

Date	Event
10/24/16	Rudy brought in to Dr. Riedinger and transferred to Blue Pearl. Seen by Dr. Westerhout and diagnosed with congestive heart failure. Added furosemide (6.25mg twice daily) and pimobendan (1.25mg twice daily). BUN at 29. 200ml of fluid removed.
11/2/16	Rudy seen by Dr. MacLean and had an echocardiogram performed. His furosemide was increased (6.25mg three times daily) and his pimobendan was discontinued. Also, he was started on benazepril (1.25mg daily)
11/14/16	Rudy listless and losing weight. Dr. MacLean suggested dropping the benazepril. Rudy has not been eating for some time and starting to lose weight. Also, started alternating between furosemide 3x and 2x daily to spare kidneys.
12/7/16	Rudy brought in to Blue Pearl and had 270ml of fluid removed. Seen by Dr. Waldrop. Furosemide reduced to 2x daily because of increased renal values.
12/14/16	Rudy brought in to Blue Pearl and seen by Dr. Tobias and his weight was still down considerably. Had 300ml of fluid removed. Pimobendan (1.25mg twice daily) added back in. BUN and creatinine both increased.
12/19/16	Rudy seen by Cynthia Glover for first visit. Added coenzyme Q10 for heart and CBD for appetite. Acupuncture performed.
12/22/16	Rudy brought in to Blue Pearl and had 260ml of fluid removed. Seen by Dr. Davidow. Added spironolactone (6.25mg twice daily). Rudy looking very skinny. BUN at 52 (reference range 10-35) and Creatinine at 2.0 (reference range 1.0 to 2.0).
12/30/16	Rudy seen by Cynthia Glover for second visit. Acupuncture performed.
1/5/17	Rudy seen by Dr. Tobias. At this point, Rudy is doing very well. While he does have some fluid present, he is much better than his visit on October 24 (last time x-rays were taken) and no fluid removal needed. Hopefully, won't need further support for 3-6 months. Rudy's BUN at 59 (10-35 normal) and Creatinine at 1.9 (10-2.0 normal)—these two high values dissuaded Dr. Tobias from prescribing an ACE inhibitor but may consider it in the future.
1/13/17	Rudy seen by Cynthia Glover. Slight amount of fluid in chest observed from muted sound in stethoscope. Acupuncture performed.
1/17/17	Rudy brought in to Blue Pearl and had 250ml of fluid removed. Seen by Dr. Westerhout. Blood panel taken; Dr. Tobias will advise re changes in medication. Could be just gradual fluid increase over last 2-4 weeks. Rudy's BUN is at 54 and creatinine at 1.8.
1/20/17	Dr. Tobias changed Rudy to 3x furosemide daily. We should also have his blood chemistry rechecked in 3-4 days and also set up an appointment in the coming week to be re-evaluated.
1/21/17	Changed most of Rudy's dry food (bulk of his diet) from Taste of the Wild (dry matter composition of 44% protein and 0.44% sodium) to Wellness Complete Health / Indoor Health Deboned Chicken and Chicken Meal Recipe (dry matter composition of 34% protein and 0.20% sodium).

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1/23/17	Rudy's breathing a little rough and inquiries made to Dr. Tobias. Also took Rudy to Blue Pearl for a blood draw.
1/24/17	Rudy's bloodwork came back. Despite the increase in furosemide, his BUN and Creatinine both dropped! His BUN is down to 51, creatinine is at 1.8 and anion gap 26 (reference 13-25). This could be due to Rudy's new food. Talking with Ken Krichman (retired nephrologist), the improved values are most likely due to the lowered protein because Rudy's anion gap has gone up (anion gap was at 22 on January 17) and not from improved cardiac function through reduced sodium (although it could be a combination of both lowered sodium and protein). Dr. Tobias recommended seeing Rudy in a week.
