

# ZSFG Labor Management Guideline

## Labor Duration Definitions

\*Note: Labor management guidelines are discussed in the subsequent section.

### First Stage Latent Labor: Cervical dilation of 0-6 cm <sup>7</sup>

<b>Normal</b>	<p>Difficult to define due to challenge of determining the onset of labor.</p> <ul style="list-style-type: none"> <li>No range exists for the new latent labor definition of 0-6 cm per Zhang <ul style="list-style-type: none"> <li>Nulliparas (data exists only for 3-6cm): Mean duration of <b>3.9</b> hours; 95<sup>th</sup> percentile: <b>17.7</b> hours</li> <li>Multiparas (data exists only for 4-6cm) Mean duration of <b>2.2</b> hours; 95<sup>th</sup> percentile: <b>10.7</b> hours<sup>7</sup></li> </ul> </li> <li>Per Friedman: &lt;20 hours in the nullipara, and &lt;14 hours in the multipara from 0-3cm <sup>8</sup></li> </ul>
<b>Prolonged</b>	<ul style="list-style-type: none"> <li>Per Friedman: &gt;20 hours in the nullipara, &gt;14 hours in the multipara from 0-3 cm</li> <li>No range exists for the new latent labor definition of 0-6 cm <ul style="list-style-type: none"> <li>Nulliparas: &gt;18 hours from 3-6cm</li> <li>Multiparas: &gt;10.7 hrs from 4-6cm<sup>7</sup></li> </ul> </li> </ul>

### First Stage Active Labor: Cervical dilation of 6-10 cm

<b>Normal</b>	<ul style="list-style-type: none"> <li>Nulliparas: Mean duration of <b>2.1</b> hours; 95th percentile: <b>7</b> hours</li> <li>Multiparas: Mean duration of <b>1.5</b> hours; 95th percentile: <b>5.1</b> hours<sup>7</sup></li> </ul>
<b>Prolonged/ slow slope</b>	<ul style="list-style-type: none"> <li>Slow progress from 6-10cm: Presence of labor progress, but duration outside the 95th percentile range of normal ( &gt; 7 hours in a nullipara, or &gt; 5 hours in a multipara)<sup>7</sup></li> </ul>
<b>Arrest</b>	<p>Absence of labor progress/progressive cervical dilation for:</p> <ul style="list-style-type: none"> <li><b>4 hours OR MORE</b> of adequate UCs (<b>MVUs &gt;200</b>)</li> <li><b>6 hours OR MORE</b> with Pitocin and ruptured membranes (if possible) if UCs inadequate <sup>2</sup></li> </ul>

### Second Stage Labor: Complete dilation to birth of the neonate

<b>Normal</b>	<ul style="list-style-type: none"> <li>Nulliparas: &lt;3 hours WITHOUT epidural, &lt;4 hours WITH epidural</li> <li>Multiparas: &lt;2 hours WITHOUT epidural, &lt;3 hours WITH epidural <sup>1</sup></li> </ul>
<b>Prolonged</b>	<p>Presence of descent, but duration outside normal range.</p> <ul style="list-style-type: none"> <li>Nulliparas: &gt;3 hours without epidural, &gt;4 hours with epidural</li> <li>Multiparas: &gt;2 hour without epidural, &gt;3 hours with epidural <sup>1</sup></li> </ul>

## Arrest

No descent after good pushing efforts for:

Nulliparas: >3 hours without epidural, >4 hours with epidural"

Multiparas: >2 hour without epidural, >3 hours with epidural"

\*New data suggests that 95% of nullips with epidurals will deliver safely within 5 hours and 19 minutes and 95% of multips will deliver safely within 5 hours.<sup>9</sup>

\* According to a 2014 retrospective cohort study of 42,268 women who delivered vaginally and had normal neonatal outcomes, the 95th percentile duration of second stage labor with epidural anesthesia is more **than two hours greater** for both nullips and multips (as opposed to one hour) when compared to women in second stage labor without epidural use.<sup>9</sup>

DRAFT

## Latent Labor- Prolonged:

- Per Friedman: >20 hours in the nullipara, >14 hours in the multipara from 0-3 cm,
- No range exists for the new latent labor definition of 0-6 cm
  - Nulliparas: >18 hours from 3-6cm
  - Multiparas: >10.7 hrs from 4-6cm<sup>7</sup>

### Management:

For patients with risk factors or trending towards dystocia:

1. Membrane Sweeping (See **Appendix F**: Membrane Sweeping)
2. Breast/nipple stimulation (See SFGH Birth Center Policy 2.24)
3. Encourage upright positions (standing, walking, kneeling, sitting) (See **Appendix C**: Upright Positioning During Labor)

Three options for prolonged latent labor:

1. Expectant Management: Observe, ambulate, or send home.
2. Sedation: Consider therapeutic rest (see triage order set for dosing recommendations)
3. Stimulation of labor: Stimulation is reasonable to consider in women with a ripe cervix or in women who have failed therapeutic rest and have presented for multiple triage visits: consider various methods of induction/ augmentation. For more information on oxytocin, see SFGH oxytocin policy
  - a. Most women with prolonged latent phase will enter active phase with expectant management alone. Those that don't will often either 1) stop contracting, or 2) reach active phase with amniotomy or oxytocin or both. Thus prolonged latent phase is not an indication for cesarean delivery.<sup>2</sup>
  - b. If patient is being induced, consider failed induction if unable to generate UC's q3 minutes after at least 24 hours of pitocin with ruptured membranes, if feasible<sup>1</sup>

## First Stage: Active Labor 6-10 cm

**Definition:** Point at which the labor curve becomes steep, with steady and rapid cervical change. Exact point in labor varies considerably from person to person.

