



reduce stress on the joints and the amount of pro-inflammatory fat cells in the body. We estimate that Joey should receive approximately **304 calories per day**, with a maximum of 34 of these calories coming from treats, and the remaining 270 calories from a nutritionally complete dog food (to ensure that he receives required vitamins and nutrients during this period of caloric restriction).

Joey would benefit from a high protein diet to help best manage his heart condition. A high protein diet will also help him to maintain muscle mass as he ages. There is likely some latitude in what he can be fed because he is so healthy otherwise. We would recommend a high protein kibble diet or a high kibble fresh diet. A kibble diet which meets the nutritional profile for Joey would be Annamaet Sustain, which is available at this site and from other online retailers (<https://www.chewy.com/annamaet-grain-free-sustain-fish/dp/132726>). A fresh option would be to try nomnomnow.com, which would prevent you from having to cook his diet. The chicken recipe would be the best for his condition if you go this route. The kibble diet is obviously easier to store, and may help his teeth if he chews on it, as well as being slightly less expensive. The fresh diet would be shipped weekly, require refrigeration, and be a bit more expensive. Either diet would work well. If you feed the kibble diet, you should give about 3/4 cup per day to start in divided meals (the food has about 400 calories per cup). If you feed the fresh diet, the calories will be preportioned into individual meals for you (be sure to enter his ideal weight of 16 pounds and set his activity level to low). Dr. Shmalberg has helped to formulate both of these diets so he has access to the complete nutritional profiles. There are other diets which may be similar that we can provide as well, but we may have less information about how they were created and the ingredients. Let us know if you want us to provide you with other options as there probably are a number of diets that would help Joey's condition.

Regardless of what diet you select, please transition slowly from the current diet over 1-2 weeks.

#### Medication Recommendations

**Pimobendan (1.25 mg tablets): Give 1.5 tablets by mouth twice daily for this week, then increase to 2 tablets twice daily starting on Monday. \*\*Cardiology prefers that he be on a higher dose than what we prescribed, so we will be increasing the dose in line with their recommendations.** This is a medication for Joey's heart condition (Degenerative Mitral Valve Disease). This drug improves heart contractility and increases the length of time before clinical signs of heart failure occur.

**\*\*Please call us in 2 weeks so we can arrange filling more medication and sending it to you from our pharmacy or so we can provide a prescription to an outside mail order pharmacy. If the medication is well tolerated, we will, on the advice of cardiology, use a larger tablet size (2.5 mg). An advantage of this dose increase is that you will only have to give 1 tablet daily once you have the new size.**

#### Supplement Recommendations

None at this time.

We do not feel that he needs supplemental oils, especially if you feed the diets above because they are already fortified in essential fatty acids.

A probiotic might be helpful for the food transition and can be given long-term to help his general health. We recommend Flora Dog which can be given as a chew, powder, or capsule. The chew is available here (<http://a.co/52mNsJY>) and you can search amazon for the powder or capsule if you think it easier to administer in that form.

#### Additional Notes:

Heart Murmur: Joey has a grade 5/6 left apical systolic heart murmur. An echocardiogram (heart ultrasound) was performed today on his cardiology consult. He was found to have Degenerative Mitral Valve Disease, which appeared as a thickened and prolapsing mitral valve. He has mitral and tricuspid valve regurgitation, which occurs when blood flows in the opposite direction of normal flow because the valve does not close properly. This results in turbulent blood flow, which causes the murmur that we heard today. All of the findings on his cardiology consult place him at stage B2 heart disease, so we will be placing him on the medication Pimobendan at this time. This drug has been shown to prolong the length of time spent in this stage before progressing to showing clinical signs of heart failure by increasing the heart's ability to contract. Mitral valve replacement is an uncommon treatment of this disease. We hope soon to have a program in place that offers this service, but it is expensive as we discussed (\$40,000-45,000) and is not without risks as it involves open heart surgery and cardiac bypass. At the present time, they said that there is nothing they identified which would prevent Joey from being a candidate at this time, but they would need to do more screening. We recommend that you schedule a direct appointment with them in 3-6 months, at which time we hope to have the valve replacement program up and running and will have more information on the logistics.

