## Rhonda Hovan

## Hovan Slow Grow Plan

The goal of this Plan is to produce a slow rate of growth for Golden Retrievers puppies between the ages of birth and four months. The purpose of the slowed growth rate is to permit the healthiest possible development of bones and joints. Rapid growth and overweight has been linked to a greater incidence and severity of orthopedic disease such as hip and elbow dysplasia (Kealy et al, 2000), and panosteitis. Faster growing pups are also more likely to sustain soft tissue injuries during play or exercise. Additionally, there is compelling evidence that heavier pups may be at increased risk for developing cancer later in life, and may have a significantly decreased life span as compared to trim puppies (Kealy et al, 2002).

A slowed rate of growth will cause pups to be shorter and less physically developed than faster growing pups of the same age. However, adult height and body development will not be permanently altered, and these pups will eventually reach their full genetic potential. They do this by growing more slowly, but for a longer period of time, than faster growing pups. That is, the growth curve will be more gradual and even, avoiding the steep, unnatural acceleration that is produced by overfeeding.

The rate of growth is directly related to calorie intake. Culturally, most owners have been conditioned to believe that nutrient and calorie dense foods are beneficial to puppies. But in fact these can be harmful, for they are often in opposition to the manner in which Nature intended young canines to eat and grow. Thousands of years of evolution have designed dogs with an optimal growth rate that is slow and steady, and an ideal body composition that is lean and muscular. Wild fox kits and wolf pups are not roly-poly sedentary youngsters, and the common misconception that a plump pup is healthy and robust turns Nature upside down!

Show prospect pups are particularly at risk for over-nutrition, because their owners are often in a hurry for them to develop the bone, head, coat, and stature of mature, competitive dogs. And it is true that overfed pups will be ahead of their properly trim counterparts in those attributes - temporarily. But while these differences completely disappear with maturity, the potential damage to the health of rapidly growing puppies remains.

To effectively maintain a normal and healthy growth rate, the pup must be quite thin and fit. Since most people are more accustomed to pups that are growing too rapidly, these trim pups may appear extreme to many people, including many veterinarians. And in fact, the perception of "thin" varies from one person to another. Therefore, this Plan includes specific weight and exercise guidelines which have proven successful through many generations of Golden Retrievers. While following these guidelines will not completely eliminate all chance of developing disease, it will allow a pup to become the healthiest adult that his genetic potential permits.

It is important to follow these guidelines closely, because any excess food is first used for growth. That is, even if a pup is getting too much food, he may not immediately appear fat - he will simply grow faster. By the time a pup actually looks or feels fat, he is already at an extreme, and growing far too rapidly. A weekly weigh-in will help ensure that minor deviations from the charts are corrected promptly. Breeders recommending this Plan to their puppy buyers may find increased buyer compliance if they require monthly weights to be recorded on the veterinarian's chart as a condition of a sales contract or guarantee.

Target Weights: Birth to 10 weeks

| Age | Weight | Age | Weight |
| :---: | :---: | :---: | :---: |
| Birth | 1 lb | 5 wks | 6 lbs |
| 1 wk | 2 lbs | 6 wks | 7 lbs |
| 2 wks | 3 lbs | 7 wks | 8 lbs |
| 3 wks | 4 lbs | 8 wks | 9.5 lbs |
| 4 wks | 5 lbs | 10 wks | 12 lbs |

Monitor weights regularly from birth to five weeks, rotating pups as necessary to approximate a gain of one pound per week. Do not be alarmed if the gain is slightly less, particularly in large litters. Try to maintain equal size between all pups, within about 4 ounces. (This is extremely important to accuracy when making comparisons between pups within a litter for the purposes of selecting show prospects.) If gain begins to exceed one pound per week, take mother away for several hours periodically; after two weeks old, she can even be away overnight if necessary.

Wean at approximately five weeks, directly onto a good quality puppy food formulated specifically for large breeds. Feed two to three times per day, either dry or adding nothing but water. The needs of each puppy will vary with activity level, so it is impossible to recommend a precise amount; although it will probably be approximately $1 / 2$ cup (dry measure) per day, per pup in the beginning. (Not per meal!) This will gradually increase to about $3 / 4$ cup per day, per pup by eight weeks. Very frequently it is necessary to feed several pups separately, since there are usually some that will tend to get more or less than their share from a common feeding bowl. Please note that it is always more important to feed to correctly manage each individual pup's weight gain, rather than to try to schedule a certain specific amount of food.

