

At-home nursing care for:

- Post-surgery
- Illness
- Elderly
- Debilitated/Rescue

Disclaimer

- I'm not a vet
- This information is based on my personal experience and is not comprehensive
- This info is to be used *with* your vet's help not in place of it
- This presentation contains my *opinion* on home care of ferrets
- I'm not a vet

Why in-home post-surgical care?

Less expensive

- Unless your ferret needs oxygen or specialty drugs, most people can do it at home.
- Most ferrets don't need much more than food, water, warmth and meds.



Better hour-by-hour care

- You will be looking after only one ferret
 - Vet staff often have several post-surgical patients
- You can check more often
 - Depending on the practice, most places check on patients on a schedule.



Ferret is more comfortable

- Sometimes a *gentle* roommate can make a difference
 - Helps keep them warm
 - Comforting



Ferret is more comfortable

- Ferret is in familiar environment
 - Vet's office is bright, noisy and stressful



Familiar food

- Your ferret's special food might be misplaced at the vet's
 - If your ferret is on a raw diet, the office may not be too enthused about feeding mice or chicks
 - Storage could be a problem



Familiar food

- Sick ferrets like *their* duck soup
 - At the right temperature, too!



Ferrets respond to affection

- No one loves your ferret like you do and they know it
- Sick ferrets will often eat just to please you
- You can carry them around and talk to them
- Like people, sometimes they need a reason to stay



Basics

- Hydration
- Food
- Medication
- Temperature regulation



Main post-surgical considerations

- Temperature regulation
 - Post-surgery, ferrets often have trouble staying warm enough
 - Sometimes they are very drugged, and if they get too warm or too cold, they won't move
 - To keep them warm, use an animal-safe device like a Snuggle-Safe Disk
 - Doesn't get TOO hot
 - No electricity

Main post-surgical considerations

Food

- They need nourishment to heal
- Unless the ferret is vomiting or the vet says otherwise, try to feed a small amount as soon as you get home
- Very liquid is best
- If nauseated, wait an hour and try again
- Do not try to feed an unconscious ferret
- Offer small amounts frequently (1 tblsp)

Main post-surgical considerations

Medication

- Be sure you understand medication instructions. Write things down!
- Make a schedule of what to give when
 - Much easier to remember
 - Can give accurate info to the vet
- ASK QUESTIONS
 - Vet can't instruct you if he/she doesn't know you're confused

Main post-surgical considerations

Pain control

- Ask about pain control
- Usually they are given a shot after surgery. Check and make sure.
- If they have NOT been given a shot for pain, request something.
- Ferrets heal much better when pain is controlled

Main post-surgical considerations

Stitches—what to expect

- You **can** get stitches wet to clean them
 - Might take a little longer to heal if they get very wet but they will still heal
- Some watery blood leaking out is normal
 - A little goes a long way towards looking scary. A few drops in an hour is not serious.
 - Bloody spots on bedding, when it isn't drip-drip-dripping out is okay.
- Dripping deep red blood for more than hour should be addressed—call your vet

Main post-surgical considerations

Stitches

- Restrict activity, NO climbing for a week
 - Ask vet for guidelines
- Day 4-5 is when stitches start to dissolve—danger of rupture in very active ferret
- If scabs keep forming after a few days, something is going on (infection)
 - Not usually serious but should be addressed
 - Usually soaking scabs off and cleaning is enough, sometimes they need antibiotics

Main post-surgical considerations

Stitches

- "Bulging," especially in the day 3-5 range should *always* be brought to vet's attention
 - A slight hard bulge is normal. You're feeling internal stitches
 - Soft, puffy bulges are bad
 - Deep red and hot skin is bad
- If (God forbid) stitches should rupture, wrap ferret in sterile gauze moistened with saline and transport immediately

Main post-surgical considerations

Staples

- Usually heal quickly
- Sometimes will rotate as skin heals
 - It's better to remove them if they get loose *before* they rotate
 - Can get staple-remover on Internet
- As they loosen, they can get caught on things (no climbing!)

