

1. Dose Table: Medetomidine-Telazol^R (MZT) for Ungulates in Alberta

Mixing instructions for **MZT**: Add 1 ml of **30 mg/ml medetomidine** and **1 ml of sterile water** to 1 vial (**500 mg**) of Telazol^R. This will result in a solution that contains *approximately* 13.5 mg/ml of medetomidine and 230 mg/ml of Telazol^R.

- The dose table below is constructed to dose large ungulates (moose, elk and bison) at a dose of approximately 0.080 mg/kg of medetomidine plus 1.4 mg/kg of Telazol^R.
- Smaller ungulates will be dosed at 0.11 mg/kg of medetomidine plus 1.8 mg/kg of Telazol^R.
- The only exception to the small ungulates is the pronghorn that will be dosed at 0.16 mg/kg of medetomidine plus 2.8 mg/kg of Telazol^R.
- Atipamezole (**ATI**) is provided in a **10 mg/ml** solution for reversal of sedation and will always be administered at **5 times** the medetomidine dose by IM injection.
- **Drug volumes are in milliliters (ml). Remember to “top-up” the dart to full volume with sterile water.**

Body weight (Kg)	Bison	Moose	Elk	Caribou	Bighorn sheep	Mule deer	White tailed deer	Mountain goat	Pronghorn antelope
	MZT /ATI	MZT /ATI	MZT /ATI	MZT /ATI	MZT/ATI	MZT/ATI	MZT/ATI	MZT /ATI	MZT/ATI
50	0.3ml /2ml	0.3ml /2ml	0.3ml /2ml	0.4ml /2.5ml	0.4ml /2.5ml	0.4ml /2.5ml	0.4ml /2.5ml	0.4ml /2.5ml	0.6ml/3.8ml
100	0.6ml /4ml	0.6ml /4ml	0.6ml /4ml	0.8ml /5ml	0.8ml /5ml	0.8ml /5ml	0.8ml /5ml	0.8ml /5ml	1.2ml/8ml
150	0.9ml /6ml	0.9ml /6ml	0.9ml /6ml	1.2ml /8ml	1.2ml /8ml	1.2ml /8ml	1.2ml /8ml	1.2ml /8ml	
200	1.2ml /8ml	1.2ml /8ml	1.2ml /8ml	1.6ml /10ml					
250	1.5ml /10ml	1.5ml /10ml	1.5ml /10ml						
300	1.8ml /12ml	1.8ml /12ml	1.8ml /12ml						
350	2.1ml /14ml	2.1ml /14ml	2.1ml /14ml						
400	2.4ml /16ml	2.4ml /16ml	2.4ml /16ml						
500	3.0ml /20ml	3.0ml /20ml	3.0ml /20ml						
1000	6.0ml /40ml								

1. (con't) Dose Table: Medetomidine-Telazol[®] (MZT) for Carnivores in Alberta

- Drug volumes are in milliliters (ml). Remember to “top-up” the dart to full volume with sterile water.
 - For carnivores under 100 kg, use the 10 mg/ml medetomidine (M10) solution
 - For carnivores over 100 kg, use the 30 mg/ml medetomidine (M30) solution.
 - For Telazol (T), add 2 ml of sterile water to make a concentration of 250 mg/ml.
 - Atipamezole (A) is provided in a 5 mg/ml (A5), 10 mg/ml (A10) or 20 mg/ml (A20) solution for reversal of sedation and will always be administered at 5x the medetomidine dose by IM injection. Use the 10 or 20 mg/ml in carnivores over 100 kg.