1/30/17	Brought Rudy in to see Dr. Tobias. Advised that Rudy is not doing well and that his heart disease is quite bad. Had about 260ml of fluid taken off his chest cavity. Rudy's blood panel is being readjusted and may increase furosemide and/or experiment with an ACE inhibitor. Dr. Tobias is not adverse to trying torsemide but there is still enough to room to increase his furosemide first. While waiting for blood results to come back, we will increase pimobendan to 3x daily. Also, looking into liquid versions of all meds to ease stress on Rudy.
1/31/17	<p>Bloodwork back for Rudy and looks great with BUN 48 and creatinine 1.8 (unchanged). Increasing furosemide to a full tablet AM and PM and a half-tablet after work. Also adding an ACE inhibitor (enalapril). So, Rudy's current medications are:</p> <ul style="list-style-type: none"> • Furosemide: 12.5mg morning & before bed, plus 6.25mg in late afternoon • Pimobendan: 1mg morning, late afternoon, & before bed • Spironolactone: 6.25mg morning & before bed • Enalapril: 1.25mg once daily (before bed) • Clopidogrel: 18.75mg once daily (morning) • Famotidine: 5mg once daily (before bed)
2/3/17	Rudy is doing great (knock on wood). Started him on 1ml LiquiCarne (250mg l-carnitine) 3x daily. Will add this on an ongoing basis to his pill routine.
2/6/17	Rudy taken in to see Dr. Tobias for a follow-up visit. His breathing looks much better than the last visit but not perfect. Through the stethoscope, he has a bit of muffled breathing suggesting fluid. Under ultrasound, he has considerable fluid and substantial heart disease. I opted not to go with a tap today to drain the fluid and Dr. Tobias said that he will likely need one within the week. In the meantime, he will review Rudy's blood results and make any necessary adjustments. Also started Rudy on L-Taurine 500mg daily.
2/7/17	Rudy's lab values came back. BUN is up to 58 and creatinine is up to 51—both outside reference range. Some of his other values (potassium, ALT, and AST) are also a bit off. Based on this finding, Dr. Tobias does not want to increase Rudy's dose of furosemide. Instead, he will stay on the current regimen but will require thoracentesis every few weeks. I also asked about Rudy's magnesium levels,

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	<p>which they are checking from the sample they sent over. Later in the day, Taryn contacted me with Rudy's magnesium values, which were 2.5 (reference range 1.5 to 2.5), so his values were oddly at the high end of the range! I also asked Dr. Tobias about torsemide and he is developing a plan.</p>
2/9/17	<p>After going back and forth with Blue Pearl, we ordered a compounded torsemide from Wedgewood Pharmacy yesterday. It will be at a concentration of 1.25mg/ml. This means that, if Rudy takes 1ml in the morning and before bed plus 0.5ml in the afternoon, he would be receiving the same level of medication as his current furosemide dosage. No other medications should change. Earlier today, Taryn emailed me and said that a follow-up visit with Dr. Tobias in 7-10 days was a good idea and that they would run a blood panel at that time. If I wanted a blood panel sooner (e.g. after 3 days), I could ask ER to run one and tell them which panel to run. Taryn emailed me the panel—it's called "Feline Panel –Chemistry Screen 1"</p>
2/15/17	<p>Took Rudy in for a thoracentesis today with Dr. Ada Naramor. While Rudy only had 120ml of fluid removed, he showed some signs of abdominal breathing today. Medication is staying the same.</p>
2/17/17	<p>Dr. Glover stopped by for acupuncture.</p>
2/19/17	<p>Replaced Rudy's morning and evening furosemide with torsemide at 1.25mg.</p>
2/21/17	<p>Rudy was showing signs of breathing difficulty yesterday and today. Definitely abdominal movement when lying down. Brought him in to Blue Pearl and saw Dr. McNabb who removed 190ml of fluid. Also got a blood panel for Phoenix.</p> <p>n.b. this trip was much easier for both Rudy and me. I gave Rudy buprenorphine and let him rest while I did a 1 hour workout in the basement. By the time I got out of the shower, we was gently relaxed and sleeping. He didn't make a sound on the drive up and wasn't nervous at the vet—and after it was all done, he acted as if nothing had happened to him. The vet tech even noted that he was nuzzling the oxygen mask when they were performing the procedure.</p>