Main concerns with illness: runs

- Most common illness is diarrhea
- Watch for dehydration
- Force feed if not eating (unless showing signs of blockage)
- Mix canned pumpkin into moist food for mild cases
- If lasts for more than 24 hours, or is projectile or ferret is very lethargic, call the vet

Main concerns with illness: Flu

- For sneezing & congestion can give .5cc children's Benadryl or Robitussin
- If nose is plugged, ferret won't eat
 - Force feed if necessary
- If high fever (over 103) or very lethargic, call vet
 - Rectal is still the best way to check. Make sure you have a helper!
- If lasts for more than 3 days, take to vet
- Uncomplicated flu usually goes away in 2 or 3 days.

Dealing with illness/surgery

- Keep a log!
 - List time & amount of feedings
 - List all medications given and when
 - List changes in symptoms
- Take the log with you to the vet's office or have it next to the phone when you call
 - More information helps the vet know what to do

Special concerns for elderly ferrets

- Keeping a log is even more important
- Remember that dehydration damages kidneys
- List ALL symptoms
- Keep track of:
 - weight gain/loss
 - temperature
 - breathing
 - activity level
 - color of: skin, urine, poop
 - how much water they are drinking
 - what and how much they eat

Common illnesses in elderly ferrets

- Insulinoma
 - Staggering, drooling, seizures, teeth grinding
- Cancers
 - Weight loss, lack of energy, pain (can show by grinding teeth, twitching, whimpering)
- Kidney failure
 - Drinking a lot of water, clear urine, nausea/teeth grinding, ammonia smell on breath, mouth ulcers
- Liver disease
 - Swollen abdomen, weight loss, nausea, diarrhea, orange urine

Common illnesses in elderly ferrets

- Ulcers
 - Black tarry stool, teeth grinding
- Spleen issues
 - Enlarged, lumpy spleen with danger of rupture, lethargy
- Bad teeth
 - Bad breath, deep red or black gums, tartar, dark teeth, gums that bleed easily
- Heart disease
 - Lethargy, swelling of abdomen, fast breathing, fainting spells
- Arthritis
 - Walking oddly or hopping, not playing very long

Special concerns for rescued ferrets

- Quarantine from your other ferrets!
- Dehydration, weight loss
 - Sub-q fluids, force feeding might be needed for a day or two
- Check poop for color, consistency, parasites
 - Can pick up Giardia and Coccidia from ground water
 - Bloody poop, diarrhea are symptoms
- Watch for ear mites
 - "Coffee grounds" like discharge
 - Constant scratching
 - Scabs in or around ears
 - Can put 1 drop of Frontline in each ear (repeat in 2 weeks) or use Revolution on back of neck (might need to repeat)

Special concerns for rescued ferrets

- Fleas, ticks
 - Do not bathe before treating for fleas!
 - I like Frontline – fast, safe, effective
 - Kills ticks in 24 hours, fleas in a few hours
 - Works in most areas for 3 months against fleas
 - Revolution and Advantage are used, too
- Wounds, skin infections
 - Simple scrapes: wash and treat with antibiotic ointment
 - Take to vet for:
 - Fly larvae under skin (looks like little hole—very icky)
 - Wounds with maggots
 - Dark red skin that is hot and/or spreads is very serious
 - Red puffy skin or swollen, puffy ear can be serious
 - Any cuts that gap

Special concerns for rescued ferrets

- Heat issues
 - Dehydration/heat stress, if doesn't recover quickly, take to vet
- Check teeth for damage
- Test for ADV!
 - Saliva through Avecon
 - Blood through Blue Cross
- If in doubt, have a vet check them out

Hydration

- VERY IMPORTANT**



Hydration

- VERY IMPORTANT**
 - Dehydrated ferret won't eat or drink
 - Slows recovery
 - Damages kidneys



