Potbellied Pig Basics

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History & Breeds:

Miniature pigs became popular in the mid-1980’s, and the fad has waxed and waned since then. The term “potbellied” is interchangeable with “miniature”, and the latter term is now more correct since the term “potbellied” originated from the Vietnamese Potbellied Pig which is one of a number of breeds of miniature pig as well as a variety of mixes (“mutts”). Recently, there has been resurgence in popularity of pet pigs following introduction of the “teacup” pig.

So what exactly is a “teacup pig”? Answer: a marketing ploy; mythical creatures; expensive & temporary playthings; a big problem for rescue groups…. For more information, please read the article at the following link: [http://www.prweb.com/releases/teacup_pigs/Animal_Welfare/prweb3119874.htm?PID=4166869](http://www.prweb.com/releases/teacup_pigs/Animal_Welfare/prweb3119874.htm?PID=4166869). Beware: The marketing ploys of some breeders are so impressive, even those who do their homework are often fooled.

Handling & Restraint:

RestRAINT is likely the most difficult aspect of dealing with miniature pig patients.

In general, less restraint is best and will result in less obnoxious squealing and less stress for pig, owner, technician and veterinarian. Remember - pigs are a prey species, and mother pigs do not pick up or restrain their babies, but predators do.

Small pigs can be cradled against the body, held under the neck and rump (rather than under the chest). Larger pigs can be handled in narrow chutes or squeezed against a wall using crowd boards (available online through various suppliers and sometimes called sorting panels). Solid footing is a must when working with pigs; slippery surfaces can almost guarantee a panicked patient before a procedure is even attempted. Rubber-backed bath mats work well for this purpose. The “pig flip” is also extremely useful. This technique uses leverage to prop a pig on its hindquarters or in dorsal recumbency (on its back) to allow basic procedures such as a hoof trim or blood draw to be performed. Although initially vocal, many pigs eventually become calm in this position. A specialized “pig sling” such as the Panepinto® sling (Britz-Heidbrink, Inc., photo below) can be an excellent restraining device; however, these are expensive (around $5000 with shipping). Chemical restraint (sedation, anesthesia) is also commonly utilized by veterinarians.

Pigs are quite vocal, and when working with miniature pet pigs, it’s best to learn to differentiate between the vocalizations of an angry, protesting pig and a panicked pig. Ear plugs are useful.

Do NOT use a hog snare or lift a miniature pig by the hind leg, as is done with commercial swine. These techniques are not acceptable for potbellied pigs and may cause serious injury.

Owners can provide additional aid if they harness and/or crate-train their pet. Special pig harnesses are available (such as the Comfort Fit Safety Harness available online at [www.rossmillfarm.com](http://www.rossmillfarm.com)) and provide an excellent means of control. A crate is not only easily transported to a desired location, it can be partially dismantled, and the pig examined while remaining in the bottom portion. Keeping pig feed or treats on hand is
another excellent tactic for working with pigs. These animals are extremely food-motivated, and this feature can be utilized to the benefit of the handler. Remember, patience is key. Once panicked, a pig becomes unresponsive, with his sole purpose in life to escape the situation. If this occurs, stop and regroup until the pig calms down.

The “Pig Flip” technique

The Panepinto® Pig Sling

A “pig-specific” harness

Hooves:

Anatomy: Pigs have a pair of principal digits (the two main toes that they walk on) and a pair of accessory digits (“dewclaws”) per leg.

Frequency: A hoof trim is regularly required for all miniature pigs. Pigs carry a large amount of weight on small feet, and their anatomy lends itself to the development of arthritis. Frequency of hoof trimming depends on several factors including genetics, the age of the pig, ability of the owner to trim the hooves at home, and the pig’s diet and environment. In general, a normal, healthy pig will require a hoof trim approximately once a year, beginning at 1-2 years of age. Frequency may increase with hoof deformities, cracking, or with the development of arthritis. Some owners may be able to provide hoof care at home while the pig receives a belly
rub. In addition, rough surfaces in the pig’s environment (i.e. concrete or patio bricks in the feeding area) will greatly help wear the hooves.

**Technique:** A hoof trim can be performed with or without anesthesia. Many pigs tolerate a sling device (if available) and will readily allow a hoof trim while receiving treats. Some smaller pigs can be held across the lap while the trim is performed – often provided that the pig’s attention is otherwise occupied with food. The “flip” technique is commonly used and is safe and effective for most patients.

