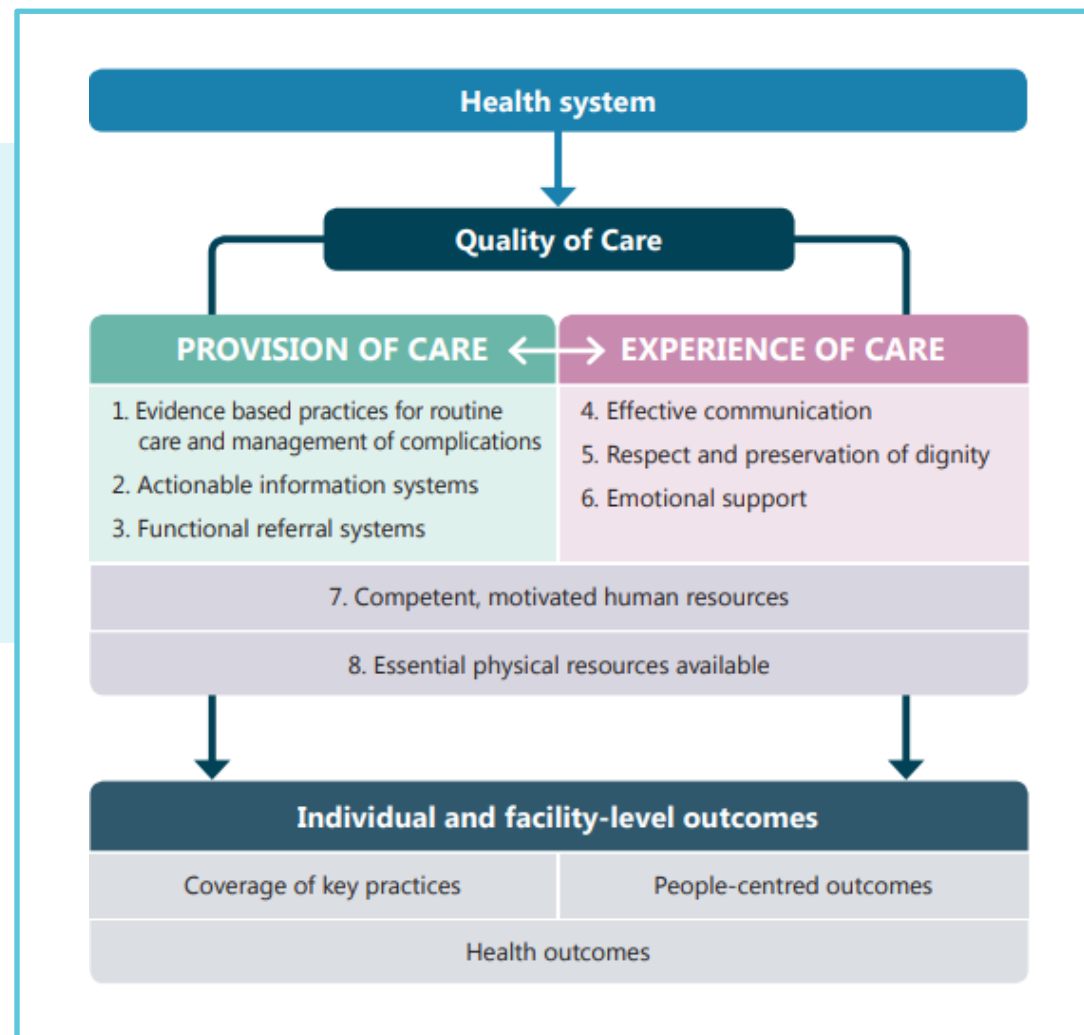
- Routine procedures: enema, pubic hair shaving, IV fluids
- Restricting oral fluid/food intake
- Birth with no companion and strictly in lithotomy position



INTRAPARTUM CARE – UNRESOLVED ISSUES

Every mother and newborn receives quality care throughout the pregnancy, childbirth and postnatal periods – WHO vision

- Quality of care is multidimensional
- Persistent issues in intrapartum care are not mutually exclusive



THE GRAPHIC ANALYSIS OF LABOR

EMANUEL A. FRIEDMAN, M.D., NEW YORK, N. Y.

(From the Department of Obstetrics and Gynecology, College of Physicians and Surgeons, Columbia University, and the Sloane Hospital for Women, Columbia-Presbyterian Medical Center)

IN AN effort to evaluate the effects of various factors upon the course of labor, a simple, reproducible, and relatively objective method of recording and comparing progressive changes was sought. Of the major observable events that occur during labor, i.e., force, frequency, and duration of uterine contractility, descent of the presenting fetal part and cervical effacement and dilatation, only the last-named was selected for detailed study because it seemed to parallel over-all progress best. A general mathematical expression was derived based upon the graphic portrayal of changes in dilatation of the cervix with time. The curves obtained in all normal cases studied were near-identical S curves, varying only in slope. The study is presented because of its unique simplicity and ready adaptability to the study of labor.

In a review of a half century of obstetrical literature, it is noted that numerous methods of objective study of labor have been devised and put to brief or prolonged use. Calkins and associates¹⁻⁶ used the clinical evaluation of cervical resistance (graded according to the effacement, dilatation, and softness at the onset of labor) and of "motive force" (intensity and frequency of uterine contractions) in an effort to predict the expected total duration of the first stage. A rough rule was derived. It was concluded that "more accurate observation of the resistance of the cervix (and the pelvic floor), as well as a more accurate determination of the effectiveness of the labor pains, will be necessary in order to analyze the causes for the extreme variations in the lengths of labor so commonly encountered." The frequency and duration of contractions have been studied clinically.¹¹ A labor was noted to be a function of the duration and number of contractions necessary for its evolution. Neither method permitted accurate evaluation en passant.

Koller and Abt^{14, 15} and Abt¹ utilized a cervical dilatation-time function to demonstrate the effect of rupture of the membranes upon the course of labors. The graphs presented were not true representations of progressive change because of the nonlinear ordinate scale, the divisions of which were unequal. The divisions represented 1 to 2 fr., 5 fr., "small palm" (circa 6 cm.), "palm" (circa 8 cm.), full dilatation, delivery of the infant and of the placenta, respectively, this despite Liepman's¹⁶ plea for standardization of cervical dilatation nomenclature. The zero of the abscissa time was taken as the time of rupture of membranes. By superimposing curves aligned at

*"...series of cases,
the first 100 are
reported here...
29 spontaneous
deliveries"*



- 68 forceps
- 1 CS in 2nd stage
- 1 frank breech
- 1 multiple pregnancy
- 4 Pitocin induction
- 15 augmentation
- 22 caudal anaesthesia
- 1 early neonatal death

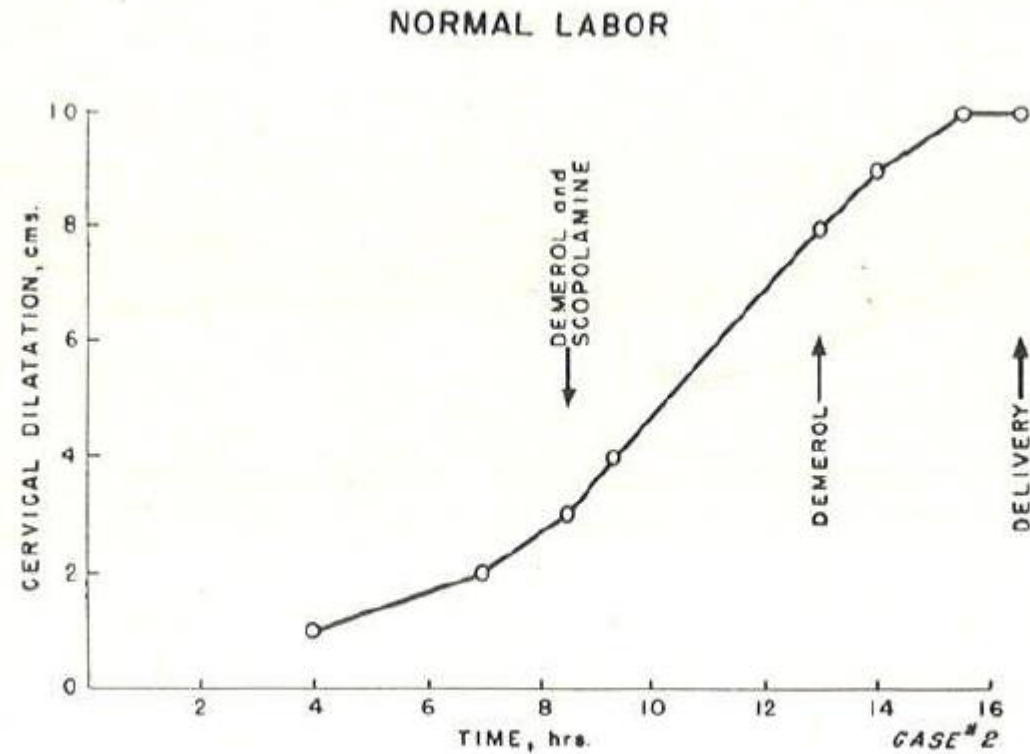


Fig. 1.—Normal labor (No. 704263). Primipara at term. Latent phase 7.0 hours, slope 0.3 cm. per hour; active phase 8.5 hours, maximum slope 1.1 cm. per hour. The sigmoid character of a normal labor is apparent.

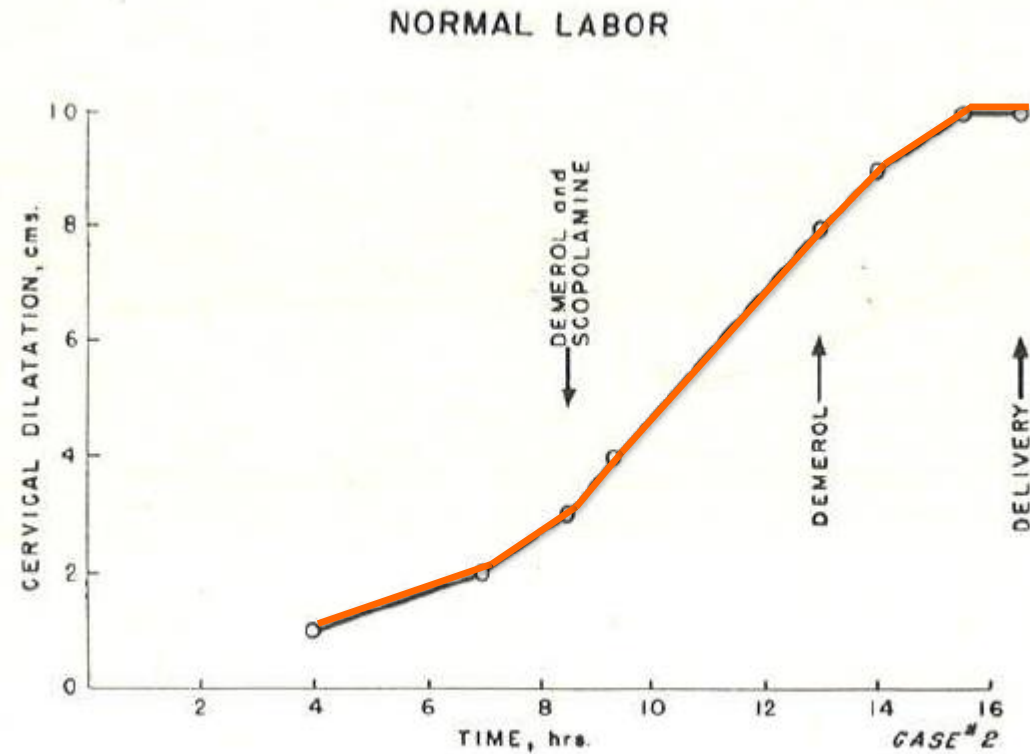
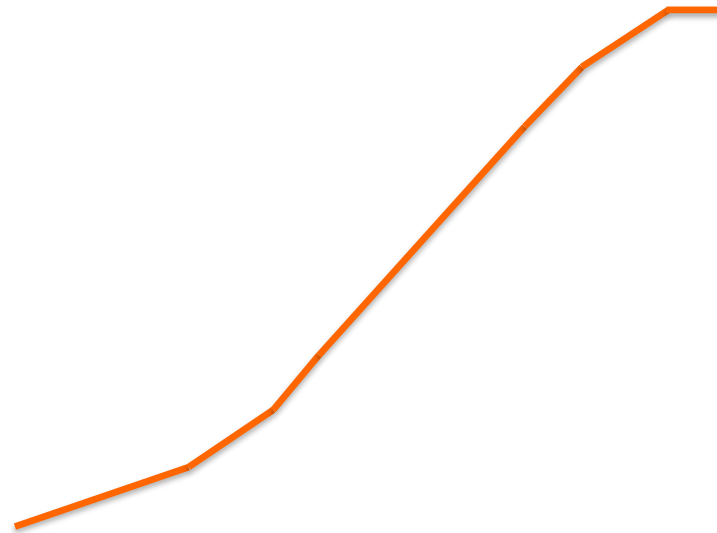