Hydration

- How do you tell if they are dehydrated?
 - When scruffed, skin stays tented

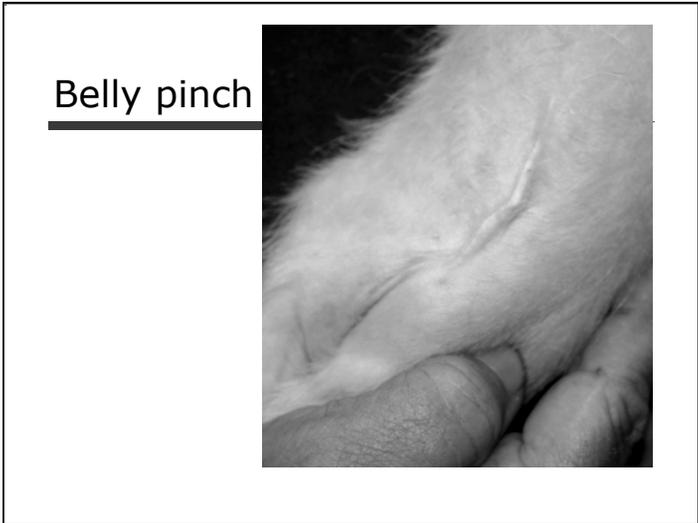
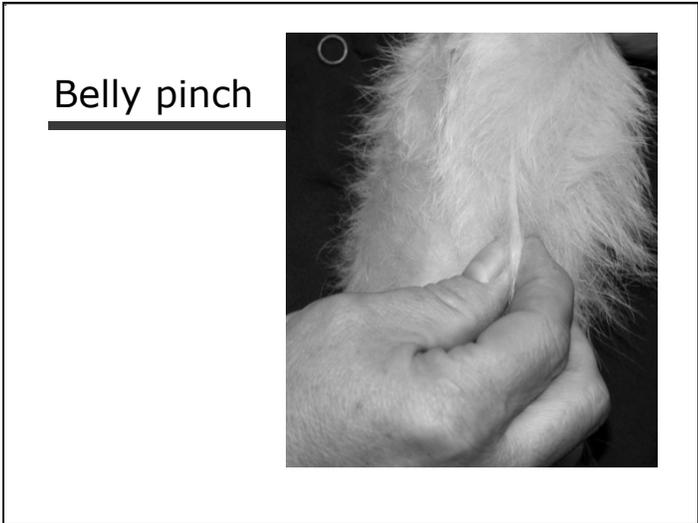
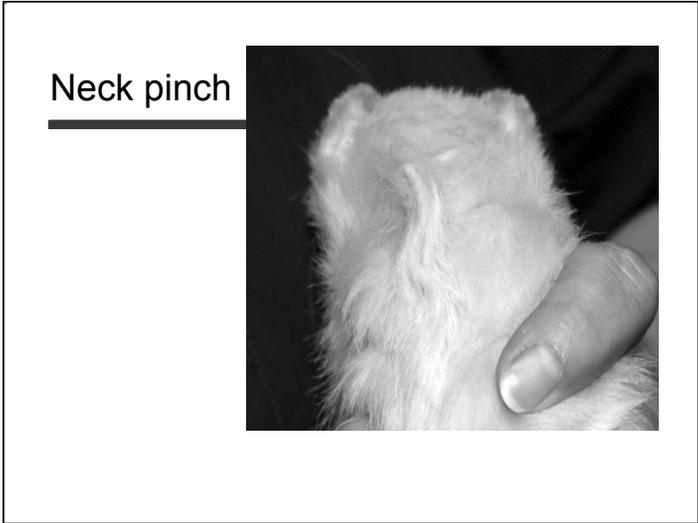
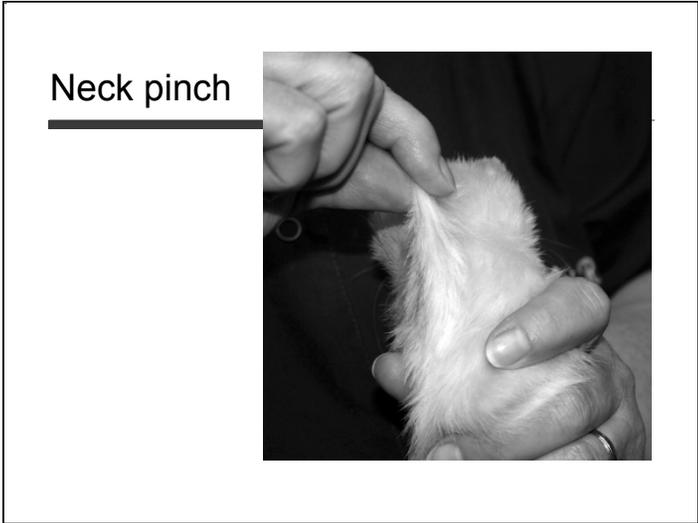


