

PROTOCOL FOR: Labetalol: Care of the Perinatal Patient Receiving Intravenous Labetalol for Severe Hypertension

PURPOSE: To delineate nursing responsibilities/care of the patient receiving continuous intravenous Labetalol for acute lowering of blood pressure for severe hypertension (> 170 systolic, > 110 diastolic) when intermittent dosing of antihypertensive medication is ineffective.

SUPPORTIVE DATA: Labetalol is a combined alpha- and beta-adrenoreceptor antagonist that may be used to induce a controlled, rapid decrease in blood pressure via decreased systemic vascular resistance in patients with severe hypertension. The use of Labetalol has been associated with increased uteroplacental perfusion and decreased uterine vascular resistance.

DESIRED

PATIENT OUTCOMES:

1. Lowering and control of the patient's blood pressure to a systolic measure of 140 and a diastolic measure of 90.
2. Prevention of patient and fetal complications associated with severe hypertension.
3. Patient and fetus will experience minimal side effects from treatment with intravenous Labetalol.

CLINICAL  
ASSESSMENT  
AND CARE:

1. Care of the patient:
  - a. Obtain baseline vital signs prior to the administration of Labetalol.
  - b. Monitor BP and pulse every 30 minutes until control level as stipulated by MD is achieved and then every 1 hour for up to 6-8 hours after last dose of labetalol (due to Labetalol's extended half-life).
  - c. Maintain patient in the left lateral position, on strict bed rest.
  - d. Maintain continuous fetal heart rate monitoring (by scalp electrode if possible).
  - e. Assess fetal heart rate for baseline and variability.
2. Preparation and administration of the infusion:
  - a. Pharmacy will mix 500mg of labetalol in 250 ml normal saline for a concentration of 2 mg/ml labetalol.

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- b. Infusion should begin at a rate of 0.5 mg/kg/hr and increased by 0.5 mg/kg every 30 minutes (maximum dose of 3mg/kg/hr) until a systolic blood pressure of no less than 140 and diastolic pressure of no less than 90 is achieved as ordered by the physician.
- c. If inadequate control continues on a maximum dose of 3mg/kg/hr, consult Maternal Fetal Medicine attending for further management.

PATIENT TEACHING:

1. Explain the plan of care during Labetalol infusion, i.e. frequent vital signs.
2. Instruct patient to call the nurse if she is lightheaded, has difficulty breathing or is short of breath at any time during labetalol therapy.

DOCUMENTATION:

1. Record on L&D Nursing Care Flow sheet and fetal monitor tracing:
  - a. Vital signs
  - b. FHR
  - c. Increases or decreases of Labetalol
  - d. Side effects of therapy
  - e. Uterine activity in labor patients

REPORTABLE  
CONDITIONS:

1. Change in FHR baseline or variability
2. Vital signs outside MD parameters.
3. Difficulty breathing, shortness of breath and/or chest pain.
4. Inability to control BP at maximum dose of Labetalol.

APPROVAL: Nursing Standards Committee

EFFECTIVE DATE: 8/02

REVISION DATES: 9/08, 11/08

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## LABETALOL CONTINUOUS INFUSION RATES

**0.5 mg / kg / hr      2mg / 1cc**

WT IN KG	WT IN LBS	MG/HR	CC/HR	WT IN KG	WT IN LBS	MG/HR	CC/HR	WT IN KG	WT IN LBS	MG/HR	CC/HR
45	99	22.5	11	74	162	37	19	103	227	51.5	26
46	101	23	12	75	165	37.5	19	104	229	52	26
47	103	23.5	12	76	167	38	19	105	231	52.5	26
48	106	24	12	77	169	38.5	19	106	233	53	27
49	108	24.5	12	78	172	39	20	107	235	53.5	27
50	110	25	13	79	174	39.5	20	108	238	54	27
51	112	25.5	13	80	176	40	20	109	240	54.5	27
52	114	26	13	81	178	40.5	20	110	242	55	28
53	117	26.5	13	82	180	41	21	111	244	55.5	28
54	119	27	14	83	183	41.5	21	112	246	56	28
55	121	27.5	14	84	185	42	21	113	249	56.5	28
56	123	28	14	85	187	42.5	21	114	251	57	29
57	125	28.5	14	86	189	43	22	115	253	57.5	29
58	128	29	15	87	191	43.5	22	116	255	58	29
59	130	29.5	15	88	194	44	22	117	257	58.5	29
60	132	30	15	89	196	44.5	22	118	260	59	30
61	134	30.5	15	90	198	45	23	119	262	59.5	30
62	136	31	16	91	200	45.5	23	120	264	60	30
63	139	31.5	16	92	202	46	23	121	266	60.5	30
64	141	32	16	93	205	46.5	23	122	268	61	31
65	143	32.5	16	94	207	47	24	123	271	61.5	31
66	145	33	17	95	209	47.5	24	124	273	62	31
67	147	33.5	17	96	211	48	24	125	275	62.5	31
68	150	34	17	97	213	48.5	24	126	277	63	32
69	152	34.5	17	98	216	49	25	127	279	63.5	32
70	154	35	18	99	218	49.5	25	128	282	64	32
71	156	35.5	18	100	220	50	25	129	284	64.5	32
72	158	36	18	101	222	50.5	25	130	286	65	33
73	161	36.5	18	102	224	51	26	131	288	65.5	33

Increase every 1/2-hour by 0.5 mg/kg/hr if necessary until you reach a maximum of 3 mg/kg/hr

For example: A 74 kg (162 lbs) patient starts at 19cc (0.5 mg/kg) /hr and if necessary increases by 19cc(0.5mg/kg/hr) every 1/2 hour until she reaches a maximum of 3 mg (1.5cc) per Kg (74 kg) per hour  
 (19 + 19 + 19 + 19 + 19 + 19 = 114 cc/hr)