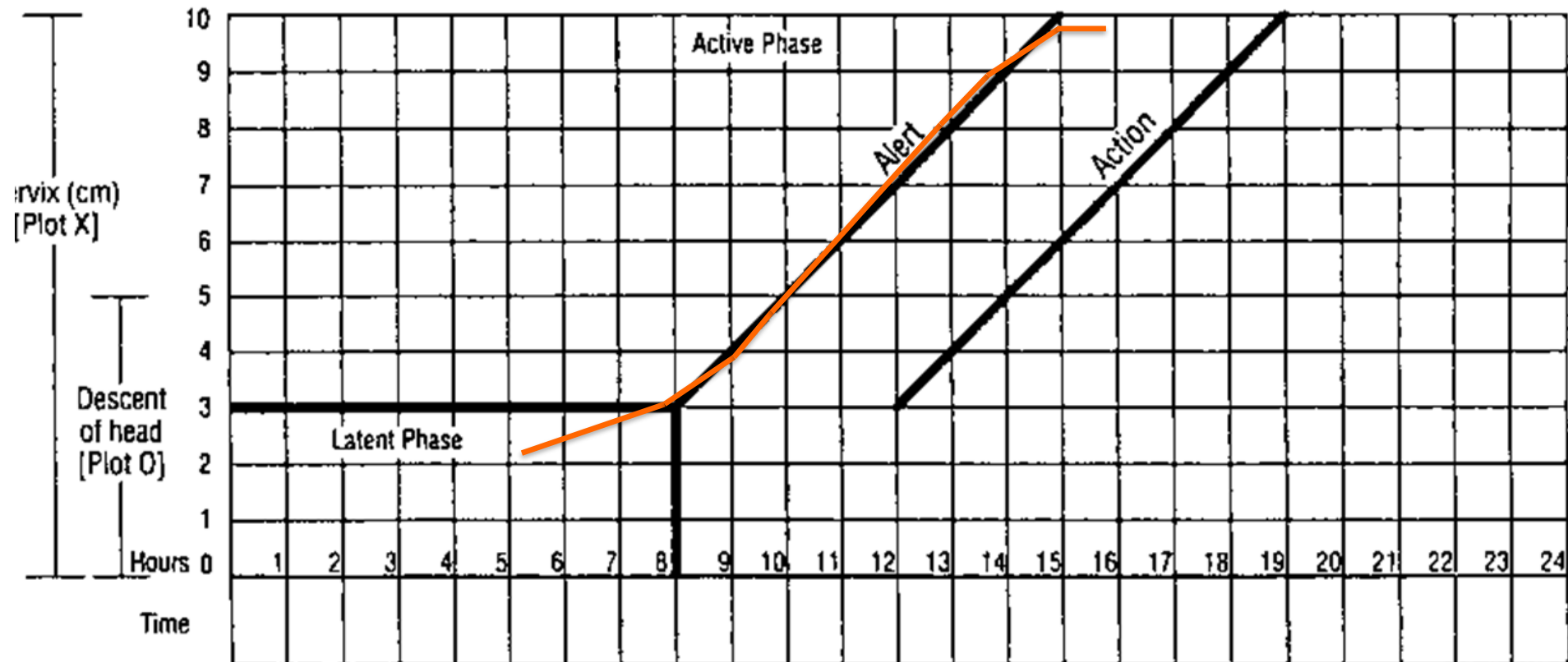
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FRIEDMAN, 1954



Going Back to the Basics

THE "1 CM/HOUR RULE"





CERVICOGRAPHS IN THE MANAGEMENT OF LABOUR IN PRIMIGRAVIDAE

I. The Alert Line for Detecting Abnormal Labour

BY

R. H. PHILPOTT, *Sinis-Black Professor of Obstetrics and Gynaecology*

AND

W. M. CASTLE, *Lecturer*

We have gone further and from a clinical study have established a set of guide rules based on the cervicograph. For the midwife working in the periphery or the junior doctor working in the hospital, we have constructed an Alert Line for primigravidae at an acceptable statistical limit of normal cervicographic progress. Should a patient's cervicographic progress cross this Alert Line, then arrangements are made to transfer her to the intensive care area of the Central Unit so that, within four hours of crossing the Alert Line, active management can be effectively commenced.

We tried to establish that the rates of cervical dilatation of our normal African primigravidae were so similar to the pattern described by Friedman that we could apply his curve (Fig. 1) as a yardstick against which to measure progress of labour in our patients. This proved not to be the case. This was firstly because we were unable to define the commencement of labour in our cases, and secondly because the rate of progress during the "phase of maximum slope" of 100 consecutive normal African primigravidae was half that of American patients (Table I). Although we are still studying the details, we presume that this is because of the higher prevalence of mild cephalopelvic disproportion among our "normal" patients.



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METHOD

An Alert Line must satisfy two criteria. First, it must be simple to use. It must also separate efficiently the majority of the normal patients from the abnormal patients in sufficient time to transfer the latter safely to the Central Unit for treatment.

Note: 1 cm/h is the mean rate for the slowest 10% of Zimbabwean primigravidas

BRITISH MEDICAL JOURNAL 21 JULY 1973

Active Management of Labour

KIERAN O'DRISCOLL, JOHN M. STRONGE, MAURICE MINOGUE



Going Back to the Basics



BRITISH MEDICAL JOURNAL 21 JULY 1973

Active Management of Labour

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A policy of active management was pursued to ensure that every patient was delivered within 12 hours. Cervical dilatation was plotted on a simple graph (Friedman, 1967). Intervention was mandatory unless cervical dilatation exceeded one centimetre each hour. Stimulation was by artificial rupture of the membranes followed by oxytocin infusion after an interval of one hour. A standard concentration of 10 units of oxytocin per litre was used. The rate of infusion started at 10 drops and increased every 15 minutes to a maximum of 60 drops per minute. The volume was limited to one litre. The drip was operated manually, and every patient in labour had a personal nurse. Oxytocin was given to 550 patients (55%).



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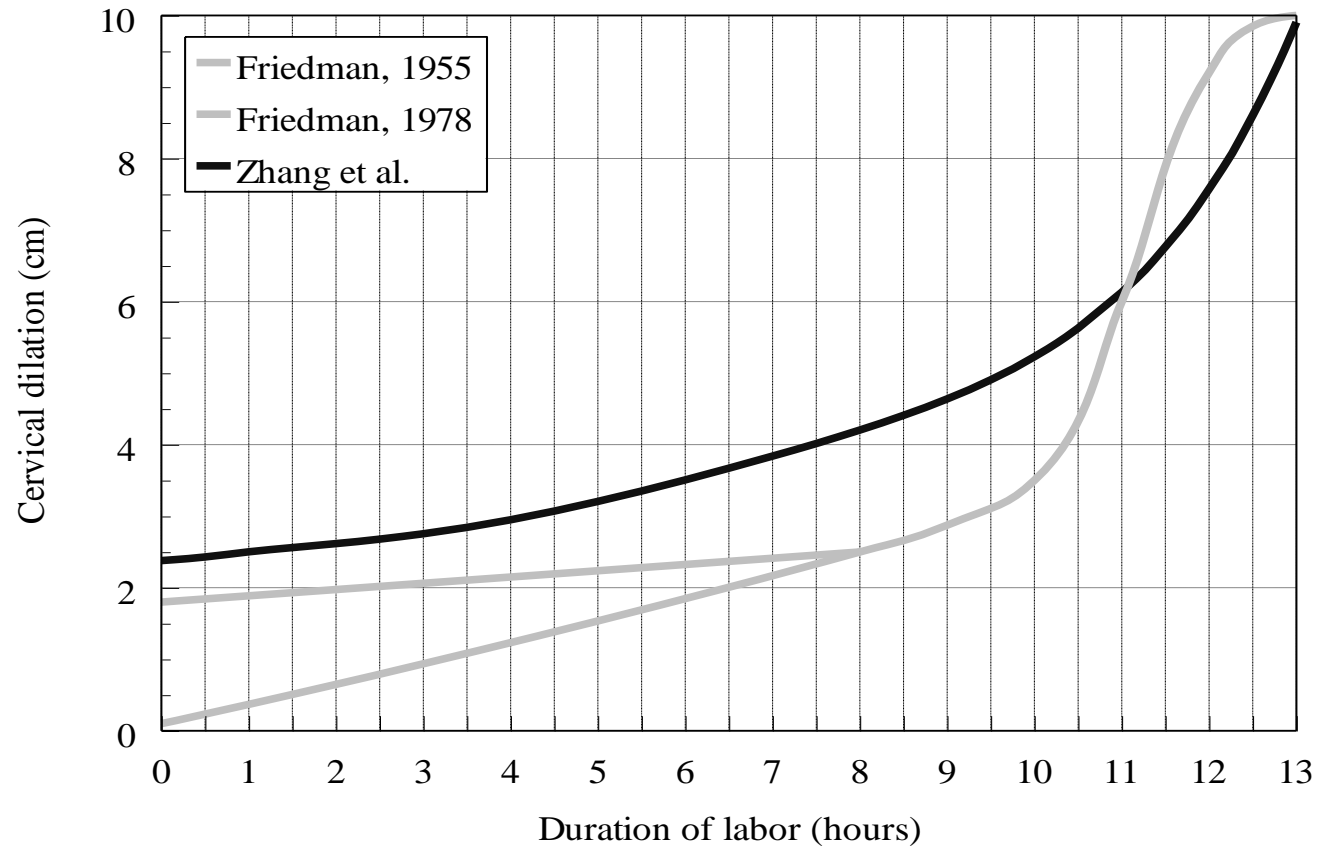
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4. THE PARTOGRAPH: THE WHO MODEL

4.1 Principles

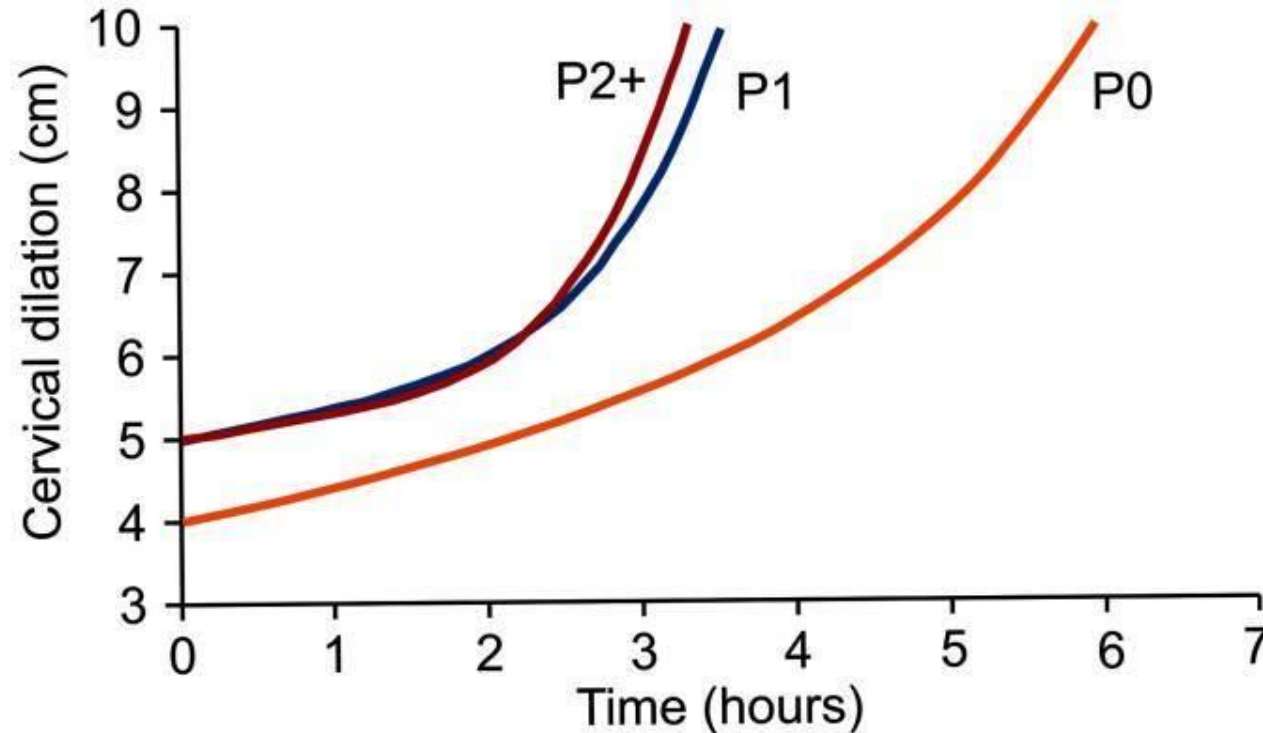
The WHO model of the partograph was devised by an informal working group, who examined most of the available published work on partographs and their design. It represents in some ways a synthesised and simplified compromise, which includes the best features of several partographs (7, 8, 9, 10, 13, 14, 17, 29, 33, 34, 35). It is based on the following principles:

- The active phase of labour commences at 3 cm cervical dilatation.
- The latent phase of labour should last not longer than 8 hours.
- During active labour, the rate of cervical dilatation should be not slower than 1 cm/hour.
- A lag time of 4 hours between a slowing of labour and the need for intervention is unlikely to compromise the fetus or the mother and avoids unnecessary intervention.
- Vaginal examinations should be performed as infrequently as is compatible with safe practice (once every 4 hours is recommended).
- Midwives and other personnel managing labour may have difficulty in constructing alert and action lines and it is better to use a partograph with preset lines, although too many lines may add further confusion.



1329 nulliparous women with a term, singleton, vertex presentation after spontaneous onset of labor

Zhang J, et al. Am J Obstet Gynecol. 2002;187:824-8.



62,415 women with singleton term gestation, spontaneous onset of labour, vertex presentation, vaginal delivery, and a normal perinatal outcome

Zhang J, et al. Obstet Gynecol. 2010; 116:1281-7.

ACOG/SMFM CONSENSUS

www.AJOG.org

ACOG/SMFM OBSTETRIC CARE CONSENSUS

Safe prevention of the primary cesarean delivery



Society for
Maternal-Fetal
Medicine

Recommendations

Grade of recommendations

First stage of labor

A prolonged latent phase (eg, >20 h in nulliparous women and >14 h in multiparous women) should not be indication for cesarean delivery.

1B
Strong recommendation,
moderate-quality evidence

Slow but progressive labor in first stage of labor should not be indication for cesarean delivery.

1B
Strong recommendation,
moderate-quality evidence

Cervical dilation of 6 cm should be considered threshold for active phase of most women in labor. Thus, before 6 cm of dilation is achieved, standards of active-phase progress should not be applied.

1B
Strong recommendation,
moderate-quality evidence

Cesarean delivery for active-phase arrest in first stage of labor should be reserved for women ≥ 6 cm of dilation with ruptured membranes who fail to progress despite 4 h of adequate uterine activity, or at least 6 h of oxytocin administration with inadequate uterine activity and no cervical change.