2/22/17	<p>Received a call from Blue Pearl. Rudy's BUN is at 60 and his creatinine is at 2.0—very stable and exactly what he was at last time. I also got a call from Taryn who said that we could replace his mid-day half-dose of furosemide with a full-dose of either furosemide or torsemide. We will need a blood value recheck in 7-10 days (not necessarily a full appointment). Rudy's potassium is also just a touch on the low side at 3.8 (reference 4.0-5.8).</p> <p>Starting today, replaced Rudy's afternoon dose of 6.25mg of furosemide with 1.25mg of torsemide.</p>
3/6/17	<p>Brought Rudy in to see Dr. Tobias for a follow-up blood check. Rudy is showing only a VERY slight abdominal effort but certainly not nearly enough to warrant a thoracentesis. Under ultrasound, he is also showing only the slightest trace of fluid. Dr. Tobias was very happy with the result—it is as good as we could</p>

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	possibly hope for. We should continue his current course of treatment unless his blood values come back wildly out of line (deviations are permitted as long as he is eating fine).
3/7/17	<p>Received a call from Dr. Tobias. Rudy's BUN is quite elevated (72) and his potassium is quite low (3.2). This suggests a touch of azotemia. Our choices are (1) to cut back on his diuretic—probably starting with his mid-day dose and (2) supplementing with potassium.</p> <p>I said that I would discuss it with Laura but my inclination is to start with the potassium supplement right away and to possibly reduce his midday torsemide dose as symptoms permit. Dr. Tobias agreed that this approach makes sense. If Rudy was eating poorly, then he would suggest lessening his diuretic right away. But given that he is eating well, he would probably start with just a potassium supplement as well. Currently, Rudy's kidney issues are entirely due to prerenal disease and not actual kidney impairment; over time, however, a high BUN and creatinine can cause kidney impairment so getting his kidney values more in line would be optimal.</p> <p>As I have been dosing Rudy's torsemide slightly on the high side (more like 1.1ml instead of 1.0ml at each dose), I will keep him at 1.0ml for each dose and see how he does.</p>
3/8/17	Per Dr. Tobias's recommendation, started Rudy on potassium gluconate supplements (468mg twice daily).
3/10/17	Started Rudy on Azodyl twice daily to improve kidney values.
3/17/17	Dr. Glover dropped by for acupuncture.
3/19/17	Rudy was showing some breathing issues so we brought him in for a thoracentesis with Dr. Misty McNeil-White at Blue Pearl on the night of 3/18. Rudy had 230ml of fluid from his right side removed. He also had a blood panel and set of x-rays taken. We were advised to call Dr. Tobias on Monday to discuss any changes to his medication.
3/20/17	Received a call from Dr. Waldrop. Rudy's x-rays showed a slight darkening in the lungs—could be liquid or could be just bronchial inflammation. Not conclusive. Rudy's BUN took a huge drop (72→54) and his creatinine is stable (2.6) (Dr. Tobias tends to focus on creatinine but still interesting). Rudy's potassium is low-normal so we should continue giving him his potassium supplements. Increased Rudy's Azodyl from 2x daily to 3x daily.
3/25/17	Rudy started having a touch of trouble (breathing a bit sharper and more rapid than I like to see it) but slowed the morning after giving him 1.1ml torsemide. This suggests that he had some pulmonary edema. Increased all his doses of torsemide to 1.1ml. Hopefully the Azodyl will give us additional wiggle room in his kidney values so we can continue increasing his diuretics. Breathing still a little sharp so we decided to keep an eye on him.

