

## Introduction

- Second trimester abortion is associated with higher rates of complications compared to first trimester abortion.<sup>1,2</sup>
- Common complications for second trimester abortion include uterine perforation, uterine rupture and hemorrhage.<sup>2</sup>
- Standardized interventions for second trimester medical terminations have not decreased rates of postoperative dilation and curettage (D&C) or other complications.<sup>3</sup>
- Little is known about the frequency or timing of specific complications during second trimester termination of pregnancy.
- Current standardized intervention at UC Davis for termination of pregnancies 22 weeks gestational age or more requires patients to be observed in the post-anesthesia care unit (PACU) for 8 hours post-operation.
- This project aims to evaluate the timing and rates of complications to determine the effectiveness as well as possible revisions that can be made to the institutional postoperative monitoring after dilation and evacuation at 22 weeks gestational age (GA) or further at UC Davis.

## Methods

- Retrospective study of patients undergoing D&E 11/2020-12/2022
- Inclusion criteria: ≥22 wks GA
- Data collected: demographics, medical history, cesarean delivery history, complications, interventions, time of interventions, bleeding, time of bleeding, length of stay in the PACU, and subsequent procedures
- We analyzed administration of methylergonovine to determine whether it was given prophylactically due to protocol or as an intervention.
- Bleeding outcomes relied on via chart documentation.



Characteristic	N (%) or Median (range)	
Age	28y (13-42)	
Gestational Age	22w6d (22w0d-27w0d)	
Race	Black or African American	25 (14%)
	White	72 (41%)
	Asian	8 (5%)
	Native American/Alaskan Native	3 (2%)
	Native Hawaiian/Pacific Islander	6 (3%)
	Other	60 (34%)
	More than 1 race	2 (1%)
	Ethnicity	Hispanic: 67 (38%) Non-Hispanic: 109 (62%)
BMI	<18.9	2 (1%)
	19-24.9	49 (28%)
	25-29.9	53 (30%)
	30-34.9	47 (27%)
	>35	24 (14%)
History of Caesarean	32 (18%)	
History of Medical Illnesses*	69 (39%)	
Procedure Indication	Induced	119 (68%)
	Maternal Health	0 (0%)
	Intrauterine Fetal Demise	2 (1%)
	Fetal Anomaly	51 (29%)
	Pregnancy Complications	1 (0.5%)
	Other	1 (0.5%)
	More than 1 reason	2 (1%)

Table 1. Characteristics of patients undergoing D&E at 22 wks or greater.  
\*Medical illnesses includes hypertension, diabetes, respiratory disease, cardiac disease, kidney disease, coagulopathy, psychiatric illness, immunocompromise, substance use