The following information was provided by cardiology after the visit which serves as their summary of what they found and their recommendations:

Joey's murmur is the result of degenerative valve disease (DVD) affecting the mitral and tricuspid valves. He is currently classified with having advanced ACVIM stage B2 DVD, indicating that the valvular insufficiency is hemodynamically significant and resulting in cardiac chamber enlargement. Pimobendan has been shown to slow the progression of degenerative valve disease and delay the onset of heart failure in dogs with Joey's stage of the disease and so it is indicated at this time.

Degenerative valve disease (DVD) is the most common acquired heart disease in dogs. It is especially common in older, small breed dogs such as Joey. DVD is typically a slowly progressive condition and not all dogs will develop clinical signs associated with degenerative valve disease. Any valve in the heart can be affected by DVD, but the most common valve involved is the mitral valve. This is the valve that sits between the left ventricle and the left atrium. As it becomes degenerative and starts to fail, it can allow blood to leak back into the left atrium. If the disease progresses enough, this 'backing up' of blood can affect the pulmonary circulation as well, and may result in fluid accumulation inside the lungs (pulmonary edema). When this occurs, it is referred to as "congestive heart failure" or CHF. Clinical signs associated with CHF include lethargy, weakness, decreased activity level, coughing and/or increased breathing rate or effort. If any of these signs are noted, a veterinarian should be contacted immediately.

An important part of owning a dog with DVD is monitoring for signs of progression of heart disease at home such as lethargy, weakness, decreased appetite or difficulty breathing. You can monitor your dog's breathing rate at home and this should be done when your pet is resting comfortably. One breath in (chest moves out) and one breath out (chest moves in) is equal to one respiratory cycle. Count the number of respiratory cycles in 15 seconds and multiply this number by 4 to get a final respiratory rate per minute. If your dog's respiratory rate is >40 when AT REST, please contact a veterinarian.

Please monitor for signs of progression of cardiac disease such as lethargy, weakness, collapse episodes, decreased appetite, coughing increased respiratory effort or rate (>40 breaths per minute AT REST). If any of these signs are noted, please contact a veterinarian immediately.

Paw Pads: Joey has hyperkeratosis of his paw pads, which means that there is excess production of tissue. This could be related to abnormal wear (from running or walking on pavement as a street dog), nutritional factors, or other factors that are hard to predict because of his uncertain history. This increase in tissue caused the growths seen extended outwards from his pads. These were trimmed back today, along with clipping his toenails. There is a possibility that these will grow back. We also trimmed Joey's nails today.

Previous exam findings: Joey does not at this visit have signs of back pain or of arthritis. The crepitus in the joint that was mild on last visit can be an incidental finding and not always indicate arthritis. His range of motion was normal. Back pain may have been related to him recently being adopted after being a street dog (and possibly overexerting himself). We also did not note any proprioceptive deficits during this visit. His upper respiratory signs have fully resolved and his lung auscultation is normal, and there is not any nasal discharge at this visit. We do not expect Joey to suffer any issues from arthritis, back issues, or neurologic dysfunction in the near term. He overall appears very healthy, and again, we expect that the observed issues were a result of his uncertain history before you adopted him. His primary pre-existing conditions appear to be the dental disease, heart disease, noted lipomas, and mild eye changes (lenticular sclerosis). It is difficult to estimate his age, but we do suspect he is older than 8 years of age.

Activity: We do not find any reason to restrict Joey's activity. He can certainly go on long walks and he can play as his activity level dictates. We will have to adjust his calories to his activity level though so please let us know if there is any change in his weight.

General care: Please continue the general care recommendations provided by your local veterinary team. Joey may need his ears cleaned weekly as a preventative measure, but we do not see any evidence of a persistent infection.

### Re-Exam

Cardiology would like to schedule a recheck to monitor Joey's heart in 6 months.

### Comments

Thank you for entrusting us with Joey's care today! If you have any questions, please do not hesitate to call at 352-392-2235 or email us at [integrative@vetmed.ufl.edu](mailto:integrative@vetmed.ufl.edu).

**I have received a copy of my pet's discharges.**

	6/25/2018
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Signature of Client or Agent	Date
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**Clinician:** Dr. Shmalberg

**Student/Technician:** Mary Pearce

6/25/2018 DISCHARGES: SAH Integrative Medicine Shmalberg, DVM, Justin - Final - 6/26/2018
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