1B
Strong recommendation,
moderate-quality evidence

OBSTETRICS

Perils of the new labor management guidelines

Wayne R. Cohen, MD; Emanuel A. Friedman, Med ScD

Transition to active phase

One critically important way in which the new guidelines depart from the old is in identifying the transition from latent to active phase during the first stage. It is widely, but erroneously, concluded from the Friedman dilatation curve that the active phase of labor begins at 4 cm. Some studies have even used 3 cm as the definition of entry into active phase.⁶⁴⁻⁶⁶ According to the

Why the active phase of first-stage labor has been inferred to begin at 4 cm is puzzling. We, in fact, have never suggested that the active phase begins at either 4 or 3 cm of cervical dilatation; on the contrary, we have expressly discouraged the use of any specific degree of dilatation for the identification of the active phase.^{4,9} Observations of dilatation data make it clear the active phase can begin anywhere from 3-6 cm, and, occasionally, earlier or later, depending on the individual labor.^{23,41} Using an arbitrary cutoff sacrifices accuracy for ease, and this unnecessary oversimplification risks incorrect diagnosis. The transition from the latent phase to the active phase can be correctly identified only by interpretation of serial clinical examinations for each patient as her labor progresses.

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To identify the essential elements (including thresholds and interactions) of intrapartum monitoring that trigger the decision to use interventions aimed at preventing poor labour outcomes

- Compare diagnostic performance of SELMA and partograph algorithms as tools to identify women likely to develop poor labour-related outcomes
- Explore the development of modern curves of normal labour progress for sub-Saharan African women



Better Outcomes In Labor Difficulty

Souza et al. *Reproductive Health* (2015) 12:49
DOI 10.1186/s12978-015-0029-4



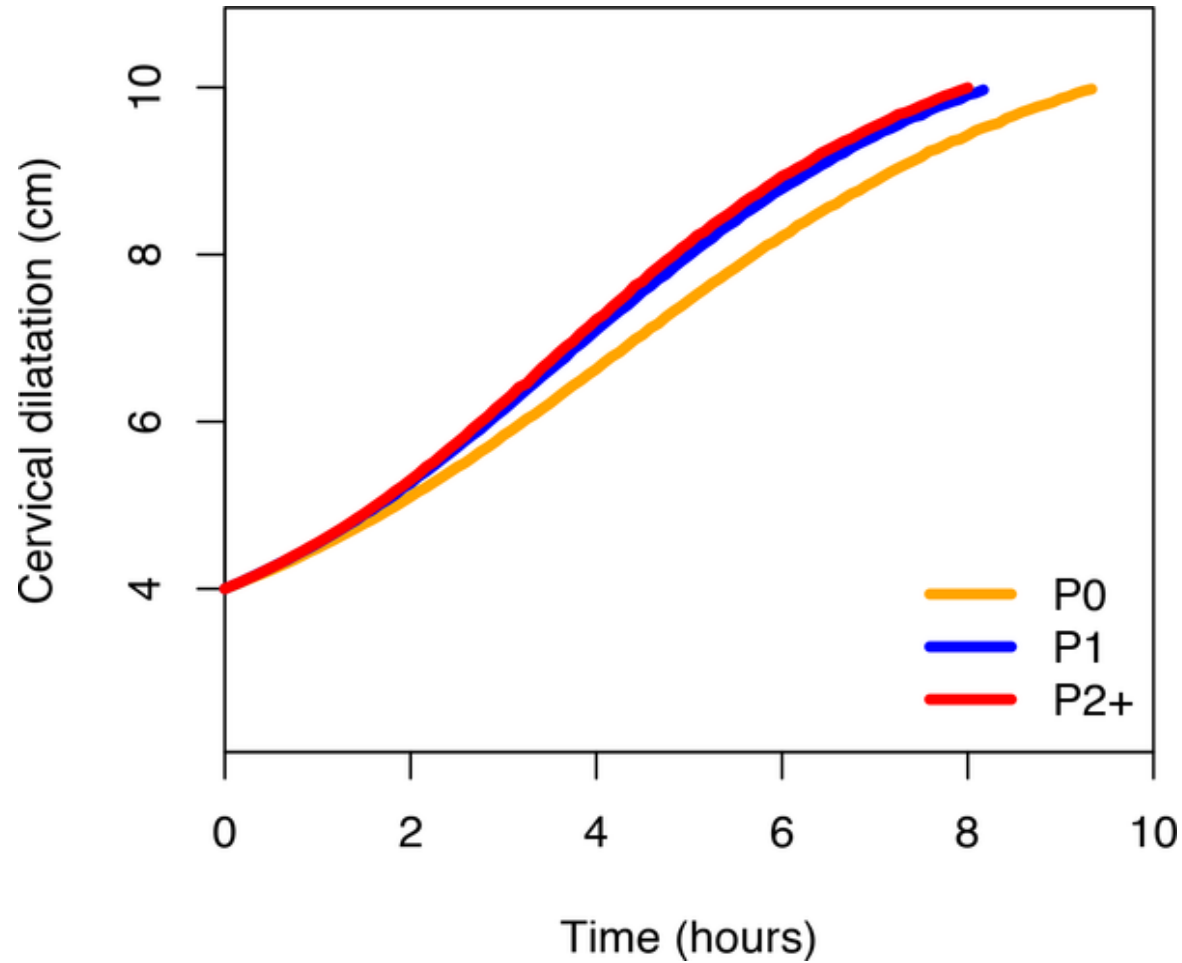
STUDY PROTOCOL

Open Access

The development of a Simplified, Effective, Labour Monitoring-to-Action (SELMA) tool for Better Outcomes in Labour Difficulty (BOLD): study protocol

João Paulo Souza^{1,2*}, Olufemi T Oladapo³, Meghan A Bohren^{3,4}, Kidza Mugerwa⁵, Bukola Fawole⁶, Leonardo Moscovici^{1,2}, Domingos Alves¹, Gleici Perdoná¹, Livia Oliveira-Ciabati^{1,2}, Joshua P Vogel³, Özge Tunçalp³, Jim Zhang⁷, Justus Hofmeyr⁸, Rajiv Bahl⁹, A Metin Gülmezoglu³, On behalf of the WHO BOLD Research Group

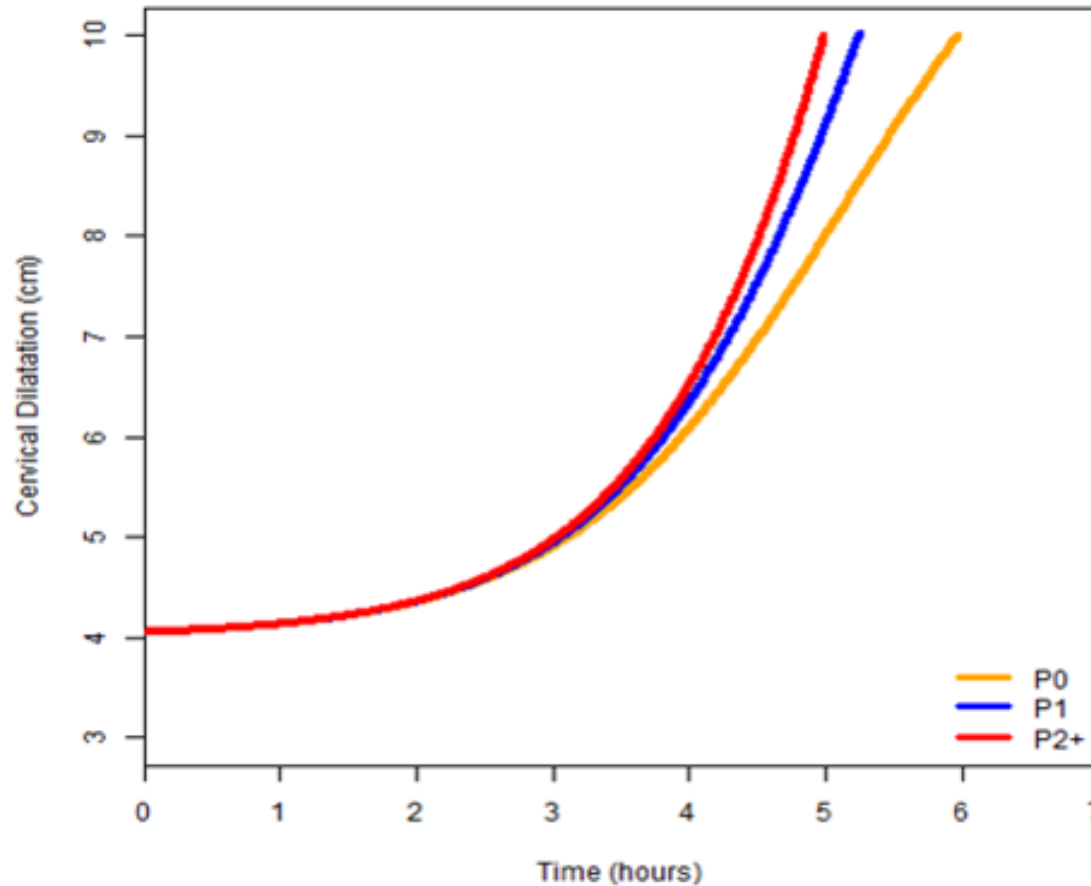
WHO INTRAPARTUM CARE COHORT (NIGERIA & UGANDA, 2016)



