

Common Bleeding Sites, IV Injection Sites with Suggested Needle Sizes and Injection Volumes

Common Bleeding Sites in Experimental Animals

Animal	Bleeding Sites
Cat	Cephalic vein, jugular vein
Cattle	Jugular vein, tail artery
Chicken	Heart, anterior vena cava, brachial vein, alar vein
Dog	Cephalic vein, saphenous vein, femoral vein, jugular vein
Fish	Heart, anterior vena cava
Frog	Heart, orbital sinus
Gerbil	Heart, saphenous vein
Goat	Jugular vein
Guinea pig	Heart, saphenous vein, ear vein, anterior vena cava, jugular vein
Hamster	Heart, orbital sinus, saphenous vein
Monkey	Cephalic vein, saphenous vein, femoral vein, jugular vein
Mouse	Heart, tail vein, orbital sinus, saphenous vein, mandibular vein
Pigeon	Heart, anterior vena cava, wing vein
Rabbit	Heart, ear vein and artery, saphenous vein, cephalic vein
Rat	Heart, saphenous vein, tail vein, orbital plexus, jugular vein
Sheep	Jugular vein
Snake	Heart, orbital sinus
Swine	Anterior vena cava, jugular vein, ear vein
Turtle	Heart, anterior vena cava

Common IV Injection Sites

Site	Species
Jugular vein	Cat, sheep, dog, goat, rabbit, horse, cow
Cephalic vein	Dog, cat, rabbit
Saphenous vein	Monkey, dog, cat, rodents
Tail vein	Rat, mouse, monkey
Marginal ear vein	Rabbit, pig
Anterior vena cava	Pig, guinea pig
Alar vein	Bird
Femoral vein	Monkey, cat
Retro orbital sinus or plexus	Rat, mouse, hamster
Heart	Rodent, rabbit, amphibian, bird, reptile

Suggested Needle Sizes and Injection Volumes

Species	Intravenous	Intraperitoneal	Intramuscular	Subcutaneous
Mouse	Lateral tail vein 0.2 ml, 23-25 ga	2-3ml, 25-27 ga	Quadriceps, posterior thigh, 0.05 ml, 25-27 ga	Scruff, dorsolat, thorax, flank, 2-3 ml, 23-25 ga
Rat	Lateral tail vein, 0.5ml, 22-25 ga	5-10ml, 25 ga	Quadriceps, posterior thigh, 0.1 ml, 25 ga	Scruff, dorsolat, thorax, flank, 5-10 ml, 23-25 ga
Hamster	Femoral or jugular vein, 0.3 ml, 25-27 ga	3-4 ml, 23-25 ga	Quadriceps, posterior thigh, 0.1 ml, 25 ga	Scruff, dorsolat, thorax, flank, 3-4 ml, 23-25 ga
Guinea pig	Ear vein (27 ga), saphenous v. (25 ga), 0.5 ml, 25-27 ga	10-15 ml, 23-25 ga	Quadriceps, posterior thigh, 0.3 ml, 25 ga	Scruff, dorsolat, thorax, flank, 5-10 ml, 23-25 ga
Rabbit	Marginal ear vein, 1-5 ml (slowly), 22-25 ga	50-100 ml, 21-25 ga	Quadriceps, posterior thigh, 0.5 ml, 23-25 ga	Scruff, dorsolat, thorax, flank, 30-50 ml, 21-25 ga
Cat	Cephalic vein, 2-5 ml (slowly), 21-25 ga	50-100 ml, 21-23 ga	Quadriceps, posterior thigh, 1 ml, 23 ga	Scruff, dorsolat, thorax, flank, 50-100 ml, 21-23 ga
Dog	Cephalic vein, 10-15 ml (slowly), 21-23 ga	200-500 ml, 21-23 ga	Quadriceps/ posterior thigh, 2-5 ml, 23 ga	Scruff, dorsolat, thorax, flank, 100-200 ml, 20-23 ga
Pig (50 kg)	² Ear vein, precava, ext./int. jugular, cephalic (limb), cephalic (neck), femoral cranial abdominal, 10-50 ml, 20-21 ga (1.5 in long for neck sites)	200-500 ml, 21-23 ga	Lateral neck, Lumbar epaxials, Quadriceps, posterior thigh, 5-10 ml, 20-23 ga	Lateral neck 5-10 ml 20-23 da
Primate (marmoset)	Lateral tail vein, 0.5 – 1 ml (slowly), 23-25 ga	10-15 ml, 21-23 ga	Quadriceps/ posterior thigh, 0.3 -0.5 ml, 23-25 ga	Scruff, dorsolat, thorax, flank, 5-10 ml, 21-25 ga
Primate (baboon)	Cephalic vein, recurrent tarsal vein, Jugular vein, 10-20 ml (slowly), 21-23 ga	50-100 ml, 21-23 ga	Quadriceps/ posterior thigh, Triceps, 1 – 3 ml, 21-23 ga	Scruff, dorsolat, thorax, flank, 100 - 200 ml, 21-25 ga

¹The higher the gauge number, the smaller the needle. Use the smallest sized needle that will deliver the injection appropriately because this will minimize the pain of injection (non-anaesthetized animals). A larger needle may be needed for administering viscous materials or large volumes.

²Adapted from Swindle, Smith, Laber, Goodrich & Bingel, Biology and Medicine of Swine, in: Laboratory Animal Medicine, www.ivis.org, 2003.

Adapted from AALAS Reference Directory 2007