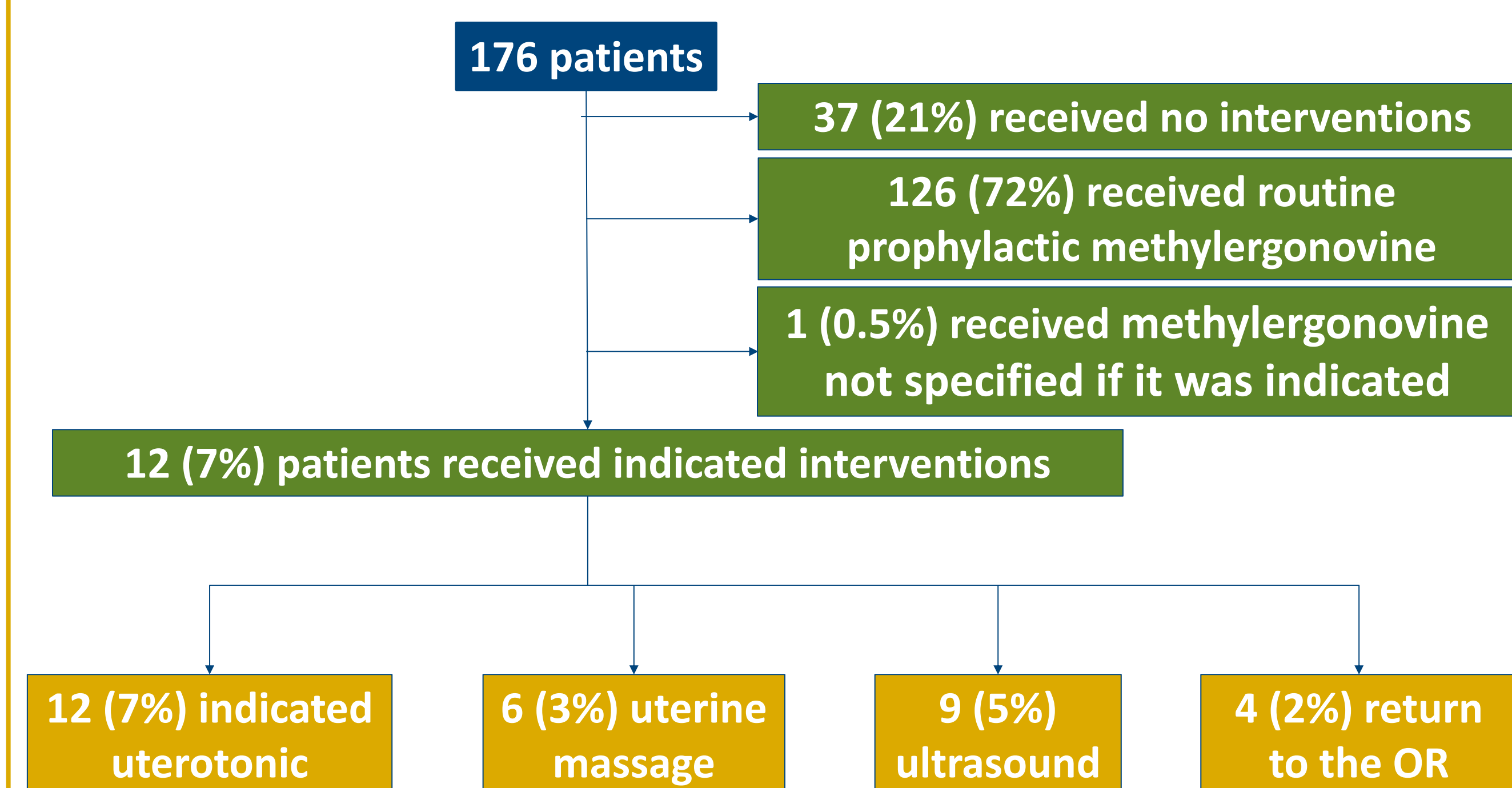


Figure 1. Flowchart showing patients undergoing D&E at 22 weeks or greater who received intervention following their procedure and type of interventions

Time that Patients Left early after D&E	# Patients	Reason for Leaving
t=0-1 hrs	0	
1-2	1	Other/not specified
2-3	0	
3-4	3	Inconvenience/other commitments
		Other/not specified
		Other/not specified
4-5	0	
5-6	2	Inconvenience/other commitments
		Inconvenience/other commitments
6-7	2	Inconvenience/other commitments (childcare)
		Other/not specified
7-8	4	Inconvenience/other commitments (childcare)
		Other/not specified
		Other/not specified
		Other/not specified

Table 2. Number of patients who left before 8-hour observation was complete and reasons for leaving; D&E = dilation and evacuation

Time of Intervention after D&E (hr)	Number of Patients receiving intervention	Indicated Uterotonics			Uterine Massage	Ultrasound	Return to OR
		Methylergonovine	Carboprost	Misoprostol			
0-1	5	0		1			
1-2	16	4	1	1	2	1	
2-3	11	5	1	1	2	2	
3-4	42	0				1 D&C	
4-5	41	1			1	2	
5-6	16	1			1	2	
6-7	6	0					
7-8	1	0					
8-9	1	0				1 LSC	
Total	139	11	2	3	6	9	
		12					4

Table 3. Patients undergoing D&E at 22 weeks or greater who received intervention following their procedure and type of interventions; D&E = dilation and evacuation; LSC = laparoscopy, D&C = dilation and curettage

## Results

- 1269 patients underwent 2<sup>nd</sup> trimester dilation and evacuation at UCDMC, of which 176 were at least 22 weeks GA
- 126 (72% of 176 patients) received prophylactic methylergonovine per clinical protocol
  - Depending on the provider, routine methylergonovine was often administered around 2 or 4 hours post-op.
- 37 patients (21% of 176 patients) did not receive any intervention
- 1 (0.5% of 176 patients) received methylergonovine, but it was unknown/not specified if it was indicated
- 12 (7% of 176 patients) received indicated interventions

## Conclusions

- Protocol implementation should be improved to ensure all patients received prophylactic methylergonovine per protocol
- Only 1 intervention occurred after 5 hours.
  - This intervention was a laparoscopy that occurred at 8 hours due to a known uterine perforation that occurred in the initial D&E.
- Patients who underwent uncomplicated dilation and evacuation at 22 weeks gestational age or greater did not require intervention after 5 hours post-op.

## QI Opportunities

- Recording of time and amount of bleeding were not precise, often described by the number of pads used and percent saturation of pads recorded in progress notes.
- Administration of methylergonovine was noted to be routine by some physicians, but not by all physicians.
  - Thorough chart review was required to best deduce whether administration of methylergonovine was routine or indicated

## References

1. Mentula MJ, Niinimäki M, Suhonen S, Hemminki E, Gissler M, Heikinheimo O. Immediate adverse events after second trimester medical termination of pregnancy: results of a nationwide registry study. Hum Reprod. 2011 Apr;26(4):927-32. doi: 10.1093/humrep/der016. Epub 2011 Feb 11. PMID: 21317416.
2. Grossman D, Blanchard K, Blumenthal P. Complications after second trimester surgical and medical abortion. Reprod Health Matters. 2008 May;16(31 Suppl):173-82. doi: 10.1016/S0968-8080(08)31379-2. PMID: 18772098.
3. Wyatt MA, Tolcher MC. Standardizing Second-Trimester Medical Termination: Effects on Clinical Outcomes. Am J Perinatol. 2018 Jul;35(8):791-795. doi: 10.1055/s-0037-1619449. Epub 2018 Jan 5. PMID: 29304543.