Oladapo OT, Souza JP, Fawole B, Mugerwa K, Perdoná G, et al. (2018) Progression of the first stage of spontaneous labour: A prospective cohort study in two sub-Saharan African countries. *PLOS Medicine* 15(1): e1002492.
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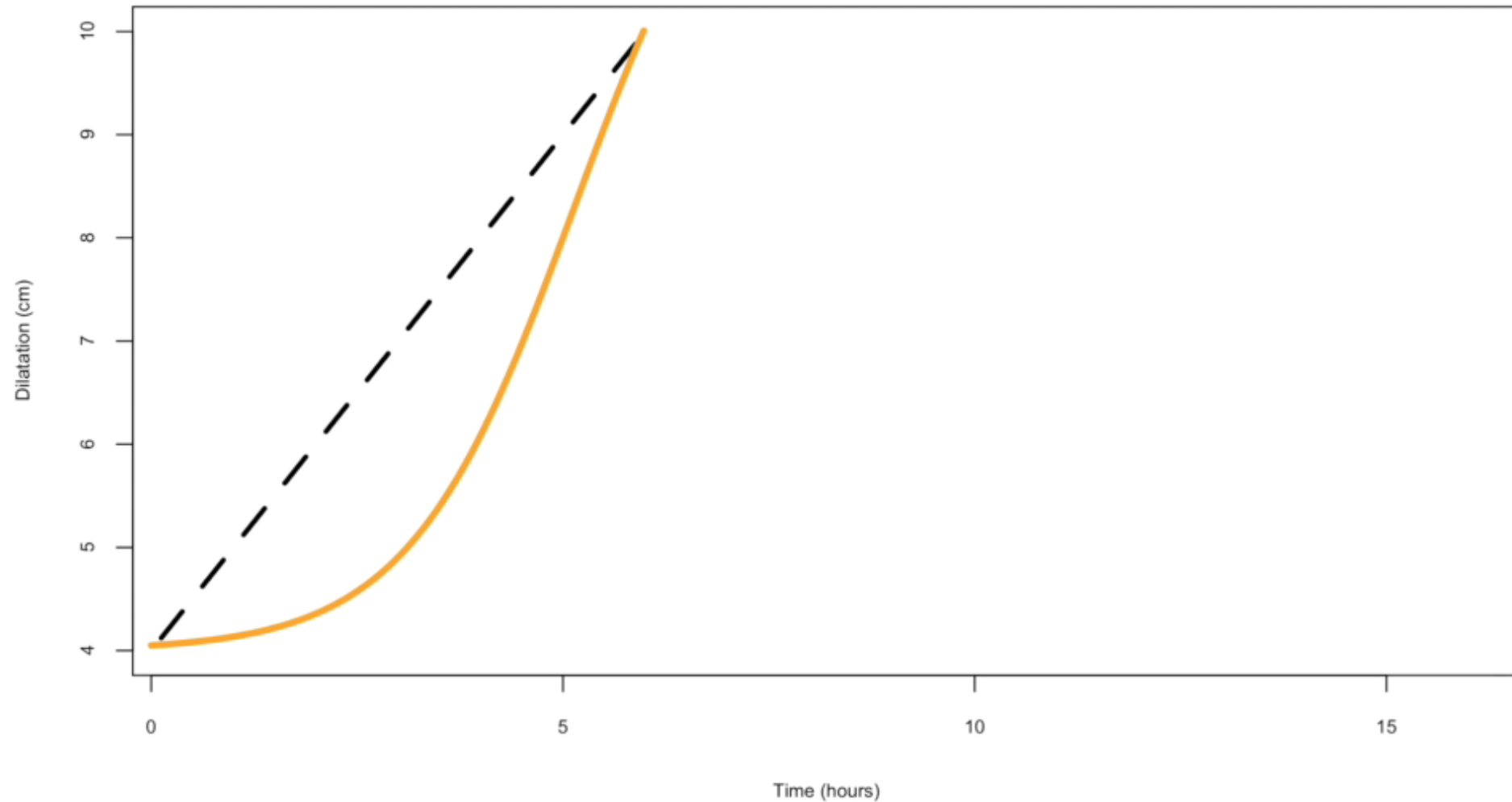
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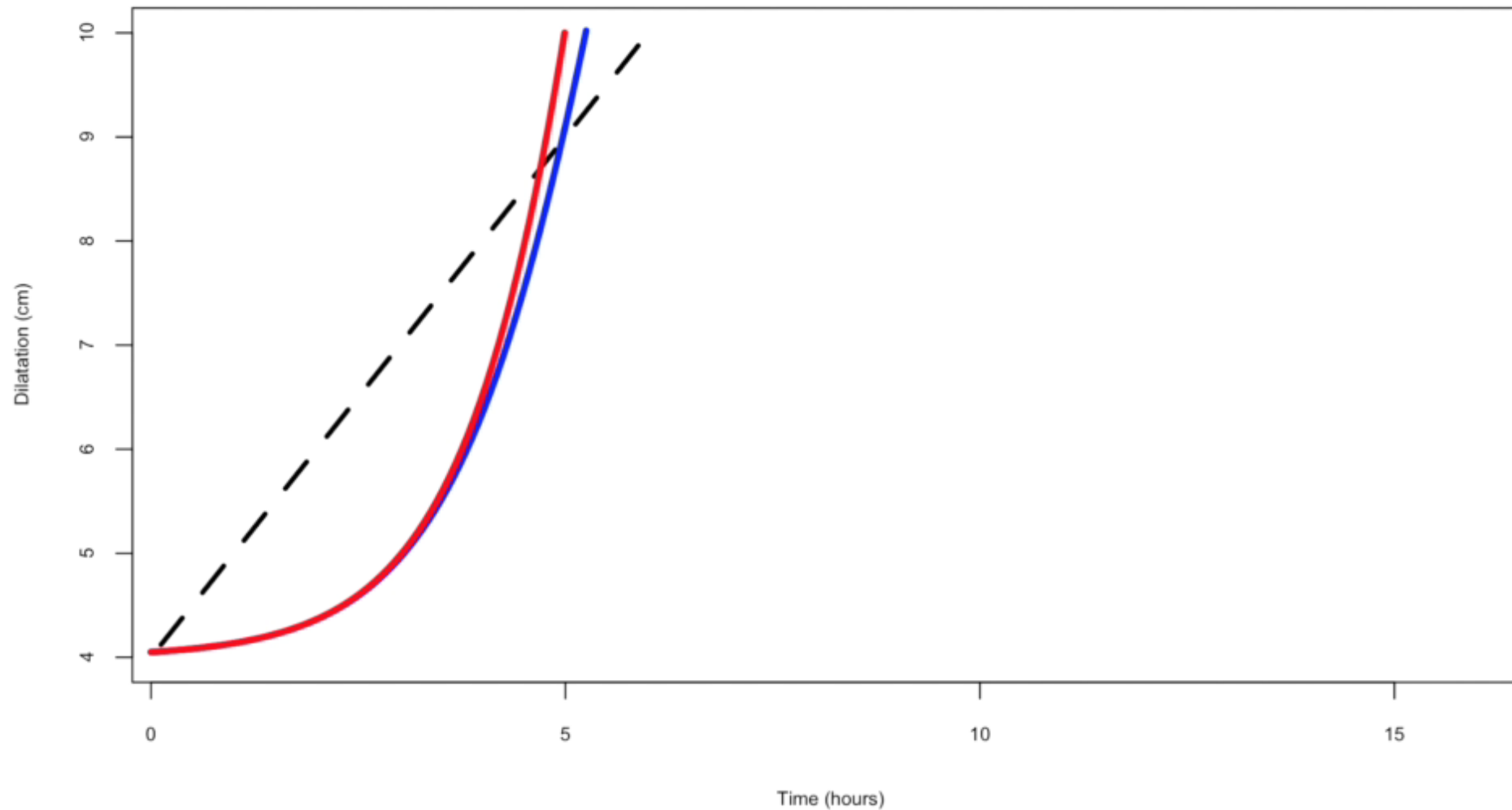
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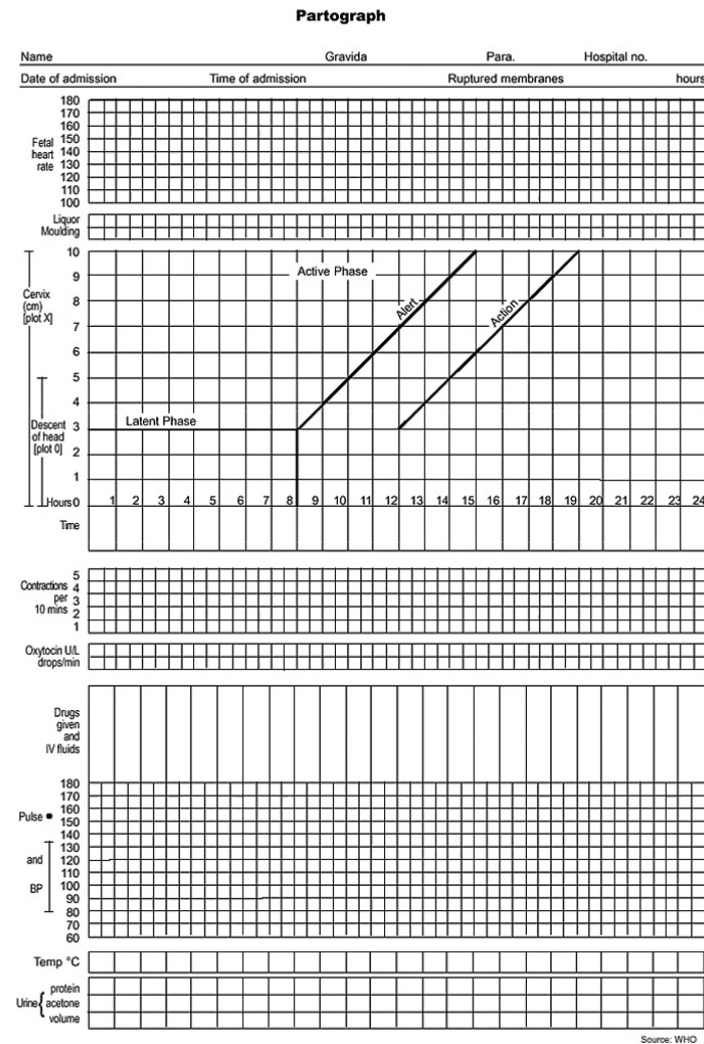
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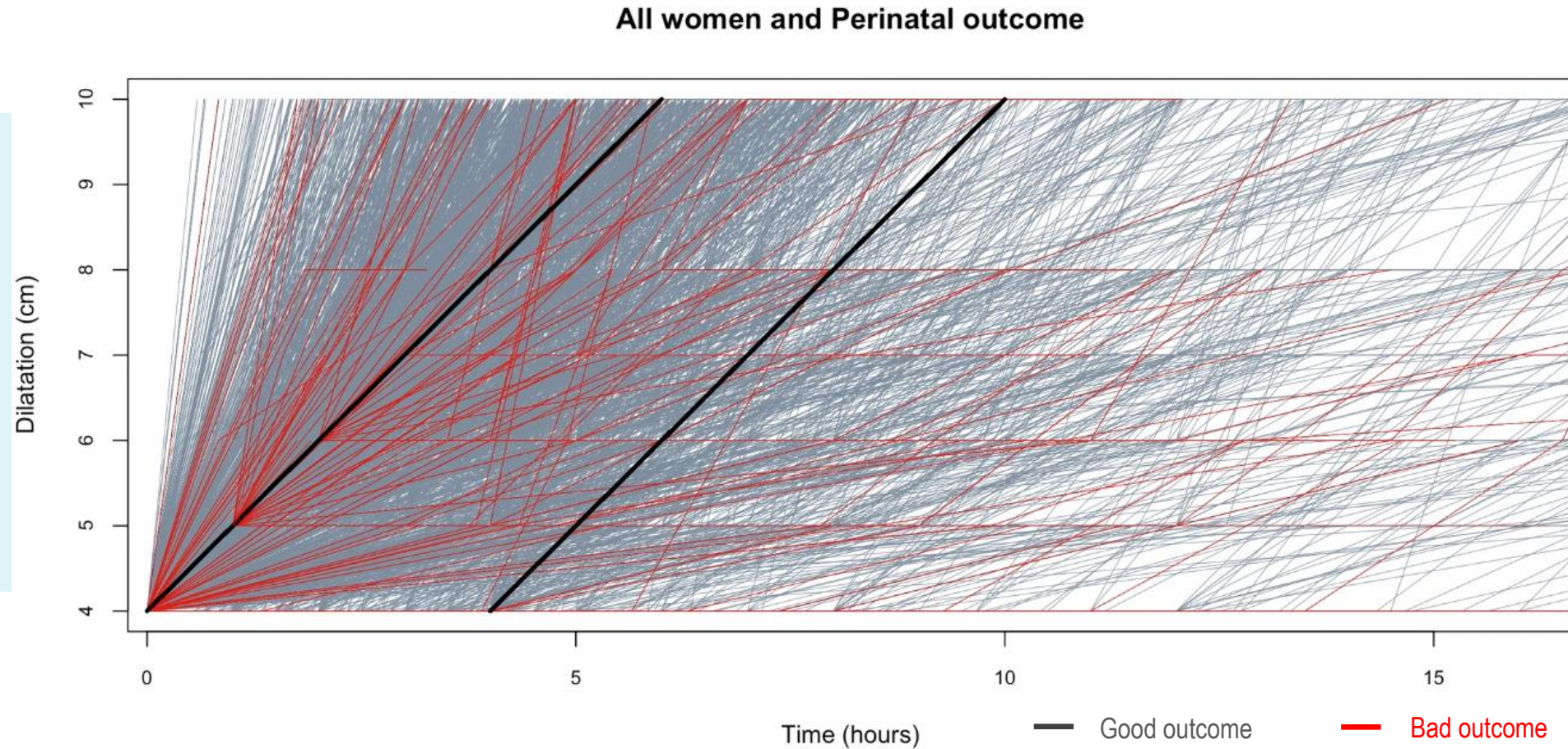
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LABOUR PROGRESSION PROFILES OF 9,995 WOMEN VERSUS ALERT LINE



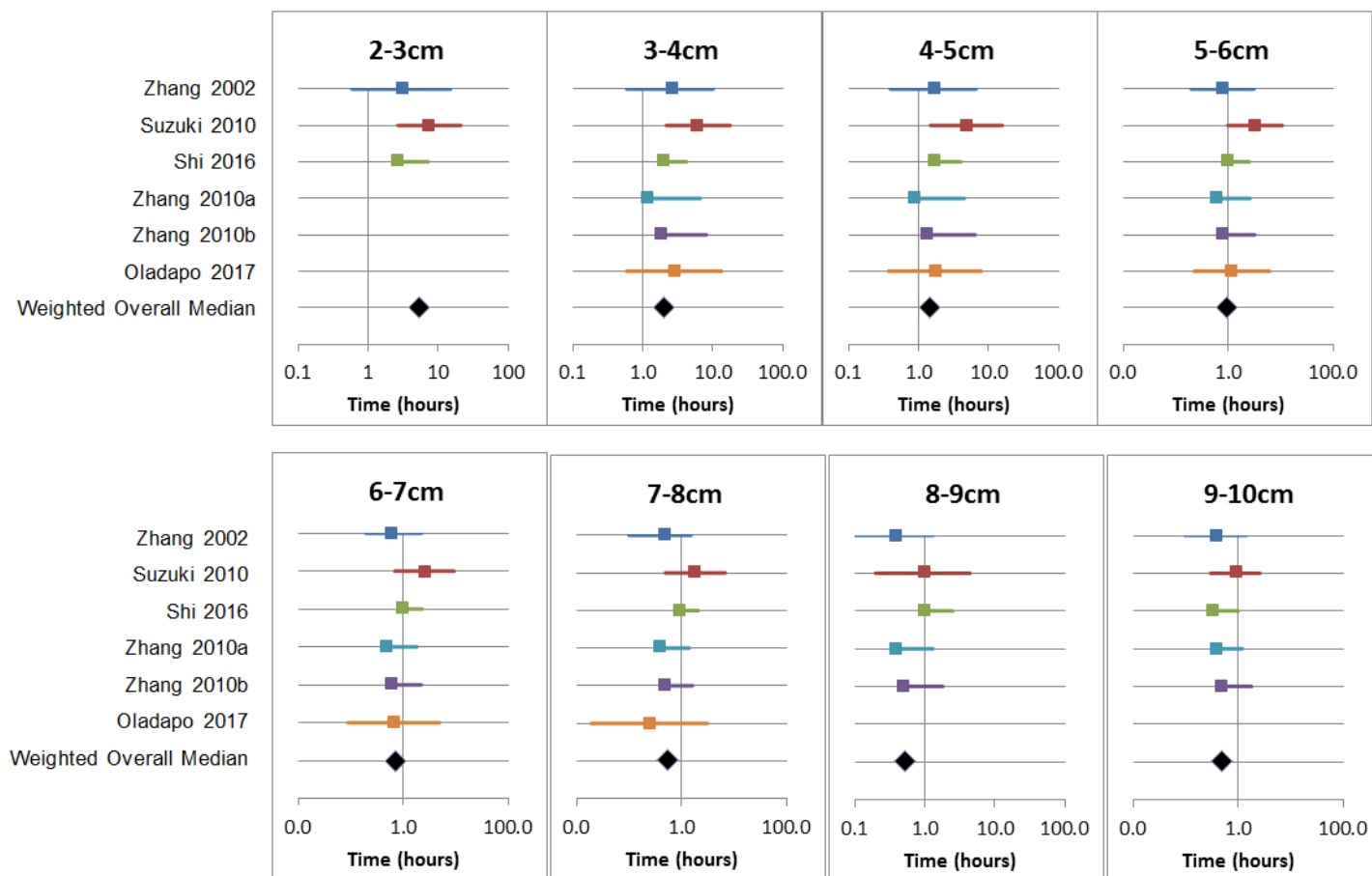
Souza JP, Oladapo OT, Fawole B, Mugerwa K, Reis R, Barbosa-Junior F, et al. (2018) Cervical dilatation over time is a poor predictor of severe adverse birth outcomes: a diagnostic accuracy study. BJOG. doi: 10.1111/1471-0528.15205. <http://onlinelibrary.wiley.com/doi/10.1111/1471-0528.15205/epdf>

