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Practice Limited To:

Diabetes
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Endocrinology

FINE NEEDLE ASPIRATION BIOPSY INSTRUCTIONS FOR THE PATIENT

The mass that was detected on your thyroid can be due to several causes. If it were to be malignant, proper and early management of such a problem can increase the cure rate for thyroid cancer, and give rise to better treatment response to other types of problems in other organs. Therefore, it is imperative to have a cytological (tissue) diagnosis. The way to obtain this is by undergoing a FINE NEEDLE ASPIRATION BIOPSY, an established office procedure in clinical Thyroidology practice.

Please stop taking blood thinners, anti-inflammatory drugs or aspirin (such as Motrin, Ibuprofen) 72 hours before the procedure. Please do not eat or drink anything except for water 2 hours before the procedure. If you have a rash or any other recently developed abnormality around your neck area please call our office or inquire about it at your appointment—we may not be able to perform the procedure if the area is not completely disinfected or if the tissue samples can possibly be contaminated.

We have prepared the following answers to frequently asked questions from our patients. Please read them carefully and if you still have questions, please ask our office staff and they will help to answer them to the best of their abilities for your satisfaction. Any further inquiries can be clarified by the Doctor at your appointment. If you do not ask any further questions, then it is our impression that you have a complete understanding of the procedure.

Q1: Why should a patient undergo a needle biopsy?

The mass on your thyroid could be secondary to an infection or increased growth of the normal tissue, a benign tumor, or malignancy. The majority of the nodules are not cancerous. If you are in that minority of people who have a malignant tumor in such masses, it is imperative to know as early as possible in order

to plan proper treatment and other recommendations. The fine needle aspiration procedure is a simple procedure, and it provides the necessary information in most of the cases so that proper treatment can be planned effectively.

Q2: How involved is the procedure?

After preparing the skin overlaying the lump, the Doctor performs the biopsy with a small (regular) needle that is used in most laboratories to draw blood from your arm. The Doctor uses Lidocaine to dull any pain in the area, thus making the procedure more tolerable. Please note that Lidocaine does not numb the area completely. During the procedure you will probably experience some brief discomfort similar to that encountered when your blood is drawn at a laboratory. Each biopsy takes between 2 to 4 seconds to perform. We sample the nodule from all sides in at least 4 to 6 separate locations. This would amount to at least 4 biopsies, each lasting 3 to 4 seconds. At the end of the procedure, a small bandage is placed over the biopsy site and you will be instructed to keep the site clean and dry, away from clothing, so that your dress will not be damaged. You can remove the bandage at any time. You will be able to drive, return to work, and/or perform any other routine activity. Continue taking any medications that your physician has given you and as he directed.

In general, we take about 5 minutes before the procedure to review your scans and answer any final questions you may have.

Q3: Do patients have any alternatives?

The common means of testing a mass can include blood tests, x-rays, or scans. These tests are rarely precise enough to provide an exact tissue diagnosis. Alternatively, you might be subjected to an open biopsy, which requires general anesthesia, and has the potential complications of anesthesia and surgery per se. Surgery can also leave a scar, and is considerably more expensive. An open biopsy does have some advantage of obtaining a bigger tissue sample. However, upon comparison of different series across the nation regarding the value of needle tissue diagnosis versus the open biopsy, the former can give almost the same amount of information with less expense, less injury, and less complications. Fortunately, this fine needle biopsy technique is more widely available now from specialist's offices and we are glad to be on of those few to provide this service for our patients.

The other alternative is to do nothing and simply observe the mass. This may indeed be suitable and reasonable in many cases, but this decision should be made only after careful consultation and with the advice of your physician.

Q4: What are possible complications with this procedure?

The fine needle aspiration biopsy is not known to cause any significant risks or complications to the patient. A common concern with needle biopsies (whether they are thyroid or otherwise) is that the needle could spread cancer if the nodule were to be cancerous. However, you can take comfort that several studies in medical literature that have looked at the issue thus far indicate that there is no convincing or unequivocal scientific evidence to support such a concern, especially in the case with thyroid nodules. Specifically, this is believed to be due to the isolated arrangement of the thyroid tissue.