### Normal Active Labor:

- Nulliparas: Mean duration of 2.1 hours; 95th percentile: 7 hours<sup>7</sup>
- Multiparas: Mean duration of 1.5 hours; 95th percentile: 5.1 hours

### Management: For ALL patients

- Involve patient and family in care plan and shared decision making.
- Encourage continuous labor support. Continuous labor support has been shown to shorten labor and promote physiologic birth. (See **Appendix B: Continuous Labor Support**)
- Supportive care:
  - Hydration: Encourage PO fluids (not exclusively water) and offer IV fluids if PO fluid intake is low.
  - Nourishment: Offer small portions of food that sound appealing to the laboring mother. Eg: fruit, yogurt, crackers, cheese, popsicles, sandwich. An average of 81 calories kca/hr prevents the development of ketosis during labor.<sup>17</sup>
- Encourage movement and frequent position changes. Encourage upright positions (standing, walking, kneeling, sitting) (See **Appendix B: Upright Positioning During Labor**)
- Provide psychological support

### Optional Interventions:

- Acupressure of SP6 and/or L14 point (See **Appendix G: Acupressure**)

## Active Labor- Prolonged/ Slow Slope

- Slow progress after 6 cm dilation: Presence of labor progress, but duration outside the 95th percentile range of normal (> 7 hours in a nullip, or > 5 hours in a multipara<sup>7</sup>).

- Consider all possible etiologies when troubleshooting
- Involve the patient and family in the care plan and shared decision making.

**Emotional dystocia:** Assess mom's level of coping. Is she distressed, afraid, exhausted, in severe pain?

- Assess mother's emotional/psychological well being through open-ended questions and active listening, and provide appropriate reassurance and education. Between contractions ask questions like:
  - What was going through your mind during that last contraction?
  - How are you feeling right now?
  - Do you have any idea why your labor has slowed down?
  - Is there anything that you feel needs to happen before you have your baby?
- Refocus and comfort patient: shower/bath, massage/soothing touch, aromatherapy
- Pain relief: Ideally starting with non-pharm methods and escalating as needed. <sup>11</sup>
- Encourage continuous labor support. Continuous labor support has been shown to shorten labor and promote physiologic birth. (See **Appendix B:** Continuous Labor Support)

**Cervical dystocia:** Persistent anterior cervical lip, swollen cervix, or rigid os?

- With freedom of movement mom will often assume positions that help to reduce cervical lip and swollen cervix.
  - Gravity neutral or anti-gravity positions like hands and knees and open knee chest will help to lift the fetal head away and reduce pressure on the cervix.
  - To help redistribute the pressure on the cervix and promote more even dilation, try the following: side-lying, semi-prone, standing.
- Water immersion reduces gravitational force and can help relieve pressure on the cervix.
- If patience, position change, and water immersion fail, try manual reduction of a persistent cervical lip.<sup>12</sup>

**Uterine dystocia:** Assess for inadequate or inefficient contractions

- Consider IV fluids if not already running. IV hydration is shown to shorten active labor by 1 hr. and 2nd stage by 15 min. Also decreases need for oxytocin augmentation (50% w/ PO fluids vs. 20% w/ IVF) <sup>11</sup>
- Breast/nipple stimulation (See SFGH Birth Center Policy 2.24)
- Ensure adequate forces
  - Ensure adequate forces: MVU of 200 is thought to be adequate (ACOG) or, if no IUPC, UCs every 2-3 min x 80-90 sec that palpate strong
  - Consider IUPC placement
  - Consider oxytocin augmentation
    - Consider membrane sweeping in conjunction with oxytocin augmentation (See **Appendix E:** Membrane Sweeping)

**Fetal dystocia:** Assess for malposition, CPD, and macrosomia

- Reposition fetus: Upright and forward leaning positions, walk/movement, pelvic rock, lunge, hands and knees. Suggest frequent position change (q 30 min.)<sup>12</sup> (See **Appendix C: Upright Positioning During Labor**)
- If the preceding measures do not improve fetal position and/or dilation: Assess fetal position by ultrasound, if OP and > 7cm dilated, consider manual rotation. (See **Appendix F: Occiput Posterior Position**, See **Appendix G: Manual Rotation**)

**Iatrogenic dystocia:**

- Has active labor been diagnosed too early?

**Pelvic dystocia:** This is a diagnosis of exclusion and should not be made prior to investigating all other causes.

Note: Operative delivery is not indicated for prolonged labor as long as maternal/fetal status is reassuring. When evaluating labor progress consider effacement, station, and rotation in addition to cervical dilation.