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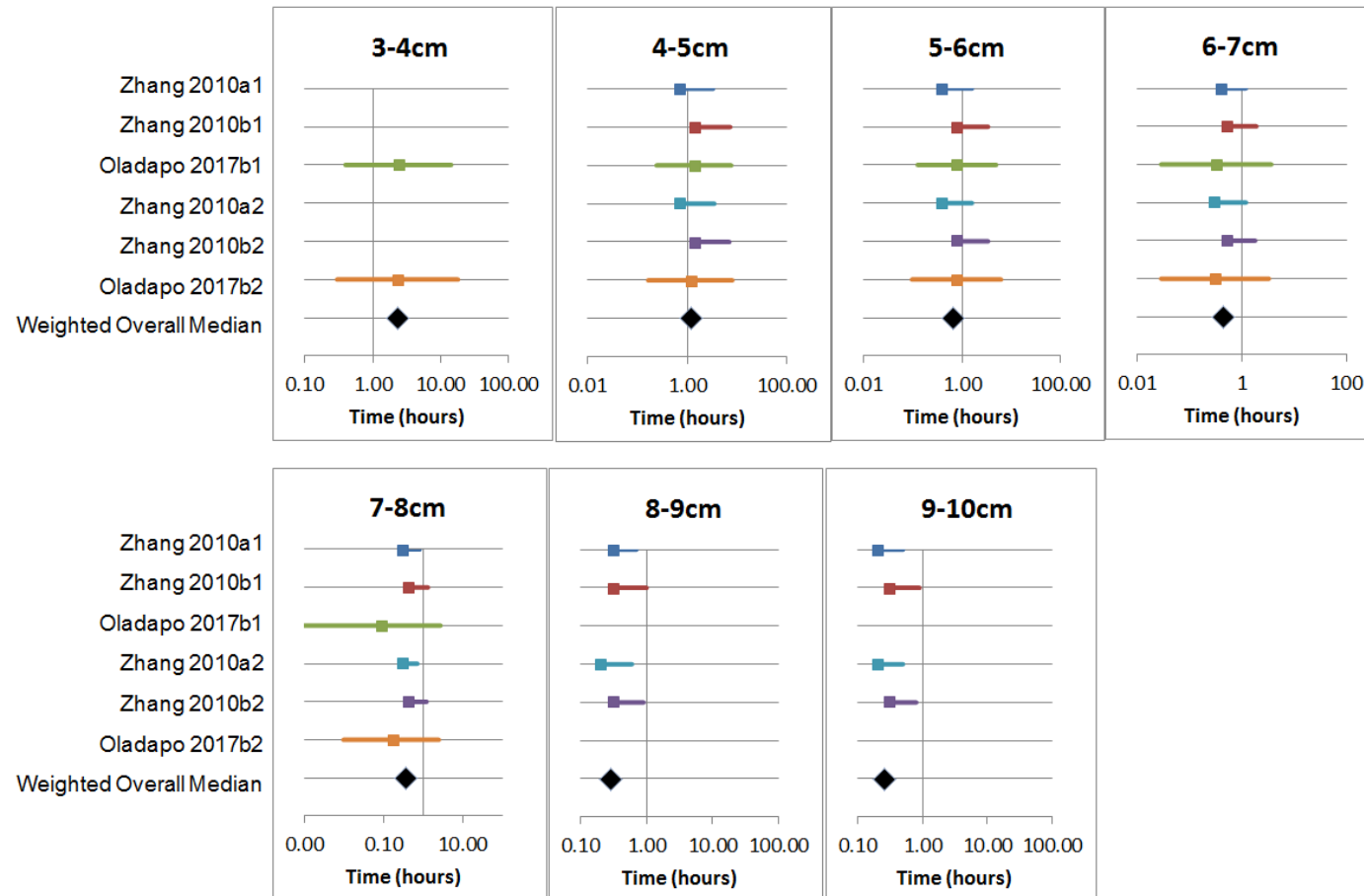
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SYSTEMATIC REVIEW: CERVICAL DILATATION PATTERNS IN NULLIPAROUS



Oladapo OT, Diaz V, Bonet M, Abalos E, et al. Cervical dilatation patterns of 'low-risk' women with spontaneous labour and normal perinatal outcomes: a systematic review. BJOG. 2018;125(8):944-954.

SYSTEMATIC REVIEW: CERVICAL DILATATION PATTERNS IN PAROUS



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BJOG

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Systematic review

Diagnostic accuracy of the partograph alert and action lines to predict adverse birth outcomes: a systematic review

M Bonet,^a OT Oladapo,^a JP Souza,^{a,b} AM Gülmezoglu^a

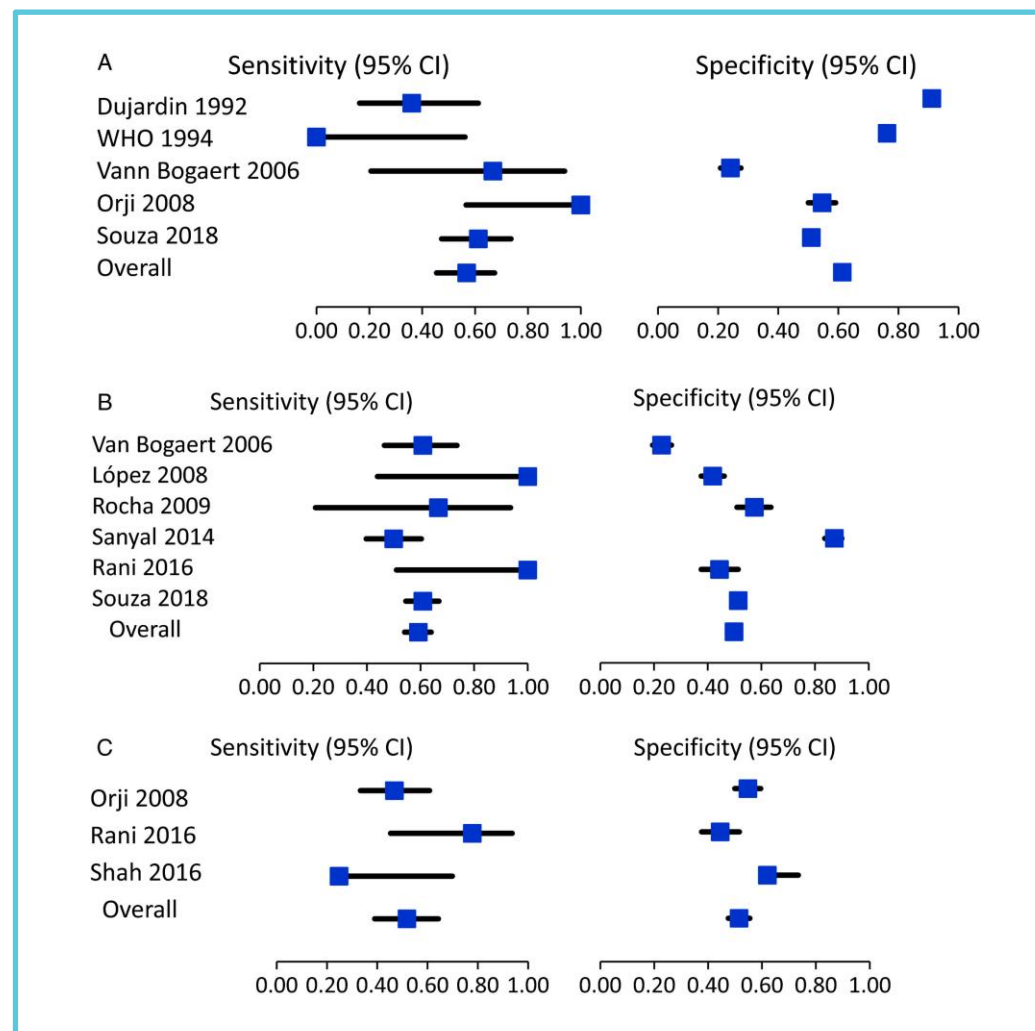
^a UNDP/UNFPA/UNICEF/WHO/World Bank Special Programme of Research, Development and Research Training in Human Reproduction (HRP), Department of Reproductive Health and Research, World Health Organization, Geneva, Switzerland ^b Department of Social Medicine, Ribeirão Preto Medical School, University of São Paulo, Ribeirão Preto, Brazil

Correspondence: Dr M Bonet, Department of Reproductive Health and Research, World Health Organization, Avenue Appia 20, Geneva 27, CH-1211 Switzerland. Email: bonetm@who.int

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SYSTEMATIC REVIEW: ACCURACY OF THE ALERT LINE

13 studies, 20,471 women, crossing of alert line varied from 8 to 76% for all maternal or perinatal outcomes



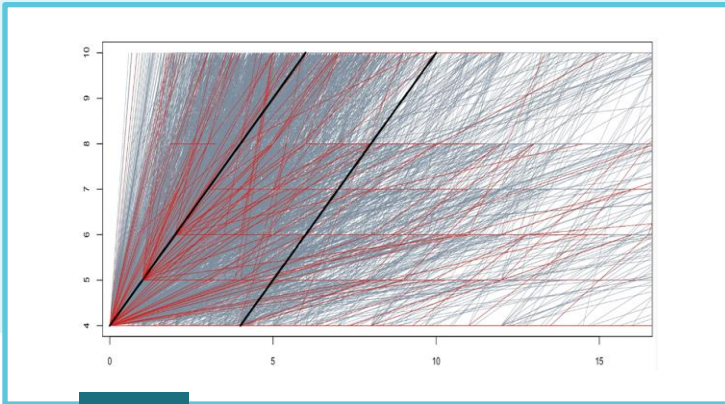
Fresh stillbirth

Apgar <7 @ 5'

Birth asphyxia

PROGRESS OF THE FIRST STAGE OF LABOUR

There is insufficient evidence to support the use of the partograph alert line as a classifier to detect women at risk of adverse birth outcomes.



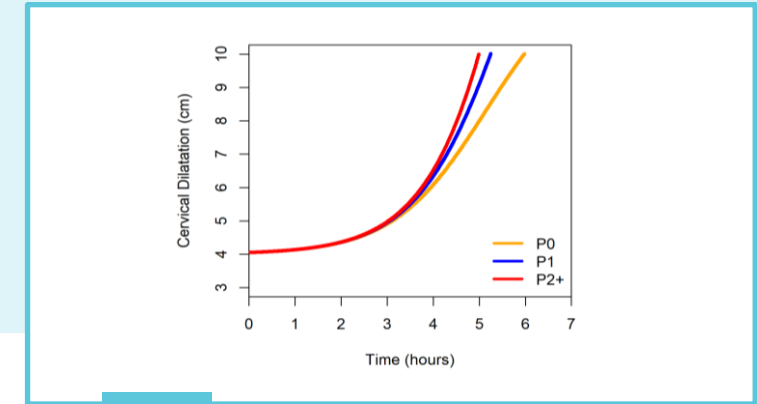
1 cm per hour rule inaccurate

For pregnant women with spontaneous labour onset, the cervical dilatation rate threshold of 1 cm/hour during active first stage (as depicted by the partograph alert line) is inaccurate to identify women at risk of adverse birth outcomes and is therefore not recommended for this purpose



< 1 cm/hour ≠ obstetric intervention

A minimum cervical dilatation rate of 1 cm/hour throughout active first stage is unrealistically fast for some women and is therefore not recommended for identification of normal labour progression. A slower than 1-cm/hour cervical dilatation rate alone should not be a routine indication for obstetric intervention.



Every birth is unique

Labour may not naturally accelerate until a cervical dilatation threshold of 5 cm is reached. Therefore, the use of medical interventions to accelerate labour and birth (such as oxytocin augmentation or caesarean section) before this threshold is not recommended, provided fetal and maternal conditions are reassuring

WHO RECOMMENDATIONS ON INTRAPARTUM CARE FOR A POSITIVE CHILDBIRTH EXPERIENCE

This guideline includes 26 new recommendations adopted by the GDG at the 2017 meetings, and 30 existing recommendations from previously published WHO guidelines.

“The aim of this guideline is to improve the quality of essential intrapartum care with the ultimate goal of improving maternal, fetal and newborn outcomes.”



WHO RECOMMENDATIONS ON INTRAPARTUM CARE FOR A POSITIVE CHILDBIRTH EXPERIENCE

- **Care throughout labour and birth:** respectful maternity care, effective communication, labour companionship, and continuity of care
- **First stage of labour:** definition of the latent and active first stages, duration and progression of the first stage, labour ward admission policy, clinical pelvimetry on admission, routine assessment of fetal well-being on labour admission, pubic shaving, enema on admission, digital vaginal examination, vaginal cleansing, continuous cardiotocography, intermittent fetal heart rate auscultation, pain relief, oral fluid and food, maternal mobility and position, active management of labour, routine amniotomy, oxytocin for preventing delay, antispasmodic agents, and intravenous fluids for preventing labour delay
- **Second stage of labour:** definition and duration of the second stage of labour, birth position (with and without epidural analgesia), methods of pushing, techniques for preventing perineal trauma, episiotomy, and fundal pressure

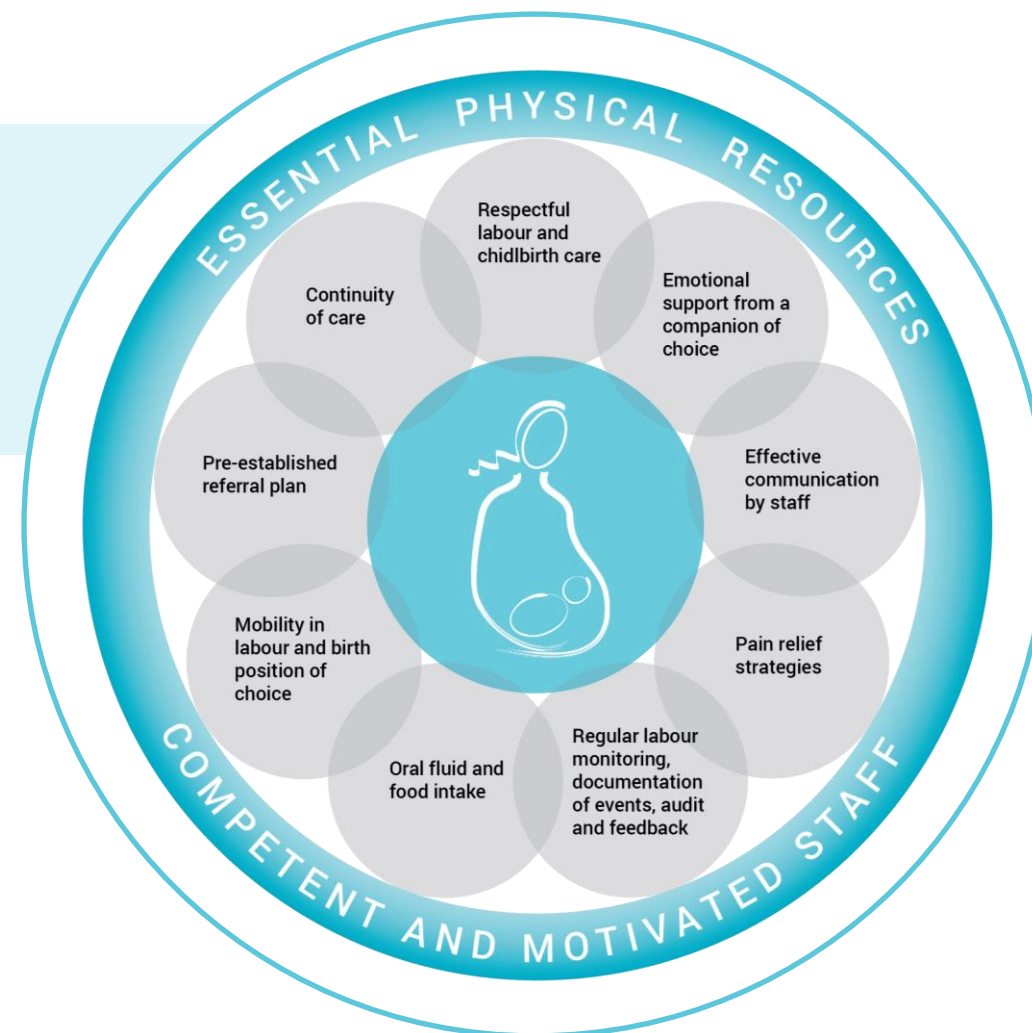


WHO INTRAPARTUM CARE MODEL

The recommendations should be implemented as a package of care in all facility-based settings, by kind, competent and motivated health care professionals who have access to the essential physical resources.