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3/31/17	Rudy's breathing was a bit sharp for a few days so I brought Rudy in to see Dr. McNeil-White who removed 350ml of fluid from his chest cavity. They also did a blood panel. I suspect that increasing his diuretics on 3/25 took care of his pulmonary edema but not his pleural effusion.
4/3/17	Wow! Rudy's blood values came back. Creatinine is down to 2.1 from 2.6 (normal is 1.0 – 2.0) and his BUN is down to 48 from 54 (normal is 10-35). The Azodyl is having an amazing effect! Also, his potassium is back in the normal range at 4.4 (normal is 4.0 to 5.0), so I reduced Rudy to 1x daily for potassium
4/7/17	Rudy was doing great for the last week but then was looking just awful today. I even tried him in his oxygen tent, which he did not like at all. So I brought him in for a thoracentesis with Dr. David Gill and Rudy had another 300ml of fluid removed. Rudy did vomit 2-3 times over the last week and this may have interrupted his torsemide dosing. After bringing Rudy home, I changed his dose to 1.2ml and also will eliminate supplements for a few days to let things normalize for awhile.
4/11/17	Brought Rudy in to see Dr. Tobias. He has a chest full of fluid but not ready to be tapped because he isn't showing the clinical signs. Dr. Tobias doesn't believe that Rudy's vomiting of medication before led to the need for the thoracentesis—it's more likely a sign of the disease progression (either at the heart or another affected system). They are taking another blood panel and will suggest a medication adjustment, if possible. In general, a nasty case of azotemia is hard to shake (Dr. Tobias recalled a cat that had a creatinine value of 3.0 requiring 10 days of IV fluids in the hospital). At this point, Rudy's blood values, however, are doing better. BUN is at 47 and creatinine at 2.4. In addition, his potassium is at 6.2 (normal range).
4/12/17	While I was in New York, Laura brought Rudy for thoracentesis with Dr. McNeil. Increased Rudy to 1.4ml torsemide 3x daily.
4/14/17	<p>Spoke with Dr. Tobias. We agreed that being more aggressive with diuretics was acceptable as long as we watch him very carefully for signs of azotemia. If he stops eating, we need to bring him in ASAP for a blood chemistry. At the same time, increasing spironolactone may help if the torsemide is increasing aldosterone. In a separate email, I also noted that Rudy's phosphorus levels are creeping up there, so Dr. Tobias agreed that a phosphorus binder wouldn't be a terrible idea. Also, while Rudy's potassium is back in the normal range, we should keep him at one dose a day until the next recheck—which should be in seven to 10 days. Lastly, I talked to Dr. Tobias about giving Rudy thiamine (vitamin B1) as it helps CHF yet gets depleted with diuretics. Also, increasing Azodyl to help reduce kidney variables.</p> <ul style="list-style-type: none"> • Torsemide increased to 1.4ml 3x daily • Spironolactone increased to 3x daily • Potassium reduced to 1x daily

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	<ul style="list-style-type: none"> • Added Thiamine HCL 40mg 2x daily • Ordered Epakitin (phosphorus binder) • Increasing azodyl to 2 pills 3x daily (six total) <p>Also, Dr. Glover stopped by today for acupuncture for Rudy. She noted that Rudy's lungs appeared clear from the sound of them. Also we discussed Rudy's nausea—she noted that aminos can cause stomach upset and should probably be given separately from his other medication. Or maybe enteric-coated capsules for amino acids are the answer because I really think he does better on aminos.</p>
4/15/17	Rudy was in unusually fine spirits today—eating well, engaging in self-play, and attacking his sister. If he could be live like this, ever regular thoracentesis wouldn't be bad. Was it the acupuncture? The vitamin B1? Increased azodyl?
