WEBVTT

NOTE duration:"01:01:07"

NOTE recognizability:0.846

NOTE language:en-us

NOTE Confidence: 0.777364477142857

00:00:08.520 --> 00:00:11.495 I think you should go ahead baby.

NOTE Confidence: 0.777364477142857

00:00:11.500 --> 00:00:14.338 Yeah, thank you. So thank you

NOTE Confidence: 0.777364477142857

00:00:14.338 --> 00:00:17.358 everybody and it's my great pleasure

NOTE Confidence: 0.777364477142857

00:00:17.358 --> 00:00:20.963 to introduce Dr Ashish can a gender

NOTE Confidence: 0.777364477142857

00:00:20.970 --> 00:00:22.890 I hope it's right pronunciation.

NOTE Confidence: 0.742486949

00:00:24.930 --> 00:00:28.698 Ajendra got a medical degree from

NOTE Confidence: 0.742486949

00:00:28.698 --> 00:00:32.809 University of Delhi in 1989 and got

NOTE Confidence: 0.742486949

00:00:32.809 --> 00:00:36.780 a FRCP diploma in Psychology in 1960

NOTE Confidence: 0.742486949

00:00:36.780 --> 00:00:41.370 and diploma in histopathology in 2000.

NOTE Confidence: 0.742486949

00:00:41.370 --> 00:00:45.123 He is a very active leader nationally

NOTE Confidence: 0.742486949

00:00:45.123 --> 00:00:47.888 and internationally in the field,

NOTE Confidence: 0.742486949

00:00:47.890 --> 00:00:50.794 both psychopathology and

NOTE Confidence: 0.742486949

00:00:50.794 --> 00:00:53.698 Europe urological pathology.

NOTE Confidence: 0.742486949

00:00:53.700 --> 00:00:57.138 He published 100 publication.

NOTE Confidence: 0.742486949

00:00:57.138 --> 00:00:59.690 I hope I'm right.

NOTE Confidence: 0.742486949

00:00:59.690 --> 00:01:02.095 182 publication and thank you

NOTE Confidence: 0.742486949

00:01:02.095 --> 00:01:05.318 and he is the deputy editor

NOTE Confidence: 0.742486949

00:01:05.318 --> 00:01:08.170 for very procedures anthology,

NOTE Confidence: 0.742486949

00:01:08.170 --> 00:01:10.477 journal Psychopathologie, he's.

NOTE Confidence: 0.742486949

00:01:10.477 --> 00:01:13.553 Executive Member of British

NOTE Confidence: 0.742486949

00:01:13.553 --> 00:01:15.860 Association of Psychopathology,

NOTE Confidence: 0.742486949

00:01:15.860 --> 00:01:17.537 and more importantly,

NOTE Confidence: 0.742486949

00:01:17.537 --> 00:01:21.450 he is the vice President of International

NOTE Confidence: 0.742486949

00:01:21.545 --> 00:01:24.281 Academy of Psychopathologie and

NOTE Confidence: 0.742486949

00:01:24.281 --> 00:01:27.701 its chairperson elect for British

NOTE Confidence: 0.742486949

00:01:27.701 --> 00:01:30.098 Association for Urological Pathology.

NOTE Confidence: 0.742486949

00:01:30.098 --> 00:01:34.172 He has participated in so many

NOTE Confidence: 0.742486949

00:01:34.172 --> 00:01:36.590 terminology inside pathology,

NOTE Confidence: 0.742486949

00:01:36.590 --> 00:01:38.970 including professor system for

NOTE Confidence: 0.742486949

00:01:38.970 --> 00:01:41.945 thyroid Paris system for urine.

NOTE Confidence: 0.742486949

00:01:41.950 --> 00:01:45.650 Menards system plan and and

NOTE Confidence: 0.742486949

00:01:45.650 --> 00:01:48.610 International Classification of zeros.

NOTE Confidence: 0.742486949

00:01:48.610 --> 00:01:50.248 I don't know what is next,

NOTE Confidence: 0.742486949

00:01:50.250 --> 00:01:51.802 but anyway, let's wait.

NOTE Confidence: 0.742486949

00:01:51.802 --> 00:01:54.696 So we are very fortunate to have

NOTE Confidence: 0.742486949

00:01:54.696 --> 00:01:58.105 a she's here to talk about the

NOTE Confidence: 0.742486949

00:01:58.105 --> 00:01:59.079 International classification

NOTE Confidence: 0.742486949

00:01:59.158 --> 00:02:01.288 of serious set of pathology.

NOTE Confidence: 0.742486949

00:02:01.290 --> 00:02:01.980 Thank you.

NOTE Confidence: 0.89970567

00:02:06.260 --> 00:02:08.770 Thank you so much Doctor Wang for

NOTE Confidence: 0.89970567

00:02:08.770 --> 00:02:10.760 that very kind introduction and

NOTE Confidence: 0.822738156666667

00:02:10.835 --> 00:02:13.656 thank you Doctor Prasad for inviting me

NOTE Confidence: 0.822738156666667

00:02:13.656 --> 00:02:16.254 to contribute to today's grand round.

NOTE Confidence: 0.822738156666667

00:02:16.260 --> 00:02:18.136 It is my great pleasure and privilege

NOTE Confidence: 0.822738156666667

3

00:02:18.136 --> 00:02:21.632 to be speaking to an audience at the

NOTE Confidence: 0.822738156666667

00:02:21.632 --> 00:02:24.050 prestigious Yale University and I would

NOTE Confidence: 0.822738156666667

00:02:24.120 --> 00:02:26.896 have loved to have been there in person.

NOTE Confidence: 0.822738156666667

00:02:26.900 --> 00:02:29.420 But of course you know times don't

NOTE Confidence: 0.822738156666667

00:02:29.420 --> 00:02:31.292 allow that. So as it happens,

NOTE Confidence: 0.822738156666667

00:02:31.292 --> 00:02:33.931 I'm attending a an executive board meeting of

NOTE Confidence: 0.822738156666667

00:02:33.931 --> 00:02:36.066 the British Association of Psychopathology.

NOTE Confidence: 0.822738156666667

00:02:36.070 --> 00:02:37.414 Today, not in London,

NOTE Confidence: 0.822738156666667

00:02:37.414 --> 00:02:39.430 but in Nottingham and so I'm

NOTE Confidence: 0.822738156666667

00:02:39.499 --> 00:02:41.647 sitting here from my hotel room,

NOTE Confidence: 0.822738156666667

00:02:41.650 --> 00:02:42.930 which is why it might.

NOTE Confidence: 0.822738156666667

00:02:42.930 --> 00:02:45.084 I might appear to be sitting

NOTE Confidence: 0.822738156666667

00:02:45.084 --> 00:02:47.440 in a dark room somewhere.

NOTE Confidence: 0.822738156666667

00:02:47.440 --> 00:02:49.954 But we've just finished a board

NOTE Confidence: 0.822738156666667

00:02:49.954 --> 00:02:52.540 meeting and I'm here at your

NOTE Confidence: 0.822738156666667

00:02:52.540 --> 00:02:55.018 disposal to introduce you to the.

NOTE Confidence: 0.822738156666667

00:02:55.020 --> 00:02:57.580 International system for reporting

NOTE Confidence: 0.822738156666667

00:02:57.580 --> 00:02:59.500 serious fluid psychopathology.

NOTE Confidence: 0.822738156666667

00:02:59.500 --> 00:03:02.746 So this was announced in active

NOTE Confidence: 0.822738156666667

00:03:02.746 --> 00:03:06.281 cytological in June 2019 and I'm very

NOTE Confidence: 0.822738156666667

00:03:06.281 --> 00:03:09.845 pleased to say that the book is now

NOTE Confidence: 0.822738156666667

00:03:09.845 --> 00:03:13.289 available both as an electronic book as

NOTE Confidence: 0.822738156666667

00:03:13.289 --> 00:03:16.600 well as in paperback through Springer.

NOTE Confidence: 0.822738156666667

00:03:16.600 --> 00:03:18.920 Who are the publishers?

NOTE Confidence: 0.822738156666667

00:03:18.920 --> 00:03:21.431 And if you do decide to buy the book

NOTE Confidence: 0.822738156666667

00:03:21.431 --> 00:03:24.135 please do buy it from Springer and not

NOTE Confidence: 0.822738156666667

00:03:24.135 --> 00:03:26.450 other websites which are more expensive.

NOTE Confidence: 0.822738156666667

00:03:26.450 --> 00:03:29.880 It is my duty to first acknowledge

NOTE Confidence: 0.822738156666667

00:03:29.880 --> 00:03:31.839 my Co editors, Dr.

NOTE Confidence: 0.822738156666667

00:03:31.839 --> 00:03:32.817 Barbara Crowther's,

NOTE Confidence: 0.822738156666667

00:03:32.817 --> 00:03:35.262 doctor Daniel Curtis and abroad

NOTE Confidence: 0.822738156666667

00:03:35.262 --> 00:03:38.735 Dr Fernando Schmidt who were the

NOTE Confidence: 0.822738156666667

00:03:38.735 --> 00:03:42.345 leading lights in bringing this this

NOTE Confidence: 0.822738156666667

00:03:42.345 --> 00:03:44.520 project together which is jointly

NOTE Confidence: 0.822738156666667

00:03:44.520 --> 00:03:47.266 sponsored by the American Society of

NOTE Confidence: 0.822738156666667

00:03:47.266 --> 00:03:49.611 Cyto Pathology and the International

NOTE Confidence: 0.822738156666667

00:03:49.611 --> 00:03:51.968 Academy of Psychology and I'm very,

NOTE Confidence: 0.822738156666667

00:03:51.970 --> 00:03:54.964 very much indebted to all the chapter

NOTE Confidence: 0.822738156666667

00:03:54.964 --> 00:03:57.100 authors who have contributed.

NOTE Confidence: 0.822738156666667

00:03:57.100 --> 00:03:58.729 To this book,

NOTE Confidence: 0.822738156666667

00:03:58.729 --> 00:04:01.444 during a particularly difficult time

NOTE Confidence: 0.822738156666667

00:04:01.444 --> 00:04:05.096 over the pandemic, and we were very,

NOTE Confidence: 0.822738156666667

00:04:05.096 --> 00:04:08.103 very fortunate to see it come to

NOTE Confidence: 0.822738156666667

00:04:08.103 --> 00:04:10.408 fruition and publication at the

NOTE Confidence: 0.822738156666667

00:04:10.408 --> 00:04:12.252 end of last chair.

NOTE Confidence: 0.822738156666667

00:04:12.260 --> 00:04:14.860 So what was the need for this project?

NOTE Confidence: 0.822738156666667

00:04:14.860 --> 00:04:17.037 You know, we when we thought about,

NOTE Confidence: 0.822738156666667

00:04:17.040 --> 00:04:17.900 you know,

NOTE Confidence: 0.822738156666667

00:04:17.900 --> 00:04:20.480 do we really need a terminology

NOTE Confidence: 0.822738156666667

00:04:20.480 --> 00:04:23.328 system for serious fluid cytology?

NOTE Confidence: 0.822738156666667

00:04:23.330 --> 00:04:25.034 We had to have a discussion I had

NOTE Confidence: 0.822738156666667

00:04:25.034 --> 00:04:26.906 to put forward a proposal to say,

NOTE Confidence: 0.822738156666667

00:04:26.910 --> 00:04:27.426 you know?

NOTE Confidence: 0.822738156666667

00:04:27.426 --> 00:04:29.232 What would be the point of doing

NOTE Confidence: 0.822738156666667

00:04:29.232 --> 00:04:31.380 this and what motivated me was

NOTE Confidence: 0.822738156666667

00:04:31.380 --> 00:04:34.450 the need for some answers to very

NOTE Confidence: 0.822738156666667

00:04:34.450 --> 00:04:36.097 practical clinical questions.

NOTE Confidence: 0.822738156666667

00:04:36.100 --> 00:04:38.494 The parish system had set a really

NOTE Confidence: 0.822738156666667

00:04:38.494 --> 00:04:40.682 good precedent to evaluation of

NOTE Confidence: 0.822738156666667

00:04:40.682 --> 00:04:42.580 adequacy criterion, fluid samples,

NOTE Confidence: 0.822738156666667

00:04:42.580 --> 00:04:45.820 urine in the case of the parish system

NOTE Confidence: 0.822738156666667

00:04:45.901 --> 00:04:49.189 and had linked it to volume and celularity,

NOTE Confidence: 0.822738156666667

7

00:04:49.190 --> 00:04:51.908 and to my mind there would was a link

NOTE Confidence: 0.822738156666667

00:04:51.908 --> 00:04:54.636 to fluid samples and adequacy taking

NOTE Confidence: 0.822738156666667

00:04:54.636 --> 00:04:58.039 into account both volume the cell content.

NOTE Confidence: 0.822738156666667

00:04:58.040 --> 00:05:00.064 And this in turn I thought would help

NOTE Confidence: 0.822738156666667

00:05:00.064 --> 00:05:02.130 us define what is a true negative

NOTE Confidence: 0.822738156666667

00:05:02.130 --> 00:05:03.635 sample for a particular patient.

NOTE Confidence: 0.822738156666667

00:05:03.640 --> 00:05:04.892 That is to say,

NOTE Confidence: 0.822738156666667

00:05:04.892 --> 00:05:06.457 if the cytology sample from

NOTE Confidence: 0.822738156666667

00:05:06.457 --> 00:05:08.659 a pleural fluid is negative,

NOTE Confidence: 0.822738156666667

00:05:08.660 --> 00:05:11.551 then it does in fact mean that

NOTE Confidence: 0.822738156666667

00:05:11.551 --> 00:05:14.568 the patient is free of metastatic

NOTE Confidence: 0.822738156666667

00:05:14.568 --> 00:05:17.378 disease to the pleural cavity.

NOTE Confidence: 0.822738156666667

00:05:17.380 --> 00:05:19.996 There was also the issue of the use

NOTE Confidence: 0.822738156666667

00:05:19.996 --> 00:05:22.989 of the existing terminology systems,

NOTE Confidence: 0.822738156666667

00:05:22.990 --> 00:05:25.134 which weren't internationally accepted,

NOTE Confidence: 0.822738156666667

00:05:25.134 --> 00:05:28.880 so everyone was doing their own thing.

NOTE Confidence: 0.822738156666667

00:05:28.880 --> 00:05:29.590 In particular,

NOTE Confidence: 0.822738156666667

00:05:29.590 --> 00:05:31.365 the tippy and suspicious categories

NOTE Confidence: 0.822738156666667

00:05:31.365 --> 00:05:33.632 showed a great degree of overlap

NOTE Confidence: 0.822738156666667

00:05:33.632 --> 00:05:34.778 in published literature,

NOTE Confidence: 0.822738156666667

00:05:34.780 --> 00:05:37.258 and I thought that the time had

NOTE Confidence: 0.822738156666667

00:05:37.258 --> 00:05:38.320 come to try

NOTE Confidence: 0.88220778

00:05:38.406 --> 00:05:41.286 and define a tipiya and suspicious.

NOTE Confidence: 0.88220778

00:05:41.290 --> 00:05:44.258 As you know, individual categories and define

NOTE Confidence: 0.88220778

00:05:44.258 --> 00:05:47.289 some criteria for putting cases into these.

NOTE Confidence: 0.88220778

00:05:47.290 --> 00:05:50.068 Categories I also thought that visiting

NOTE Confidence: 0.88220778

00:05:50.068 --> 00:05:53.250 revisiting the value of cytology in Miso,

NOTE Confidence: 0.88220778

00:05:53.250 --> 00:05:55.710 thi Lio Ma was very timely.

NOTE Confidence: 0.88220778

00:05:55.710 --> 00:05:59.000 Now, given that the diagnosis of mesothelioma

NOTE Confidence: 0.88220778

00:05:59.000 --> 00:06:03.487 rests on ancillary work up and fish,

NOTE Confidence: 0.88220778

00:06:03.490 --> 00:06:05.740 and although the gold standard

NOTE Confidence: 0.88220778

00:06:05.740 --> 00:06:07.540 still remains a biopsy,

NOTE Confidence: 0.88220778

00:06:07.540 --> 00:06:09.240 I do not contest that.

NOTE Confidence: 0.88220778

00:06:09.240 --> 00:06:11.697 But it is possible to reach a

NOTE Confidence: 0.88220778

00:06:11.697 --> 00:06:13.287 conclusive diagnosis of mesothelioma

NOTE Confidence: 0.88220778

00:06:13.287 --> 00:06:15.607 based on a psychology sample.

NOTE Confidence: 0.88220778

00:06:15.610 --> 00:06:17.488 And then there was this, really.

NOTE Confidence: 0.88220778

00:06:17.488 --> 00:06:19.578 Tricky question about peritoneal washings

NOTE Confidence: 0.88220778

00:06:19.578 --> 00:06:22.529 and how to report the presence of

NOTE Confidence: 0.88220778

00:06:22.529 --> 00:06:24.554 epithelial cells in these specimens.

NOTE Confidence: 0.88220778

00:06:24.560 --> 00:06:27.624 So there were a good number of reasons

NOTE Confidence: 0.88220778

00:06:27.630 --> 00:06:29.247 in the proposal and I was very,

NOTE Confidence: 0.88220778

00:06:29.250 --> 00:06:32.028 very pleased that both the American

NOTE Confidence: 0.88220778

00:06:32.030 --> 00:06:33.906 Society of Psychopathology and

NOTE Confidence: 0.88220778

00:06:33.906 --> 00:06:35.782 the International Academy thought

NOTE Confidence: 0.88220778

00:06:35.782 --> 00:06:38.210 this was a project worth doing.

NOTE Confidence: 0.88220778

00:06:38.210 --> 00:06:40.410 And So what does the system look like?

NOTE Confidence: 0.88220778

00:06:40.410 --> 00:06:40.942 Happily,

NOTE Confidence: 0.88220778

00:06:40.942 --> 00:06:44.666 it is a very familiar looking terminology

NOTE Confidence: 0.88220778

00:06:44.666 --> 00:06:47.406 system where you have the nondiagnostic.