The principles guiding the 56 evidence-based recommendations include the following:

- Labour and childbirth should be **individualized** and **woman-centred**
- No intervention should be implemented **without a clear medical indication**
- Only interventions that serve an immediate purpose and **proven to be beneficial** should be promoted
- A clear objective that a **positive childbirth experience** for the woman, the newborn and her family should be at the forefront of labour and childbirth care at all times

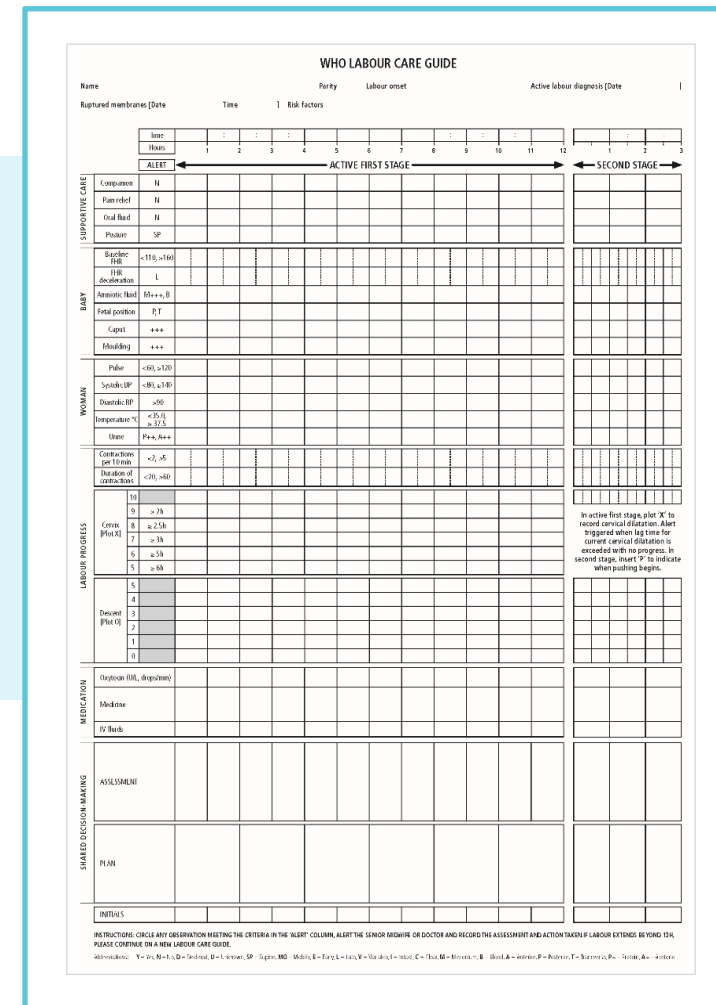


WHO LABOUR CARE GUIDE – REVOLUTIONARY NEXT GENERATION PARTOGRAPH

Why is a new tool needed?

A revised version of the paper-based WHO partograph developed to make it easier for healthcare providers to implement WHO evidence-based recommendations in routine clinical practice

A tool to facilitate the implementation of **essential, good-quality and evidence-based clinical care** in all settings, expanding the focus of labour monitoring to non-clinical practices towards promoting a **positive childbirth experience** for every woman and baby.



The form is titled "WHO LABOUR CARE GUIDE" and is designed for recording labour progress. It includes sections for:

- Header:** Name, Parity, Labour onset, Active labour diagnosis (Date).
- Signatures:** Registered midwife (Date, Time), Risk factors.
- Alert:** A horizontal bar with a scale from 1 to 12 hours.
- Supportive Care:** A table for recording interventions like Compress, Pain relief, Oral fluid, and Position.
- Maternal Vitals:** A table for recording Baseline HR, BP, RR, and Temperature.
- Fetal Status:** A table for recording Fetal position, Caput, and Monitoring.
- Labour Progress:** A large table for recording contractions, cervical dilation, and descent.
- Medication:** A table for recording Oxytocin, Analgesics, and IV fluids.
- Shared Decision Making:** A table for recording Assessment and Plan.
- Births:** A table for recording the outcome of the birth.

 The form also includes instructions at the bottom regarding how to use the alert bar and how to record data.

AIMS OF LABOUR CARE GUIDE

- **Guide the monitoring and documentation** of the well-being of women and babies and the progress of labour
- Guide health personnel to **offer supportive care** throughout labour to ensure a positive childbirth experience for women
- Assist health personnel to promptly **identify and address emerging labour complications**, by providing reference thresholds for labour observations that are intended to trigger reflection and specific action(s) if an abnormal observation is identified in labour management
- **Prevent unnecessary use of interventions** in labour
- **Support audit and quality improvement** of labour management

WHO LABOUR CARE GUIDE																			
Name	Parity	Labour onset	Active labour diagnosis (Date)																
Ruptured membranes (Date)	Time	Risk factors																	
	Alert	Hours	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5
	ALERT		ACTIVE FIRST STAGE												SECOND STAGE				
SUPPORTIVE CARE	Composure	N																	
	Pain relief	N																	
	Oral fluid	N																	
	Protein	SP																	
BABY	Biophysical profile	LTTG, >10																	
	FHR deceleration	I																	
	Apgar at birth	Min + B																	
	Fetal position	P, T																	
	Cepit	+++																	
	Moulding	+++																	
WOMAN	Pulse	<105, >120																	
	Systolic BP	<90, >140																	
	Diastolic BP	<60																	
	Temperature °C	<36.0, >37.5																	
	Uterine	P=+, A=++																	
	Contractions per 10 min	<2, >6																	
	Duration of contraction	<30, >60																	
LABOUR PROGRESS	Cervix (cm)	10 9 > 7½ 8 ≥ 2.5h 7 ≥ 3h 6 ≥ 3h 5 ≥ 3h																	
	Descent (plot of)	5 4 3 2 1 0																	
INTERVENTION	Oxytocin (IOL, despatched)																		
	Medicine																		
	IV fluids																		
SHARED DECISION-MAKING	ASSESSMENT																		
	PLAN																		
	INITIALS																		

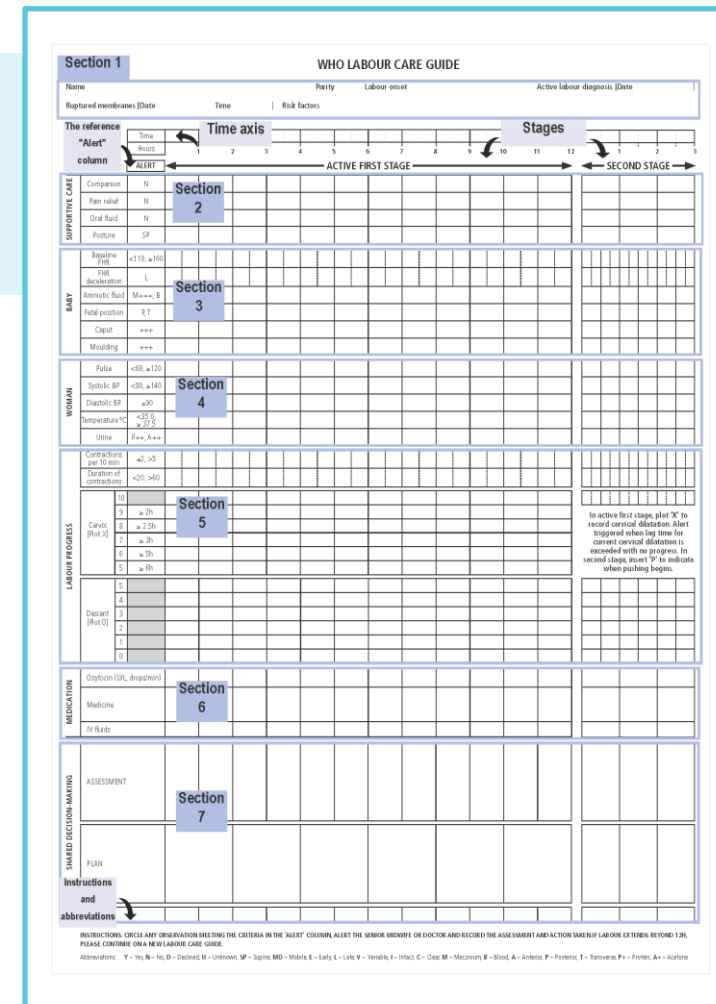
INSTRUCTIONS: CIRCLE ANY OBSERVATION MEETING THE CRITERIA IN THE "ALERT" COLUMN. ALERT THE SENIOR MIDWIFE OR DOCTOR AND RECORD THE ASSESSMENT AND ACTION TAKEN IF LABOUR EXTENDS BEYOND 15H. PLEASE CONTINUE ON A NEW LABOUR CARE GUIDE.

Abbreviations: V = yes, N = no, G = Gestated, W = Unknown, SP = Spontaneous, MD = Midwife, E = Engaged, L = Latent, W = Waterless, I = Initial, C = First, M = Second, B = Blood, A = Anterior, P = Posterior, T = Transverse, P+ = Positive, A++ = Active

STRUCTURE OF LABOUR CARE GUIDE

The LCG has 7 sections, which were adapted from the previous partograph design:

- **Session 1:** Woman's identification and labour admission characteristics
- **Session 2:** Supportive care
- **Session 3:** Care of the baby
- **Session 4:** Care of the woman
- **Session 5:** Labour progress
- **Session 6:** Medication
- **Session 7:** Shared decision-making



Section 1 WHO LABOUR CARE GUIDE

Name: _____ Parity: _____ Labour onset: _____ Active labour diagnosis (Date): _____

Ruptured membranes (Date): _____ Time: _____ Risk factors: _____

The reference "Alert" column: _____

Time axis: 1 2 3 4 5 6 7 8 9 10 11 12 1 2 3

Stages: ACTIVE FIRST STAGE SECOND STAGE

Section 2 SUPPORTIVE CARE

Comparison: N _____

Pain relief: N _____

Oral fluid: N _____

Position: SP _____

Section 3 BABY

Baseline FHR: <110, >160 _____

FHR deceleration: L _____

Fetal position: B/A/C/E/F _____

Caput: +++ _____

Moulding: +++ _____

Section 4 WOMAN

Pulse: <90, >120 _____

Systolic BP: <90, >140 _____

Diastolic BP: <60 _____

Temperature: <38.0 _____

Time: P/A/B/C/D/E/F/G/H/I/J/K/L/M/N/O/P/Q/R/S/T/U/V/W/X/Y/Z _____

Section 5 LABOUR PROGRESS

Contractions per 10 min: <20, >40 _____

Duration of contraction: <20, >40 _____

Cervix (Plot 1): 10 _____

9 _____

8 _____

7 _____

6 _____

5 _____

4 _____

3 _____

2 _____

1 _____

0 _____

Section 6 MEDICATION

Oxytocin (IU/L, drip/min): _____

Medicine: _____

Oral fluids: _____

Section 7 SHARED DECISION-MAKING

ASSESSMENT: _____

PLAN: _____

Instructions and abbreviations: _____

INSTRUCTIONS: CIRCLE ANY OBSERVATION MEETING THE CRITERIA IN THE "ALERT" COLUMN, ALERT THE NURSE/DOCTOR AND RECORD THE ASSESSMENT AND ACTION TAKEN. LABOUR EXTENDS BEYOND 12H, PLEASE CONTINUE ON A NEW LABOUR CARE GUIDE.

Abbreviations: Y = Yes, N = No, D = Declined, U = Unknown, SP = Supine, MD = Mobile, E = Early, L = Late, V = Variable, I = Intact, C = Cephalic, M = Meconium, B = Blood, A = Anxious, P = Painless, T = Transverse, P+ = Prolapsed, A+ = Active

SIMILARITIES BETWEEN LABOUR CARE GUIDE AND WHO MODIFIED PARTOGRAPH

WHO LABOUR CARE GUIDE

Name

Parity

Labour onset

Active labour diagnosis [Date]

Ruptured membranes [Date]

Time

Risk factors

time

Hours

1

2

3

4

5

6

7

8

9

10

11

12

1

2

3

ALERT

ACTIVE FIRST STAGE

SECOND STAGE

SUPPLEMENTARY CARE

Companion

Pain relief

Oral fluid

Position

BABY

Burden (kg)

FHR

Amniotic fluid

Total position

Caput

Moulding

HUMAN

Pulse

Systolic BP

Diastolic BP

Temperature °C

Urine

CONTRACTIONS

Contractions per 10 min

Duration of contractions

Cervix (Plot X)

Descent (Plot Y)

Medication

Oxytocin (U/L, drops/min)

Medicine

IV fluids

SHARED DECISION-MAKING

ASSESSMENT

PLAN

PRELIMINARY

INSTRUCTIONS: CIRCLE ANY OBSERVATION EXCEEDING THE CRITERIA IN THE 'ALERT' COLUMN, ALERT THE SENIOR MIDWIFE OR DOCTOR AND RECORD THE ASSESSMENT AND ACTION TAKEN IF LABOUR EXTENDS BEYOND 10H. PLEASE CONTINUE ON A NEW LABOUR CARE GUIDE.