Hydration

- Where to check?
 - Back of neck
 - Easy, but not as accurate
 - Affected by weight loss and thin skin
 - Belly
 - A little harder but more accurate



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Hydration

- My mouth or by injection?
 - Oral is best but ...
 - When needed, sub-q fluids can save the ferret's life
 - If they are vomiting, they won't keep it down
 - If badly dehydrated, they can't drink enough to rehydrate quickly



Sub-q fluids

- What does that mean?
 - Sub-q refers to "subcutaneous," meaning under the skin
 - Procedure is to inject IV fluids under the skin, making a "camel hump" of water that is absorbed slowly

Sub-q: How hard is it?

- Sub-q can be done at home easily
- Hard to do wrong
- Air bubbles won't kill the ferret
- People do this all the time for cats

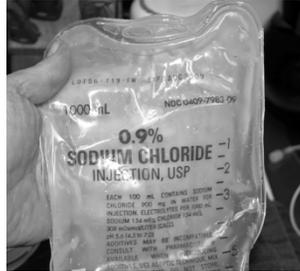


Sub-q: What is used?

- Fluids used are IV fluids
- Suitable for injecting into veins
- Sterile
- Contain various things like sodium chloride (salt)
- They are NOT:
 - sold in grocery stores or WalMart
 - "sterile saline" contact solution
 - something you can cook up at home
 - distilled water

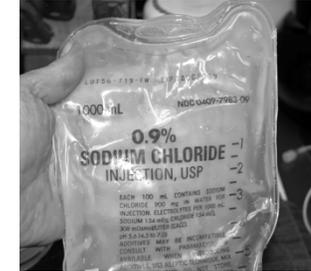
Sub-q: Common types of fluids

- Normal Saline
 - Sodium Chloride 0.9% or 0.45%
- Electrolyte Combination
 - Lactated Ringers
 - Normosol®-R
- Dextrose/Saline
 - 5% or 2.5% Dextrose + Sodium Chloride



Saline IV Fluid

- A good all-purpose fluid
- According to Ferret Universe, used in:
 - Obstruction
 - Dehydration
 - Acute & chronic renal failure
 - High BG
 - Adrenocortical Insufficiency



Dextrose/Saline 5% or 2.5%

- Most often used for low blood sugar
- Dr. Wagner prefers I use 2.5% dextrose version
- Used improperly can worsen or cause dehydration



Equipment Needed: IV Fluid

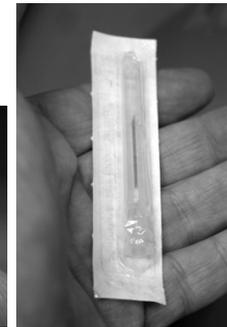


Equipment Needed: Syringe



Equipment Needed: Needles

- Option 1:
 - 20 gauge, 1 inch long



Equipment Needed: Needles

- Option 2
 - 20 gauge, 3/4 inch long



Equipment Needed: Needles

- Option 3
 - 20 gauge, 3/4 inch long



Equipment Needed: Distraction

- Ferretone, Nutrical or other tasty treat



Equipment Needed: Helper

- Optional, but nice
- Helps by holding ferret
- Leaves your hands free to pinch fur and inject fluids



Equipment Needed: Wipes

- Optional
- I don't usually use them for water shots



Sub-q fluids: Preparation

- Syringe with 20 gauge needle



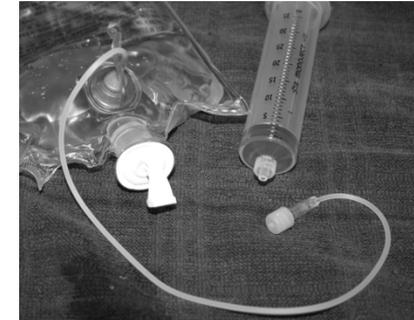
Sub-q fluids: Preparation

- Syringe with butterfly needle



Sub-q fluids: Preparation

- I use butterfly needle in IV bag to draw out fluids
- I recap the butterfly needle set and leave it in bag for next time.
- Saves on needles, quick



Sub-q fluids: Preparation

- Draw fluid into syringe



Sub-q fluids: Preparation

- Put on needle
- Remove air bubbles by tapping on syringe
- Not critical to remove every bubble