	Brown Bear (Grizzly)					Black Bear				
	M10	M30	T	A5	A10	M10	M30	T	A5	A10
Weight (kg)	0.04 mg/kg	0.04 mg/kg	4.0 mg/kg	0.2 mg/kg	0.2 mg/kg	0.05 mg/kg	0.05 mg/kg	2.5 mg/kg	0.25 mg/kg	0.25 mg/kg
10	0.04	---	0.2	0.4	0.2	0.05	---	0.1	0.5	0.25
20	0.08	---	0.3	0.8	0.4	0.10	---	0.2	1	0.50
30	0.12	---	0.5	1.2	0.6	0.15	---	0.3	1.5	0.75
40	0.16	---	0.6	1.6	0.8	0.20	---	0.4	2	1.0
50	0.20	---	0.8	2.0	1.0	0.25	---	0.5	2.5	1.25
60	0.24	---	1.0	2.4	1.2	0.30	---	0.6	3	1.5
70	0.28	---	1.1	2.8	1.4	0.35	---	0.7	3.5	1.75
80	0.32	---	1.3	3.2	1.6	0.40	---	0.8	4	2.0
90	0.36	---	1.4	3.6	1.8	0.45	---	0.9	4.5	2.25
100	---	0.13	1.6	4.0	2.0		0.17	1	5	2.5
150	---	0.20	2.4	6.0	3.0		0.25	1.5	7.5	3.75
200	---	0.27	3.2	8.0	4.0		0.33	2	10	5
250	---	0.33	4.0	10.0	5.0		0.42	2.5	12.5	6.25
300	---	0.40	4.8	12.0	6.0		0.50	3	15	7.5
350	---	0.47	5.6	14.0	7.0		0.58	3.5	17.5	8.75
400	---	0.53	6.4	16.0	8.0					
450	---	0.60	7.2	18.0	9.0					
500	---	0.67	8.0	20.0	5.0					
550	---	0.73	8.8	22.0	5.5					
600	---	0.80	9.6	24.0	6.0					
650	---	0.87	10.4	26.0	6.5					
700	---	0.93	11.2	28.0	7.0					

Cougar					Wolf/Coyote			
	M10	T	A5	A10	M10	T	A5	A10
Weight (kg)	0.05 mg/kg	3 mg/kg	0.3 mg/kg	0.3 mg/kg	0.04 mg/kg	4 mg/kg	0.20 mg/kg	0.20 mg/kg
10	0.05	0.12	0.5	0.25	0.04	0.16	0.4	0.2
15	0.08	0.18	0.8	0.4	0.06	0.24	0.6	0.3
20	0.10	0.24	1.0	0.5	0.08	0.32	0.8	0.4
25	0.13	0.30	1.3	0.7	0.10	0.40	1.0	0.5
30	0.15	0.36	1.5	0.75	0.12	0.48	1.2	0.6
35	0.18	0.42	1.8	0.9	0.14	0.56	1.4	0.7
40	0.20	0.48	2.0	1.0	0.16	0.64	1.6	0.8
45	0.23	0.54	2.3	1.1	0.18	0.72	1.8	0.9
50	0.25	0.60	2.5	1.25	0.20	0.80	2.0	1.0
55	0.28	0.66	2.8	1.4	0.22	0.88	2.2	1.1
60	0.30	0.72	3.0	1.5	0.24	0.96	2.4	1.2
65	0.33	0.78	3.3	1.7	0.26	1.04	2.6	1.3
70	0.35	0.84	3.5	1.75	0.28	1.12	2.8	1.4
75	0.38	0.90	3.8	1.9	0.30	1.20	3.0	1.5
80	0.40	0.96	4.0	2.0	0.32	1.28	3.2	1.6
85	0.43	1.02	4.3	2.2	0.34	1.36	3.4	1.7
90	0.45	1.08	4.5	2.25	0.36	1.44	3.6	1.8
95	0.48	1.14	4.8	2.4	0.38	1.52	3.8	1.9
100	0.50	1.20	5.0	2.5	0.40	1.60	4.0	2.0

1. (con't) Dose Table: Medetomidine-Telazol in North American River Otters

- All doses are in milliliters (ml)
- Medetomidine (10 mg/ml) and Telazol (100 mg/ml)
- Atipamezole (5 mg/ml) at 5x the medetomidine dose