NOTE Confidence: 0.88220778

00:06:47.406 --> 00:06:50.612 Category or and where you have the

NOTE Confidence: 0.88220778

00:06:50.612 --> 00:06:52.858 negative for malignancy category

NOTE Confidence: 0.88220778

00:06:52.858 --> 00:06:55.138 followed by atypia suspicious.

NOTE Confidence: 0.88220778

00:06:55.140 --> 00:06:57.390 Just like you have in Paris,

NOTE Confidence: 0.88220778

00:06:57.390 --> 00:07:00.370 Bethesda Thyroid and Milan terminologies.

NOTE Confidence: 0.88220778

00:07:00.370 --> 00:07:02.896 With the only difference being that

NOTE Confidence: 0.88220778

00:07:02.896 --> 00:07:05.080 the malignant category in fluid

NOTE Confidence: 0.88220778

00:07:05.080 --> 00:07:07.210 cytology is split into primary,

NOTE Confidence: 0.88220778

00:07:07.210 --> 00:07:08.830 which of course includes MISO.

NOTE Confidence: 0.88220778

00:07:08.830 --> 00:07:09.666 Thi Lio,

NOTE Confidence: 0.88220778

00:07:09.666 --> 00:07:12.156 Ma mainly and also secondary which

NOTE Confidence: 0.88220778

00:07:12.156 --> 00:07:13.740 includes metastatic cost numbers

NOTE Confidence: 0.88220778

00:07:13.740 --> 00:07:15.720 but also secondary involvement by

NOTE Confidence: 0.88220778

00:07:15.781 --> 00:07:18.036 hematopoietic neoplasms such as leukemia.

NOTE Confidence: 0.88220778

00:07:18.040 --> 00:07:20.742 And then foamers and hence the choice

NOTE Confidence: 0.88220778

00:07:20.742 --> 00:07:23.128 of secondary rather than meta static.

NOTE Confidence: 0.807533446153846

00:07:25.330 --> 00:07:27.528 So what are the factors involved in

NOTE Confidence: 0.807533446153846

00:07:27.528 --> 00:07:29.848 adequacy in serious fluid cytology samples?

NOTE Confidence: 0.807533446153846

00:07:29.850 --> 00:07:32.346 As I said, there's of course sample volume,

NOTE Confidence: 0.807533446153846

00:07:32.350 --> 00:07:34.575 but then there's also sell

NOTE Confidence: 0.807533446153846

00:07:34.575 --> 00:07:36.355 content and cellular preservation.

NOTE Confidence: 0.807533446153846

00:07:36.360 --> 00:07:38.982 So is there a recommended volume

NOTE Confidence: 0.807533446153846

00:07:38.982 --> 00:07:40.730 for serous fluid samples?

NOTE Confidence: 0.807533446153846

00:07:40.730 --> 00:07:43.410 Was the question that we wanted to answer,

NOTE Confidence: 0.807533446153846

00:07:43.410 --> 00:07:46.189 and for this there was already existing

NOTE Confidence: 0.807533446153846

00:07:46.189 --> 00:07:48.504 evidence that came from Doctor Ruper

NOTE Confidence: 0.807533446153846

00:07:48.504 --> 00:07:50.947 at all from Johns Hopkins who had

NOTE Confidence: 0.807533446153846

00:07:51.024 --> 00:07:53.274 demonstrated through a very large

NOTE Confidence: 0.807533446153846

00:07:53.274 --> 00:07:56.076 volume study of big sample size.

NOTE Confidence: 0.807533446153846

00:07:56.076 --> 00:07:59.634 That 75 male was probably an optimal

NOTE Confidence: 0.807533446153846

00:07:59.634 --> 00:08:01.690 volume for psychological assessment

NOTE Confidence: 0.807533446153846

00:08:01.767 --> 00:08:04.297 and exclusion or confirmation of

NOTE Confidence: 0.807533446153846

00:08:04.297 --> 00:08:07.316 milling malignancy between 50 and 75

NOTE Confidence: 0.807533446153846

00:08:07.316 --> 00:08:09.746 was probably an acceptible volume

NOTE Confidence: 0.807533446153846

00:08:09.746 --> 00:08:12.905 to request the clinicians to send

NOTE Confidence: 0.807533446153846

00:08:12.905 --> 00:08:14.791 for psychological evaluation in

NOTE Confidence: 0.807533446153846

00:08:14.791 --> 00:08:15.746 a couple of years time.

NOTE Confidence: 0.807533446153846

00:08:15.750 --> 00:08:17.700 They also published data to

NOTE Confidence: 0.807533446153846

00:08:17.700 --> 00:08:19.650 show that for pericardial fluid,

NOTE Confidence: 0.807533446153846

00:08:19.650 --> 00:08:22.836 60 mil was an acceptable volume,

NOTE Confidence: 0.807533446153846

00:08:22.840 --> 00:08:25.304 but that is not to say that smaller

NOTE Confidence: 0.807533446153846

00:08:25.304 --> 00:08:27.160 volume samples should be rejected.

NOTE Confidence: 0.807533446153846

00:08:27.160 --> 00:08:29.056 Perhaps you know everything does have

NOTE Confidence: 0.807533446153846

00:08:29.056 --> 00:08:31.857 have to be booked in and accessioned in

NOTE Confidence: 0.807533446153846

00:08:31.857 --> 00:08:34.065 the cytology laboratory and reported upon.

NOTE Confidence: 0.807533446153846

00:08:34.070 --> 00:08:36.662 But if the sample volume is very small

NOTE Confidence: 0.807533446153846

00:08:36.662 --> 00:08:38.899 and normal agency is demonstrated,

NOTE Confidence: 0.807533446153846

00:08:38.900 --> 00:08:40.940 then perhaps a comment is warranted

NOTE Confidence: 0.807533446153846

00:08:40.940 --> 00:08:43.935 to say that you know if the clinical

NOTE Confidence: 0.807533446153846

00:08:43.935 --> 00:08:45.895 suspicion of malignancy is high,

NOTE Confidence: 0.807533446153846

00:08:45.900 --> 00:08:49.244 then perhaps a 50 to 75 mil volume

NOTE Confidence: 0.807533446153846

00:08:49.244 --> 00:08:51.610 of sample should be sent.

NOTE Confidence: 0.807533446153846

00:08:51.610 --> 00:08:52.118 Also,

NOTE Confidence: 0.807533446153846

00:08:52.118 --> 00:08:55.166 on that point worth mentioning that

NOTE Confidence: 0.807533446153846

00:08:55.166 --> 00:08:57.309 aliquoting specimens for other

NOTE Confidence: 0.807533446153846

00:08:57.309 --> 00:09:00.004 investigations on serious fluid samples

NOTE Confidence: 0.807533446153846

00:09:00.004 --> 00:09:03.240 such as microbiology and biochemistry,

NOTE Confidence: 0.807533446153846

00:09:03.240 --> 00:09:05.784 should all be done at the same time.

NOTE Confidence: 0.807533446153846

00:09:05.790 --> 00:09:08.006 So when you collect the sample from the

00:09:08.006 --> 00:09:10.065 patient on the ward or in the clinic,

00:09:10.070 --> 00:09:12.302 split it up into sample to go to

00:09:12.302 --> 00:09:13.677 psychology and biochemistry and

00:09:13.677 --> 00:09:15.552 microbiology separately and not send

00:09:15.552 --> 00:09:17.699 it all to microbiology and expect

00:09:17.699 --> 00:09:20.596 them to then split it and send it to

00:09:20.596 --> 00:09:21.888 cytology and biochemistry because.

00:09:21.890 --> 00:09:24.572 That delay of course causes a

00:09:24.572 --> 00:09:26.886 deterioration in the quality of

00:09:26.886 --> 00:09:29.568 the sample for cytology and equally

00:09:29.568 --> 00:09:31.990 for microbiology or biochemistry.

00:09:31.990 --> 00:09:32.738 Cell content.

00:09:32.738 --> 00:09:35.730 Big question was do we have to see

00:09:35.814 --> 00:09:38.432 me that email cells in serous fluids

00:09:38.432 --> 00:09:41.119 in order to call them adequate?

00:09:41.120 --> 00:09:43.880 And the short answer to that is no,

NOTE Confidence: 0.807533446153846

00:09:43.880 --> 00:09:46.046 you don't because it is completely

NOTE Confidence: 0.807533446153846

00:09:46.046 --> 00:09:48.310 acceptable to find only lymphocytes,

NOTE Confidence: 0.807533446153846

00:09:48.310 --> 00:09:50.634 say in a tuberculosis or chylous effusion,

NOTE Confidence: 0.807533446153846

00:09:50.640 --> 00:09:51.592 or neutrophils,

NOTE Confidence: 0.807533446153846

00:09:51.592 --> 00:09:54.924 or in an empire from an acute

NOTE Confidence: 0.807533446153846

00:09:54.924 --> 00:09:56.360 bacterial infection,

NOTE Confidence: 0.807533446153846

00:09:56.360 --> 00:09:58.772 and you may have benign effusions

NOTE Confidence: 0.807533446153846

00:09:58.772 --> 00:10:00.380 without major female cells.

NOTE Confidence: 0.807533446153846

00:10:00.380 --> 00:10:01.436 So and conversely,

NOTE Confidence: 0.807533446153846

00:10:01.436 --> 00:10:03.196 also you could have malignancies

NOTE Confidence: 0.807533446153846

00:10:03.196 --> 00:10:04.720 where there's a single cell.

NOTE Confidence: 0.807533446153846

00:10:04.720 --> 00:10:06.770 Population of malignant cells only,

NOTE Confidence: 0.807533446153846

00:10:06.770 --> 00:10:07.739 without mesothelial cells,

NOTE Confidence: 0.807533446153846

00:10:07.739 --> 00:10:10.414 so it's nice to see me the serial

NOTE Confidence: 0.807533446153846

00:10:10.414 --> 00:10:12.850 cells because it does give you the

16

NOTE Confidence: 0.807533446153846

00:10:12.850 --> 00:10:14.927 confidence that the the plural or

NOTE Confidence: 0.807533446153846

00:10:14.927 --> 00:10:16.443 pericardial or peritoneal cavity

NOTE Confidence: 0.807533446153846

00:10:16.443 --> 00:10:17.580 has been sampled,

NOTE Confidence: 0.807533446153846

00:10:17.580 --> 00:10:19.911 but you do not pronounce the specimen

NOTE Confidence: 0.807533446153846

00:10:19.911 --> 00:10:22.054 as being non diagnostic simply because

NOTE Confidence: 0.807533446153846

00:10:22.054 --> 00:10:25.239 you don't see me as a theory of cells.

NOTE Confidence: 0.807533446153846

00:10:25.240 --> 00:10:28.020 Perhaps the most important feature,

NOTE Confidence: 0.807533446153846

00:10:28.020 --> 00:10:31.674 very much like FNA samples or samples

NOTE Confidence: 0.807533446153846

00:10:31.674 --> 00:10:34.890 fluid samples from other sides you know.

NOTE Confidence: 0.807533446153846

00:10:34.890 --> 00:10:36.710 You could have a very cellular specimen,

NOTE Confidence: 0.807533446153846

00:10:36.710 --> 00:10:39.020 but it is poorly preserved and it

NOTE Confidence: 0.807533446153846

00:10:39.020 --> 00:10:41.323 could still be non diagnostic and

NOTE Confidence: 0.807533446153846

00:10:41.323 --> 00:10:42.961 this could be because there's a

NOTE Confidence: 0.807533446153846

00:10:42.961 --> 00:10:43.780 loss of quality

NOTE Confidence: 0.893328146190476

00:10:43.837 --> 00:10:45.472 due to degenerative changes because

NOTE Confidence: 0.893328146190476

00:10:45.472 --> 00:10:47.750 of delays in reaching the laboratory.

NOTE Confidence: 0.893328146190476

00:10:47.750 --> 00:10:50.970 There could be bacterial overgrowth and of

NOTE Confidence: 0.893328146190476

00:10:50.970 --> 00:10:53.559 course technical artifacts and contaminants.

NOTE Confidence: 0.893328146190476

00:10:53.560 --> 00:10:56.872 So I'm going to walk you through the

NOTE Confidence: 0.893328146190476

00:10:56.872 --> 00:10:58.989 terminology system using six cases,

NOTE Confidence: 0.893328146190476

00:10:58.990 --> 00:11:01.307 one for each of the diagnostic categories,

NOTE Confidence: 0.893328146190476

00:11:01.310 --> 00:11:02.210 and then at the end.

NOTE Confidence: 0.893328146190476

00:11:02.210 --> 00:11:04.522 I'd be very pleased to take any questions

NOTE Confidence: 0.893328146190476

00:11:04.522 --> 00:11:06.885 during the time that we have a discussion,

NOTE Confidence: 0.893328146190476

00:11:06.890 --> 00:11:09.572 so let's start with the first case of 54

NOTE Confidence: 0.893328146190476

00:11:09.572 --> 00:11:12.117 year old man with a left sided pleural

NOTE Confidence: 0.893328146190476

00:11:12.117 --> 00:11:14.498 effusion is a smoker and suffers from

NOTE Confidence: 0.893328146190476

00:11:14.498 --> 00:11:16.846 cough and chest pain for one week.

NOTE Confidence: 0.893328146190476

00:11:16.846 --> 00:11:19.054 I will take a moment here to talk

NOTE Confidence: 0.893328146190476

00:11:19.054 --> 00:11:21.227 about the importance of macroscopic

NOTE Confidence: 0.893328146190476

00:11:21.227 --> 00:11:23.512 findings in serious effusion samples.

NOTE Confidence: 0.893328146190476

00:11:23.520 --> 00:11:25.940 Because this is frequently overlooked,

NOTE Confidence: 0.893328146190476

00:11:25.940 --> 00:11:28.217 as soon as we get the request form and

NOTE Confidence: 0.893328146190476

00:11:28.217 --> 00:11:30.266 the slides we read the clinical data

NOTE Confidence: 0.893328146190476

00:11:30.266 --> 00:11:32.569 and we start to look at the slide,

NOTE Confidence: 0.893328146190476

00:11:32.570 --> 00:11:34.628 perhaps without even turning the form

NOTE Confidence: 0.893328146190476

00:11:34.628 --> 00:11:37.023 over or scrolling down the screen to

NOTE Confidence: 0.893328146190476

00:11:37.023 --> 00:11:38.943 see what was the macroscopic appearance

NOTE Confidence: 0.893328146190476

00:11:38.943 --> 00:11:40.723 of this fluid or cytotechnology

NOTE Confidence: 0.893328146190476

00:11:40.723 --> 00:11:42.817 colleagues work very hard in the

NOTE Confidence: 0.893328146190476

00:11:42.820 --> 00:11:45.788 laboratory to record the volume and the

NOTE Confidence: 0.893328146190476

00:11:45.788 --> 00:11:47.940 physical appearances of old samples,

NOTE Confidence: 0.893328146190476

00:11:47.940 --> 00:11:49.844 in particular fluid samples,

NOTE Confidence: 0.893328146190476

00:11:49.844 --> 00:11:52.224 and their descriptions are important

NOTE Confidence: 0.893328146190476

00:11:52.224 --> 00:11:53.530 and clinically.

NOTE Confidence: 0.893328146190476

00:11:53.530 --> 00:11:55.430 Meaningful so you could have,

NOTE Confidence: 0.893328146190476

19

00:11:55.430 --> 00:11:57.986 you know a stroke alert fluid,

NOTE Confidence: 0.893328146190476

00:11:57.990 --> 00:12:00.470 which is probably just a a transit date.

NOTE Confidence: 0.893328146190476

00:12:00.470 --> 00:12:02.690 Or you could have apparent diffusion,

NOTE Confidence: 0.893328146190476

00:12:02.690 --> 00:12:05.658 which is almost certainly an exit date.

NOTE Confidence: 0.893328146190476

00:12:05.660 --> 00:12:08.593 You could have a heavily bloodstained fluid

NOTE Confidence: 0.893328146190476

00:12:08.593 --> 00:12:11.587 you could have Milky or chylous fluid,

NOTE Confidence: 0.893328146190476

00:12:11.590 --> 00:12:14.306 and all of these words have meanings

NOTE Confidence: 0.893328146190476

00:12:14.306 --> 00:12:18.338 and so it is important to look at the

NOTE Confidence: 0.893328146190476

00:12:18.338 --> 00:12:21.374 macroscopic appearance of the sample and

NOTE Confidence: 0.893328146190476

00:12:21.374 --> 00:12:23.616 also in the light of what I've just said.

NOTE Confidence: 0.893328146190476

00:12:23.620 --> 00:12:26.021 About the volume of sample to see

NOTE Confidence: 0.893328146190476

00:12:26.021 --> 00:12:28.239 if a sufficient sample was sent,

NOTE Confidence: 0.893328146190476

00:12:28.240 --> 00:12:30.952 because based on a small volume sample you

NOTE Confidence: 0.893328146190476

00:12:30.952 --> 00:12:34.139 may not get the full representative picture.

NOTE Confidence: 0.893328146190476

00:12:34.140 --> 00:12:36.268 The second point I want to mention

NOTE Confidence: 0.893328146190476

00:12:36.268 --> 00:12:38.928 on this slide again is the the fact

00:12:38.928 --> 00:12:40.608 that you should ideally examine

00:12:40.674 --> 00:12:42.259 a combination of a panda.

00:12:42.260 --> 00:12:45.249 Games are for serious fluid cytology samples,

00:12:45.250 --> 00:12:48.082 pretty much the same as you probably already

00:12:48.082 --> 00:12:52.100 do for FNA samples from various sites.

00:12:52.100 --> 00:12:53.372 So it doesn't matter.