4/20/17	About two days ago (4/18), we noticed that Rudy's appetite was a bit suppressed—probably eating about 50% of what he normally eats. At this same time, we also switched him over to Renadyl (1x) instead of Azodyl (2x) three times daily. Each Renadyl contains three times as much probiotic as Azodyl but the capsules are much larger and may not entirely clear his gut before the enteric coating dissolves. We discussed the lowered appetite with Dr. Tobias and he suggested bringing him in today for a blood panel to see if he was azotemic. I brought Rudy in and they also noted he had a lot of fluid in his chest. We had noted yesterday that his breathing was just starting to look “sharp.” So he was also drained by Dr. Gill for about 230ml of fluid.
4/21/17	Rudy's bloodwork results came back. His BUN is up by one point (47→48) and his creatinine is stable (at 2.4). His chloride level has worsened (110→106, with normal at 113-123) and his osmolality has improved (316→314 with normal at 290-310). His ALP has taken a spike from 61→69 (normal at 12-62). His high ALP is consistent with zinc or magnesium deficiencies. In general, I think he has an electrolyte deficiency. Later in the day, Dr. McNabb called and discussed Rudy's bloodwork. Given that his electrolytes are low, a decreased appetite doesn't help—so she prescribed Mirtazapine (3.75mg every 72 hours), which is an anti-depressant in humans and her first choice for an appetite stimulant in dogs and cats. Lastly, the Epakitin that we have been using with Rudy seems to be helping already as his phosphorus is down 6.2→5.4 (normal is 2.9 to 7.7) so it seems unlikely that Rudy's phosphorus is an issue.
4/29/17	Rudy has been urinating on the beds and so Laura and I brought him in to see Dr. McNeil. Specifically, he urinated on 4/23 (on Maggie's towel and the brown comforter), on 4/25 (large volume on both beds), and again on 4/29 (Laura's bed). We suspected it might be either a urinary tract infection or cystitis. In the event it was cystitis, Dr. McNeil prescribed buprenorphine every 12 hours. In retrospect, I think it was the mirtazapine because he received a dose on 4/21 and 4/24. Also, Rudy's body temperature was abnormally low so we got him an

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	electric warming blanket and several heat reflective pillows. He also has accumulated fluid, but we opted to wait on a thoracentesis because we will be seeing Dr. Tobias on 5/1. Also, installed a litter box in Laura's bathroom.
5/1/17	Rudy has been looking like crap all weekend, almost certainly due to the buprenorphine. He has been listless, tired, and has no appetite. His breathing rate isn't excessively high (around 22) but it is somewhat labored. He saw Dr. Tobias today who said that the mirtazapine very likely is the culprit. Also, buprenorphine certainly can cause listlessness and loss of interest. Accordingly, we should take him off of both medications immediately. In terms of next actions, he had a thoracentesis (240ml removed) and had a blood draw. If he shows azotemia, we should reduce his torsemide slightly. If not, we can try a different appetite stimulant (cyproheptadine), which works by inhibiting serotonin. While it works entirely differently from mirtazapine, it is equally unpredictable in terms of other behaviors.
5/2/17	Rudy's bloodwork came back. Compared to 4/21, his BUN is up (48→51) and his creatinine is down (2.4→2.3). His chloride has dropped further (106→100). His ALP is back to the normal range (56). Potassium is good at 4.1 but still at the lower half of the reference range (3.7-5.3). Based on this data, Dr. Tobias does not recommend a change to Rudy's routine. We <u>could</u> consider doubling his enalapril or changing to a thiazide diuretic but these steps carry a big risk of azotemia. Based on Rudy's slightly increased BUN (4/21 and 5/2), I added back in Azodyl to complement the Renadyl—perhaps the larger Renadyl capsule was not fully clearing Rudy's stomach and the smaller Azodyl capsule may be more effective? This should hopefully get him back down to his 4/11 BUN of 47 or lower (if not lower, then consider going back to 2x Azodyl and dropping Renadyl).
5/4/17	Received a call from Dr. McNeil. Rudy's urine culture results came back negative.