Continue to feed as above, but cut back to two meals per day at eight weeks. As before, the correct amount of food may vary due to differences among puppies. DO NOT add any vitamin or mineral supplements, such as vitamin C or calcium.

Target Weights: 12-20 weeks

| Age | Weight |
| :---: | :--- |
| 12 wks. | $15-16$ lbs. |
| 16 wks. | $22-23$ lbs. |
| 20 wks. | $28-30 \mathrm{lbs}$. |

Notice that the Target Weights above jump several weeks at a time. Between eight and twelve weeks, the recommended weight gain totals about six pounds. This divides to approximately 1.5 lbs . per week, and don't let the pup gain it all the first week! The total weight gain in the next eight weeks from 12 to 20 weeks is 14 lbs., or about 1.75 lbs. per week.

Of course, there may be minor variations from these charts without upsetting the Plan, but keep in mind that sometimes just a few pounds can represent a large percentage. For example, at the 12 week Target Weight of 15 lbs ., a three pound increase would actually be $20 \%$. So while three pounds may not sound like a lot, $20 \%$ would certainly be significant enough to accelerate the growth rate.

## Over 20 Weeks

Once the pup has reached the final check point of 20 weeks old, his growth rate will have been slowed for the most critical period of his development. It is now time to begin encouraging a mildly increased growth rate, and this is done by increasing the amount and density of food. Four months old is also an excellent time to do an OFA preliminary hip x-ray, because pups raised on the Slow Grow Plan have a very high likelihood of rating the same at this age as they will at their two year old final x-ray (Corley et al, 1997).

At this point, gradually switch to a premium adult food if desired and increase the amount. Pups should to begin to look a bit fuller, but never fat. One good indicator of soft muscle tone or too much weigh gain is a side to side "roll"
over the loin when the pup gaits. Of course, it will take some time for these pups to catch up completely. They may even appear slightly undersize as they reach the 6-9 month Puppy Class; but should be within lower limits shortly thereafter, usually by approximately seven-to-eight months old. And their growth will continue until they reach their normal genetic potential.

## Exercise Recommendations

Exercise is a vital component of the Slow Grow Plan. An active puppy can eat more food, and thus will be more assured of getting enough nutrients. Furthermore, his muscle-to-fat ratio will be more favorable, reinforcing the desired goal of a slowed rate of growth. And the stronger muscles will properly support bones and joints, which combined with greater coordination, will help protect him from injury.

Free-walking is a suitable exercise for dogs of any age, because it permits them to choose their own pace and level of exertion. Of course, this must be done in a safe environment. While this may not possible on a regular basis, perhaps it can be a special weekend treat; and walking on leash is certainly an acceptable alternative.

Begin with approximately $1 / 2$ mile walks with the eight week old pup, four to five days per week, and add about $1 / 2$ mile every other week. Do not jump ahead to make up for lost weeks when there has been a lapse, but instead resume where the puppy left off. If there has been an extended layoff, begin back several weeks and build up again. An exercise level of three miles per day, four to five times per week, will result in a fit, healthy puppy. Of course, as with any exercise, be very cautious in hot weather; cold is rarely a problem except under extreme circumstances.

## Exercise Recommendations, 4-5 times per week

| Age | Distance | Age | Distance |
| :---: | :---: | :---: | :---: |
| 8 wks | $1 / 2$ mile | 14 wks | 2 miles |
| 10 wks | 1 mile | 16 wks | 2.5 miles |
| 12 wks | 1.5 miles | 18 wks | 3 miles |

Do not jog, bike, or otherwise roadwork a young Golden under four months of age. Prior to beginning these types of more stressful exercises, it is advisable obtain a preliminary OFA hip evaluation. Only puppies with a preliminary rating of "Good" or above should be considered candidates for this more serious athletic training. Always build speed and distance very gradually.

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## References

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