
Reporting Title: Busulfan, IV Dose, AUC, P**Performing Location:** Rochester**Necessary Information:**

The time the drug administration is started and completed, the patient's dose (mg every 6 hours), body weight (kg), and age (years) must be submitted with the specimens. Without infusion start time, exact time of specimen collection, dose, and body weight, the area under the curve and clearance cannot be calculated. Age is required for assessment of the correct dose per body weight.

A completed Busulfan Information: Mail-In Specimen Instructions (T559) is required.

Specimen Requirements:

Four plasma specimens with different collection times (keep all specimens under 1 order) are required.

Collection Container/Tube: Green top (sodium heparin) (Plasma gel/PST are not acceptable)

Submission Container/Tube: Plastic vials

Specimen Volume: 1 mL

Collection Instructions:

1. The first specimen should be collected immediately after completion of the first intravenous infusion of 0.8 mg/kg busulfan.
2. Additional specimens should also be collected at 1 hour, 2 hours, and 4 hours after completion of infusion.
3. Label each specimen with exact time of collection.
4. Busulfan degrades quickly at ambient temperature. Specimens must be kept in wet ice slurry or refrigerated at 4 degrees C. Specimens must be centrifuged within 2 hours after collection. Separate the plasma and transfer to individual 5-mL plastic vials, labeled with exact time of collection. Immediately freeze at -20 degrees C.

Additional Information:

This test should only be ordered when the following criteria are met:

-Busulfan dosing protocol must be intravenous administration of 0.8 mg/kg doses every 6 hours over 4 days, for a total of 16 doses

-Specimens must be collected as described below:

- 1 specimen collected immediately after completion of the first 2-hour IV infusion of busulfan
- 1 specimen collected 1 hour after the infusion is completed
- 1 specimen collected 2 hours after the infusion is completed
- 1 specimen collected 4 hours after the infusion is completed and prior to the next infusion of busulfan

Specimen Minimum Volume:

0.25 mL

Forms:

1. Busulfan Information: Mail-In Specimen Instructions (T559) is required
2. If not ordering electronically, complete, print, and send a Therapeutics Test Request (T831) with the specimen.

Specimen Type	Temperature	Time	Special Container
Plasma Na Heparin	Frozen (preferred)	28 days	
	Refrigerated	72 hours	

Ask at Order Entry (AOE) Questions:

Test ID	Question ID	Description	Type	Reportable
DOSE	DSE	Initial Dose	Plain Text	Yes
DOSE	DAT16	Infusion Start Date	Plain Text	Yes
DOSE	TM82	Infusion Start Time	Plain Text	Yes
DOSE	DAT17	Infusion Stop Date	Plain Text	Yes
DOSE	TM65	Infusion Stop Time	Plain Text	Yes
DOSE	W8	Weight	Plain Text	Yes
BU2H	DRDT2	Draw Date	Plain Text	Yes
BU2H	DRTM2	Draw Time	Plain Text	Yes
BU3H	DRDT3	Draw Date	Plain Text	Yes
BU3H	DRTM3	Draw Time	Plain Text	Yes
BU4H	DRDT4	Draw Date	Plain Text	Yes
BU4H	DRTM4	Draw Time	Plain Text	Yes
BU6H	DRDT6	Draw Date	Plain Text	Yes
BU6H	DRTM6	Draw Time	Plain Text	Yes

Result Codes:

Result ID	Reporting Name	Type	Unit	LOINC®
DSE	Initial Dose	Alphanumeric		93477-8
DAT16	Infusion Start Date	Alphanumeric		88063-3
TM82	Infusion Start Time	Alphanumeric		88060-9
DAT17	Infusion Stop Date	Alphanumeric		88062-5
TM65	Infusion Stop Time	Alphanumeric		88061-7
W8	Weight	Alphanumeric		29463-7

Result ID	Reporting Name	Type	Unit	LOINC®
24220	Age	Alphanumeric	yr	30525-0
24225	Area Under the Curve, (0-6 Hour)	Numeric	(mcmol/L)(min)	93476-0
24226	Clearance	Numeric	(mL/min)/kg	93475-2
24227	Recommended Dose	Numeric	mg q6h	93477-8
DRDT2	Draw Date	Alphanumeric		33882-2
DRTM2	Draw Time	Alphanumeric		49049-0
24221	Busulfan result	Numeric	ng/mL	93436-4
DRDT3	Draw Date	Alphanumeric		33882-2
DRTM3	Draw Time	Alphanumeric		49049-0
24222	Busulfan result	Numeric	ng/mL	93435-6
DRDT4	Draw Date	Alphanumeric		33882-2
DRTM4	Draw Time	Alphanumeric		49049-0
24223	Busulfan result	Numeric	ng/mL	93434-9
DRDT6	Draw Date	Alphanumeric		33882-2
DRTM6	Draw Time	Alphanumeric		49049-0
24224	Busulfan result	Numeric	ng/mL	93433-1

LOINC and CPT codes are provided by the performing laboratory.

Supplemental Report:

No

Components:

Test ID	Reporting Name	CPT Units	CPT Code	Always Performed	Orderable Separately
DOSE	Busulfan, IV Dose, AUC, P			Yes	No
BU2H	Busulfan, Immediate Post Infusion			Yes	No
BU3H	Busulfan, 1hr Post Infusion			Yes	No
BU4H	Busulfan, 2hr Post Infusion			Yes	No
BU6H	Busulfan, 4hr Post Infusion			Yes	No

CPT Code Information:

80299 x 4

Reference Values:

AREA UNDER THE CURVE
900-1500 (mcmol/L)(min)

CLEARANCE
2.1-3.5 (mL/minute)/kg