00:12:53.372 --> 00:12:54.962 What the PAP stain is,

00:12:54.970 --> 00:12:57.474 whether it's on a direct spread or it's

00:12:57.474 --> 00:13:00.659 on a cytospin or it's a liquid based

00:13:00.659 --> 00:13:02.918 preparation such as either thin prep

00:13:02.918 --> 00:13:05.682 or show pad up app is a PAP and in

00:13:05.682 --> 00:13:07.964 the same way your romanowsky based dye

00:13:07.964 --> 00:13:10.066 orgainzer stain could either be a diff,

00:13:10.070 --> 00:13:13.030 quik or hemo color or main may Grunwald

00:13:13.030 --> 00:13:15.458 games are preparation so as long

00:13:15.458 --> 00:13:18.606 as you are using a combination of a

NOTE Confidence: 0.893328146190476

00:13:18.606 --> 00:13:21.270 romanowsky die and a PAP you should get

NOTE Confidence: 0.893328146190476

00:13:21.270 --> 00:13:23.760 the best information on that particular.

NOTE Confidence: 0.893328146190476

00:13:23.760 --> 00:13:25.968 Sample having said all of that,

NOTE Confidence: 0.893328146190476

00:13:25.970 --> 00:13:27.500 in this particular case, of course,

NOTE Confidence: 0.893328146190476

00:13:27.500 --> 00:13:28.921 you probably don't even need to put

NOTE Confidence: 0.893328146190476

00:13:28.921 --> 00:13:30.159 this slide under the microscope,

NOTE Confidence: 0.893328146190476

00:13:30.160 --> 00:13:32.134 because you can simply look at it,

NOTE Confidence: 0.893328146190476

00:13:32.140 --> 00:13:32.638 glance at it,

NOTE Confidence: 0.893328146190476

00:13:32.638 --> 00:13:33.634 hold it up to the light,

NOTE Confidence: 0.893328146190476

00:13:33.640 --> 00:13:34.960 and say there's not much there.

NOTE Confidence: 0.893328146190476

00:13:34.960 --> 00:13:36.502 It looks like there's probably just

NOTE Confidence: 0.893328146190476

00:13:36.502 --> 00:13:37.016 some lies.

NOTE Confidence: 0.893328146190476

00:13:37.020 --> 00:13:39.360 Red blood cells at the periphery

NOTE Confidence: 0.893328146190476

00:13:39.360 --> 00:13:40.920 of this thin prep,

NOTE Confidence: 0.868271521153846

00:13:40.920 --> 00:13:43.461 and there are no major fetal cells

NOTE Confidence: 0.868271521153846

00:13:43.461 --> 00:13:45.673 or macrophages or any other kind

NOTE Confidence: 0.868271521153846

00:13:45.673 --> 00:13:48.116 of cells to give you any confidence

NOTE Confidence: 0.868271521153846

00:13:48.193 --> 00:13:50.779 that this is a representative sample.

NOTE Confidence: 0.868271521153846

00:13:50.780 --> 00:13:53.768 It's probably just a traumatic aspirate.

NOTE Confidence: 0.868271521153846

00:13:53.770 --> 00:13:54.976 And therefore nondiagnostic,

NOTE Confidence: 0.868271521153846

00:13:54.976 --> 00:13:56.986 even on the games are,

NOTE Confidence: 0.868271521153846

00:13:56.990 --> 00:13:59.566 you will probably just see a red

NOTE Confidence: 0.868271521153846

00:13:59.566 --> 00:14:01.102 and white cells. Again.

NOTE Confidence: 0.868271521153846

00:14:01.102 --> 00:14:04.412 A point to mention at this step is

NOTE Confidence: 0.868271521153846

00:14:04.412 --> 00:14:06.904 that when you see the neutrophils and

NOTE Confidence: 0.868271521153846

00:14:06.904 --> 00:14:08.755 lymphocytes which are probably all

NOTE Confidence: 0.868271521153846

00:14:08.755 --> 00:14:10.891 just part of the peripheral blood.

NOTE Confidence: 0.868271521153846

00:14:10.900 --> 00:14:12.512 Don't call them inflammatory

NOTE Confidence: 0.868271521153846

00:14:12.512 --> 00:14:14.930 cells because that to a clinician

NOTE Confidence: 0.868271521153846

00:14:15.002 --> 00:14:17.508 breeds like oh so there is an

NOTE Confidence: 0.868271521153846

00:14:17.508 --> 00:14:19.429 inflammatory pathology in this sample.

NOTE Confidence: 0.868271521153846

00:14:19.430 --> 00:14:20.810 These are simply white blood

NOTE Confidence: 0.868271521153846

00:14:20.810 --> 00:14:22.190 cells from the peripheral blood.

NOTE Confidence: 0.868271521153846

00:14:22.190 --> 00:14:23.695 They're not indicative or a

NOTE Confidence: 0.868271521153846

00:14:23.695 --> 00:14:24.899 pathology in the pleura,

NOTE Confidence: 0.868271521153846

00:14:24.900 --> 00:14:27.630 so you know simply calling it blood

NOTE Confidence: 0.868271521153846

00:14:27.630 --> 00:14:29.739 and non diagnostic is adequate.

NOTE Confidence: 0.868271521153846

00:14:29.740 --> 00:14:32.295 Rather than listing all the white blood

NOTE Confidence: 0.868271521153846

00:14:32.295 --> 00:14:35.489 cells that you might be seeing on the sample.

NOTE Confidence: 0.868271521153846

00:14:35.490 --> 00:14:38.118 So of course the terminology systems

NOTE Confidence: 0.868271521153846

00:14:38.118 --> 00:14:39.870 are all about standardizing,

NOTE Confidence: 0.868271521153846

00:14:39.870 --> 00:14:41.646 uh, you know, reports,

NOTE Confidence: 0.868271521153846

00:14:41.646 --> 00:14:45.060 and so the structure of a report,

NOTE Confidence: 0.868271521153846

00:14:45.060 --> 00:14:47.405 whether it's Paris but Esther or Milan,

NOTE Confidence: 0.868271521153846

00:14:47.410 --> 00:14:49.234 follows a certain protocol,

NOTE Confidence: 0.868271521153846

00:14:49.234 --> 00:14:51.970 and so the sample report here

NOTE Confidence: 0.868271521153846

00:14:52.050 --> 00:14:54.850 should include an adequacy comment,

NOTE Confidence: 0.868271521153846

00:14:54.850 --> 00:14:56.518 a diagnostic category,

NOTE Confidence: 0.868271521153846

00:14:56.518 --> 00:14:59.854 and a clinical comment where appropriate.

NOTE Confidence: 0.868271521153846

00:14:59.860 --> 00:15:02.244 So in a case like the one I've

NOTE Confidence: 0.868271521153846

00:15:02.244 --> 00:15:03.210 just shown you,

NOTE Confidence: 0.868271521153846

00:15:03.210 --> 00:15:05.870 a sample report might read as follows

NOTE Confidence: 0.868271521153846

00:15:05.870 --> 00:15:08.430 evaluation limited by heavy blood staining,

NOTE Confidence: 0.868271521153846

00:15:08.430 --> 00:15:09.942 likely non representative sample

NOTE Confidence: 0.868271521153846

00:15:09.942 --> 00:15:13.069 and it is then assigned to the non

NOTE Confidence: 0.868271521153846

00:15:13.069 --> 00:15:15.054 diagnostic category in the international

NOTE Confidence: 0.868271521153846

00:15:15.054 --> 00:15:17.797 system and as a clinical comment you

NOTE Confidence: 0.868271521153846

00:15:17.797 --> 00:15:20.023 would be advising for repeat sample

NOTE Confidence: 0.868271521153846

00:15:20.030 --> 00:15:22.739 and stating in your report until your

NOTE Confidence: 0.868271521153846

00:15:22.739 --> 00:15:25.197 clinicians begin to get used to the

NOTE Confidence: 0.868271521153846

00:15:25.197 --> 00:15:27.403 idea that they really need to try

NOTE Confidence: 0.868271521153846

00:15:27.403 --> 00:15:29.819 and send 50 to 75 mil volume sample.

NOTE Confidence: 0.868271521153846

00:15:29.820 --> 00:15:33.105 And not just two or five mil of sample

NOTE Confidence: 0.868271521153846

00:15:33.105 --> 00:15:35.780 'cause they may not get their answer.

NOTE Confidence: 0.868271521153846

00:15:35.780 --> 00:15:37.620 So that was nondiagnostic

NOTE Confidence: 0.868271521153846

00:15:37.620 --> 00:15:40.430 moving on to case number two,

NOTE Confidence: 0.868271521153846

00:15:40.430 --> 00:15:43.046 and here's a clinical history of a 64 year

NOTE Confidence: 0.868271521153846

00:15:43.046 --> 00:15:45.937 old man with liver cirrhosis and ascites.

NOTE Confidence: 0.868271521153846

00:15:45.940 --> 00:15:48.236 We've got 60 mil or straw colored

NOTE Confidence: 0.868271521153846

00:15:48.236 --> 00:15:50.321 fluid and two sided spins have

NOTE Confidence: 0.868271521153846

00:15:50.321 --> 00:15:52.715 been prepared a PAP and a games.

NOTE Confidence: 0.868271521153846

00:15:52.720 --> 00:15:55.735 A combination as I said is ideal and here

NOTE Confidence: 0.868271521153846

00:15:55.735 --> 00:15:59.499 on this games of preparation you can see

NOTE Confidence: 0.868271521153846

00:15:59.499 --> 00:16:02.389 some beautiful basophilic mesothelial cells.

NOTE Confidence: 0.868271521153846

00:16:02.390 --> 00:16:05.570 You will appreciate their peripheral,

NOTE Confidence: 0.868271521153846

00:16:05.570 --> 00:16:06.822 Lacy borders.

NOTE Confidence: 0.868271521153846

00:16:06.822 --> 00:16:08.700 You could appreciate.

NOTE Confidence: 0.868271521153846

00:16:08.700 --> 00:16:12.018 Perhaps there are the gaps or windows

NOTE Confidence: 0.868271521153846

00:16:12.018 --> 00:16:13.990 between the mesothelial cells,

NOTE Confidence: 0.868271521153846

00:16:13.990 --> 00:16:15.620 the music penal cells show,

NOTE Confidence: 0.868271521153846

00:16:15.620 --> 00:16:17.560 or two tone staining

NOTE Confidence: 0.868271521153846

00:16:17.560 --> 00:16:19.500 pattern of the cytoplasm,

NOTE Confidence: 0.868271521153846

00:16:19.500 --> 00:16:20.246 their nuclei,

NOTE Confidence: 0.868271521153846

00:16:20.246 --> 00:16:23.230 or very much of the same size and

NOTE Confidence: 0.868271521153846

00:16:23.316 --> 00:16:25.860 shape without much pleomorphism,

NOTE Confidence: 0.868271521153846

00:16:25.860 --> 00:16:28.662 and they are infiltrated by these

NOTE Confidence: 0.868271521153846

00:16:28.662 --> 00:16:30.063 neutrophils and lymphocytes.

NOTE Confidence: 0.868271521153846

00:16:30.070 --> 00:16:33.059 So there is this interaction between the

NOTE Confidence: 0.868271521153846

00:16:33.059 --> 00:16:35.639 inflammatory cells and mesothelial cells.

NOTE Confidence: 0.868271521153846

00:16:35.640 --> 00:16:37.440 You can appreciate the same features.

NOTE Confidence: 0.868271521153846

00:16:37.440 --> 00:16:40.492 On the papanikolau cytospin,

NOTE Confidence: 0.868271521153846

00:16:40.492 --> 00:16:44.330 where again you are able to pay more

NOTE Confidence: 0.868271521153846

00:16:44.330 --> 00:16:46.500 attention to the nuclear detail,

NOTE Confidence: 0.868271521153846

00:16:46.500 --> 00:16:48.467 which is the strength of the PAP

NOTE Confidence: 0.868271521153846

00:16:48.467 --> 00:16:50.738 stain and you will see that the

NOTE Confidence: 0.868271521153846

00:16:50.738 --> 00:16:52.438 nuclei have very smooth margins.

NOTE Confidence: 0.868271521153846

00:16:52.440 --> 00:16:54.630 The nuclear membrane is very regular,

NOTE Confidence: 0.868271521153846

00:16:54.630 --> 00:16:56.635 the chromatin is finally dispersed

NOTE Confidence: 0.868271521153846

00:16:56.635 --> 00:16:59.172 with the presence of small multiple

NOTE Confidence: 0.868271521153846

00:16:59.172 --> 00:17:01.472 nuclei rather than a single

NOTE Confidence: 0.868271521153846

00:17:01.472 --> 00:17:02.852 large prominent nucleolus.

NOTE Confidence: 0.902276115555556

00:17:02.860 --> 00:17:05.580 And again, these groups are

NOTE Confidence: 0.902276115555556

00:17:05.580 --> 00:17:07.756 infiltrated by inflammatory cells.

NOTE Confidence: 0.902276115555556

00:17:07.760 --> 00:17:12.530 So no obvious signs of malignancy.

NOTE Confidence: 0.902276115555556

00:17:12.530 --> 00:17:14.438 The sample is certainly

NOTE Confidence: 0.902276115555556

00:17:14.438 --> 00:17:15.869 adequate for evaluation,

NOTE Confidence: 0.902276115555556

00:17:15.870 --> 00:17:18.000 and you saw some neutrophils,

NOTE Confidence: 0.902276115555556

00:17:18.000 --> 00:17:19.624 mesothelial cells, and lymphocytes,

NOTE Confidence: 0.902276115555556

00:17:19.624 --> 00:17:22.634 and so this will go into the

NOTE Confidence: 0.902276115555556

00:17:22.634 --> 00:17:24.638 negative for malignancy category.

NOTE Confidence: 0.902276115555556

00:17:24.640 --> 00:17:27.008 And given that there was a history of

NOTE Confidence: 0.902276115555556

00:17:27.008 --> 00:17:29.060 cirrhosis and ascites in this patient,

NOTE Confidence: 0.902276115555556

00:17:29.060 --> 00:17:31.382 you could put in a comment about the high

NOTE Confidence: 0.902276115555556

00:17:31.382 --> 00:17:33.137 proportion of neutrophils being present,

NOTE Confidence: 0.902276115555556

00:17:33.140 --> 00:17:35.795 which may represent spontaneous bacterial

NOTE Confidence: 0.902276115555556

00:17:35.795 --> 00:17:37.919 peritonitis and therefore correlation.

NOTE Confidence: 0.902276115555556

00:17:37.920 --> 00:17:40.072 With clinical and microbiological

NOTE Confidence: 0.902276115555556

00:17:40.072 --> 00:17:42.224 findings would be advised.

NOTE Confidence: 0.8744905425

00:17:44.460 --> 00:17:46.520 So the negative for malignancy

NOTE Confidence: 0.8744905425

00:17:46.520 --> 00:17:48.580 category you would expect to

NOTE Confidence: 0.8744905425

00:17:48.650 --> 00:17:51.332 see normal or the expected cell

NOTE Confidence: 0.8744905425

00:17:51.332 --> 00:17:53.120 populations in variable numbers,

NOTE Confidence: 0.8744905425

00:17:53.120 --> 00:17:55.570 and these could be lymphocytes.

NOTE Confidence: 0.8744905425

00:17:55.570 --> 00:17:57.700 Macrophages means a female cells,

NOTE Confidence: 0.8744905425

00:17:57.700 --> 00:18:00.898 neutrophils and eosinophils.

NOTE Confidence: 0.8744905425

00:18:00.900 --> 00:18:01.599 Doctor Evil Chick,

NOTE Confidence: 0.8744905425

00:18:01.599 --> 00:18:02.997 who is one of the lead

NOTE Confidence: 0.8744905425

00:18:02.997 --> 00:18:04.238 authors of the Paris system,

NOTE Confidence: 0.8744905425

00:18:04.240 --> 00:18:07.803 was also the lead author for the

NOTE Confidence: 0.8744905425

00:18:07.803 --> 00:18:09.940 negative for Malignancy Chapter

NOTE Confidence: 0.8744905425

00:18:09.940 --> 00:18:14.070 and she created this awesome

NOTE Confidence: 0.8744905425

00:18:14.070 --> 00:18:17.358 algorithm for effusions and once you

NOTE Confidence: 0.8744905425

00:18:17.358 --> 00:18:20.060 separated out the inadequate ones,

NOTE Confidence: 0.8744905425

00:18:20.060 --> 00:18:22.230 the remainder that are adequate

NOTE Confidence: 0.8744905425

00:18:22.230 --> 00:18:24.920 could be just broadly divided into

NOTE Confidence: 0.8744905425

00:18:24.920 --> 00:18:27.566 two main categories of those having

NOTE Confidence: 0.8744905425

00:18:27.566 --> 00:18:29.610 the expected cellular findings.

NOTE Confidence: 0.8744905425

00:18:29.610 --> 00:18:32.844 Uh, and so here you would just

NOTE Confidence: 0.8744905425

00:18:32.844 --> 00:18:34.949 have variable numbers of the,

NOTE Confidence: 0.8744905425

00:18:34.950 --> 00:18:36.050 you know,

NOTE Confidence: 0.8744905425

00:18:36.050 --> 00:18:38.566 lymphocytes or mesothelial cells etc.

NOTE Confidence: 0.8744905425

00:18:38.566 --> 00:18:40.778 And on the other hand you could

NOTE Confidence: 0.8744905425

00:18:40.778 --> 00:18:42.402 have some unexpected cellular

NOTE Confidence: 0.8744905425

00:18:42.402 --> 00:18:44.702 and non cellular findings if

NOTE Confidence: 0.8744905425

00:18:44.702 --> 00:18:46.570 you have malignant cells.

NOTE Confidence: 0.8744905425

00:18:46.570 --> 00:18:48.424 Obviously you've got a diagnosis and

NOTE Confidence: 0.8744905425

00:18:48.424 --> 00:18:50.675 then you've got to do your ancillary

NOTE Confidence: 0.8744905425

00:18:50.675 --> 00:18:52.583 work up to confirm the diagnosis.

NOTE Confidence: 0.8744905425

00:18:52.590 --> 00:18:55.159 But you could also have some noncellular

NOTE Confidence: 0.8744905425

00:18:55.159 --> 00:18:57.560 findings which do indicate a careful

NOTE Confidence: 0.8744905425

00:18:57.560 --> 00:18:59.615 search in the background formula.