Weight (kg)	Medetomidine (0.03-0.04 mg/kg)	Telazol (2 mg/kg)	Atipamezole
2.0	0.01	0.04	0.1
3.0	0.01	0.06	0.1
4.0	0.01	0.08	0.1
5.0	0.02	0.10	0.2
6.0	0.02	0.12	0.2
7.0	0.02	0.14	0.2
8.0	0.03	0.16	0.3
9.0	0.03	0.18	0.3
10.0	0.04	0.20	0.4
11.0	0.04	0.22	0.4
12.0	0.04	0.24	0.4
13.0	0.05	0.26	0.5
14.0	0.05	0.28	0.5
15.0	0.05	0.30	0.5
16.0	0.06	0.32	0.6
17.0	0.06	0.34	0.6
18.0	0.06	0.36	0.6
19.0	0.07	0.38	0.7
20.0	0.07	0.40	0.7

2. Drug Volume Table for Large Mammals Occurring in Alberta (for Telazol and XZT)

Species		Cougar, Lynx, Wolf, Wolverine, & Black Bear	Fox, Coyote, and Grizzly Bear	Moose, Elk, Deer (White-tailed and Mule), Bighorn Sheep, Mountain Goat, & Wolf		Caribou, Bison, & Bears (Black and Grizzly)		Reversal of XZT Immobilization	
								Carnivore	Ungulate
Drug		Telazol		Xylazine-Telazol (XZT) at 1:2 ratio		Xylazine-Telazol (XZT) at 2:3 ratio		Yohimbine	Tolazoline
Formulation		1.8 ml sterile water per vial of Telazol		2.0 – 2.5 ml xylazine ^a (@ 100 mg/ml) per vial of Telazol	0.8 ml xylazine ^a (@ 300 mg/ml) + 1.3 ml sterile water per vial of Telazol	3.3 ml xylazine ^a (@ 100 mg/ml) per vial of Telazol	1.1 ml xylazine ^a (@ 300 mg/ml) + 1.0 ml sterile water per vial of Telazol	20 ml per vial Antagonil [®]	100 ml per vial Tolazine [®]
Concentration		227 mg/ml		258 mg/ml	300 mg/ml	220 mg/ml	300 mg/ml	5 mg/ml	100 mg/ml
Dosage		6 - 8 mg/kg	8 - 10 mg/kg	4.5 – 6.0 mg/kg		5 - 7 mg/kg		0.2 mg/kg	2.5 mg/kg
Body Weight		Volume (ml) ^{b,c}							
kg	lb								
5	11	0.1 – 0.2	0.2	0.09 – 0.12	0.08 – 0.10	0.11 – 0.16	0.08 – 0.12	0.2	0.13
10	22	0.3 – 0.4	0.4	0.17 – 0.23	0.15 – 0.20	0.23 – 0.32	0.12 – 0.23	0.4	0.25
15	33	0.4 – 0.5	0.5 – 0.7	0.26 – 0.35	0.23 – 0.30	0.34 – 0.48	0.25 – 0.35	0.6	0.38
20	44	0.5 – 0.7	0.7 – 0.9	0.35 – 0.47	0.30 – 0.40	0.45 – 0.64	0.33 – 0.47	0.8	0.50
30	66	0.8 – 1.1	1.1 – 1.3	0.52 – 0.70	0.45 – 0.60	0.68 – 1.0	0.50 – 0.70	1.2	0.75
40	88	1.1 – 1.4	1.4 – 1.8	0.70 – 0.93	0.60 – 0.80	0.91 – 1.3	0.67 – 0.93	1.6	1.0
50	110	1.3 – 1.8	1.8 – 2.2	0.87 – 1.2	0.75 – 1.00	1.1 – 1.6	0.83 – 1.2	2.0	1.3