Using clippers (goat nippers, pony nippers, or pruning shears work well; appropriate nippers are available at [www.rossmillfarm.com](http://www.rossmillfarm.com)), excess length should be removed from the main toes and dew claws to create short, rounded toes. The pale pink “quick” (blood supply) can be easily seen on white hooves but difficult to see with black hooves; if bleeding occurs, apply styptic powder or baking powder and pressure. Rough edges can be removed and the bottom surfaces of the main toes flattened using the grinding attachment for a Dremel tool or using a hoof rasp; some owners simply use a large emery board. Front hooves tend to require more trimming than rear hooves, being typically longer and thicker.

**Excessive hoof growth before and after trim (using nippers and a grinding Dremel tool)**

![Severe hoof overgrowth](image-url)
Teeth (including tusks and trimming):

**Anatomy**: Pigs have more teeth than any other domestic pet, with 44 permanent teeth. The lower incisors (front teeth) are straight and project forward, while the shorter upper incisors are curved, with the center pair directed towards one another. The canine teeth (tusks) are also curved and deeply embedded within the jaw; it is important to note that the root of the embedded end of these canine teeth remains open to allow continued growth. The tusks of the male grow throughout life, while in the female the embedded end remains open for about 2-3 years before the root closes and growth stops. The surfaces of the premolars and molars are irregular, bearing wavy ridges for crushing food. The pig cannot open the mouth as widely as other species (such as the dog or cat), and complete inspection of the mouth is difficult, even under anesthesia.

A piglet is born with 8 teeth called “needle teeth”; these “baby teeth” are located in the area of the tusks. In commercial pigs, these teeth are sometimes clipped to prevent damage to the teat of the sow or to littermates, but this practice is not typically necessary in miniature pigs. Baby teeth erupt until about 3 months of age, and permanent teeth are present by about 20 months. Tooth loss (premolars & molars) is common in geriatric pigs.

**Why trim tusks?** All potbellied pigs have tusks, representing the upper and lower canine teeth on each side of the mouth. Tusk growth varies and may be affected by genetics as well as hormones, but in general, boars (intact males) have rapidly growing tusks, neutered males are next, followed by females. Tusks trims may be recommended in males to prevent injury (accidental or otherwise) to humans and other animals as the tusks are the pig’s weapons and can become long and extremely sharp. In addition, tusks may cause household damage (to furniture and flooring), may become caught (i.e. on chain link fencing) or may grow long enough to penetrate the flesh of the face. In general, intact males may require a tusk trim every 6-12 months, neutered males every 1-5 years, and females typically do not require tusk trims. Given issues with tooth abscesses, tusks trims should be kept to a minimum and performed only when/if needed.

**Technique**: Sedation is often recommended for performing a tusk trim, although a tusk trim can easily be performed without anesthesia on a “flipped” pig. Long tusks can be cut using obstetric saw wire (gigli wire) attached to saw wire handles. Crushing instruments such as bolt cutters or nippers are not recommended due to the risk of cracking the tooth, causing pain and possibly leading to infection. Tusks should be cut on a line perpendicular to the tusk growth and well above the gum line to avoid soft tissue trauma; if desired, sharp edges can be filed using a grinding attachment for a Dremel tool.

**Problems**: Occasionally, abscesses of the tusk develop and are a formidable challenge to treat. Older males tend to be affected, and these animals typically present with one to multiple draining tracts and/or a palpable mass of the jaw (chin abscess); oral exam is usually unremarkable. Often, the abscess will drain and the swelling will resolve, only to recur later; antibiotic therapy improves the condition, but again, the problem recurs. Radiographs or CT scan may demonstrate significant bone loss accompanied by proliferation and remodeling. As with a tooth root abscess in any species, the offending tooth should be extracted, and antibiotic therapy instituted. But… Although tooth extraction sounds easy, this is a major surgery in a miniature pig!!!

Calculus accumulation can be extensive in potbellied pigs but does not seem to be necessarily associated with gum disease or tooth loss. If the owner is concerned, the build-up can be easily removed with scraping instruments such as dental forceps or scalers. The role of dental disease in these animals has not been studied.
Ears and Eyes:

Ears: Miniature pigs can produce large amounts of brown, flaky to waxy, aural exudate (resembling the exudate produced in dogs or cats with ear mites). This exudate is normal for a miniature pig and can be removed with a piece of gauze or cotton ball. The ear canal is extremely narrow, filled with debris, and otoscopic examination is generally impossible. In addition, fluids of any kind should not be placed into a pig’s ear. Several pigs have developed temporary or permanent head tilts following attempted ear cleaning using solutions. Ear cleaning is not necessary unless treating an ear problem – owners may simply prefer it.