Sub-q fluids: Tips

- Can warm in microwave for 10 seconds (for 30-35 cc of fluid)
 - Remove needle first!!
- Mix well and test temperature
- Warm fluids are better for shocky ferrets
- Ferrets don't like cold fluids
- Always use a fresh needle for injection
 - Hurts less, safer



Sub-q fluids: Giving the shot

- "Reverse scruff" the ferret
 - Make a "tent" of skin



Sub-q fluids: Giving the shot

- Insert needle parallel to body
 - Needle should be in space under skin
 - Don't jab muscles



Sub-q fluids: Giving the shot

- Push in fluid *slowly*
 - Too fast and water forms a "jet" that hurts



Sub-q fluids: Giving the shot

- Be careful not to get bitten
- They think you are "biting" them
- Sometimes the fluids sting
- Be prepared to *hang on* to ferret



Fluids: How much?

- Need at least 60 cc of fluids a day
- Fluids taken with food (like duck soup) count
- Watered down duck soup (or chicken baby food) is a great way to force fluids



Food

- Need at least 60 cc of moist food a day
 - Canned a/d
 - Chicken baby food
 - Homemade duck soup
- More is better, especially if they are thin.
- A Gerber baby food jar filled to the top is 60 cc



Food

- Duck soup
 - Homemade, nutritious food for ferrets
 - Many different recipes
 - Make it ahead of time and use as a treat so ferret likes it
 - If only eating soft food, **brush teeth!**



Duck soup: My recipe

- 10 lb chicken legs and thighs
- Put in crock pot, cover with water and cook for 24 hours.
 - Bones will get soft
- Grind up solids in food processor, bones and all.
- Cook beef liver
 - I use 1/3 cup beef liver to 3 cups ground chicken goo
- Add fat and some of the juice to make smooth.
- Freeze in containers



Duck soup: Other versions

- 1 can a/d and 2 jars chicken baby food, water
- Ground up kibble, a/d, chicken baby food, water
- Chicken or turkey baby food, water
- Look on the Internet for ideas



Duck soup: Consistency

- The consistency of the duck soup is very important
- The smoother, the better
- The sicker the ferret, the wetter they seem to like it
- Press through wire mesh sieve if ferret objects to lumps or feeding with syringe



Duck soup: Consistency

- Should pour like soup
- Make warm but not too hot
 - Flavors are enhanced
- More liquid is good for hydration
- If ferret is too fat, water it down a little more



Duck soup: Supplies

- Warm soup
- Towel to catch drips
- Towel also good for weak ferrets so legs don't slip
- Feeding syringe if needed
- Paper towels or dishcloth to wipe ferret's face
 - Otherwise they use your shirt



Duck soup: Getting started

- Start by offering it on your finger
- Hold ferret if they aren't cooperating
- If licks off finger, offer from spoon
- If spoon works, lead them to bowl
- If they eat from bowl, rejoice!



Duck soup: Getting started

- If they won't eat from finger, spoon or bowl, use syringe
- Syringe with O-ring works best
 - Other syringes "lock up" shortly
- Scruff ferret and dribble a little at a time into front of mouth
 - Won't drown them that way



Duck soup: Getting started

- Let them lick lips off every so often
- Wipe ferret's mouth if getting fussy
 - Some don't like to be messy
- Ferret stomach can hold 18-20cc of food easily
 - If they are willing, more is okay



Duck soup: Getting started

- ❑ After force-feeding a few times, ferret usually starts to like soup
- ❑ Sometimes you can encourage by scruffing lightly



Feeding: When to stop trying

- ❑ If ferret clamps teeth shut tight and absolutely will not swallow, re-evaluate if you should be feeding them
- ❑ I've had ferrets with stomach cancer refuse to eat. It was time to let them go.
- ❑ If ferret used to eat well and suddenly refuses, find out why



Medication

- ❑ 1mL is the same as 1cc —interchangeable
- ❑ We normally use a 1cc syringe
- ❑ Marks are 0.1, 0.2, 0.3, etc. So 0.1 is 1/10 of 1cc
- ❑ Measure using the *top* of plunger
- ❑ Ask vet or assistant to show you!