NOTE Confidence: 0.8744905425

00:18:59.620 --> 00:19:01.858 And see because some of these

NOTE Confidence: 0.8744905425

00:19:01.858 --> 00:19:03.932 non cellular findings may be

NOTE Confidence: 0.8744905425

00:19:03.932 --> 00:19:05.459 associated with malignancy,

NOTE Confidence: 0.8744905425

00:19:05.460 --> 00:19:07.188 but if you don't see malignancy

NOTE Confidence: 0.8744905425

00:19:07.188 --> 00:19:09.168 you don't have to call the

NOTE Confidence: 0.8744905425

00:19:09.168 --> 00:19:10.696 sample atypical or suspicious.

NOTE Confidence: 0.8744905425

00:19:10.700 --> 00:19:13.476 You should still sign it out as negative.

NOTE Confidence: 0.8744905425

00:19:13.480 --> 00:19:17.092 Having done a careful search to exclude

NOTE Confidence: 0.8744905425

00:19:17.092 --> 00:19:20.628 malignancy and As for the reactive effusions,

NOTE Confidence: 0.8744905425

00:19:20.630 --> 00:19:22.920 you could have different patterns

NOTE Confidence: 0.8744905425

00:19:22.920 --> 00:19:25.210 based on the relative preponderance

NOTE Confidence: 0.8744905425

00:19:25.283 --> 00:19:27.068 of a particular cell type.

NOTE Confidence: 0.8744905425

00:19:27.068 --> 00:19:28.644 So whether it's eosinophilic

NOTE Confidence: 0.8744905425

00:19:28.644 --> 00:19:29.826 or lymph ascitic.

NOTE Confidence: 0.8744905425

00:19:29.830 --> 00:19:32.364 You would need to state you know

NOTE Confidence: 0.8744905425

00:19:32.364 --> 00:19:34.540 what the possible causes of this

NOTE Confidence: 0.8744905425

00:19:34.540 --> 00:19:36.348 cinephilic preponderance might be,

NOTE Confidence: 0.8744905425

00:19:36.348 --> 00:19:38.608 whether there's been a recent

NOTE Confidence: 0.8744905425

00:19:38.608 --> 00:19:40.189 pleural fluid aspiration,

NOTE Confidence: 0.8744905425

00:19:40.190 --> 00:19:42.872 or whether there is an allergic

NOTE Confidence: 0.8744905425

00:19:42.872 --> 00:19:44.415 condition in the patient.

NOTE Confidence: 0.8744905425

00:19:44.415 --> 00:19:46.605 And likewise as I said earlier,

NOTE Confidence: 0.8744905425

00:19:46.610 --> 00:19:51.460 for lymphocytic and neutrophilic effusions.

NOTE Confidence: 0.8744905425

00:19:51.460 --> 00:19:54.736 So that's a negative for malignancy category,

NOTE Confidence: 0.8744905425

00:19:54.740 --> 00:19:56.440 moving onto a third case.

NOTE Confidence: 0.8744905425

00:19:56.440 --> 00:19:58.330 And here's the history of a 46

NOTE Confidence: 0.8744905425

00:19:58.330 --> 00:20:00.114 year old female with a history

NOTE Confidence: 0.8744905425

00:20:00.114 --> 00:20:01.639 of breast carcinoma six years

NOTE Confidence: 0.8744905425

00:20:01.639 --> 00:20:03.689 ago and now presents with cough

NOTE Confidence: 0.8744905425

00:20:03.689 --> 00:20:05.414 and a small pleural effusion.

NOTE Confidence: 0.8744905425

00:20:05.420 --> 00:20:07.380 We've received 20 Miller stroke,

NOTE Confidence: 0.8744905425

00:20:07.380 --> 00:20:10.626 bullet fluid and sitis pins have

NOTE Confidence: 0.8744905425

00:20:10.626 --> 00:20:13.618 been prepared and on the side

NOTE Confidence: 0.8744905425

00:20:13.618 --> 00:20:16.006 of spins at high magnification.

NOTE Confidence: 0.8744905425

33

00:20:16.006 --> 00:20:17.918 This is times 20.

00:20:17.920 --> 00:20:19.978 You have a very cellular sample

00:20:19.978 --> 00:20:21.939 in the background you can see.

00:20:21.940 --> 00:20:23.308 Blood and you can see quite

00:20:23.308 --> 00:20:24.220 a few years cinefile,

00:20:24.220 --> 00:20:26.530 so it's possible that this is

00:20:26.530 --> 00:20:29.460 a repeat aspirate.

00:20:29.460 --> 00:20:30.908 In the center fielder,

00:20:30.908 --> 00:20:33.080 simply a reaction to the introduction

00:20:33.143 --> 00:20:35.207 of small amounts of air during

00:20:35.207 --> 00:20:37.055 the previous procedure and which

00:20:37.055 --> 00:20:39.105 irritates the pleura and insights

00:20:39.105 --> 00:20:40.745 in your cinephilic reaction.

00:20:40.750 --> 00:20:43.174 But what you also see are of course

00:20:43.174 --> 00:20:45.080 these means arterial cells with

00:20:45.080 --> 00:20:47.060 the gaps or windows between them,

NOTE Confidence: 0.8744905425

00:20:47.060 --> 00:20:49.118 some of them showing by nucleation.

NOTE Confidence: 0.8744905425

00:20:49.120 --> 00:20:50.401 Overall looking very,

NOTE Confidence: 0.8744905425

00:20:50.401 --> 00:20:53.390 very bland indeed and then also some

NOTE Confidence: 0.8744905425

00:20:53.465 --> 00:20:56.027 other cells which by their association

NOTE Confidence: 0.8744905425

00:20:56.027 --> 00:20:58.797 with the same group of material

NOTE Confidence: 0.8744905425

00:20:58.797 --> 00:21:01.267 cells are probably just degenerate.

NOTE Confidence: 0.8744905425

00:21:01.270 --> 00:21:03.394 But they all showing micro valuation

NOTE Confidence: 0.8744905425

00:21:03.394 --> 00:21:05.825 of the cytoplasm and and so you know

NOTE Confidence: 0.8744905425

00:21:05.825 --> 00:21:07.984 there's some doubt in your mind given

NOTE Confidence: 0.8744905425

00:21:07.984 --> 00:21:09.809 the history of breast carcinoma,

NOTE Confidence: 0.8744905425

00:21:09.810 --> 00:21:10.974 should I really worry

NOTE Confidence: 0.8744905425

00:21:10.974 --> 00:21:12.720 about these or can I write

NOTE Confidence: 0.868730292222222

00:21:12.790 --> 00:21:14.310 these off as degenerative

NOTE Confidence: 0.868730292222222

00:21:14.310 --> 00:21:15.830 changes in medial cells?

NOTE Confidence: 0.868730292222222

00:21:15.830 --> 00:21:17.792 And then you look at your thin prep PAP?

NOTE Confidence: 0.868730292222222

00:21:17.800 --> 00:21:20.013 And again you see this population

NOTE Confidence: 0.868730292222222

00:21:20.013 --> 00:21:22.578 of likely means arterial cells,

NOTE Confidence: 0.868730292222222

00:21:22.580 --> 00:21:23.783 but scattered within.

NOTE Confidence: 0.868730292222222

00:21:23.783 --> 00:21:26.189 These are also some cells which

NOTE Confidence: 0.868730292222222

00:21:26.189 --> 00:21:28.778 draw your attention because they

NOTE Confidence: 0.868730292222222

00:21:28.778 --> 00:21:30.890 have slightly prominent nucleoli.

NOTE Confidence: 0.868730292222222

00:21:30.890 --> 00:21:32.715 Although the nuclear chromatin overall

NOTE Confidence: 0.868730292222222

00:21:32.715 --> 00:21:35.924 is not cause and so you're not strongly

NOTE Confidence: 0.868730292222222

00:21:35.924 --> 00:21:38.124 suspicious that these are malignant,

NOTE Confidence: 0.868730292222222

00:21:38.130 --> 00:21:40.356 you believe that these amazing serial cells,

NOTE Confidence: 0.868730292222222

00:21:40.360 --> 00:21:43.360 but there is a clinical history

NOTE Confidence: 0.868730292222222

00:21:43.360 --> 00:21:46.425 that is making you pause and wonder

NOTE Confidence: 0.868730292222222

00:21:46.425 --> 00:21:48.980 whether you need to investigate the

NOTE Confidence: 0.868730292222222

00:21:48.980 --> 00:21:50.808 sample further through ancillary

NOTE Confidence: 0.868730292222222

00:21:50.808 --> 00:21:53.278 tests to exclude the possibility

NOTE Confidence: 0.868730292222222

00:21:53.278 --> 00:21:56.505 of small volume metastases from the

NOTE Confidence: 0.868730292222222

00:21:56.505 --> 00:21:58.729 known previous breast carcinoma,

NOTE Confidence: 0.868730292222222

00:21:58.730 --> 00:22:01.258 and so that is the sort of clinical.

NOTE Confidence: 0.868730292222222

00:22:01.260 --> 00:22:04.032 Scenario or setting for the use of

NOTE Confidence: 0.868730292222222

00:22:04.032 --> 00:22:06.628 the atypical category when you have

NOTE Confidence: 0.868730292222222

00:22:06.628 --> 00:22:08.408 occasional body preserved cells

NOTE Confidence: 0.868730292222222

00:22:08.408 --> 00:22:10.670 with some nuclear enlargement,

NOTE Confidence: 0.868730292222222

00:22:10.670 --> 00:22:12.734 subtle changes like hyperchromasia,

NOTE Confidence: 0.868730292222222

00:22:12.734 --> 00:22:15.314 but no obvious chromatin and

NOTE Confidence: 0.868730292222222

00:22:15.314 --> 00:22:17.559 nuclear membrane abnormalities.

NOTE Confidence: 0.868730292222222

00:22:17.560 --> 00:22:19.295 You believe that these are

NOTE Confidence: 0.868730292222222

00:22:19.295 --> 00:22:20.336 lightly degenerated macrophages,

NOTE Confidence: 0.868730292222222

00:22:20.340 --> 00:22:22.945 amazing theater cells and you're

NOTE Confidence: 0.868730292222222

00:22:22.945 --> 00:22:26.151 performing ancillary tests to exclude the

NOTE Confidence: 0.868730292222222

00:22:26.151 --> 00:22:28.756 possibility of metastatic cost Sonoma.

NOTE Confidence: 0.868730292222222

00:22:28.760 --> 00:22:31.310 So you do your epithelial markers

NOTE Confidence: 0.868730292222222

00:22:31.310 --> 00:22:32.585 and mesothelial markers.

NOTE Confidence: 0.868730292222222

00:22:32.590 --> 00:22:34.906 And you can then downgrade the

NOTE Confidence: 0.868730292222222

00:22:34.906 --> 00:22:37.330 sample to negative for malignancy.

NOTE Confidence: 0.868730292222222

00:22:37.330 --> 00:22:38.642 Once the epithelial markers

NOTE Confidence: 0.868730292222222

00:22:38.642 --> 00:22:40.282 are shown to be negative.

NOTE Confidence: 0.868730292222222

00:22:40.290 --> 00:22:42.684 So in this case you prepare a cell block

NOTE Confidence: 0.868730292222222

00:22:42.684 --> 00:22:45.423 and again all you see or miso thi lio cells,

NOTE Confidence: 0.868730292222222

00:22:45.430 --> 00:22:48.220 macrophages some fiber in a few

NOTE Confidence: 0.868730292222222

00:22:48.220 --> 00:22:50.080 lymphocytes and your epithelial

NOTE Confidence: 0.868730292222222

00:22:50.159 --> 00:22:53.648 markers come back negative and so

NOTE Confidence: 0.868730292222222

00:22:53.648 --> 00:22:57.620 the atypical category really is an

NOTE Confidence: 0.868730292222222

00:22:57.620 --> 00:23:00.320 uncommonly used category in effusions.

NOTE Confidence: 0.868730292222222

00:23:00.320 --> 00:23:01.544 Some experience title pathologists

NOTE Confidence: 0.868730292222222

00:23:01.544 --> 00:23:03.074 don't like to use it.

NOTE Confidence: 0.868730292222222

00:23:03.080 --> 00:23:03.720 At all,

NOTE Confidence: 0.868730292222222

00:23:03.720 --> 00:23:04.680 and in fact,

NOTE Confidence: 0.868730292222222

00:23:04.680 --> 00:23:07.096 one of the biggest questions for me for

NOTE Confidence: 0.868730292222222

00:23:07.096 --> 00:23:09.019 this particular terminology system was,

NOTE Confidence: 0.868730292222222

00:23:09.020 --> 00:23:11.246 could we simply just collapse the

NOTE Confidence: 0.868730292222222

00:23:11.246 --> 00:23:12.730 atypia and suspicious category

NOTE Confidence: 0.868730292222222

00:23:12.794 --> 00:23:15.298 into one and do away with it appear

NOTE Confidence: 0.868730292222222

00:23:15.298 --> 00:23:16.944 completely because they just didn't

NOTE Confidence: 0.868730292222222

00:23:16.944 --> 00:23:18.858 seem to be good diagnostic criteria

NOTE Confidence: 0.868730292222222

00:23:18.858 --> 00:23:21.406 in literature for a for a tipiya.

NOTE Confidence: 0.868730292222222

00:23:21.410 --> 00:23:21.833 However,

NOTE Confidence: 0.868730292222222

00:23:21.833 --> 00:23:24.371 before we embarked on the project

NOTE Confidence: 0.868730292222222

00:23:24.371 --> 00:23:25.895 and our literature search,

NOTE Confidence: 0.868730292222222

00:23:25.895 --> 00:23:28.450 we conducted a survey which was sent

NOTE Confidence: 0.868730292222222

00:23:28.521 --> 00:23:30.627 out by the University of Wisconsin

NOTE Confidence: 0.868730292222222

00:23:30.630 --> 00:23:32.546 doctor Dan Curtis's department.

NOTE Confidence: 0.868730292222222

00:23:32.546 --> 00:23:35.420 And we got about 600 respondents

NOTE Confidence: 0.868730292222222

00:23:35.495 --> 00:23:38.057 telling us that they would like us

NOTE Confidence: 0.868730292222222

00:23:38.057 --> 00:23:40.660 to include the tipiya category in

NOTE Confidence: 0.868730292222222

00:23:40.660 --> 00:23:42.160 the terminology system because they

NOTE Confidence: 0.868730292222222

00:23:42.160 --> 00:23:44.467 do use it and they have clinical

NOTE Confidence: 0.868730292222222

00:23:44.467 --> 00:23:46.549 circumstances in which they use it.

NOTE Confidence: 0.868730292222222

00:23:46.550 --> 00:23:48.410 And so for the time being,

NOTE Confidence: 0.868730292222222

00:23:48.410 --> 00:23:50.300 we decided to include it in

NOTE Confidence: 0.868730292222222

00:23:50.300 --> 00:23:51.245 the terminology system.

NOTE Confidence: 0.868730292222222

00:23:51.250 --> 00:23:53.301 But we're going to watch its progress

NOTE Confidence: 0.868730292222222

00:23:53.301 --> 00:23:55.108 and the performance of this category.

NOTE Confidence: 0.868730292222222

00:23:55.110 --> 00:23:56.814 What was becoming increasingly

NOTE Confidence: 0.868730292222222

00:23:56.814 --> 00:23:59.370 apparent from the survey was that

NOTE Confidence: 0.868730292222222

00:23:59.445 --> 00:24:01.776 in our minds we are following the

NOTE Confidence: 0.868730292222222

00:24:01.776 --> 00:24:03.980 two step process for the atypical.

NOTE Confidence: 0.868730292222222

00:24:03.980 --> 00:24:06.242 And suspicious cases where we were

NOTE Confidence: 0.868730292222222

00:24:06.242 --> 00:24:08.527 putting a case aside while we

NOTE Confidence: 0.868730292222222

00:24:08.527 --> 00:24:10.633 were doing the ancillary work up

NOTE Confidence: 0.868730292222222

00:24:10.640 --> 00:24:12.815 and some colleagues were actually

NOTE Confidence: 0.868730292222222

00:24:12.815 --> 00:24:14.555 issuing a preliminary report,

NOTE Confidence: 0.868730292222222

00:24:14.560 --> 00:24:16.858 which is of course optional and

NOTE Confidence: 0.868730292222222

00:24:16.858 --> 00:24:19.218 not mandated by the international

NOTE Confidence: 0.868730292222222

00:24:19.218 --> 00:24:22.555 system simply to give them the

NOTE Confidence: 0.868730292222222

00:24:22.555 --> 00:24:25.140 time to assess this sample.

NOTE Confidence: 0.868730292222222

00:24:25.140 --> 00:24:27.982 And in order to prevent, you know,

NOTE Confidence: 0.868730292222222

00:24:27.982 --> 00:24:29.506 clinical queries and emails,

NOTE Confidence: 0.868730292222222

00:24:29.510 --> 00:24:32.166 and you know where's the result to put

NOTE Confidence: 0.868730292222222

00:24:32.166 --> 00:24:34.490 something out there for the clinicians.

NOTE Confidence: 0.906536946666667

00:24:34.490 --> 00:24:37.055 To receive to say we're working on this case,

NOTE Confidence: 0.906536946666667

00:24:37.060 --> 00:24:38.660 there's something odd about it,

NOTE Confidence: 0.906536946666667

00:24:38.660 --> 00:24:42.680 and we need a little bit more time to come

NOTE Confidence: 0.906536946666667

00:24:42.785 --> 00:24:46.425 to a final conclusion about this case.

