References on the Administration of Barbituates
Using ALZET® Osmotic Pumps

1. Pentobarbital

ALZET Comments: Pentobarbital; Saline; CSF/CNS; Rat; 2001; 7 days; Controls received mp w/ vehicle; tolerance; dependence; one week recovery period after cannula placement.

ALZET Comments: Pentobarbital; Saline; CSF/CNS; Rat; 2ML1; 6 days; Controls received mp with vehicle; tolerance; dependence; animals allowed one week recovery after cannula placement.

ALZET Comments: Pentobarbital; CSF/CNS; Rat; 2ML1; 7 days; guide cannula implanted; rats were allowed 1 week recovery before implantation of pump; tolerance; dependence.

ALZET Comments: Pentobarbital; Saline; CSF/CNS; Rat; 2ML1; 6 days; controls received mp w/saline; tolerance.

ALZET Comments: Pentobarbital; Saline; CSF/CNS; Rat; 2ML1; 7 days; controls received mp w/saline; tolerance; dependence.

ALZET Comments: Pentobarbital; Saline; CSF/CNS; Rat; 2ML1; 6 days; controls received vehicle infusion; tolerance; dependence; recipe for equithesin anesthesia provided on p. 170.

P3422: T. Ito, et al. Chronic pentobarbital administration alters g-aminobutyric acid(A) receptor a(6)-subunit mRNA levels and diazepam-insensitive [3H]Ro15-4513 binding. Synapse 1996;22(106-113
ALZET Comments: Pentobarbital; CSF/CNS; Rat; 2ML1; 6 days; tolerance; dependence.

ALZET Comments: Pentobarbital; CSF/CNS; Rat; 2ML1; 6 days; controls received mp w/saline; tolerance; dependence; animals allowed 1 week recovery after cannula placement.

ALZET Comments: Pentobarbital; CSF/CNS; Rat; 2ML1; 6 days; tolerance.

ALZET Comments: Pentobarbital; CSF/CNS; Rat; 2ML1; 6 days; controls received mp with saline; animals allowed 1 week recovery after cannula placement.
ALZET Comments: Pentobarbital; CSF/CNS; Rat; no duration posted; tolerance.

ALZET Comments: Pentobarbital; Saline; CSF/CNS; Rat; 2ML1; 6,7 days; controls received mp with saline; tolerance; dependence; animals allowed 1 week recovery after cannula placement; brain and serum samples taken at 0, 2, 4, 7 days during infusion & 6, 24, 48 hrs. after withdrawal.

ALZET Comments: Pentobarbital; Saline; CSF/CNS; Rat; 2ML1; 6 days; tolerance; dependence.

ALZET Comments: Pentobarbital, sodium; Saline, normal; CSF/CNS; Rat; 2ML1; 6 days; controls received mp w/ filtered, normal saline; tolerance; dependence; good illustration of pump placement (p. 1301).

2. Phenobarbital

R0242: W. Loescher. The pharmacokinetics of antiepileptic drugs in rats: Consequences for maintaining effective drug levels during prolonged drug administration in rat models of epilepsy. Epilepsia 2007;48(7):1245-1258
ALZET Comments: Levetiracetam; phenobarbital; phenytoin; valproic acid; vigabatrin; Water, distilled; PEG 300; glycerol; PEG 400; propylene glycol; SC; IP; Rat; mice; gerbils; 2ML1; 2ML2; 1-4,2 weeks; 7 days; Comparison of IV, IP injections vs. food or water delivery vs mp; pumps replaced (every week in one set of experiments); stress/adverse reaction: (see pg. 1255); peritoneal irritation, peritonitis in some of the IP experiments); half-life (p. 1247) table 1 (18 compounds); animal info (epileptic, Sprague-Dawley, Wistar); review; see p. 1254-1255; see table 4 for advantages + disadvantages of different application routes.

ALZET Comments: Phenobarbital; SC; Rat; 2002; 8 days; Comparison of phenobarb. consumed po in drinking water vs. mp infusion; author states advantages of mp use.

ALZET Comments: Chlorpromazine; haloperidol; phenobarbital; promethazine; SC; Rat; 2001; 8 days; Comparison of agents effects.

ALZET Comments: Phenobarbital, sodium; Valproate, sodium; Water; SC; mice (pregnant); 2001; 2002; 1 and 2 weeks; no stress see p. 1580, 1582; 1-2 pumps/animal; VPA and PB used singly and in combination in mp.

ALZET Comments: Phenobarbital; Water; IP; Rat; 5 days; bolus injec. vs. mp infusion.

**ALZET Comments:** Phenobarbital, sodium; Propylene glycol; Water; CSF/CNS; Rat; 3 days; some groups given 6-OHDA or vehicle of ascorbic acid in Artificial CSF prior to infusion.