The math of medication

- ❑ Most commonly, medication is given in mL (milliliters)
- ❑ 1mL is the whole 1cc syringe



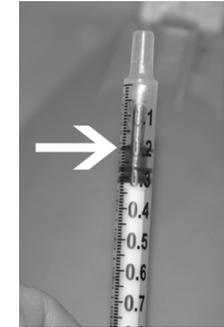
The math of medication

- .1mL is to the first marking, or 0.1
- .2mL is to the second marking, or 0.2 (arrow)
- .25mL would be halfway between 0.2 and 0.3



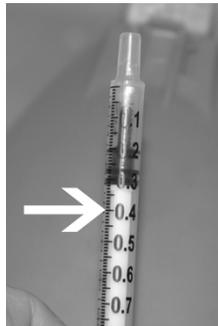
The math of medication

- This syringe is at 0.2mL
- The top of the plunger is right at 0.2



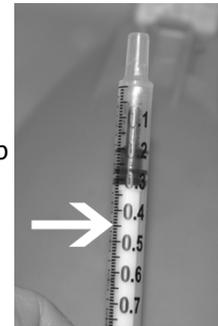
The math of medication

- The arrow is pointing at 0.4mL here



The math of medication

- Here, the arrow is pointing at 0.45 – halfway between 0.4 and 0.5
- You would place the top of the plunger at that line



The math of medication

- Different ways to measure medication:
 - mg (milligrams) per kg (kilogram)
 - µg or mcg (microgram)
- 1 mg (milligram) = one thousandth of a gram
- 1 mcg (microgram) = one millionth of a gram
- Normally you don't have to worry about these measurements

Medication tips

- Unless told otherwise, store liquid medications in refrigerator
- Once mixed, antibiotics are no good after 14 days
 - If you don't refrigerate, mixed (liquid) antibiotics go bad after 24 hours
- Always mix liquid medications well before drawing up
 - Certain meds don't have to be mixed: Pediapred and Lactulose for example
- Note the color – if it changes, the meds may be bad
- Most pills stay good for a long time if kept dry in cupboard
- Write down what vets says to give and how much, and make sure bottle says the same thing

Medication tips

- Give meds near back of mouth and be ready for a quick "chaser" of duck soup or Ferretone
- Make sure you have a good grip on the ferret when giving nasty meds like Flagyl (Metronidazole)
- It's easier to depress plunger when held like this



Odd problems

- Prolapsed rectum in adult ferret (bulges out)
 - blockage (urinary or intestinal)
 - IBD
 - Diarrhea
- Red penis
 - Can be urinary tract infection, side effect of adrenal disease, skin infection
- Dark red skin that is hot and/or spreads is very serious
 - Puffy skin or swollen, puffy ear
- Green or yellow discharge from penis or vulva
 - Bladder or vaginal infection most common cause

A few serious warning signs

- Pale gums, ears, nose
- Heavy, labored or fast breathing
- Collapse/coma
- Yellow skin/eyes
- Bright orange urine
- Straining in litter box
 - Could be anything from a urinary tract infection to urinary blockage to IBD to intestinal blockage

A few bloodwork norms from

<http://www.miamiferret.org/fhc/physiology.htm>

- Rectal temperature: 101-103
- PVC 45-60
- WBC ($\times 10^3/\text{mm}^3$) 2.8-8.0
- BUN (mg/dl) 8-37
- Creatinine (mg/dl) 0.16-0.848
- BUN/Creatinine 10-457
- Total Protein (g/dl) 4.4-7.3
- Hemoglobin (g/dl) 13-18
- Albumin (g/dl) 2.5-4.17
- Globulin (g/dl) 1.8-2.9
- Total Bilirubin (mg/dl) 0.1-0.5
- ALT (IU/L) 13-176
- Glucose (fasted) (mg/dl) 65-164 (average: 100-110)

Sources

- Ferret Universe
 - <http://www.ferret-universe.com/>
 - Blood values
 - Drugs used in ferrets
 - Info on illnesses
- Miami Ferret, Ferret Health Care
 - <http://www.miamiferret.org/fhc>
 - Info on illnesses
- Other sources of good info:
 - How to check ferret's blood sugar
 - <http://www.unc.edu/~pjdutche/bloodsugar/>

Thank you!!