NOTE Confidence: 0.906536946666667

00:24:46.430 --> 00:24:48.485 And so the diagnostic algorithm

NOTE Confidence: 0.906536946666667

00:24:48.485 --> 00:24:50.540 for the atypical category really

NOTE Confidence: 0.906536946666667

00:24:50.609 --> 00:24:53.304 is that you you're you perform a

NOTE Confidence: 0.906536946666667

00:24:53.304 --> 00:24:54.980 preliminary assessment over tipiya,

NOTE Confidence: 0.906536946666667

00:24:54.980 --> 00:24:57.494 and then if your immuno chemistry

NOTE Confidence: 0.906536946666667

00:24:57.494 --> 00:24:59.623 demonstrates these atypical cells to

NOTE Confidence: 0.906536946666667

00:24:59.623 --> 00:25:01.563 be just macrophages or mesothelial

NOTE Confidence: 0.906536946666667

00:25:01.563 --> 00:25:03.534 cells you just downgrade that

NOTE Confidence: 0.906536946666667

00:25:03.534 --> 00:25:05.676 report to a negative for malignancy

NOTE Confidence: 0.906536946666667

00:25:05.680 --> 00:25:07.006 in a small number of cases.

NOTE Confidence: 0.906536946666667

00:25:07.010 --> 00:25:09.878 If the immuno chemistry demonstrates that

NOTE Confidence: 0.906536946666667

00:25:09.878 --> 00:25:13.409 the atypical cells are epithelial then you

NOTE Confidence: 0.906536946666667

00:25:13.409 --> 00:25:16.493 can upgrade your diagnosis too suspicious.

NOTE Confidence: 0.906536946666667

00:25:16.500 --> 00:25:17.745 Or malignant secondary.

NOTE Confidence: 0.906536946666667

00:25:17.745 --> 00:25:21.437 And then you would be left with a very

NOTE Confidence: 0.906536946666667

00:25:21.437 --> 00:25:23.996 small number of cases where there are

00:25:23.996 --> 00:25:25.524 insufficient representative cells or

00:25:25.524 --> 00:25:28.078 the you know chemistry is equivocal,

00:25:28.080 --> 00:25:31.104 and so you reduce the burden of the

00:25:31.104 --> 00:25:34.416 cases that you would sign out as that

00:25:34.416 --> 00:25:36.890 appear on serious fluid cytology.

00:25:36.890 --> 00:25:40.481 And so that is the kind of reasoning behind

00:25:40.481 --> 00:25:43.709 both the tibia and as I will show you,

00:25:43.710 --> 00:25:44.985 the suspicious category.

00:25:44.985 --> 00:25:46.685 In my next case,

00:25:46.690 --> 00:25:48.881 a 68 year old man with pleural

00:25:48.881 --> 00:25:50.890 fluid history of lung carcinoma,

00:25:50.890 --> 00:25:53.690 30 mil of blood tinged fluid is received.

00:25:53.690 --> 00:25:58.742 And here on the map you can appreciate

00:25:58.742 --> 00:26:01.430 that there are just two cells,

00:26:01.430 --> 00:26:03.794 but these two cells stand out

00:26:03.794 --> 00:26:05.799 in the background because they

NOTE Confidence: 0.906536946666667

00:26:05.799 --> 00:26:07.589 are much larger than the.

NOTE Confidence: 0.906536946666667

00:26:07.590 --> 00:26:08.926 Inflammatory cells,

NOTE Confidence: 0.906536946666667

00:26:08.926 --> 00:26:11.598 the UM, the macrophages,

NOTE Confidence: 0.906536946666667

00:26:11.600 --> 00:26:13.880 and the means of teal cells in the

NOTE Confidence: 0.906536946666667

00:26:13.880 --> 00:26:15.700 background on the games are again.

NOTE Confidence: 0.906536946666667

00:26:15.700 --> 00:26:18.577 You see that these nuclei, or quite large,

NOTE Confidence: 0.906536946666667

00:26:18.577 --> 00:26:21.300 irregular and again the cells are much,

NOTE Confidence: 0.906536946666667

00:26:21.300 --> 00:26:23.925 much louder than the surrounding

NOTE Confidence: 0.906536946666667

00:26:23.925 --> 00:26:25.500 lymphocytes and macrophages,

NOTE Confidence: 0.906536946666667

00:26:25.500 --> 00:26:26.870 and made me feel cells.

NOTE Confidence: 0.906536946666667

00:26:26.870 --> 00:26:28.166 So these three cells,

NOTE Confidence: 0.906536946666667

00:26:28.166 --> 00:26:29.138 or you know,

NOTE Confidence: 0.906536946666667

00:26:29.140 --> 00:26:31.030 on the PAP and on the games

NOTE Confidence: 0.906536946666667

00:26:31.030 --> 00:26:34.140 are or to an experienced I at

NOTE Confidence: 0.906536946666667

00:26:34.140 --> 00:26:36.060 least suspicious for malignancy.

NOTE Confidence: 0.906536946666667

00:26:36.060 --> 00:26:38.044 Depending on your experience.

NOTE Confidence: 0.906536946666667

00:26:38.044 --> 00:26:39.036 And expertise.

NOTE Confidence: 0.906536946666667

00:26:39.040 --> 00:26:41.092 Of course, you could say I'm

NOTE Confidence: 0.906536946666667

00:26:41.092 --> 00:26:42.460 pretty sure that's malignant.

NOTE Confidence: 0.906536946666667

00:26:42.460 --> 00:26:42.816 Uhm,

NOTE Confidence: 0.906536946666667

00:26:42.816 --> 00:26:43.528 you know,

NOTE Confidence: 0.906536946666667

00:26:43.528 --> 00:26:46.020 but I need to do my immunostains

NOTE Confidence: 0.906536946666667

00:26:46.098 --> 00:26:48.590 to be able to just confirm that

NOTE Confidence: 0.906536946666667

00:26:48.590 --> 00:26:51.100 these cells are indeed epithelial.

NOTE Confidence: 0.906536946666667

00:26:51.100 --> 00:26:53.774 Before I make a diagnosis of metastatic

NOTE Confidence: 0.906536946666667

00:26:53.774 --> 00:26:56.700 cost Sonoma in this particular patient.

NOTE Confidence: 0.906536946666667

00:26:56.700 --> 00:26:58.998 And so you were suspicious while

NOTE Confidence: 0.906536946666667

00:26:58.998 --> 00:27:01.060 you were appreciating just the uh,

NOTE Confidence: 0.906536946666667

00:27:01.060 --> 00:27:02.530 the cytological appearances.

NOTE Confidence: 0.906536946666667

00:27:02.530 --> 00:27:04.980 But you needed backup from

NOTE Confidence: 0.906536946666667

00:27:04.980 --> 00:27:06.590 your ancillary work up.

NOTE Confidence: 0.906536946666667

00:27:06.590 --> 00:27:09.400 To upgrade the diagnosis from

NOTE Confidence: 0.906536946666667

00:27:09.400 --> 00:27:11.086 suspicious to malignant,

NOTE Confidence: 0.906536946666667

00:27:11.090 --> 00:27:13.406 and so the suspicious scenarios in

NOTE Confidence: 0.906536946666667

00:27:13.406 --> 00:27:15.726 serous fluid cytology is where you

NOTE Confidence: 0.906536946666667

00:27:15.726 --> 00:27:17.844 have either small numbers of cases

NOTE Confidence: 0.906536946666667

00:27:17.844 --> 00:27:20.075 or groups with nuclear pleomorphism

NOTE Confidence: 0.906536946666667

00:27:20.075 --> 00:27:22.011 that require ancillary tests

NOTE Confidence: 0.906536946666667

00:27:22.011 --> 00:27:24.048 for confirmation of malignancy.

NOTE Confidence: 0.906536946666667

00:27:24.048 --> 00:27:27.516 Sometimes you may have cells with

NOTE Confidence: 0.906536946666667

00:27:27.516 --> 00:27:29.250 relatively bland appearances

NOTE Confidence: 0.906536946666667

00:27:29.329 --> 00:27:30.969 or mild plum Orphism.

NOTE Confidence: 0.906536946666667

00:27:30.970 --> 00:27:32.690 They may even be numerous,

NOTE Confidence: 0.906536946666667

00:27:32.690 --> 00:27:34.330 but they look very bland,

NOTE Confidence: 0.906536946666667

00:27:34.330 --> 00:27:36.745 or they may be simply in small.

NOTE Confidence: 0.906536946666667

00:27:36.750 --> 00:27:38.862 Numbers like we talked about in

NOTE Confidence: 0.906536946666667

00:27:38.862 --> 00:27:41.164 the case of breast or another

NOTE Confidence: 0.906536946666667

00:27:41.164 --> 00:27:43.618 scenario where you have music in

NOTE Confidence: 0.906536946666667

00:27:43.618 --> 00:27:45.802 the background but very few or

NOTE Confidence: 0.906536946666667

00:27:45.802 --> 00:27:47.746 no cells or very bland looking

NOTE Confidence: 0.906536946666667

00:27:47.750 --> 00:27:50.060 cells in ascitic fluid in say

NOTE Confidence: 0.906536946666667

00:27:50.060 --> 00:27:51.600 a pseudomyxoma pair tonight.

NOTE Confidence: 0.906536946666667

00:27:51.600 --> 00:27:53.672 But in the absence of cells you can't

NOTE Confidence: 0.906536946666667

00:27:53.672 --> 00:27:55.617 really make a diagnosis of malignancy,

NOTE Confidence: 0.8879503675

00:27:55.620 --> 00:27:58.310 but you could certainly raise

NOTE Confidence: 0.8879503675

00:27:58.310 --> 00:28:00.525 the suspicion of pseudomyxoma

NOTE Confidence: 0.8879503675

00:28:00.525 --> 00:28:04.095 based simply on the museum scene,

NOTE Confidence: 0.8879503675

00:28:04.100 --> 00:28:05.688 lymph ascitic effusions with

NOTE Confidence: 0.8879503675

00:28:05.688 --> 00:28:06.879 the monotonous population.

NOTE Confidence: 0.8879503675

00:28:06.880 --> 00:28:09.519 Again, would need a a an ancillary.

NOTE Confidence: 0.8879503675

00:28:09.520 --> 00:28:12.232 Work up to confirm the diagnosis of lymphoma

NOTE Confidence: 0.8879503675

00:28:12.232 --> 00:28:14.580 or exclude the diagnosis of lymphoma,

NOTE Confidence: 0.8879503675

00:28:14.580 --> 00:28:16.449 and so again till you get the

NOTE Confidence: 0.8879503675

00:28:16.449 --> 00:28:18.379 results of your ancillary work up.

NOTE Confidence: 0.8879503675

00:28:18.380 --> 00:28:21.536 You could put that into the

NOTE Confidence: 0.8879503675

00:28:21.536 --> 00:28:23.114 suspicious category provisionally.

NOTE Confidence: 0.8879503675

00:28:23.120 --> 00:28:25.178 And so similar to the algorithm for

NOTE Confidence: 0.8879503675

00:28:25.178 --> 00:28:27.329 atypia in the suspicious category.

NOTE Confidence: 0.8879503675

00:28:27.330 --> 00:28:29.910 Again, we are basically worried

NOTE Confidence: 0.8879503675

00:28:29.910 --> 00:28:33.249 about a small number of cells

NOTE Confidence: 0.8879503675

00:28:33.249 --> 00:28:35.877 or preliminary assessment is.

NOTE Confidence: 0.8879503675

00:28:35.880 --> 00:28:38.058 In the favor of malignancy rather

NOTE Confidence: 0.8879503675

00:28:38.058 --> 00:28:40.485 than in favor of benign as

NOTE Confidence: 0.8879503675

00:28:40.485 --> 00:28:42.720 opposed to the atypical category.

NOTE Confidence: 0.8879503675

00:28:42.720 --> 00:28:45.205 And then once you do your immunostains

NOTE Confidence: 0.8879503675

00:28:45.205 --> 00:28:47.264 you confirm malignancy and your final

NOTE Confidence: 0.8879503675

00:28:47.264 --> 00:28:49.427 report would be malignant and so again

NOTE Confidence: 0.8879503675

00:28:49.488 --> 00:28:51.680 you would be only left with a very

NOTE Confidence: 0.8879503675

00:28:51.680 --> 00:28:54.355 small number of cases where there is

NOTE Confidence: 0.8879503675

00:28:54.355 --> 00:28:56.480 insufficient material or the immuno

NOTE Confidence: 0.8879503675

00:28:56.562 --> 00:28:59.160 chemistry is not supportive of the

NOTE Confidence: 0.8879503675

00:28:59.160 --> 00:29:01.687 diagnosis where you would be left

NOTE Confidence: 0.8879503675

00:29:01.687 --> 00:29:03.802 with a suspicious category as the

NOTE Confidence: 0.8879503675

00:29:03.802 --> 00:29:06.210 final diagnosis and you could of course.

NOTE Confidence: 0.8879503675

00:29:06.210 --> 00:29:08.630 Just request further sample

NOTE Confidence: 0.8879503675

00:29:08.630 --> 00:29:11.050 to confirm the diagnosis.

NOTE Confidence: 0.8879503675

00:29:11.050 --> 00:29:12.890 At this point I would just take a

NOTE Confidence: 0.8879503675

00:29:12.890 --> 00:29:14.664 moment to talk about answer retesting

NOTE Confidence: 0.8879503675

00:29:14.664 --> 00:29:16.853 of lung padmakar Sonoma in this case

NOTE Confidence: 0.8879503675

00:29:16.853 --> 00:29:18.533 because in such a case you might

NOTE Confidence: 0.8879503675

00:29:18.533 --> 00:29:20.820 be able to arrive at the diagnosis

NOTE Confidence: 0.8879503675

00:29:20.820 --> 00:29:22.260 of metastatic lung carcinoma.

NOTE Confidence: 0.8879503675

00:29:22.260 --> 00:29:25.445 A once you've done your TTF one immunostain,

NOTE Confidence: 0.8879503675

00:29:25.445 --> 00:29:28.175 but you may not have sufficient

NOTE Confidence: 0.8879503675

00:29:28.175 --> 00:29:30.339 material remaining for PDL 1 alpenrose,

NOTE Confidence: 0.8879503675

00:29:30.339 --> 00:29:32.673 and for doing your next generation

NOTE Confidence: 0.8879503675

00:29:32.673 --> 00:29:34.746 sequencing which may be needed

NOTE Confidence: 0.8879503675

00:29:34.746 --> 00:29:36.018 for targeted chemotherapy.

NOTE Confidence: 0.8879503675

00:29:36.020 --> 00:29:37.352 In this particular case,

NOTE Confidence: 0.8879503675

00:29:37.352 --> 00:29:41.278 and so my plea to you is to restrict the.

NOTE Confidence: 0.8879503675

00:29:41.278 --> 00:29:43.206 Amount of immuno chemistry.

NOTE Confidence: 0.8879503675

00:29:43.210 --> 00:29:45.510 You perform in a posse,

NOTE Confidence: 0.8879503675

00:29:45.510 --> 00:29:48.180 cellular samples or samples that have

NOTE Confidence: 0.8879503675

00:29:48.180 --> 00:29:50.450 small numbers of malignant cells.

NOTE Confidence: 0.8879503675

00:29:50.450 --> 00:29:52.442 Because you really want to try

NOTE Confidence: 0.8879503675

00:29:52.442 --> 00:29:54.606 and conserve material as far as

NOTE Confidence: 0.8879503675

00:29:54.606 --> 00:29:56.138 possible for molecular testing,

NOTE Confidence: 0.8879503675

00:29:56.140 --> 00:29:58.268 it may still not be possible given

NOTE Confidence: 0.8879503675

00:29:58.268 --> 00:30:00.288 on the small number of malignant

NOTE Confidence: 0.8879503675

00:30:00.288 --> 00:30:02.023 cells in such a sample,

NOTE Confidence: 0.8879503675

00:30:02.030 --> 00:30:05.174 but at least we should not exhaust all

NOTE Confidence: 0.8879503675

00:30:05.174 --> 00:30:07.908 of our cells doing immuno chemistry.

NOTE Confidence: 0.8879503675

00:30:07.908 --> 00:30:09.856 So just to summarize,

NOTE Confidence: 0.8879503675

00:30:09.860 --> 00:30:11.380 the difference between the atypical.

NOTE Confidence: 0.8879503675

00:30:11.380 --> 00:30:13.168 In suspicious categories in

NOTE Confidence: 0.8879503675

00:30:13.168 --> 00:30:14.509 the international system,

NOTE Confidence: 0.8879503675

00:30:14.510 --> 00:30:18.302 in the atypical category we have

NOTE Confidence: 0.8879503675

00:30:18.302 --> 00:30:20.198 subtle psychological abnormalities

NOTE Confidence: 0.8879503675

00:30:20.198 --> 00:30:22.733 where we think we're dealing

NOTE Confidence: 0.8879503675

00:30:22.733 --> 00:30:24.993 with a benign cell type,

NOTE Confidence: 0.8879503675

00:30:25.000 --> 00:30:28.300 but we can't completely or confidently

NOTE Confidence: 0.8879503675

00:30:28.300 --> 00:30:30.500 exclude malignancy because there

NOTE Confidence: 0.8879503675

00:30:30.577 --> 00:30:32.899 may be a clinical factor that

NOTE Confidence: 0.8879503675

00:30:32.899 --> 00:30:35.130 is influencing us to exclude it.

NOTE Confidence: 0.8879503675

00:30:35.130 --> 00:30:37.510 But you do expect in the vast

NOTE Confidence: 0.8879503675

00:30:37.510 --> 00:30:39.552 majority of cases that the outcome

NOTE Confidence: 0.8879503675

00:30:39.552 --> 00:30:41.530 would be benign and so the.

NOTE Confidence: 0.8879503675

00:30:41.530 --> 00:30:43.660 Suggested risk of malignancy in this

NOTE Confidence: 0.8879503675

00:30:43.660 --> 00:30:45.919 category is to the tune of 20%.

NOTE Confidence: 0.8879503675

00:30:45.920 --> 00:30:49.358 This needs to be borne out by future data,

NOTE Confidence: 0.8879503675

00:30:49.360 --> 00:30:51.446 but we would like to maintain a

NOTE Confidence: 0.8879503675

00:30:51.446 --> 00:30:53.497 good degree of separation from the

NOTE Confidence: 0.8879503675

00:30:53.497 --> 00:30:56.300 suspicious category with a sort of a 20.