Abbreviations: V = Vaginal, N = Normal, D = Distended, B = Incomplete, SP = Supine, BD = Breech, E = Early, L = Late, V = Variable, I = Intact, C = Cord, M = Meconium, B = Blood, A = Anterior, P = Posterior, T = Transverse, P = Proton, A = Anterior

VS

Name

Gravida

Para

Hospital number

Date of admission

Time of admission

Ruptured membranes

hours

200

180

160

140

120

100

80

60

40

20

0

Fetal heart rate

Amniotic fluid moulding

10

9

8

7

6

5

4

3

2

1

0

Cervix (cm) (Plot X)

Descent of head (Plot Y)

Time

Hours

Alert

Action

CONTRACTIONS

Contractions per 10 mins

Oxytocin U/L drops/min

Drugs given and IV fluids

180

170

160

150

140

130

120

110

100

90

80

70

60

50

40

30

20

10

0

Pulse

BP

Temp °C

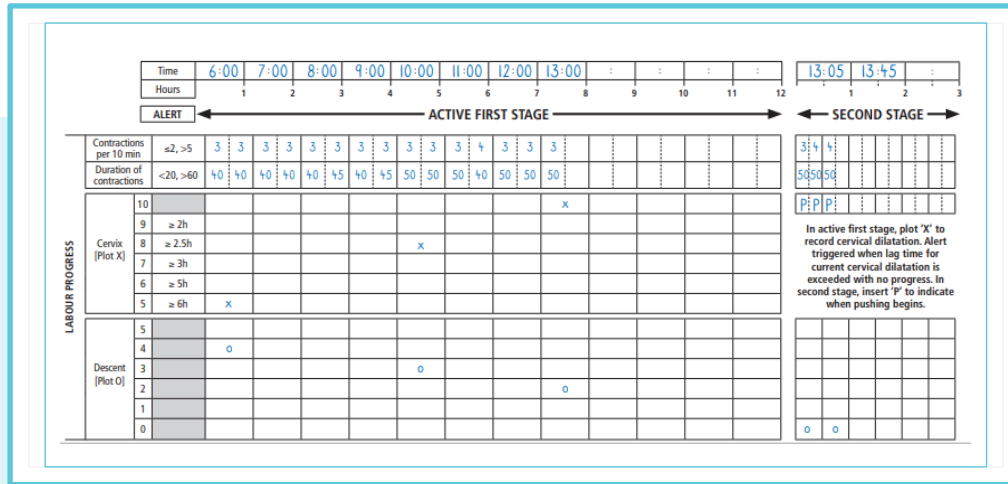
Urine

protein

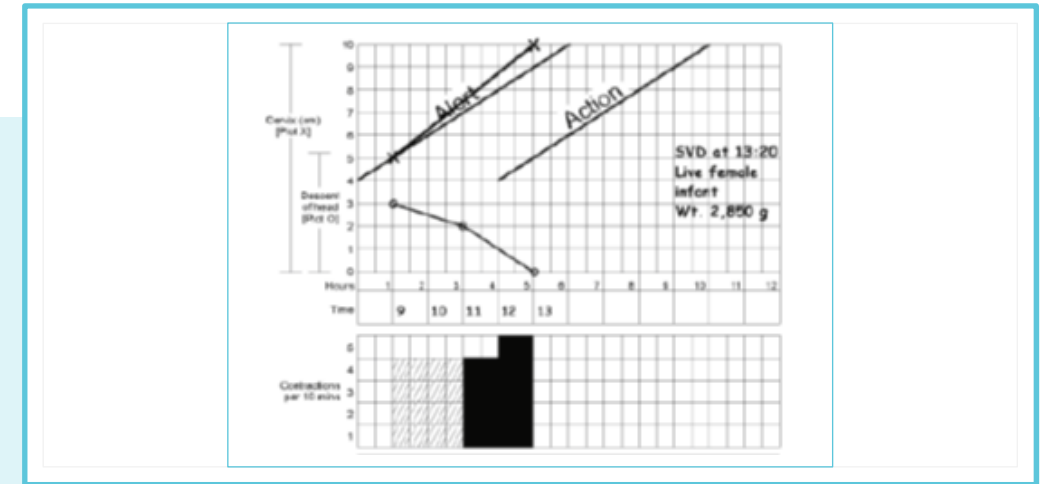
ketone

volume

DIFFERENCES BETWEEN LABOUR CARE GUIDE AND WHO MODIFIED PARTOGRAPH



VS



- Active phase starts at 5 cm of cervical dilatation
- Evidence-based time limits at each cm of cervical dilatation
- Records duration and frequency of uterine contractions (actual values)

- Active phase starts at 4 cm of cervical dilatation
- Fixed 1 cm per hour 'alert' line and 'action' lines
- Records strength, duration and frequency of uterine contractions

DIFFERENCES BETWEEN LABOUR CARE GUIDE AND WHO MODIFIED PARTOGRAPH

WHO Labour
Care Guide

WHO LABOUR CARE GUIDE

Name: Mary Jane Williams Parity: 2 Labour onset: spontaneous Active labour diagnosis (Date: 06/07/20) 1 Risk factors: History of stillbirth anaemia

Ruptured membranes (Date: 06/07/20 Time: 5:00) 1 hours

Time	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	13:05	13:45
SUPPORTIVE CARE										
Consciousness	N	(N)	Y	Y	Y	(N)	Y	Y	Y	Y
Pain relief	N	(N)	Y	Y	Y	(N)	Y	Y	Y	Y
Clear fluid	N	Y	Y	Y	Y	Y	Y	Y	Y	Y
Respiratory	SP	MO	(SP)	MO	MO	MO	MO	MO	(SP)	(SP)
BIRTH										
Baseline FHR	<110, ≥160	105	136	142	145	148	148	145	145	145
FHR deceleration	L	N	N	N	N	N	N	N	N	N
Amniotic fluid	M+++B	C								
Fetal position	R/T	(P)							A	
Cervix	+++	0							++	
Moulding	+++	0							++	
WOMAN										
Pulse	<60, ≥120	88					96			
Systolic BP	<90, ≥140	120					128			
Diastolic BP	≥90	80					84			
Temperature °C	<35.5, ≥37.5	36.5					36.9			
Urine	Protein, As+	-/-					-/-			
LABOUR PROGRESS										
Contractions per 10 min	<2, ≥5	3	3	3	3	3	3	3	3	3
Duration of contractions	<20, ≥40	10	10	10	10	10	10	10	10	10
Cervix (Plot X)	10 9 8 7 6 5	9 8 7 6 5								
Descent (Plot O)	10 9 8 7 6 5	9 8 7 6 5								
Medication										
Oxytocin (µL, drops/min)	N	N	N	N	N	N	N	N	N	N
Medicine	N	N	N	N	N	N	N	N	N	N
IV fluids	N	N	N	N	N	N	N	N	N	N
Shared Decision Making										
Assessment		PAIN RELIEF REQUIRED	NORMAL PROGRESS	NORMAL PROGRESS	NORMAL PROGRESS	PAIN RELIEF REQUIRED	NORMAL PROGRESS	NORMAL PROGRESS	NORMAL PROGRESS	NORMAL PROGRESS
Plan		Offer non-pharmacological and relative analgesia	Continue with current management	Continue with current management	Continue with current management	Offer non-pharmacological and relative analgesia	Continue with current management	Continue with current management	Continue with current management	Continue with current management
Interventions		LA	LA	LA	LA	LA	LA	LA	LA	LA

VS

Name: Mrs. S Gravida: 3 Para: 2+0 Hospital number: 7886

Date of admission: 12.5.2000 Time of admission: 5:00 A.M. Ruptured membranes: 1 hours

Time	9	10	11	12	13
Alert					
Total heart rate	120	120	120	120	120
Amniotic fluid Moulding	C	C	C	C	C
Cervix (cm) [Plot X]	4	5	6	7	8
Descent of head [Plot O]	3	3	3	3	3
Contractions per 10 mins	3	3	3	3	3
Oxytocin U/L drops/min					
Drugs given and IV fluids					
Pulse and BP	88	88	88	88	88
Temp °C	36.8	37			
Urine protein	—	—			
Urine acetone	—	—			
Urine volume	200	150			

SVD at 13:20
Live female infant
Wt. 2,850 g

WHO Modified
Partograph

DIFFERENCES BETWEEN LABOUR CARE GUIDE AND WHO MODIFIED PARTOGRAPH

WHO Labour Care Guide

WHO LABOUR CARE GUIDE

Name: Mary Jane Williams Parity: 2 Labour onset: spontaneous Active labour diagnosis (Date: 06/07/20): 1

Ruptured membranes (Date: 06/07/20 Time: 5:00) Risk factors: History of stillbirth anaemia

Time	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	13:05	13:45																																																																																																																																																										
SUPPORTIVE CARE	<table border="1"> <tr> <td>Comparison</td> <td>N</td> <td>(N)</td> <td>Y</td> <td>Y</td> <td>Y</td> <td>(N)</td> <td>Y</td> <td>Y</td> <td>Y</td> <td></td> </tr> <tr> <td>Pain relief</td> <td>N</td> <td>(N)</td> <td>Y</td> <td>Y</td> <td>Y</td> <td>(N)</td> <td>Y</td> <td>Y</td> <td>Y</td> <td></td> </tr> <tr> <td>Oral fluid</td> <td>N</td> <td>Y</td> <td>Y</td> <td>Y</td> <td>Y</td> <td>Y</td> <td>Y</td> <td>Y</td> <td>Y</td> <td></td> </tr> <tr> <td>Position</td> <td>SP</td> <td>MO</td> <td>(SP)</td> <td>MO</td> <td>MO</td> <td>(SP)</td> <td>MO</td> <td>MO</td> <td>(SP)</td> <td></td> </tr> </table>										Comparison	N	(N)	Y	Y	Y	(N)	Y	Y	Y		Pain relief	N	(N)	Y	Y	Y	(N)	Y	Y	Y		Oral fluid	N	Y	Y	Y	Y	Y	Y	Y	Y		Position	SP	MO	(SP)	MO	MO	(SP)	MO	MO	(SP)																																																																																																															
Comparison	N	(N)	Y	Y	Y	(N)	Y	Y	Y																																																																																																																																																											
Pain relief	N	(N)	Y	Y	Y	(N)	Y	Y	Y																																																																																																																																																											
Oral fluid	N	Y	Y	Y	Y	Y	Y	Y	Y																																																																																																																																																											
Position	SP	MO	(SP)	MO	MO	(SP)	MO	MO	(SP)																																																																																																																																																											
BABY	<table border="1"> <tr> <td>Birthweight (kg)</td> <td><110, at 100</td> <td>110-120</td> <td>121-130</td> <td>131-140</td> <td>141-150</td> <td>151-160</td> <td>161-170</td> <td>171-180</td> <td>181-190</td> <td>191-200</td> </tr> <tr> <td>Head circumference (cm)</td> <td><32</td> <td>32-33</td> <td>33-34</td> <td>34-35</td> <td>35-36</td> <td>36-37</td> <td>37-38</td> <td>38-39</td> <td>39-40</td> <td>40-41</td> </tr> <tr> <td>Anterior fontanelle</td> <td>L</td> <td>N</td> <td>N</td> <td>V</td> <td>N</td> <td>N</td> <td>N</td> <td>N</td> <td>N</td> <td>N</td> </tr> <tr> <td>Posterior fontanelle</td> <td>M+++, B</td> <td>C</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Head position</td> <td>OT</td> <td>(P)</td> <td></td> <td></td> <td></td> <td>(T)</td> <td></td> <td></td> <td>A</td> <td></td> </tr> <tr> <td>Caput</td> <td>+++</td> <td>0</td> <td></td> <td></td> <td></td> <td>+</td> <td></td> <td></td> <td>+</td> <td></td> </tr> <tr> <td>Moulding</td> <td>+++</td> <td>0</td> <td></td> <td></td> <td></td> <td>+</td> <td></td> <td></td> <td>++</td> <td></td> </tr> </table>										Birthweight (kg)	<110, at 100	110-120	121-130	131-140	141-150	151-160	161-170	171-180	181-190	191-200	Head circumference (cm)	<32	32-33	33-34	34-35	35-36	36-37	37-38	38-39	39-40	40-41	Anterior fontanelle	L	N	N	V	N	N	N	N	N	N	Posterior fontanelle	M+++, B	C									Head position	OT	(P)				(T)			A		Caput	+++	0				+			+		Moulding	+++	0				+			++																																																																														
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Anterior fontanelle	L	N	N	V	N	N	N	N	N	N																																																																																																																																																										
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WOMAN	<table border="1"> <tr> <td>Pulse</td> <td><50, ≥120</td> <td>88</td> <td></td> <td></td> <td></td> <td>96</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Systolic BP</td> <td><80, ≥140</td> <td>120</td> <td></td> <td></td> <td></td> <td>128</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Diastolic BP</td> <td>≥90</td> <td>80</td> <td></td> <td></td> <td></td> <td>84</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Temperature °C</td> <td><36.0, ≥37.5</td> <td>36.5</td> <td></td> <td></td> <td></td> <td>36.9</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Urine</td> <td>Protein, A+B</td> <td>-/-</td> <td></td> <td></td> <td></td> <td>-/-</td> <td></td> <td></td> <td></td> <td></td> </tr> </table>										Pulse	<50, ≥120	88				96					Systolic BP	<80, ≥140	120				128					Diastolic BP	≥90	80				84					Temperature °C	<36.0, ≥37.5	36.5				36.9					Urine	Protein, A+B	-/-				-/-																																																																																																							
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LABOUR PROGRESS	<table border="1"> <tr> <td>Contractions per 10 min</td> <td>≥2, >5</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> <td>3</td> </tr> <tr> <td>Duration of contractions</td> <td><30, ≥60</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> <td>10</td> </tr> <tr> <td>Cervix (cm)</td> <td>10</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>at 2h</td> <td>9</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>at 4h</td> <td>8</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>at 6h</td> <td>7</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>at 8h</td> <td>6</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>at 10h</td> <td>5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Descent (cm)</td> <td>5</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>at 2h</td> <td>4</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>at 4h</td> <td>3</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>at 6h</td> <td>2</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>at 8h</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>at 10h</td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>										Contractions per 10 min	≥2, >5	3	3	3	3	3	3	3	3	3	Duration of contractions	<30, ≥60	10	10	10	10	10	10	10	10	10	Cervix (cm)	10										at 2h	9										at 4h	8										at 6h	7										at 8h	6										at 10h	5										Descent (cm)	5										at 2h	4										at 4h	3										at 6h	2										at 8h	1										at 10h	0									
Contractions per 10 min	≥2, >5	3	3	3	3	3	3	3	3	3																																																																																																																																																										
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- Explicit recording of **supportive care**
- Requires to record **actual values**
- Requires **all deviations to be highlighted** and the corresponding plan to be recorded by the provider
- Monitoring of **second stage** of labour

PRACTICAL APPLICATION OF WHO LABOUR CARE GUIDE

WHO



Designed for the care of women and their babies during labour and birth.