5/6/17	Rudy is continuing to improve with the discontinuation of mirtazapine and buprenorphine. I have been encouraging him to eat every two hours plus he has been expressing greater interest in his dried food. He has been exhausted since before his 4/29 urination adventure, but has slowly shown signs of returning to normal. This last week, I also asked Dr. Tobias if we could consider adding an ARB (telmisartan), which has shown promise in dogs and cats, to Rudy's care.
5/20/17	In two days, we will hit three weeks since Rudy's last thoracentesis and he doesn't show any indication of needing another one anytime soon. We have been attributing his improvement to moving his litter box to the third floor. Also, we tried feeding him kitten food because of the higher protein and fat content.
6/5/17	Two days ago, Rudy stopped eating and yesterday we brought him in to Blue Pearl. We thought his potassium was low but instead he was quite dehydrated and had a BUN of over 140 and creatinine was at 5.9! He needed to be hospitalized and rehydrated slowly. Within a day, he was much better and he was eating heartily, drinking water, and playing.

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	<p><i>In retrospect, we should have known that the long period without a thoracentesis should have suggested that our high diuretic dose was starting to catch up with his kidneys—and that we should have backed off slightly. A safer course would have been to bring Rudy in at least once a week for a blood draw to check (1) BUN and creatinine values and (2) “packed cell volume” to check if Rudy was dehydrated. I should have also tried to recognize the signs of dehydration in cats (granted, not easy to do).</i></p>
6/6/17	<p>Rudy’s creatinine went up (4.9→5.4) as the folks at BP reduced the flow rate for his IV solution. This was part of their conservative treatment to avoid thoracentesis. Drs. Tobias and Waldrop recommended “pushing the kidneys” a little bit by increasing Rudy’s fluids a little and monitoring every few hours for fluids in the chest cavity. The other two alternatives are to stay on the current course or to take him home and hope that his kidney values normalize. In all likelihood, his kidneys just need a bit of time to flush out his system with extra fluids.</p>
6/9/17	<p>Picked up Rudy from Blue Pearl. He started accumulating a tiny amount of fluid and also seemed to stabilize with his BUN and creatinine at higher than normal values (BUN at 82 and creatinine at 3.7). He also stopped eating, probably because of stress. His new medications are:</p> <ul style="list-style-type: none"> • Famotidine (1.5mg twice a day) • Maropitant (4mg once a day for nausea as needed) <p>Otherwise, we continue Renadyl, Azodyl, CBD, pimobendan, fluticasone, famotidine, and clopedigrel. We are temporarily discontinuing torsemide, spironolactone, and enalapril.</p>
6/13/17	<p>Yesterday, Laura brought Rudy into Blue Pearl today to get his bloodwork one and to have a thoracentesis performed. Today, Dr. Gill called while I was in DC. He said that Rudy’s BUN was up to 94 and his creatinine was at 3.7 As this BUN-to-creatinine ratio is below 20:1, it is likely that Rudy has some degree of kidney failure alongside CHF. He said that, unfortunately, there is nothing else that they would recommend as any diuretics would likely push Rudy into azotemia. I asked about an afterload reducer and he said that drugs like nitroglycerin are quite toxic for cats. I later sent Dr. Tobias an email asking about hydralazine, which is a vasodilator commonly used with cats. Also asked him about whether enalapril is a possibility along with telmisartan.</p>
6/16/17	<p>Brought Rudy in to see Dr. McNabb. He had 300ml of fluid removed. I also had a sobering conversation about Rudy’s condition.</p> <p>I also spoke with Dr. Barton from Blue Pearl in Renton. She said that hemodialysis isn’t a practical option for chronic conditions in cats because of both the high cost and the fact that cats just don’t do as well with dialysis. First, they become anemic. Second, there is always some blood loss in the process and</p>