NOTE Confidence: 0.8879503675

00:30:56.300 --> 00:30:58.496 80 split for the suspicious category

NOTE Confidence: 0.8879503675

00:30:58.496 --> 00:31:01.403 so that in in the suspicious category

NOTE Confidence: 0.8879503675

00:31:01.403 --> 00:31:04.581 we really expect that the outcome will

NOTE Confidence: 0.8879503675

00:31:04.662 --> 00:31:07.398 be usually be malignant because we

NOTE Confidence: 0.8879503675

00:31:07.398 --> 00:31:10.410 favored an epithelial origin of the cells,

NOTE Confidence: 0.8879503675

00:31:10.410 --> 00:31:13.750 but we just needed more of the same,

NOTE Confidence: 0.8879503675

00:31:13.750 --> 00:31:15.865 so it's a quantitative factor

NOTE Confidence: 0.8879503675

00:31:15.865 --> 00:31:17.557 in the suspicious category,

NOTE Confidence: 0.924029463913044

00:31:17.560 --> 00:31:19.912 whereas it could be a qualitative

NOTE Confidence: 0.924029463913044

00:31:19.912 --> 00:31:21.907 factor in the atypical category

NOTE Confidence: 0.924029463913044

00:31:21.907 --> 00:31:24.049 where the cells that you see

NOTE Confidence: 0.924029463913044

00:31:24.049 --> 00:31:26.660 simply do not fulfill the criteria.

NOTE Confidence: 0.924029463913044

00:31:26.660 --> 00:31:29.384 Or high grade malignancy and therefore

NOTE Confidence: 0.924029463913044

00:31:29.384 --> 00:31:32.250 you are being cautious and you know,

NOTE Confidence: 0.924029463913044

00:31:32.250 --> 00:31:33.996 erring on the side of caution

NOTE Confidence: 0.924029463913044

00:31:33.996 --> 00:31:35.730 and calling it a typical.

NOTE Confidence: 0.924029463913044

00:31:35.730 --> 00:31:37.705 Whereas in suspicious you're fairly

NOTE Confidence: 0.924029463913044

00:31:37.705 --> 00:31:40.410 confident that if you had another 10

NOTE Confidence: 0.924029463913044

00:31:40.410 --> 00:31:43.050 cells or if the ancillary work up proves

NOTE Confidence: 0.924029463913044

00:31:43.121 --> 00:31:45.647 these suspicious cells to be malignant,

NOTE Confidence: 0.924029463913044

00:31:45.650 --> 00:31:48.660 then you would be shown to be

NOTE Confidence: 0.924029463913044

00:31:48.660 --> 00:31:51.100 correct in your assessment.

NOTE Confidence: 0.924029463913044

00:31:51.100 --> 00:31:53.036 OK, moving on to the last two cases,

NOTE Confidence: 0.924029463913044

00:31:53.040 --> 00:31:55.800 then #5 is a 68 year old man with a

NOTE Confidence: 0.924029463913044

00:31:55.888 --> 00:31:59.654 history of exposure to asbestos and a

NOTE Confidence: 0.924029463913044

00:31:59.654 --> 00:32:02.060 unilateral hemorrhagic pleural effusion.

NOTE Confidence: 0.924029463913044

00:32:02.060 --> 00:32:05.228 80 mil of blood fluid with a clot.

NOTE Confidence: 0.924029463913044

00:32:05.230 --> 00:32:05.706 And again,

NOTE Confidence: 0.924029463913044

00:32:05.706 --> 00:32:07.372 I'm just going to take a moment

NOTE Confidence: 0.924029463913044

00:32:07.372 --> 00:32:09.414 to say that if there is a cloth

NOTE Confidence: 0.924029463913044

00:32:09.414 --> 00:32:10.590 present within the sample,

NOTE Confidence: 0.924029463913044

00:32:10.590 --> 00:32:12.930 the lab should really automatically

NOTE Confidence: 0.924029463913044

00:32:12.930 --> 00:32:15.708 process it because it's very likely

NOTE Confidence: 0.924029463913044

00:32:15.708 --> 00:32:18.240 that the cytospin's may not contain the

NOTE Confidence: 0.924029463913044

00:32:18.240 --> 00:32:21.160 material that it is trapped within the cloth.

NOTE Confidence: 0.924029463913044

00:32:21.160 --> 00:32:23.825 And so getting additional value

NOTE Confidence: 0.924029463913044

00:32:23.825 --> 00:32:26.465 from processing the cloth should

NOTE Confidence: 0.924029463913044

00:32:26.465 --> 00:32:28.990 almost be an automatic procedure,

NOTE Confidence: 0.924029463913044

00:32:28.990 --> 00:32:31.372 whereas if you there isn't a

NOTE Confidence: 0.924029463913044

00:32:31.372 --> 00:32:34.007 spontaneous clot and you want to

NOTE Confidence: 0.924029463913044

00:32:34.007 --> 00:32:36.417 perform additional ancillary work up,

NOTE Confidence: 0.924029463913044

00:32:36.420 --> 00:32:38.933 you could request a cell block from

NOTE Confidence: 0.924029463913044

00:32:38.933 --> 00:32:40.936 the sample whereby you're actually

NOTE Confidence: 0.924029463913044

00:32:40.936 --> 00:32:43.066 adding thrombin or other chemicals

NOTE Confidence: 0.924029463913044

00:32:43.066 --> 00:32:45.719 to the sample to precipitate a clot

NOTE Confidence: 0.924029463913044

00:32:45.719 --> 00:32:48.298 from which you can then cut sections

NOTE Confidence: 0.924029463913044

00:32:48.298 --> 00:32:50.770 and perform immuno chemistry.

NOTE Confidence: 0.924029463913044

00:32:50.770 --> 00:32:52.010 So of course you know.

NOTE Confidence: 0.924029463913044

00:32:52.010 --> 00:32:53.081 The history there,

NOTE Confidence: 0.924029463913044

00:32:53.081 --> 00:32:55.580 you know is a very directed one

NOTE Confidence: 0.924029463913044

00:32:55.658 --> 00:32:58.088 and it is about mesothelial cells.

NOTE Confidence: 0.924029463913044

00:32:58.090 --> 00:32:59.062 And here is this,

NOTE Confidence: 0.924029463913044

00:32:59.062 --> 00:32:59.548 you know,

NOTE Confidence: 0.924029463913044

00:32:59.550 --> 00:33:01.614 really happy looking miso thi deal

NOTE Confidence: 0.924029463913044

00:33:01.614 --> 00:33:03.877 cell that's bursting at the edges with

NOTE Confidence: 0.924029463913044

00:33:03.877 --> 00:33:06.210 you know it's this sort of Lacy skirt,

NOTE Confidence: 0.924029463913044

00:33:06.210 --> 00:33:07.482 like peripheral blips.

NOTE Confidence: 0.924029463913044

00:33:07.482 --> 00:33:09.602 It's got the sub membranous

NOTE Confidence: 0.924029463913044

00:33:09.602 --> 00:33:10.450 glycogen vacuoles.

NOTE Confidence: 0.924029463913044

00:33:10.450 --> 00:33:12.580 It's got the two tone staining

NOTE Confidence: 0.924029463913044

00:33:12.580 --> 00:33:13.645 of the cytoplasm.

NOTE Confidence: 0.924029463913044

00:33:13.650 --> 00:33:16.344 It's got a relatively bland looking

NOTE Confidence: 0.924029463913044

00:33:16.344 --> 00:33:19.447 nucleus which is showing a relatively

NOTE Confidence: 0.924029463913044

00:33:19.447 --> 00:33:21.289 low nucleocytoplasmic ratio.

NOTE Confidence: 0.924029463913044

00:33:21.290 --> 00:33:22.734 You know, there there.

NOTE Confidence: 0.924029463913044

00:33:22.734 --> 00:33:24.539 Chromatin and the nuclear membrane,

NOTE Confidence: 0.924029463913044

00:33:24.540 --> 00:33:25.812 or look relatively smooth,

NOTE Confidence: 0.924029463913044

00:33:25.812 --> 00:33:28.158 but by looking at it you can't

NOTE Confidence: 0.924029463913044

00:33:28.158 --> 00:33:30.028 always tell whether this means

NOTE Confidence: 0.924029463913044

00:33:30.028 --> 00:33:32.399 ethereal cell is benign or malignant,

NOTE Confidence: 0.924029463913044

00:33:32.400 --> 00:33:35.346 and that is the challenge of

NOTE Confidence: 0.924029463913044

00:33:35.346 --> 00:33:36.328 mesothelial proliferations.

NOTE Confidence: 0.924029463913044

00:33:36.330 --> 00:33:37.600 Of course,

NOTE Confidence: 0.924029463913044

00:33:37.600 --> 00:33:40.775 there are features like hypercellularity,

NOTE Confidence: 0.924029463913044

00:33:40.780 --> 00:33:43.902 and you know if you have presence

NOTE Confidence: 0.924029463913044

00:33:43.902 --> 00:33:45.882 of significant pleomorphism abnormal

NOTE Confidence: 0.924029463913044

00:33:45.882 --> 00:33:48.687 mitotic figures in mesothelial cells,

NOTE Confidence: 0.924029463913044

00:33:48.690 --> 00:33:50.748 then of course you could suspect me

NOTE Confidence: 0.924029463913044

00:33:50.748 --> 00:33:52.378 the thielemier straight away based on.

NOTE Confidence: 0.924029463913044

00:33:52.380 --> 00:33:52.910 Morphology,

NOTE Confidence: 0.924029463913044

00:33:52.910 --> 00:33:56.090 but usually it is quite difficult

NOTE Confidence: 0.924029463913044

00:33:56.090 --> 00:33:58.480 because the morphology of medial

NOTE Confidence: 0.924029463913044

00:33:58.480 --> 00:34:00.986 cells can be very very bland even

NOTE Confidence: 0.924029463913044

00:34:00.986 --> 00:34:03.459 in neoplastic proliferations,

NOTE Confidence: 0.924029463913044

00:34:03.460 --> 00:34:07.030 but they also tend to be relatively

NOTE Confidence: 0.924029463913044

00:34:07.030 --> 00:34:09.852 monomorphic from one cell to the

NOTE Confidence: 0.924029463913044

00:34:09.852 --> 00:34:12.652 next from 1 nucleus to the next,

NOTE Confidence: 0.924029463913044

00:34:12.660 --> 00:34:14.445 and from one group to the next.

NOTE Confidence: 0.924029463913044

00:34:14.450 --> 00:34:17.159 The groups are typically very equal sized,

NOTE Confidence: 0.924029463913044

00:34:17.160 --> 00:34:18.618 unlike in adenocarcinomas,

NOTE Confidence: 0.924029463913044

00:34:18.618 --> 00:34:21.534 and of course at high magnification

NOTE Confidence: 0.924029463913044

00:34:21.534 --> 00:34:22.899 they will still.

NOTE Confidence: 0.924029463913044

00:34:22.900 --> 00:34:25.276 Then the properties of mesothelial cells,

NOTE Confidence: 0.924029463913044

00:34:25.280 --> 00:34:27.308 which are the gaps or windows

NOTE Confidence: 0.924029463913044

00:34:27.308 --> 00:34:28.322 between the cells,

NOTE Confidence: 0.924029463913044

00:34:28.330 --> 00:34:31.780 the clasping feature of mesothelial cells.

NOTE Confidence: 0.924029463913044

00:34:31.780 --> 00:34:34.192 They may begin to show very

NOTE Confidence: 0.924029463913044

00:34:34.192 --> 00:34:35.398 prominent single cherry,

NOTE Confidence: 0.924029463913044

00:34:35.400 --> 00:34:37.850 red large nucleoli which would

NOTE Confidence: 0.924029463913044

00:34:37.850 --> 00:34:40.300 alert you to the possibility

NOTE Confidence: 0.8599958175

00:34:40.389 --> 00:34:43.100 of mesothelioma. But you are going

NOTE Confidence: 0.8599958175

00:34:43.100 --> 00:34:45.170 to need your ancillary work up

NOTE Confidence: 0.8599958175

00:34:45.170 --> 00:34:48.140 to confirm the diagnosis on say,

NOTE Confidence: 0.8599958175

00:34:48.140 --> 00:34:49.904 a cell block and again you can

NOTE Confidence: 0.8599958175

00:34:49.904 --> 00:34:51.312 appreciate all of those features

NOTE Confidence: 0.8599958175

00:34:51.312 --> 00:34:53.088 of major female cells in this.

NOTE Confidence: 0.8599958175

00:34:53.090 --> 00:34:55.204 Cell block here and so this is

NOTE Confidence: 0.8599958175

00:34:55.204 --> 00:34:57.654 really the the panel that will help

NOTE Confidence: 0.8599958175

00:34:57.654 --> 00:34:59.868 you arrive at the conclusion about

NOTE Confidence: 0.8599958175

00:34:59.936 --> 00:35:01.946 what the nature of this means.

NOTE Confidence: 0.8599958175

00:35:01.950 --> 00:35:03.279 Ethereal proliferation is.

NOTE Confidence: 0.8599958175

00:35:03.279 --> 00:35:05.937 Is it just reactive and therefore

NOTE Confidence: 0.8599958175

00:35:05.937 --> 00:35:08.453 to be put in the negative

NOTE Confidence: 0.8599958175

00:35:08.453 --> 00:35:10.049 for malignancy category and.

NOTE Confidence: 0.8599958175

00:35:10.050 --> 00:35:11.283 For this, uh,

NOTE Confidence: 0.8599958175

00:35:11.283 --> 00:35:14.730 this is a suggested and commonly used panel.

NOTE Confidence: 0.8599958175

00:35:14.730 --> 00:35:16.585 Immuno chemistry certainly in Europe

NOTE Confidence: 0.8599958175

00:35:16.585 --> 00:35:18.880 and other parts of the world.

NOTE Confidence: 0.8599958175

00:35:18.880 --> 00:35:21.670 Desmin is very frequently used thinking

NOTE Confidence: 0.8599958175

00:35:21.670 --> 00:35:25.045 it is quite variably used in the states,

NOTE Confidence: 0.8599958175

00:35:25.045 --> 00:35:27.295 but we certainly find it very

NOTE Confidence: 0.8599958175

00:35:27.295 --> 00:35:30.007 valuable because Desmond retains its

NOTE Confidence: 0.8599958175

00:35:30.007 --> 00:35:32.271 cytoplasmic positivity in reactive

NOTE Confidence: 0.8599958175

00:35:32.271 --> 00:35:35.318 mesothelial cells and it is lost in

NOTE Confidence: 0.8599958175

00:35:35.318 --> 00:35:37.158 a high proportion of mesotheliomas

NOTE Confidence: 0.8599958175

00:35:37.160 --> 00:35:41.216 epithelial membrane antigen shows a dense,

NOTE Confidence: 0.8599958175

00:35:41.220 --> 00:35:44.140 very thick membranous staining

NOTE Confidence: 0.8599958175

00:35:44.140 --> 00:35:45.600 in mesothelioma.

NOTE Confidence: 0.8599958175

00:35:45.600 --> 00:35:48.384 Which is not seen in mesothelial

NOTE Confidence: 0.8599958175

00:35:48.384 --> 00:35:49.776 reactive medial cells,

NOTE Confidence: 0.8599958175

00:35:49.780 --> 00:35:52.748 and it will show a diffuse cytoplasmic

NOTE Confidence: 0.8599958175

00:35:52.748 --> 00:35:54.020 staining in adenocarcinoma.

NOTE Confidence: 0.8599958175

00:35:54.020 --> 00:35:55.788 So it you know this is one stain

NOTE Confidence: 0.8599958175

00:35:55.788 --> 00:35:57.479 that can help you distinguish

NOTE Confidence: 0.8599958175

00:35:57.479 --> 00:35:58.667 between reactive means.

NOTE Confidence: 0.8599958175

00:35:58.670 --> 00:36:00.200 Arterial cells, miso, thi Lio,

NOTE Confidence: 0.8599958175

00:36:00.200 --> 00:36:01.277 Mars and adenocarcinomas,

NOTE Confidence: 0.8599958175

00:36:01.277 --> 00:36:03.790 but of course we are now in

NOTE Confidence: 0.8599958175

00:36:03.861 --> 00:36:05.415 the day and age of BAP.

NOTE Confidence: 0.8599958175

00:36:05.420 --> 00:36:08.860 One bracket associated protein one,

NOTE Confidence: 0.8599958175

00:36:08.860 --> 00:36:10.960 the loss of which is associated with

NOTE Confidence: 0.8599958175

00:36:10.960 --> 00:36:13.240 a very high proportion of medium.

NOTE Confidence: 0.8599958175

00:36:13.240 --> 00:36:16.370 As you know 80 to 90% of me is a theomars.

NOTE Confidence: 0.8599958175

00:36:16.370 --> 00:36:18.410 Will show a loss of nuclear

NOTE Confidence: 0.8599958175

00:36:18.410 --> 00:36:20.631 staining with BAP one which will

NOTE Confidence: 0.8599958175

00:36:20.631 --> 00:36:22.977 be retained in a reactive measure.

NOTE Confidence: 0.8599958175

00:36:22.980 --> 00:36:25.660 Theal cells and also interestingly

NOTE Confidence: 0.8599958175

00:36:25.660 --> 00:36:27.268 in lung adenocarcinomas.

NOTE Confidence: 0.8599958175

00:36:27.270 --> 00:36:29.867 So if BAP one is included in

NOTE Confidence: 0.8599958175

00:36:29.867 --> 00:36:32.070 your panel and it is positive,

NOTE Confidence: 0.8599958175

00:36:32.070 --> 00:36:33.895 it's almost certainly not miso,

NOTE Confidence: 0.8599958175

00:36:33.900 --> 00:36:36.308 thi Lio Ma and your panel here could

NOTE Confidence: 0.8599958175

00:36:36.308 --> 00:36:38.919 then help you distinguish between an

NOTE Confidence: 0.8599958175

00:36:38.919 --> 00:36:40.675 adenocarcinoma and mesothelioma and

NOTE Confidence: 0.8599958175

00:36:40.675 --> 00:36:43.970 back one is quite helpful in that regard,

NOTE Confidence: 0.8599958175

00:36:43.970 --> 00:36:46.430 but of course you know ancillary.