*It includes assessments and observations that are essential for **all pregnant women's care**, regardless of their risk status*



WHERE



Designed for use at all levels of care in health facilities, although the plan of action will vary depending on level of care.



WHEN



Documentation should be initiated when the woman enters active phase of the first stage of labour, regardless of parity and membranes status.



Next Generation Partograph

THE FUTURE OF WHO LABOUR CARE GUIDE



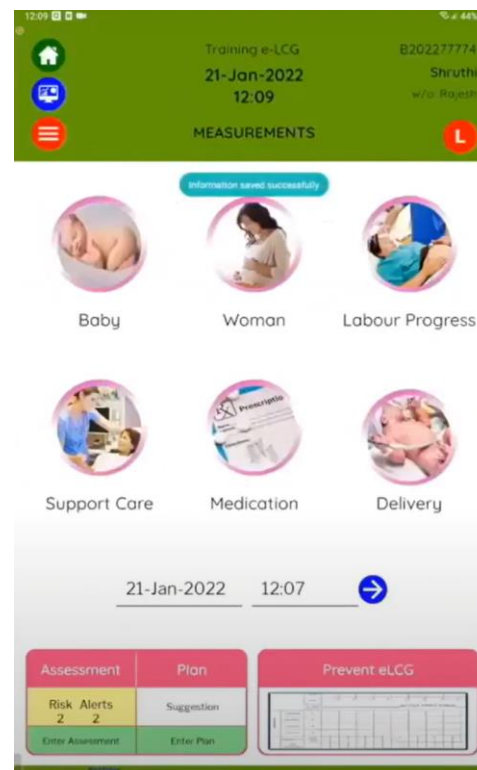
Results of a global research prioritization exercise conducted in November 2021 highlighted need for an international collaborative platform to maximize efforts to implement prioritised research avenues, establish a repository of prioritised studies, and facilitate dissemination of impactful results



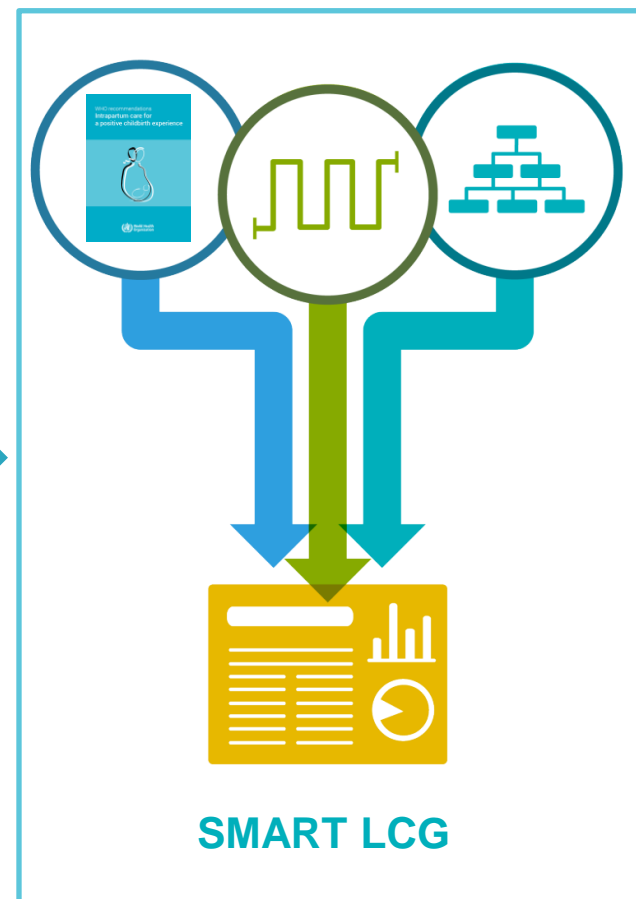
Digital LCG provides additional benefits over the paper-based LCG. A prototype is being applied in the ongoing PREVENT study in India



Artificial intelligence / machine learning technologies are more likely to assist in optimizing labour management



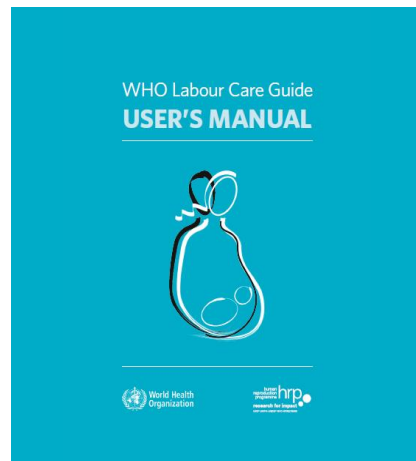
<https://www.preventstudy.org/pcc2022>



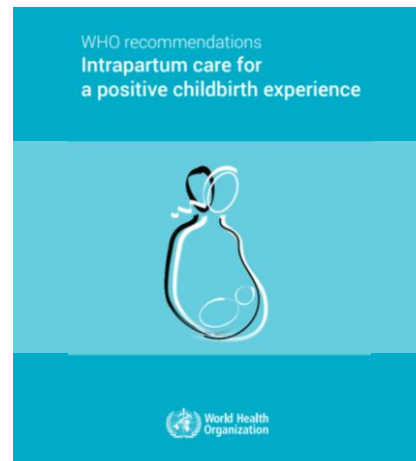
Next Generation Partograph

ADDITIONAL RESOURCES FOR EDUCATION AND TRAINING

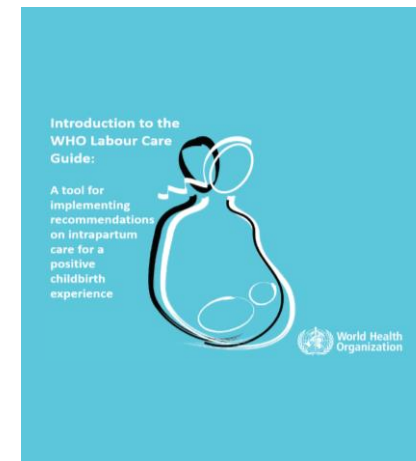
These resources are available for facilitating the implementation of the WHO Labour Care Guide.



LCG User's manual



WHO Recommendations



LCG dissemination slidedoc



WHO recommendations slidedoc

INFORMATION ON THE DEVELOPMENT OF WHO LABOUR CARE GUIDE

Pingray et al. *Reprod Health* (2021) 18:66
<https://doi.org/10.1186/s12978-021-01074-2>

Reproductive Health

RESEARCH

Open Access

The development of the WHO Labour Care Guide: an international survey of maternity care providers

Veronica Pingray^{1*}, Mercedes Bonet², Mabel Berrueta¹, Agustina Mazzoni¹, María Belizán¹, Netanya Keil³, Joshua Vogel⁴, Fernando Althabe² and Olufemi T. Oladapo²

110 maternity care providers from 23 countries; agreed with the overall design and structure of the LCG, and the usefulness of reference thresholds to trigger further assessment and actions.

ORIGINAL ARTICLE

BIRTH ISSUES IN PERINATAL CARE WILEY

Usability, acceptability, and feasibility of the World Health Organization Labour Care Guide: A mixed-methods, multicountry evaluation

1,226 'low-risk' women were enrolled and LCG applied during birth; 91.6% resulted in SVD, 1.3% IVB, 7.1% CS, 2 stillbirths, and zero maternal death

African Journal of Midwifery and Women's Health
 Vol. 15, No. 4
<https://doi.org/10.12968/ajmw.2020.0043>

AJM

RESEARCH

An exploration of midwives' views of the latest World Health Organization labour care guide

Rose Laisser, Valentina Actis Danna, Mercedes Bonet, Olufemi T. Oladapo, Tina Lavender

43 midwives in SSA participated in 6 FGDs and 12 in-depth interviews, agreed existing partograph has not reached its full potential, but reluctant to change to something new.

BJOG An International Journal of Obstetrics and Gynaecology

Royal College of Obstetricians & Gynaecologists

DOI: 10.1111/1471-0528.16694
www.bjog.org

Commentary
 General obstetrics

WHO next-generation partograph: revolutionary steps towards individualised labour care

GJ Hofmeyr,^{a,b} S Bernitz,^{c,d} M Bonet,^e M Bucagu,^f B Dao,^g S Downe,^h H Galadanci,ⁱ CSE Homer,^j V Hundley,^k T Lavender,^l B Levy,^m D Lissauer,ⁿ P Lumbiganon,^o FE McConville,^l R Pattinson,^p Z Qureshi,^q JP Souza,^r ME Stanton,^s P ten Hoope-Bender,^t V Vannevel,^p JP Vogel,^j OT Oladapo^o

A commentary that provides the evidence-base for changes made to graphical display of labour progression, and starting point of active phase, and rationale for including second stage

Letter to the Editor

 European Journal of Midwifery

WHO Labor Care Guide as the next generation partogram: Revolutionising the quality of care during labor

Malitha Patabendige¹, Denagamage J. Wickramasooriya², Don L.W. Dasanayake³

- Integrates items to promote and monitor quality of care
- Questions concurrent use of LCG and Safe Childbirth Checklist
- Seems to be more robust tool covering first and second stage of labour in a multifaceted way
- Integrates new WHO intrapartum care recommendations
- Start of active phase may keep a substantial number of women who still need monitoring out of the labour ward
- Existing partograph “should not be replaced too quickly”

JOGNN

SPECIAL REPORT

Current Resources for Evidence-Based Practice, January 2021

Marit L. Bovbjerg, Sabrina Pillai, and Melissa Cheyney

- Alert/action lines “ideas” still incorporated rather than focusing on alert/action lines – the alert criteria enables provider to assess labour holistically
- Commended WHO for pilot testing LCG
- LCG tool could be incorporated into electronic health record
- Impact of LCG or the underlying WHO guidelines on CS rate in the USA remains to be seen
- LCG is a step in the right direction but systemic challenges underpinning poor labour outcomes persist

DOI: 10.1111/1471-0528.16914
www.bjog.org

Commentary

WHO next-generation partograph: revolutionary steps towards individualised labour care?

N Maaløe,^{a,b} J van Roosmalen,^{c,d} B Dmello,^{a,e,f} B Kwast,^g T van den Akker,^{c,d} N Housseine,^f
M Kujabi,^a T Meguid,^h H Kidanto^f

- Commends WHO for changing start of active phase to 5 cm
- Questions how LCG promotes individualised care because “it is not context-stratified to available resources”
- Complexity of cm-by-cm thresholds for cervical dilatation makes care more difficult in busy labour wards
- A woman can be in active labour for 18 hours if she remains just under LCG threshold at each cm of dilatation
- Latent phase not included
- Impossible to follow LCG because of human resources challenges in LMICs

Original Research

ajog.org

Impact of WHO Labor Care Guide on reducing cesarean sections at a tertiary center: an open-label randomized controlled trial

 Check for updates

Divya Pandey, MS; Rekha Bharti, MD; Anjali Dabral, MD; Zeba Khanam, MD

- Open-label RCT on the effect of LCG on labour outcomes
- Participants were 280 low-risk women admitted for delivery at a busy tertiary centre in Northern India
- Caesarean delivery rates in LCG versus WHO Modified partograph group were 1.5% vs 17.8% (P=0.0001)
- Duration of the active phase was significantly shorter in the study group than in the control group (P<0.001).
- Concludes LCG is a simple labour monitoring tool for reducing primary cesarean delivery rate without increasing hospital stay and complications

SUMMARY

- The WHO Labour Care Guide is the new tool developed to facilitate implementation of the WHO intrapartum care recommendations and model of care
- The tool encourages best practices and aims to promote good quality, respectful care for all women, and their babies
- LCG was developed based on considerable research, knowledge synthesis, consultations, field testing and refinement



MANY THANKS TO...

- All health care personnel and contributors who participated in the conduct of LCG international survey

WHO Technical Working Group on Labour Care Guide

- Stine Bernitz
- Blami Dao
- Soo Downe
- Hadiza Galadanci,
- Caroline SE Homer
- G. Justus Hofmeyr
- Vanora Hundley
- Tina Lavender
- Barbara Levy
- David Lissauer
- Pisake Lumbiganon
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- Robert Pattinson
- Veronica Pingray
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- Joao Paulo Souza
- Mary Ellen Stanton
- Jeff Stringer
- Petra ten Hoope-Bender
- Valerie Vannevel
- Joshua P Vogel

WHO Staff

- Mercedes Bonet
- Maurice Bucagu
- Fernando Althabe
- Olufemi Oladapo

Next Generation Partograph

TACK FÖR ERAN UPPMÄRKSAMHET!

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and Reproductive
Health and Research



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@HRPresearch



Facebook:

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LinkedIn:

[Femi Oladapo](#)