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	<p>so they always require a transfusion. Thus, the nationwide consensus is against dialysis for chronic conditions in cats. She did say that, to avoid problems, a low phosphorus diet is preferred (a low protein diet isn't ideal for heart failure). She is going to identify two phosphate binders that we can also use and include them in her progress report so we can get a prescription through Blue Pearl or Hawthorne Hills. Also, putting Rudy on a "senior diet" as they tend to have moderate amounts of protein with low phosphorus.</p>
6/20/17	<p>Brought Rudy in to see Dr. Waldrop for a thoracocentesis. He had 230ml of fluid removed and having a blood panel run. This is optimistic given that he accumulated much more fluid over a shorter time interval previously.</p>
6/21/17	<p>Received a call from Dr. Westerhout. Rudy's kidney values are pretty much where they were the last time-- BUN 93 and creatinine 3.2. This means that he can't start diuretics. In consulting with Dr. Westerhout, Rudy seems to be normalizing here. While we can't use diuretics yet without risking azotemia, the lack of diuretics is not worsening the progress of his heart disease. Of course, she reminded me that each thoracentesis increases the risk of pneumothorax. Also, weighing Rudy is a great way to roughly gauge his progress. If he up 300 grams from his last thoracentesis, he is probably about due for a thoracentesis.</p> <p>Later in the day, I spoke with Dr. Larry Seigler at the Animal Healing Center in Redmond. He is preparing a homeopathic remedy and an herbal remedy for Rudy to use. He has great success with injectable homeopathic remedies but we can start with oral formulations. I can come by and pick them up—and then report back on how Rudy is doing.</p>
6/22/17	<p>Started Rudy on a liquid homeopathic remedy (cranolin, cactus, coenzyme, solidago, ubichinon, and lymphomyosot) called homotoxicology and told to give Rudy ¼ dropper twice a day away from food. I also started Rudy on Rx Renal Feline, a commercial herbal remedy twice a day. Both of these remedies were prescribed by Dr. Seigler yesterday.</p>
6/23/17	<p>Brought Rudy in to see Dr. McNabb for a thoracentesis. He had 330ml of fluid removed. In retrospect, this probably reflects that not all of the fluid was removed the last time.</p>
6/28/17	<p>Brought Rudy in to see Dr. McNeil for a thoracentesis. Rudy had about 300ml of fluid removed. I also asked for a blood draw so we could check on Rudy's electrolytes and kidney values.</p>
6/29/17	<p>Received a call from Dr. McNeil. Rudy's BUN is down to 84 (93→84) and his creatinine is down as well (3.2→2.6). His potassium, however, is mildly elevated 5.9 (reference range is 3.7 to 5.2). Other lab values are pretty normal.</p>
7/1/17	<p>Brought Rudy in because his appetite isn't great and he seemed a bit depressed. I spoke with Trisha and Dr. Mansi. Also, his breathing is a bit labored, even though his body weight is only 126 grams over his weight from his last thoracentesis and he doesn't appear dehydrated. I have been concerned about</p>

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	<p>his potassium values and I asked Dr. Tobias if it is possible that Rudy has metabolic acidosis. The signs seem consistent (labored breathing even right after his thoracentesis from possibly high CO2 levels, a high anion gap, high potassium level, high BUN:creatinine ratio, low appetite, difficulty gaining weight, and depression). I asked them to run a blood gas chemistry in addition to sending his results out to Phoenix. Dr. Mansi is concerned about Rudy's quality of life. When she returned, Dr. Mansi reported that she removed 300ml of fluid, which is disappointing after only two days. Based on the blood gas chemistry, Rudy isn't in acidosis. His CO2 and bicarbonate are both within normal range. His packed cell volume suggests he has mild dehydration, which explains why Rudy didn't gain weight as his fluids accumulated. Most disturbing, however, is that his BUN and creatinine are markedly elevated. Based on this news, Laura and I decided that Rudy's fight may be over and that his body can't keep up with the progress of his disease.</p>
7/3/17	<p>Today, Rudy lost his fight with congestive heart failure. We contacted Lap of Love and Dr. Tara Mudry helped Rudy transition with amazing dignity and love.</p>