NOTE Confidence: 0.8599958175

00:36:46.430 --> 00:36:49.712 Testings using fish or mtap and

NOTE Confidence: 0.8599958175

00:36:49.712 --> 00:36:53.082 P16 deletions are the ones which

NOTE Confidence: 0.8599958175

00:36:53.082 --> 00:36:56.304 you know will clinch the diagnosis

NOTE Confidence: 0.8599958175

00:36:56.304 --> 00:36:58.058 in the equivocal cases,

NOTE Confidence: 0.8599958175

00:36:58.058 --> 00:37:00.770 and so this is the panel which I

NOTE Confidence: 0.8599958175

00:37:00.843 --> 00:37:03.585 would recommend and is recommended in

NOTE Confidence: 0.8599958175

00:37:03.585 --> 00:37:06.092 the international system for sorting

NOTE Confidence: 0.8599958175

00:37:06.092 --> 00:37:08.528 out your mesothelial proliferations.

NOTE Confidence: 0.8599958175

00:37:08.530 --> 00:37:11.183 I won't read out this slide to

NOTE Confidence: 0.8599958175

00:37:11.183 --> 00:37:12.890 you of ancillary tests,

NOTE Confidence: 0.8599958175

00:37:12.890 --> 00:37:14.920 but just to say that a good

NOTE Confidence: 0.8599958175

00:37:14.920 --> 00:37:16.700 place to start if you have.

NOTE Confidence: 0.8599958175

00:37:16.700 --> 00:37:18.972 A differential diagnosis of

NOTE Confidence: 0.8599958175

00:37:18.972 --> 00:37:21.244 amazing theal proliferation versus

NOTE Confidence: 0.8599958175

00:37:21.250 --> 00:37:24.590 carcinoma used to good miso,

NOTE Confidence: 0.8599958175

00:37:24.590 --> 00:37:26.480 thi lio and epithelial marker,

NOTE Confidence: 0.8599958175

00:37:26.480 --> 00:37:28.520 and a macrophage marker user panel

NOTE Confidence: 0.8599958175

00:37:28.520 --> 00:37:30.979 that works well in your laboratory.

NOTE Confidence: 0.8599958175

00:37:30.980 --> 00:37:31.353 Historically,

NOTE Confidence: 0.8599958175

00:37:31.353 --> 00:37:34.337 if it's worked well for you know years

NOTE Confidence: 0.8599958175

00:37:34.337 --> 00:37:36.880 and years and there's no reason to

NOTE Confidence: 0.8599958175

00:37:36.880 --> 00:37:38.754 think of switching to something else.

NOTE Confidence: 0.8599958175

00:37:38.754 --> 00:37:41.148 But bear in mind that there are some

NOTE Confidence: 0.8599958175

00:37:41.148 --> 00:37:42.628 very good adenocarcinomas that are

NOTE Confidence: 0.8599958175

00:37:42.628 --> 00:37:44.924 coming up all the time and perhaps one

NOTE Confidence: 0.8599958175

00:37:44.924 --> 00:37:46.748 of these could replace some of the.

NOTE Confidence: 0.8599958175

00:37:46.748 --> 00:37:48.152 Older ones that you may have

NOTE Confidence: 0.8599958175

00:37:48.152 --> 00:37:49.570 been using in the laboratory.

NOTE Confidence: 0.8599958175

00:37:49.570 --> 00:37:51.794 I'll come to the site specific markers later,

NOTE Confidence: 0.8599958175

00:37:51.800 --> 00:37:54.187 but also to alert you to the

NOTE Confidence: 0.8599958175

00:37:54.187 --> 00:37:57.149 fact that there can be an overlap

NOTE Confidence: 0.8599958175

00:37:57.149 --> 00:37:59.009 with certain immunostains like

NOTE Confidence: 0.719505629090909

00:37:59.010 --> 00:38:02.538 WT1 GATA 3 which can overlap between

NOTE Confidence: 0.719505629090909

00:38:02.538 --> 00:38:05.250 carcinomas and mesothelial proliferation.

NOTE Confidence: 0.719505629090909

00:38:05.250 --> 00:38:07.518 So you do need to be aware

NOTE Confidence: 0.719505629090909

00:38:07.518 --> 00:38:08.490 of published literature,

00:38:08.490 --> 00:38:11.549 and of course the importance of clinical

00:38:11.549 --> 00:38:13.780 correlation and every single case.

00:38:13.780 --> 00:38:15.904 But by and large you could

00:38:15.904 --> 00:38:16.966 perform answer retests.

00:38:16.970 --> 00:38:20.018 To resolve the dilemma between Mesothelial

00:38:20.018 --> 00:38:22.050 proliferations and metastatic carcinoma.

00:38:22.050 --> 00:38:24.633 So a sample report for a MISO thi live

00:38:24.633 --> 00:38:26.152 proliferation in the international

00:38:26.152 --> 00:38:28.112 system would read something like

00:38:28.112 --> 00:38:29.780 this satisfactory for evaluation,

00:38:29.780 --> 00:38:32.090 you would give a brief description

00:38:32.090 --> 00:38:33.630 of the cellular findings,

00:38:33.630 --> 00:38:35.370 the fact that immunostains have

00:38:35.370 --> 00:38:36.762 been requested for confirmation

00:38:36.762 --> 00:38:38.060 either on the cell block.

00:38:38.060 --> 00:38:39.908 Of course, if there is an accompanying

00:38:39.908 --> 00:38:41.570 biopsy in the same department,

00:38:41.570 --> 00:38:45.175 there probably is no need to replicate.

00:38:45.180 --> 00:38:48.276 The same immunol work up on two different.

00:38:48.280 --> 00:38:51.045 Uh, you know specimens and you could

00:38:51.045 --> 00:38:54.470 just do them on either one of those two,

00:38:54.470 --> 00:38:56.220 and then if the immunostains

00:38:56.220 --> 00:38:56.920 are confirmatory,

00:38:56.920 --> 00:38:59.968 you can have a final diagnosis

00:38:59.968 --> 00:39:01.492 of malignant primary,

00:39:01.500 --> 00:39:02.868 which is means a theory OMA.

00:39:02.870 --> 00:39:06.146 And of course always always advise

00:39:06.146 --> 00:39:07.784 clinical correlation because.

00:39:07.790 --> 00:39:09.938 Radial radiological appearance is

00:39:09.938 --> 00:39:12.532 and the biopsy confirmation of

00:39:12.532 --> 00:39:14.496 invasive mesothelioma is still

NOTE Confidence: 0.719505629090909

00:39:14.496 --> 00:39:17.260 the gold standard for diagnosis,

NOTE Confidence: 0.719505629090909

00:39:17.260 --> 00:39:21.284 but it can be achieved with cytology with

NOTE Confidence: 0.719505629090909

00:39:21.284 --> 00:39:24.360 a confirmatory panel of immunostains.

NOTE Confidence: 0.719505629090909

00:39:24.360 --> 00:39:26.250 Anything that falls short of this

NOTE Confidence: 0.719505629090909

00:39:26.250 --> 00:39:27.884 mark should be called either

NOTE Confidence: 0.719505629090909

00:39:27.884 --> 00:39:30.089 suspicious or just left at a typical.

NOTE Confidence: 0.719505629090909

00:39:30.090 --> 00:39:31.362 So if you've got,

NOTE Confidence: 0.719505629090909

00:39:31.362 --> 00:39:33.270 you know some classic morphological features,

NOTE Confidence: 0.719505629090909

00:39:33.270 --> 00:39:35.808 but the immunostains are not confirm

NOTE Confidence: 0.719505629090909

00:39:35.808 --> 00:39:38.639 atory step back and advise biopsy.

NOTE Confidence: 0.719505629090909

00:39:38.640 --> 00:39:41.250 Advised correlation with clinical and

NOTE Confidence: 0.719505629090909

00:39:41.250 --> 00:39:43.860 radiological findings discussed at the

NOTE Confidence: 0.719505629090909

00:39:43.930 --> 00:39:45.761 clinical meetings or multidisciplinary

NOTE Confidence: 0.719505629090909

00:39:45.761 --> 00:39:49.309 meetings as we call them here in the UK.

NOTE Confidence: 0.719505629090909

00:39:49.310 --> 00:39:50.399 And of course,

NOTE Confidence: 0.719505629090909

00:39:50.399 --> 00:39:52.577 if the morphology is not classic

NOTE Confidence: 0.719505629090909

00:39:52.577 --> 00:39:54.694 and the immunostains are not

NOTE Confidence: 0.719505629090909

00:39:54.694 --> 00:39:57.214 confirm atory either then you stop

NOTE Confidence: 0.719505629090909

00:39:57.287 --> 00:39:59.977 at a typical musical proliferation

NOTE Confidence: 0.719505629090909

00:39:59.977 --> 00:40:02.129 and advise further investigation.

NOTE Confidence: 0.719505629090909

00:40:02.130 --> 00:40:03.115 So,

NOTE Confidence: 0.719505629090909

00:40:03.115 --> 00:40:04.100 uhm.

NOTE Confidence: 0.719505629090909

00:40:04.100 --> 00:40:06.540 A recognizable abnormal cell

NOTE Confidence: 0.719505629090909

00:40:06.540 --> 00:40:09.590 population should be present and

NOTE Confidence: 0.719505629090909

00:40:09.590 --> 00:40:12.825 adequate for a robust diagnosis on

NOTE Confidence: 0.719505629090909

00:40:12.825 --> 00:40:15.355 which clinical management may be

NOTE Confidence: 0.719505629090909

00:40:15.444 --> 00:40:17.552 based in the malignant categories.

NOTE Confidence: 0.719505629090909

00:40:17.552 --> 00:40:20.060 The cell types should be specified

NOTE Confidence: 0.719505629090909

00:40:20.135 --> 00:40:22.225 either on morphology alone or

NOTE Confidence: 0.719505629090909

00:40:22.225 --> 00:40:24.315 supported by immuno chemistry and

NOTE Confidence: 0.719505629090909

00:40:24.389 --> 00:40:26.762 which would allow you to reach a

NOTE Confidence: 0.719505629090909

00:40:26.762 --> 00:40:29.208 final diagnosis by the mesothelioma or

NOTE Confidence: 0.719505629090909

00:40:29.208 --> 00:40:31.048 metastatic cost. Sonoma lymphoma etc.

NOTE Confidence: 0.719505629090909

00:40:31.048 --> 00:40:33.120 And of course you would need to

NOTE Confidence: 0.719505629090909

00:40:33.179 --> 00:40:34.088 do some primary.

NOTE Confidence: 0.719505629090909

00:40:34.090 --> 00:40:37.045 Organ site investigation in terms

NOTE Confidence: 0.719505629090909

00:40:37.045 --> 00:40:38.996 of adenocarcinomas, which is,

NOTE Confidence: 0.719505629090909

00:40:38.996 --> 00:40:39.762 you know,

NOTE Confidence: 0.719505629090909

00:40:39.762 --> 00:40:42.380 not something that you can do for

NOTE Confidence: 0.719505629090909

00:40:42.380 --> 00:40:45.815 melanomas or small cell carcinoma

NOTE Confidence: 0.719505629090909

00:40:45.815 --> 00:40:47.876 or squamous customers.

NOTE Confidence: 0.719505629090909

00:40:47.880 --> 00:40:50.298 So final case then discussions case

NOTE Confidence: 0.719505629090909

00:40:50.298 --> 00:40:54.290 number 6 the 45 year old female with ascites,

NOTE Confidence: 0.719505629090909

00:40:54.290 --> 00:40:57.008 35 mil of bloodstained fluid and

NOTE Confidence: 0.719505629090909

00:40:57.008 --> 00:40:59.460 of course you know I'm sure this

NOTE Confidence: 0.719505629090909

00:40:59.460 --> 00:41:00.692 is a spot diagnosis.

NOTE Confidence: 0.719505629090909

69

00:41:00.700 --> 00:41:04.095 For those of you with experience in.

NOTE Confidence: 0.719505629090909

00:41:04.100 --> 00:41:08.776 Cyto pathology we have got large three

NOTE Confidence: 0.719505629090909

00:41:08.776 --> 00:41:11.499 dimensional variable sized cohesive

NOTE Confidence: 0.719505629090909

00:41:11.499 --> 00:41:16.104 clusters of the malignant epithelioid cells,

NOTE Confidence: 0.719505629090909

00:41:16.104 --> 00:41:18.858 displaying course abundant

NOTE Confidence: 0.719505629090909

00:41:18.858 --> 00:41:21.610 cytoplasmic vacuolation nuclear

NOTE Confidence: 0.719505629090909

00:41:21.610 --> 00:41:23.430 hyperchromasia irregularity,

NOTE Confidence: 0.719505629090909

00:41:23.430 --> 00:41:26.160 high NC ratio,

NOTE Confidence: 0.719505629090909

00:41:26.160 --> 00:41:27.822 and variation of the nucleus size

NOTE Confidence: 0.719505629090909

00:41:27.822 --> 00:41:29.511 and shape from one group and

NOTE Confidence: 0.719505629090909

00:41:29.511 --> 00:41:30.806 one nucleus to the next,

NOTE Confidence: 0.719505629090909

00:41:30.810 --> 00:41:32.868 which is not a feature of

NOTE Confidence: 0.719505629090909

00:41:32.868 --> 00:41:34.240 mesothelioma as I said.

NOTE Confidence: 0.719505629090909

00:41:34.240 --> 00:41:34.641 Earlier.

NOTE Confidence: 0.719505629090909

00:41:34.641 --> 00:41:37.448 And again on the games are you

NOTE Confidence: 0.719505629090909

00:41:37.448 --> 00:41:40.267 have the same features the large

NOTE Confidence: 0.719505629090909

00:41:40.267 --> 00:41:41.788 groups tightly cohesive,

NOTE Confidence: 0.719505629090909

00:41:41.788 --> 00:41:43.816 no gaps or windows,

NOTE Confidence: 0.711948202

00:41:43.820 --> 00:41:46.550 unlike me, they feel proliferations,

NOTE Confidence: 0.711948202

00:41:46.550 --> 00:41:49.016 and these may be infiltrated by

NOTE Confidence: 0.711948202

00:41:49.020 --> 00:41:52.444 lymphocytes and and neutrophils.

NOTE Confidence: 0.711948202

00:41:52.444 --> 00:41:55.333 But then. In the background,

NOTE Confidence: 0.711948202

00:41:55.333 --> 00:41:59.909 you still have some uh lymphocytes,

NOTE Confidence: 0.711948202

00:41:59.910 --> 00:42:02.676 A4 size comparison. Once you do,

NOTE Confidence: 0.711948202

00:42:02.680 --> 00:42:04.318 your cell block or your plot section,

NOTE Confidence: 0.711948202

00:42:04.320 --> 00:42:06.686 you will be able to appreciate the

NOTE Confidence: 0.711948202

00:42:06.686 --> 00:42:08.518 microarchitecture of these groups as

NOTE Confidence: 0.711948202

00:42:08.518 --> 00:42:10.418 well with little glandular formations.

NOTE Confidence: 0.711948202

00:42:10.420 --> 00:42:12.610 Or perhaps some signet ring cells.

NOTE Confidence: 0.711948202

00:42:12.610 --> 00:42:14.948 And once you do your TTF one

NOTE Confidence: 0.711948202

00:42:14.948 --> 00:42:17.660 stain and it comes back positive,

NOTE Confidence: 0.711948202

00:42:17.660 --> 00:42:21.422 you have confirmation of metastatic cost

00:42:21.422 --> 00:42:24.470 Sonoma adenocarcinoma from the lung.

00:42:24.470 --> 00:42:27.424 And so this isn't an ever growing

00:42:27.424 --> 00:42:31.840 list of site specific markers.

00:42:31.840 --> 00:42:33.211 And you know,

00:42:33.211 --> 00:42:36.410 this is again constantly renewed and updated

00:42:36.492 --> 00:42:39.327 as some of the older markers become.

00:42:39.330 --> 00:42:40.950 You know less favorable because

00:42:40.950 --> 00:42:42.570 there are increasing numbers of

00:42:42.624 --> 00:42:44.628 studies that show that they're not

00:42:44.628 --> 00:42:46.330 particularly specific to those sites,

00:42:46.330 --> 00:42:49.668 and as new emerging markers turn up,

00:42:49.668 --> 00:42:52.522 but this is a sort of a rough guide

00:42:52.522 --> 00:42:54.518 to ascertaining the primaries

00:42:54.518 --> 00:42:55.440 with adenocarcinomas,

00:42:55.440 --> 00:42:59.530 and so a sample report for such a case is,

NOTE Confidence: 0.711948202

00:42:59.530 --> 00:43:00.763 again as follows.

NOTE Confidence: 0.711948202

00:43:00.763 --> 00:43:02.407 You gave your description.

NOTE Confidence: 0.711948202

00:43:02.410 --> 00:43:04.100 You assign it to the

NOTE Confidence: 0.711948202

00:43:04.100 --> 00:43:05.114 malignant secondary category,

NOTE Confidence: 0.711948202

00:43:05.120 --> 00:43:07.658 and then you perform your immunostains

NOTE Confidence: 0.711948202

00:43:07.658 --> 00:43:09.760 to ascertain the primary site.

NOTE Confidence: 0.711948202

00:43:09.760 --> 00:43:11.170 So my last couple of slides,

NOTE Confidence: 0.711948202

00:43:11.170 --> 00:43:13.306 diagnostic categories linking to

NOTE Confidence: 0.711948202

00:43:13.306 --> 00:43:15.976 clinical management once on the

NOTE Confidence: 0.711948202

00:43:15.976 --> 00:43:18.493 routine preparations and stains you

NOTE Confidence: 0.711948202

00:43:18.493 --> 00:43:20.546 make final call of nondiagnostic.