Another concern is bruising that may occur for a short period of time due to bleeding underneath the skin or in the mass. Under normal circumstances and in most cases, this bleeding is absorbed without any problem. On occasions this can get infected, and it can then be treated with appropriate antibiotic therapy or drainage. In medical literature, this complication is incredibly rare following fine needle aspirations.

Other temporary problems that occur include transient change in voice, secondary to pressure affects on the speech nerves in the neck. This is a temporary phenomenon in almost all of the cases. This will resolve as the bleeding subsides and absorbs. Some patients report a mild, dull throbbing or aching sensation in the vicinity of the aspirated area. This should subside within 30 to 60 minutes, or at the most, 2 hours. This discomfort does not bother most patients and requires nothing for pain. Some patients choose to hold cold compresses over the area, or prefer the use of mild, nonprescription pain relievers. Finally, any time the skin is penetrated there is a risk of infection. In the about 10,000 biopsies the Doctor has performed in about 35 years of Endocrinology practice, none have resulted in such an infection of clinical significance. If you experience any unusual discomfort or symptoms that concern you, please contact our office or your primary care physician immediately.

Q5: What results can the patient expect from this biopsy?

In about 90% of the cases, a diagnosis is returned from (certain) cytopathologists, determining whether the nodule is malignant or benign, with some variations, and we can then determine the appropriate therapy or treatment. In about 5% of the cases, an evaluation of the nodule is returned from the cytopathologist, lacking the information for a concrete diagnosis, inhibiting our ability to recommend treatments. In about 3 to 5% of the cases, the tissue sample may not be adequate and the cytopathologist may not be able to render a diagnosis or provide an evaluation. We would not know how adequate the tissue sample is beforehand because the fine needle aspiration is a "blind" procedure. This means that the Doctor collects tissue from the thyroid through a needle, but he cannot know how much tissue is collected until a cytopathologist stains the sample and analyzes it. If there is

not enough tissue the Doctor will discuss your options and one of those options may be to schedule a second biopsy. Usually with a second biopsy, the yield is approximately 99% to render a diagnosis.

In spite of our best efforts and intentions, on rare occasions, we still may not be able to determine the exact nature of the nodule. In this case, upon consultation with you, we may consider the open surgical biopsy or other such tests. Finally, the biopsy results, like any other laboratory test, can occasionally be wrong. In this case, we may do further testing.

Q6: Should the patient consider not coming for this biopsy?

If you are like some of our healthy patients, and you have never had any significant medical problems, you may be feeling anxious about this medical procedure with which you are unfamiliar. We are aware of this, are sensitive to these feelings, and would like to make the following suggestion:

Please come in a little early and discuss any question or reservations you may have and make sure all of your questions and concerns are answered appropriately before we even attempt the needle aspiration biopsy. During this discussion, if you decide that you do not want to undergo this test, the biopsy will not be performed.

Q7: What are the charges involved?

We would like you to know that there are two types of charges for the above procedure. The first charge is from us for our services to do the procedure and prepare your biopsy tissue to be sent to a cytopathologist. The second charge is from whichever institution you elect to send your tissue samples to for their services to analyze the tissue sample. They will send you a separate bill.

You may choose any local laboratory to analyze your tissue sample, but we highly recommend **Dr. John Abele in California at phone number (916) 444-0889**. He is a much more experienced cytopathologist and his specialty is more specific to the diagnoses we need from the biopsy. Our earlier experience showed that there is a 90% chance to obtain a diagnosis from an experienced cytopathologist like Dr. Abele. If you choose to send your sample to a local laboratory, it may decrease cost, based on the large workload and economies of scale, but we believe it may not be the same level of expertise as Dr. Abele. Dr. Abele's office has been providing these services to Dr. Pinnamaneni's office for over three decades and this working relationship has served our patients very well so far.

We believe this is an important procedure and it is better for you to get this procedure done with a hope to obtain an accurate cytopathologist opinion. You can

call Dr. Abele's office to inquire about your insurance benefits and see if he accepts it. If he does not accept your insurance, his office may extend an affordable price and payment plan. (Please note that our billing department, medical practice, and office staff are completely separate and independent from that of Dr. Abele's.)

***For further information, you may refer to the following book which contains different opinions available on this topic: ***

Van Nostrand, Douglas, et al. *Thyroid Cancer: A Guide for Patients*. Pasadena: Keystone Press, Inc. Second Edition, June 2010.