60	132	1.6 – 2.1	2.1 – 2.6	1.0 – 1.4	0.90 – 1.2	1.4 – 1.9	1.0 – 1.4	2.4	1.5
70	154	1.9 – 2.5	2.5 – 3.1	1.2 – 1.6	1.1 – 1.4	1.6 – 2.2	1.2 – 1.6	2.8	1.8
80	176	2.1 – 2.8	2.8 – 3.5	1.4 – 1.9	1.2 – 1.6	1.8 – 2.5	1.3 – 1.9	3.2	2.0
90	198	2.4 – 3.2	3.2 – 4.0	1.6 – 2.1	1.4 – 1.8	2.0 – 2.9	1.5 – 2.1	3.6	2.3
100	221	2.6 – 3.5	3.5 – 4.4	1.7 – 2.3	1.5 – 2.0	2.3 – 3.2	1.7 – 2.3	4.0	2.5
110	243	2.9 – 3.9	3.9 – 4.8	1.9 – 2.6	1.7 – 2.2	2.5 – 3.5	1.8 – 2.6	4.4	2.8
120	265	3.2 – 4.2	4.2 – 5.3	2.1 – 2.8	1.8 – 2.4	2.7 – 3.8	2.0 – 2.8	4.8	3.0
130	287	3.4 – 4.6	4.6 – 5.7	2.3 – 3.0	2.0 – 2.6	3.0 – 4.1	2.2 – 3.0	5.2	3.3
140	309	3.7 – 4.9	4.9 – 6.2	2.4 – 3.3	2.1 – 2.8	3.2 – 4.5	2.3 – 3.3	5.6	3.5
150	331	4.0 – 5.3	5.3 – 6.6	2.6 – 3.5	2.3 – 3.0	3.4 – 4.8	2.5 – 3.5	6.0	3.8
175	386	4.6 – 6.2	6.2 – 7.7	3.1 – 4.1	2.6 – 3.5	4.0 – 5.6	2.9 – 4.1	7.0	4.4
200	441	5.3 – 7.0	7.0 – 8.8	3.5 – 4.7	3.0 – 4.0	4.5 – 6.4	3.3 – 4.7	8.0	5.0
225	496	5.9 – 7.9	7.9 – 9.9	3.9 – 5.2	3.4 – 4.5	5.1 – 7.2	3.8 – 5.3	9.0	5.6
250	551	6.6 – 8.8	8.8 – 11.0	4.4 – 5.8	3.8 – 5.0	5.7 – 8.0	4.2 – 5.8	10.0	6.3
275	606	7.3 – 9.7	9.7 – 12.1	4.8 – 6.4	4.1 – 5.5	6.3 – 8.8	4.6 – 6.4	11.0	6.9
300	662	7.9 – 10.6	10.6 – 13.2	5.2 – 7.0	4.5 – 6.0	6.8 – 9.5	5.0 – 7.0	12.0	7.5
325	717	8.6 – 11.5	11.5 – 14.3	5.7 – 7.6	4.9 – 6.5	7.4 – 10.3	5.4 – 7.6	13.0	8.1
350	772	9.3 – 12.3	12.3 – 15.4	6.1 – 8.1	5.3 – 7.0	8.0 – 11.1	5.8 – 8.2	14.0	8.8
400	882	10.6 – 14.1	14.1 – 17.6	7.0 – 9.3	6.0 – 8.0	9.1 – 12.7	6.7 – 9.3	16.0	10.0
450	992	11.9 – 15.9	15.9 – 19.8	7.8 – 10.5	6.8 – 9.0	10.2 – 14.3	7.5 – 10.5	18.0	11.3
500	1103	13.2 – 17.6	17.6 – 22.0	8.7 – 11.6	7.5 – 10.0	11.4 – 15.9	8.3 – 11.7	20.0	12.5
550	1213	14.5 – 19.4	19.4 – 24.2	9.6 – 12.8	8.3 – 11.0	12.5 – 17.5	9.2 – 12.8	22.0	13.8
600	1323	15.9 – 21.1	21.1 – 26.4	10.5 – 14.0	9.0 – 12.0	13.6 – 19.1	10.0 – 14.0	24.0	15.0
650	1433	17.2 – 22.9	22.9 – 28.6	11.3 – 15.1	9.8 – 13.0	14.8 – 20.7	10.8 – 15.2	26.0	16.3
700	1544	18.5 – 24.7	24.7 – 30.8	12.2 – 16.3	10.5 – 14.0	15.9 – 22.3	11.7 – 16.3	28.0	17.5

^a Xylazine sold at 100mg/ml as Rompun[®], and at 300 mg/ml as Cervizine 300[®].