Eyes: Many pigs develop a red-brown material that drains from the eyes, especially obvious in white pigs. The eyes should be examined for mechanical irritation (such as an inherited condition called entropion in which the eyelashes lay against the eyeball or for foreign material such as a piece of straw or dirt), but often the underlying problem is not identified. Allergies possibly play a role. Gently wiping the discharge with a warm, wet washcloth is recommended as this exudate can build up to a thick crust and cause irritation to the underlying skin.
Ocular discharge common in pigs

In obese pigs, the folds of skin on the face may completely cover the eyes, causing “fat blindness”. While under anesthesia for other procedures, an effort should be made to flush the eyes and remove entrapped debris. In addition, deep skin folds can develop bacterial and fungal infections which may require treatment.

Facial folds in an obese “fat-blind” pig that may require cleaning

Vaccination:

Vaccination protocols vary, and there is no widely accepted standard for miniature pigs. In other words, different veterinarians may recommend different vaccinations, but there is no right or wrong answer. Recommendations are based on criteria such as diseases common in the area, potential exposure of the pig, age of the pig, etc.

In North Carolina, minimum recommendations include vaccination against Erysipelas and possibly Leptospirosis. Rabies vaccine is not approved for pigs; however, it is likely protective for at-risk animals (i.e. pigs with outdoor access) and is suggested in areas where rabies is common (like North Carolina) or based on state regulations. Breeding animals should also receive vaccinations against Parvovirus and atrophic rhinitis (Bordetella and Pasteurella). In herd situations, such as a pig sanctuary, additional vaccinations may be needed.
Parasitism:

**Internal Parasites:** Many miniature pigs are free of internal parasites and should remain so without exposure to other pigs. Fecal flotation should be performed periodically as part of the routine veterinary examination. Both injectable and oral dewormers are suitable for treatment of internal parasites as needed. Pet pigs in individual households should not automatically be placed on a regular deworming schedule. Fecal flotation results should dictate the need for treating internal parasites.

**External Parasites:** Sarcoptic mange is common in miniature pigs and causes itching and thickened, scabby skin, especially on the ears and legs. A positive diagnosis can be made using a skin scraping to look for the mite under the microscope; however, treatment may be given based on clinical signs even if no mites are found. All animals with exposure to an infected pig should also be treated, as this mite can infect other animals. Owners may suffer itchiness and a rash as well.

Chronic mange carriers also exist and may not show clinical signs, unless they become sick or stressed. Sarcoptes mites are often carried in the ears and are easily transmitted to other pigs. These mites are too small to be seen with the naked eye.

The pig louse, *Hematopinus suis*, may be easily identified on a miniature pig. This parasite looks like a long, flattened tick and can be seen crawling over the body; the eggs or “nits” appear as tiny white dots that are firmly attached to the base of the hairs. Topical louse powder or liquid is an effective treatment. Pig lice do not infect humans or other animals, only other pigs. Note: The nits, even when dead, remain firmly attached to the hair until the pig sheds. If a treatment regimen is completed, the continued presence of nits is not reason to start another round of treatment.

Castration

**Why Castrate?** Pigs exhibit a libido before they are even weaned and are fertile by 3 months of age, with the potential to impregnate littermates. Owners generally do not have to be convinced of the need to castrate, as a sexually active pig exhibits obnoxious rooting, “kneading”, and mounting behavior and occasional aggression as well as having a strong, offensive odor. Castration can be performed as early as 1-2 weeks of age, although the recommended age is >3 weeks if anesthesia is to be used. Castration at 8-12 weeks is standard.

Spay

**Why Spay?** Females not intended for breeding should be spayed for a variety of reasons. Although the risk of unwanted pregnancy may be slim for a single pet pig, spaying will alleviate some unacceptable behaviors such as aggression, rooting and mounting behavior, frequent & inappropriate urination (females “forget” they are housebroken when they go into heat), and the cyclic “moodiness” (PMS) that may occur every 21 days or so. Although this may not be a problem for some owners, particularly if the pig lives outdoors, older intact female pigs very often have significant problems with the uterus (such as cystic endometrial hyperplasia and tumor development). There have been many reports of tumors that grow big enough (10, 40, or even 100lb tumors!) to cause death.

Spaying is recommended between 3-6 months of age but can be performed as early as 6 weeks.
50lb uterine leiomyoma in a 10 year-old potbellied pig

Nutrition:

There are several commercial brands of feed formulated specifically for miniature pigs. Examples include: Mazuri (Purina brand), Champion, Heartland, and Manna Pro. These feeds are formulated to meet the dietary needs of the pig and should not require additional supplements, although owners may insist on additives. If this is the case, roughage such as fresh vegetables and greens, with only occasional fruits can be given. Hay and grass grazing are also recommended. There are also several brands of potbellied pig treats available as well. All-purpose livestock feed is also suitable for pigs as long as the protein levels are relatively low (~12%).