## Active Phase Arrest

- Absence of labor progress/progressive cervical dilation for:<sup>1</sup>
  - 4 hours OR MORE of adequate UCs (MVUs >200)
  - 6 hours OR MORE if UCs inadequate

**If Active Phase Arrest:**

- Involve patient and family in care plan and shared decision making.
- Management options include:
  1. Augmentation:
    - a. Consider oxytocin augmentation and “tincture of time”.
    - b. Can consider amniotomy as an alternative or adjunct to oxytocin
    - c. IUPC may be useful in diagnosing adequate forces but is not necessary to titrate pitocin
    - d. In cases of active phase arrest, waiting for a vaginal delivery rather than doing a cesarean decreases the risk of adverse maternal outcomes without causing any additional risk to the newborn<sup>3</sup>
  2. Cesarean: Consider if pt. meets arrest criteria and rupture of membranes has already occurred.

# Second Stage Labor

Definition: Time of complete cervical dilatation to birth of the neonate.

## Normal Second Stage

- Nulliparas: <3 hours WITHOUT epidural, <4 hours WITH epidural <sup>7</sup>
- Multiparas: <2 hours WITHOUT epidural, <3 hours WITH epidural

### General management:

- Ensure adequate hydration
- Encourage upright and comfortable positioning
- Allow for the physiologic resting phase and passive descent.
- Delayed pushing: allow mother to rest until strong urge to push is noted—usually 1-2 hours
  - Especially beneficial for: epidural w/ no urge to push, fetal head above +2 station at onset of 2nd stage, women w/ limited strength or motivation to push.
  - Delayed pushing decreased pushing time by 20 mins while increasing duration of 2nd stage by 54 mins. No difference in operative vaginal delivery rate. <sup>18</sup>
- Evaluate progress early and frequently: expect some progress each hour of active pushing.

## Prolonged Second Stage: Presence of descent, but duration outside normal range.

- Nulliparas: >3 hours WITHOUT epidural, >4 hours WITH epidural
- Multiparas: >2 hours WITHOUT epidural, >3 hours WITH epidural <sup>1</sup>

It may be prudent to begin assessing and addressing potential causes of slow progress once second stage has extended past the **half-way point** of the upper limit of normal:

- Nulliparas: >1.5 hours WITHOUT epidural, >2 hours WITH epidural
- Multiparas: >1 hour WITHOUT epidural, >1.5 hours WITH epidural

In general, consider all of the same factors listed for prolonged active first stage labor, with the following exceptions and specifications:

### Uterine dystocia:

- Encourage walking or position changes
- Consider augmentation with breast/nipple stimulation or oxytocin
- IUPC likely not useful in pushing phase, but may consider during passive descent if concerned about uterine hypocontractility.

### Fetal dystocia: Assess for malposition, CPD, and macrosomia

- Encourage upright, forward leaning, pelvic-opening positions. (See **Appendix B: Upright Positioning During Labor**)
- Check fetal position with ultrasound, and consider manual rotation of the occiput posterior fetus. (See **Appendix H: Occiput Posterior Position**, See **Appendix I: Manual Rotation**)

### Ineffective Pushing:

- Consider decreasing maternal anesthesia, although evidence re: effectiveness of this is inconclusive.
- If pain is interfering, consider increasing analgesia at least temporarily to refocus

**Arrest of descent:** No descent after good pushing efforts for:

Nulliparas: >3 hours without epidural, >4 hours with epidural

Multiparas: >2 hour without epidural, >3 hours with epidural

\*New data suggests that 95% of nullips with epidurals will deliver safely within 5 hours and 19 minutes and 95% of multips will deliver safely within 5 hours. <sup>9</sup>

\* According to a 2014 retrospective cohort study of 42,268 women who delivered vaginally and had normal neonatal outcomes, the 95th percentile duration of second stage labor with epidural anesthesia is more than **two hours greater** for both nullips and multips (as opposed to one hour) when compared to women in second stage labor without epidural use. <sup>9</sup>

**If arrest of second stage:**

- Consider all the same factors as were noted in the above section on prolonged second stage
- Consider operative delivery. Be aware of risk factors for shoulder dystocia.

A specific absolute maximum length of time spent in the second stage of labor beyond which all women should undergo operative delivery has not been identified as long as fetal heart rate pattern are normal and some degree of progress is made.

---ACOG, 2003, 2014 (Strong recommendation, low- quality evidence)

It is important to assess fetal position in the setting of abnormal fetal descent and manual rotation of the OP fetus is a reasonable option to consider before moving onto operative delivery or cesarean delivery.

---ACOG, 2014 (Strong recommendation, moderate quality evidence)



**Management of Labor Progress**

**Team approach to labor dystocia management and consultation:** Long labors and inductions are often stressful for the patient, her family and maternity care providers including obstetric provider (MD, DO, CNM) and labor and delivery nurses. When these situations arise a maternity care team (including provider and nursing) huddle to discuss labor management is encouraged and may address issues such as oxytocin management, family dynamics, or consideration of OP position.