^b For top-up doses at ≤ 15 minutes post-immobilization, use 1/3 the volume of drug that was required for the immobilization dose.

^c For top-up doses at > 15 minutes post-immobilization, administer ketamine at 3 mg/kg by intramuscular route.

Drug Volume Table for Mammals of Alberta (last modified: April 2, 2013)

Drug Protocol	Telazol	XZT	XZT Reversal	MZT	MZT Reversal	
Species	Carnivores	All Species	All Species	All Species	All Species	
Formulation	Add 1.8 ml sterile water per vial of Telazol	Add 1.0 ml xylazine (300 mg/ml) ^A + 1.1 ml sterile water per vial of Telazol	Atipamezole ^C	Add 2.4 ml medetomidine (10 mg/ml) ^B per vial of Telazol	Atipamezole ^C	
Concentration	260 mg/ml	349 mg/ml	20 mg/ml	213 mg/ml	20 mg/ml	
Volume per vial	2.2 ml	2.5 ml	10 ml	2.8 ml	10 ml	
Dosage (mg/kg)	7.0 – 10.0 mg/kg	5.0 – 7.0 mg/kg	0.2 mg/kg	1.9 – 2.3 mg/kg	0.4 mg/kg	
Body Weight		Volume (ml)				
kg	lb					
5	11	0.1 – 0.2	0.1	0.05	0.05	0.1
10	22	0.3 – 0.4	0.1 – 0.2	0.1	0.1	0.2
20	44	0.5 – 0.8	0.3 – 0.4	0.2	0.2	0.4
30	66	0.8 – 1.2	0.4 – 0.6	0.3	0.3	0.6
40	88	1.1 – 1.5	0.6 – 0.8	0.4	0.4	0.8
50	110	1.3 – 1.9	0.7 – 1.0	0.5	0.4 – 0.5	1.0
75	165	2.0 – 2.9	1.1 – 1.5	0.8	0.7 – 0.8	1.5
100	221	2.7 – 3.8	1.4 – 2.0	1.0	0.9 – 1.1	2.0
150	331	4.0 – 5.8	2.1 – 3.0	1.5	1.3 – 1.6	3.0
200	441	5.4 – 7.7	2.9 – 4.0	2.0	1.8 – 2.2	4.0
250	552	6.7 – 9.6	3.6 – 5.0	2.5	2.2 – 2.7	5.0
300	662	8.1 – 11.5	4.3 – 6.0	3.0	2.6 – 3.2	6.0
350	772	9.4 – 13.5	5.0 – 7.0	3.5	3.1 – 3.8	7.0
400	882		5.7 – 8.0	4.0	3.5 – 4.3	8.0
450	992		6.4 – 9.0	4.5	4.0 – 4.8	9.0
500	1103		7.2 – 10.0	5.0	4.4 – 5.4	10.0
600	1323		8.6 – 12.0	6.0	5.3 – 6.5	12.0
700	1544		10.0 – 14.0	7.0	6.2 – 7.5	14.0

^A Xylazine 300 is formulated by Chiron Compounding Pharmacy Inc. as xylazine HCl at a concentration of 300 mg/ml. (cost = \$137.50 per 30 ml vial)

^B Medetomidine is formulated by Chiron Compounding Pharmacy Inc. as medetomidine HCl at a concentration of 10 mg/ml. (cost = \$440.00 per 10 ml vial)

^C Atipamezole is formulated by Chiron Compounding Pharmacy Inc. as atipamezole HCl at a concentration of 20 mg/ml. (cost = \$275.00 per 10 ml vial)