Never feed a pig ad lib - they do not have an “off” button. Pigs always appear hungry (especially to their owners) and are extremely food-motivated. On the other hand, do not restrict feed in an attempt to stunt growth. A miniature pig’s size is genetically determined, and feed restriction will only result in a malnourished animal.

Pigs easily gain weight, and obesity has historically been a common health problem of the species, so food must be carefully rationed. General guidelines:

Young piglet: ½ cup per 15-20lbs per day.
Adult: 1 cup per 50-80lbs/day.

Roughage is a good idea, and pigs may be given hay or allowed to graze. This is not only beneficial to the GI tract, but provides “mental” well-being as well. Pigs in the wild spend the majority of their day foraging for food, and this practice will help stave off boredom. In addition, roughage provides “fill”, allowing the pig to be physically satiated.

If the owner insists on treats, try raisins or carrot sticks, given individually (not by the box or bag!), a slice of apple or orange (not the whole fruit), or a few Cheerios. Suggest that the owner require a “trick” from the pig in exchange for this treat. This may be as simple as coming over when called. Ideally, no treats should be “free”.
As with other species, feed a pig to the appropriate body condition. This may not be an easy assessment in a pig but guidelines include:

- Eyes should be clearly visible; they may be deep-set but should not be hidden by folds of skin. You should be able to tell the color of the pig’s eyes just by looking.
- There should be no deep folds or creases on the brow or cheeks.
- You should be able to feel the ribs but not see them.
- The belly may be big but should not drag the ground (exception: pregnant sow).
- The base of the tail should not be “dimpled” or have folds around it.
- The pig should lie down, rise, and walk around easily.

**Good body condition:** slight “potbelly” present but hint of hip bone visible; no skin folds on face, eyes clearly visible, ears upright
Obese pig: ears are horizontal, folds of skin on face obscure eyes, hanging jowls ("chipmunk cheeks"); this animal is fat-blind and deaf due to excess skin around eyes & ears

Emaciation
Water:

Fresh water should be available at all times. Pigs are messy drinkers and often play in their water or tip the bowl, so a bowl with a weighted bottom and/or wide base should be used. Many pigs prefer to move back and forth between their water and food bowls at feeding time. Once upon a time, there was a misconception among pig owners that water should be restricted during feeding – this is not true and water should never be restricted! Some pigs have difficulty swallowing dry pellets and may require water added directly to feed to prevent choking.

Water intake seems to decrease in winter, and obese pigs often have very low water consumption as well. Using warm water in the winter may encourage drinking. A few tablespoons of flavored juice (cranberry, orange, Gatorade) may also be added to encourage drinking. As pigs tend to have individual flavor preferences, try a variety of juices.

Water for cooling: Pigs love the hot weather but do not have sufficient sweat glands to regulate body temperature. Outdoors, pigs require shade and a water source for cooling. A child’s wading pool is suitable for this purpose, although the sides may need to be cut down to accommodate the pig’s short legs. In addition, it may be helpful to provide flooring with traction, as the plastic is slippery. A section of outdoor carpeting, rubber mat, or appliqués used to provide traction in the bathtub may be used.

There are also pools made specifically for potbellied pigs. These pools are rectangular and made of heavy duty, non-slip vinyl, with low, soft, padded sides. They are durable, portable, and easily cleaned; the pools can be obtained from Heartland Animal Health (access [http://pigstuff.com/paheartland/](http://pigstuff.com/paheartland/) for the phone number as the pools are not listed on the website).

![Pigs enjoying a pool made just for them!](image_url)
Common Problems:

**Arthritis:** Arthritis is extremely common in miniature pigs and may ultimately represent the number one reason for euthanasia in older, otherwise healthy pigs.

As in other animals with arthritis, affected pigs have difficulty rising, lameness/limping, and reduced activity levels. Some walk on their “knees”, others sink onto the haunches, tucking the hind legs underneath them and lifting the front legs almost off of the ground. (A pig in this hunched stance looks like it is constipated and trying to defecate.) They may become “stuck” in this position and fall to the side.

![Classic “hunched” posture of an arthritic pig](image)

Treatment includes regular hoof trims, providing non-slip surfaces, providing bedding to prevent pigs from lying on cold or damp surfaces that might aggravate arthritis, glucosamine supplements, and anti-inflammatories/pain relievers as needed. Treatment for arthritis is similar to that in used in humans, dogs, or other species.

**Dippity Pig (erythema multiforme):** Dippity Pig tends to affect animals under the age of 2 years, although older individuals are sometimes affected. It appears to run in families and may occur only once or may happen multiple times. Owners report that the pig seems to lose control of the hind end and “dips” into a dog-sitting position, then rises, takes a few steps and falls again into a sitting position. Often the pig vocalizes as if distressed or in pain, and the owner often suspects traumatic back injury. Over the course of several hours, oozing “blister-like” skin lesions may develop along the spine; these lesions may be extremely painful. Usually, within about 24 hours, the problem resolves, and the pig returns to normal. Episodes are often initiated by a stressful event (i.e. visit to the vet, introduction of another pet or person to the household, transport, etc.).

![Dippity Pig](image)

Treatment involves placing the pig in a low stress environment (i.e. alone in a warm, quiet, dim room with a pile of blankets or isolated in a stall with a pile of hay). Various medications have been tried including antibiotics, steroids, and pain relievers, but the stress of giving these medications may not be worth it since the problem will go away on its own.

**Erysipelas:** Erysipelas is likely the most common infectious disease in North Carolina and is caused by a bacteria found in the soil. The pig will suddenly stop eating, become lethargic, and will have a very high fever (>104-105°F). Slightly raised, diamond-shaped skin lesions are unique to this disease but do not occur.
commonly. This disease can be fatal; however, immediate treatment is very effective. This disease has zoonotic potential.

**Obesity:** Obesity is a common health problem in miniature pigs. An appropriate commercial feed may be difficult to find and label instructions are often vague (or sometimes just plain wrong). Pigs always seem hungry, adeptly train their owners to supply food on demand, and owners readily comply. Diet should consist of a miniature pig feed or low-protein all-purpose livestock feed, and as these commercial diets are balanced, supplements are generally unnecessary. Treats should consist of vegetables or fruits and should be limited (i.e. a single apple slice makes an appropriate treat, not the whole apple). Grazing and hay are other possible additions.

**Posterior Paresis/Paralysis:** There have been a number of reports of pigs developing acute paresis/paralysis of the hind limbs. Owners typically find the pig in a dog-sitting position, unable to rise, and may have heard a squeal at the time of the incident. Diagnostics have included neurologic evaluation, radiographs, CT scan, and myelogram. In the absence of obvious trauma-induced injury, results support an unusual form of intervertebral disk disease ("slipped disk") or a disease known as fibrocartilaginous embolism (FCE). Prognosis varies considerably and some pigs recover fully while others remain permanently paralyzed (requiring euthanasia). Recovery may take weeks to months. Treatment usually involves keeping the pig confined to a small area and long-term steroid treatment. Nursing care is involved as the pig must be kept clean and dry to prevent urine scald during the healing period.

**Sunburn:** Pigs do get sunburned, and this can be quite severe. Miniature pigs enjoy the sun and will literally “bake” themselves, even if shade is available. Signs include reddening of exposed skin (especially ears), crusting and hardening of the skin, and discomfort/pain on touching the area. Application of sunscreen may be necessary. Shade should be provided in the pig’s outdoor area.

**Tusk Abscess:** Abscess of the lower tusk (canine) tooth is a common problem in older male miniature pigs. Since the tooth root remains open throughout life, it is possible that this dead-end capillary bed allows blood-borne bacteria to become trapped; it is also possible that tusk trims over the life of the pig eventually lead to infection via the pulp cavity. The exact cause is not known. In affected pigs, the only clinical sign is usually an abscess under the chin. Oral exam is unremarkable, the pig shows no difficulty eating, no evidence of pain – nothing! Yet infection has often destroyed much of the jaw bone by the time an abscess appears. Surgery is extensive, brutal, and expensive. Risk of jaw fracture is high given the extent of bone loss by the time of diagnosis. However, tusks have been successfully removed and infection cured in many pigs at NCSU-CVM. Very few veterinarians are familiar with this challenging surgery.

**Uterine Tumors:** Approximately 75% of intact females over the age of 10 years will develop uterine tumors, most commonly benign smooth muscle tumors called leiomyomas. Although spay is often curative, these tumors may be very large (up to 50 or 60 pounds) and surgery is technically difficult, expensive, and stressful for the patient. These tumors may grow large enough to cause illness, and ultimately, death. Early spay is highly recommended for non-breeding females.
Information Sources:

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North American Potbellied Pig Association (NAPPA): http://www.petpigs.com/

Pig Pals of NC: http://www.pigpals.com/

Ross Mill Farm: http://www.rossmillfarm.com/

Shepherd’s Green: http://www.9sites.org/

Pig Placement Network: www.pigplacementnetwork.com