NOTE Confidence: 0.711948202

00:43:20.546 --> 00:43:22.910 Then of course you would ask

NOTE Confidence: 0.711948202

00:43:22.985 --> 00:43:24.369 for a repeat sample,

NOTE Confidence: 0.711948202

00:43:24.370 --> 00:43:28.159 ideally 50 to 75 mil if it is a

NOTE Confidence: 0.711948202

00:43:28.159 --> 00:43:31.171 negative for malignancy sample then the

NOTE Confidence: 0.711948202

73

00:43:31.171 --> 00:43:33.193 patient might be discharged or simply.

NOTE Confidence: 0.711948202

00:43:33.200 --> 00:43:35.800 Clinically followed up if it is in the

NOTE Confidence: 0.711948202

00:43:35.800 --> 00:43:38.357 Gray zone of a tipiya and suspicious,

NOTE Confidence: 0.711948202

00:43:38.360 --> 00:43:41.097 you need your ancillary work up and

NOTE Confidence: 0.711948202

00:43:41.097 --> 00:43:42.929 correlation with biopsy and clinical

NOTE Confidence: 0.711948202

00:43:42.929 --> 00:43:45.265 data to try and push as many of

NOTE Confidence: 0.711948202

00:43:45.334 --> 00:43:47.602 the atypical into negative and as

NOTE Confidence: 0.711948202

00:43:47.602 --> 00:43:49.467 many of suspicious into malignant.

NOTE Confidence: 0.711948202

00:43:49.467 --> 00:43:50.161 Of course,

NOTE Confidence: 0.711948202

00:43:50.161 --> 00:43:52.243 for the malignant category you would

NOTE Confidence: 0.711948202

00:43:52.243 --> 00:43:54.309 be performing ancillary testing,

NOTE Confidence: 0.711948202

00:43:54.310 --> 00:43:57.240 not necessarily to confirm malignancy,

NOTE Confidence: 0.711948202

00:43:57.240 --> 00:43:59.790 but to establish the primary site

NOTE Confidence: 0.711948202

00:43:59.790 --> 00:44:02.265 of origin and also prognostic

NOTE Confidence: 0.711948202

00:44:02.265 --> 00:44:04.347 and predictive markers.

NOTE Confidence: 0.711948202

00:44:04.350 --> 00:44:05.890 Just as the you know,

NOTE Confidence: 0.711948202

00:44:05.890 --> 00:44:07.282 manuscript last year was

NOTE Confidence: 0.711948202

00:44:07.282 --> 00:44:09.370 about to go to the publishers,

NOTE Confidence: 0.711948202

00:44:09.370 --> 00:44:12.234 I came across this a great article by

NOTE Confidence: 0.711948202

00:44:12.234 --> 00:44:14.717 Doctor Farahani and Doctor Bellotte

NOTE Confidence: 0.711948202

00:44:14.717 --> 00:44:16.409 in diagnostic psychopathology,

NOTE Confidence: 0.711948202

00:44:16.410 --> 00:44:19.147 the journal and they looked at the

NOTE Confidence: 0.711948202

00:44:19.147 --> 00:44:21.843 historic data before the publication of

NOTE Confidence: 0.711948202

00:44:21.843 --> 00:44:24.735 the Serious of Fluids Phytopathology book,

NOTE Confidence: 0.711948202

00:44:24.740 --> 00:44:25.734 of course,

NOTE Confidence: 0.711948202

00:44:25.734 --> 00:44:28.716 which looked at the risk of

NOTE Confidence: 0.711948202

00:44:28.716 --> 00:44:31.219 malignancy across the different

NOTE Confidence: 0.711948202

00:44:31.219 --> 00:44:34.059 diagnostic categories as reported.

NOTE Confidence: 0.711948202

00:44:34.060 --> 00:44:37.490 In literature Pre TS and what was

NOTE Confidence: 0.711948202

00:44:37.490 --> 00:44:40.644 noticeable was how high the risk

NOTE Confidence: 0.711948202

00:44:40.644 --> 00:44:43.812 of malignancy was in the atypical

NOTE Confidence: 0.711948202

00:44:43.812 --> 00:44:46.362 category and that is probably

NOTE Confidence: 0.711948202

00:44:46.362 --> 00:44:49.248 because there is a big overlap

NOTE Confidence: 0.711948202

00:44:49.250 --> 00:44:51.385 between the atypical and suspicious

NOTE Confidence: 0.711948202

00:44:51.385 --> 00:44:53.520 categories and with the application

NOTE Confidence: 0.711948202

00:44:53.585 --> 00:44:55.028 of appropriate criteria.

NOTE Confidence: 0.711948202

00:44:55.030 --> 00:44:57.178 Perhaps the risk of malignancy in

NOTE Confidence: 0.711948202

00:44:57.178 --> 00:44:58.969 this category will move closer

NOTE Confidence: 0.711948202

00:44:58.969 --> 00:45:00.992 to that of the negative and that

NOTE Confidence: 0.711948202

00:45:00.992 --> 00:45:03.039 or the suspicious category would

NOTE Confidence: 0.711948202

00:45:03.039 --> 00:45:04.907 move closer to malignancy.

NOTE Confidence: 0.711948202

00:45:04.910 --> 00:45:07.983 And this separation of the risk of

NOTE Confidence: 0.711948202

00:45:07.983 --> 00:45:09.864 malignancy between the different

NOTE Confidence: 0.711948202

00:45:09.864 --> 00:45:12.732 categories is the basis for the

NOTE Confidence: 0.711948202

00:45:12.732 --> 00:45:14.551 justification of any reporting

NOTE Confidence: 0.711948202

00:45:14.551 --> 00:45:17.218 terminology system, be it the faster Milan,

NOTE Confidence: 0.711948202

00:45:17.220 --> 00:45:20.398 Paris or the international systems and.

NOTE Confidence: 0.711948202

00:45:20.398 --> 00:45:23.170 And so this really is the data that I

NOTE Confidence: 0.899240065

00:45:23.250 --> 00:45:26.015 would be hoping that you will be

NOTE Confidence: 0.899240065

00:45:26.015 --> 00:45:28.882 collecting through auditing your cases

NOTE Confidence: 0.899240065

00:45:28.882 --> 00:45:31.354 prospectively and retrospectively to

NOTE Confidence: 0.899240065

00:45:31.354 --> 00:45:34.909 see you know before and after that.

NOTE Confidence: 0.899240065

00:45:34.909 --> 00:45:37.912 Number of cases and the risk of

NOTE Confidence: 0.899240065

00:45:37.912 --> 00:45:40.499 malignancy that you put into the

NOTE Confidence: 0.899240065

00:45:40.499 --> 00:45:42.971 uh into into the reporting system.

NOTE Confidence: 0.899240065

00:45:42.980 --> 00:45:44.900 So with that I thank you.

NOTE Confidence: 0.899240065

00:45:44.900 --> 00:45:48.308 I am going to stop sharing my screen

NOTE Confidence: 0.899240065

00:45:48.308 --> 00:45:51.810 and I am available to take any.

NOTE Confidence: 0.899240065

00:45:51.810 --> 00:45:53.568 Questions or comments from the audience?

NOTE Confidence: 0.899240065

00:45:53.570 --> 00:45:54.478 Thank you so much.

NOTE Confidence: 0.804291911666667

00:45:54.970 --> 00:45:58.210 Thank you so much Ashish is.

NOTE Confidence: 0.804291911666667

00:45:58.210 --> 00:46:00.310 Wonderful, I really like it.

NOTE Confidence: 0.804291911666667

00:46:00.310 --> 00:46:01.930 It's many, many questions in

NOTE Confidence: 0.804291911666667

00:46:01.930 --> 00:46:04.000 my mind has been addressed,

NOTE Confidence: 0.804291911666667

00:46:04.000 --> 00:46:06.912 so while the people are preparing their

NOTE Confidence: 0.804291911666667

00:46:06.912 --> 00:46:09.429 question so maybe I can ask you too.

NOTE Confidence: 0.804291911666667

00:46:09.430 --> 00:46:12.368 Small question. Actually one of them.

NOTE Confidence: 0.804291911666667

00:46:12.368 --> 00:46:14.804 It's related to your last page,

NOTE Confidence: 0.804291911666667

00:46:14.810 --> 00:46:18.680 so the the risk of malignancy.

NOTE Confidence: 0.804291911666667

00:46:18.680 --> 00:46:21.285 The risk of malignancy in

NOTE Confidence: 0.804291911666667

00:46:21.285 --> 00:46:23.369 negative for malignancy category.

NOTE Confidence: 0.804291911666667

00:46:23.370 --> 00:46:30.160 According to my manager Palaj if about 20%.

NOTE Confidence: 0.804291911666667

00:46:30.160 --> 00:46:32.692 Well, he was 20% meaning if

NOTE Confidence: 0.804291911666667

00:46:32.692 --> 00:46:34.560 we say negative malignancy,

NOTE Confidence: 0.804291911666667

00:46:34.560 --> 00:46:38.137 one in every five we are wrong.

NOTE Confidence: 0.804291911666667

00:46:38.140 --> 00:46:40.158 So what in your mind, this, uh,

NOTE Confidence: 0.804291911666667

00:46:40.158 --> 00:46:43.400 for this negative mallegni should be?

NOTE Confidence: 0.89621088

00:46:43.400 --> 00:46:45.296 Absolutely, that that's a great question.

NOTE Confidence: 0.89621088

00:46:45.300 --> 00:46:48.276 Peter and I think what we have looked

NOTE Confidence: 0.89621088

00:46:48.276 --> 00:46:51.825 at in that table is the historic data

NOTE Confidence: 0.89621088

00:46:51.825 --> 00:46:55.920 of how we have over the last 50 years,

NOTE Confidence: 0.89621088

00:46:55.920 --> 00:46:58.986 reported serious fluid cyto pathology and

NOTE Confidence: 0.89621088

00:46:58.986 --> 00:47:02.197 what the clinical outcomes of these cases

NOTE Confidence: 0.89621088

00:47:02.197 --> 00:47:05.370 have been if we but we don't know what

NOTE Confidence: 0.89621088

00:47:05.370 --> 00:47:07.987 the sample volumes of these cases were,

NOTE Confidence: 0.89621088

00:47:07.990 --> 00:47:11.182 we don't know whether they would have

NOTE Confidence: 0.89621088

00:47:11.182 --> 00:47:15.480 fulfilled the the sort of site, the.

NOTE Confidence: 0.89621088

00:47:15.480 --> 00:47:19.135 The criteria for good cellular

NOTE Confidence: 0.89621088

00:47:19.135 --> 00:47:20.616 preservation and celularity,

NOTE Confidence: 0.89621088

00:47:20.616 --> 00:47:22.481 as suggested by the international

NOTE Confidence: 0.89621088

00:47:22.481 --> 00:47:24.765 system so we don't have that

NOTE Confidence: 0.89621088

00:47:24.765 --> 00:47:26.605 data in this reported literature,

NOTE Confidence: 0.89621088

00:47:26.610 --> 00:47:28.578 and that I hope, will be the strength

NOTE Confidence: 0.89621088

00:47:28.578 --> 00:47:30.299 of the system going forward.

NOTE Confidence: 0.89621088

00:47:30.300 --> 00:47:33.520 Once we link this risk of malignancy

NOTE Confidence: 0.89621088

00:47:33.520 --> 00:47:36.470 to volume and to sell content,

NOTE Confidence: 0.89621088

00:47:36.470 --> 00:47:37.835 we might have a clearer picture to

NOTE Confidence: 0.89621088

00:47:37.835 --> 00:47:39.418 be able to say to our clinicians.

NOTE Confidence: 0.89621088

00:47:39.420 --> 00:47:41.976 Well, if you send us a 5 mil sample,

NOTE Confidence: 0.89621088

00:47:41.980 --> 00:47:44.759 the risk of malignancy could be considerably.

NOTE Confidence: 0.89621088

00:47:44.760 --> 00:47:46.050 Different to when you send

NOTE Confidence: 0.89621088

00:47:46.050 --> 00:47:48.180 us a 50 to 75 mill sample,

NOTE Confidence: 0.89621088

00:47:48.180 --> 00:47:51.076 but the problem there is of course that,

NOTE Confidence: 0.89621088

00:47:51.080 --> 00:47:53.922 uh, the follow up of patients with

NOTE Confidence: 0.89621088

00:47:53.922 --> 00:47:56.402 negative cytology is typically very

NOTE Confidence: 0.89621088

00:47:56.402 --> 00:47:59.357 difficult across all terminology systems.

NOTE Confidence: 0.89621088

00:47:59.360 --> 00:48:00.605 Whether it's urine,

NOTE Confidence: 0.89621088

00:48:00.605 --> 00:48:01.850 cytology or FNA,

NOTE Confidence: 0.89621088

00:48:01.850 --> 00:48:05.266 cytology the patients who have any fusion

NOTE Confidence: 0.89621088

00:48:05.266 --> 00:48:07.850 that resolves do not have any Histology,

NOTE Confidence: 0.89621088

00:48:07.850 --> 00:48:09.740 may not have much clinical follow up,

NOTE Confidence: 0.89621088

00:48:09.740 --> 00:48:12.344 and so you're left with this kind

NOTE Confidence: 0.89621088

00:48:12.344 --> 00:48:14.760 of no follow up of these cases.

NOTE Confidence: 0.89621088

00:48:14.760 --> 00:48:16.454 Or this kind of imagined follow up

NOTE Confidence: 0.89621088

00:48:16.454 --> 00:48:18.349 that we show that they were all

NOTE Confidence: 0.89621088

00:48:18.349 --> 00:48:20.017 right because they didn't come back

NOTE Confidence: 0.89621088

00:48:20.075 --> 00:48:21.825 to us with malignancy in the next.

NOTE Confidence: 0.89621088

00:48:21.830 --> 00:48:23.378 You know, two or three years,

NOTE Confidence: 0.89621088

00:48:23.380 --> 00:48:25.781 so we need to agree to certain

NOTE Confidence: 0.89621088

00:48:25.781 --> 00:48:27.491 surrogate markers and goal posts

NOTE Confidence: 0.89621088

00:48:27.491 --> 00:48:29.923 and we don't know what those are in

NOTE Confidence: 0.89621088

00:48:29.989 --> 00:48:32.169 terms of the negative categories.

NOTE Confidence: 0.89621088

00:48:32.170 --> 00:48:34.382 So that's a great question in terms

NOTE Confidence: 0.89621088

00:48:34.382 --> 00:48:35.818 of calculating the sensitivity

NOTE Confidence: 0.89621088

00:48:35.818 --> 00:48:37.928 and the negative predictive value

NOTE Confidence: 0.89621088

00:48:37.928 --> 00:48:39.616 over serious fluid sample.

NOTE Confidence: 0.89621088

00:48:39.620 --> 00:48:41.498 We don't really have great data,

NOTE Confidence: 0.89621088

00:48:41.500 --> 00:48:44.632 but I suspect it would be linked to volume.

NOTE Confidence: 0.89621088

00:48:44.632 --> 00:48:46.796 And a sample quality.

NOTE Confidence: 0.89621088

00:48:46.800 --> 00:48:47.958 Thank you for a great question,

NOTE Confidence: 0.89621088

00:48:47.960 --> 00:48:48.340 Peter,

NOTE Confidence: 0.974079741666667

00:48:48.760 --> 00:48:51.226 thank you. Thank you so much.

NOTE Confidence: 0.974079741666667

00:48:51.230 --> 00:48:54.890 Uh, another question from my end.

NOTE Confidence: 0.974079741666667

00:48:54.890 --> 00:48:59.390 Is that special staying for P16 so.

NOTE Confidence: 0.974079741666667

00:48:59.390 --> 00:49:02.634 P-16 you agree with a fish analysis

NOTE Confidence: 0.974079741666667

00:49:02.634 --> 00:49:05.619 kind of fish usually is pretty

NOTE Confidence: 0.974079741666667

00:49:05.619 --> 00:49:08.524 challenging for cytology sample

NOTE Confidence: 0.974079741666667

00:49:08.524 --> 00:49:12.159 and many people like immunostains.

NOTE Confidence: 0.974079741666667

00:49:12.160 --> 00:49:15.624 And I see this debating like animal Stampede.

NOTE Confidence: 0.974079741666667

00:49:15.630 --> 00:49:17.730 16 How you know how useful?

NOTE Confidence: 0.974079741666667

00:49:17.730 --> 00:49:20.460 How placable was your position here?

NOTE Confidence: 0.837158753333333

00:49:21.950 --> 00:49:23.606 So thank you. Another great question.

NOTE Confidence: 0.837158753333333

00:49:23.610 --> 00:49:28.500 Very very specialist and technical.

NOTE Confidence: 0.837158753333333

00:49:28.500 --> 00:49:32.900 I have to say the published data really

NOTE Confidence: 0.837158753333333

00:49:32.900 --> 00:49:38.860 mostly supports using P-16 mutation,

NOTE Confidence: 0.837158753333333

00:49:38.860 --> 00:49:40.510 you know, so we're not talking

NOTE Confidence: 0.837158753333333

00:49:40.510 --> 00:49:41.950 about the wild type P-16.

NOTE Confidence: 0.837158753333333

00:49:41.950 --> 00:49:44.005 We're talking about the mutated

NOTE Confidence: 0.837158753333333

00:49:44.005 --> 00:49:45.794 P-16 demonstrated by fish.

NOTE Confidence: 0.837158753333333

00:49:45.794 --> 00:49:48.542 So if you're using the appropriate

NOTE Confidence: 0.837158753333333

00:49:48.542 --> 00:49:50.481 immuno chemistry, of course not.

NOTE Confidence: 0.837158753333333

00:49:50.481 --> 00:49:51.616 For the wild type P-16,

NOTE Confidence: 0.837158753333333

00:49:51.620 --> 00:49:55.912 but for for the mutated one you

NOTE Confidence: 0.837158753333333

00:49:55.912 --> 00:49:58.504 should get you know good data.

NOTE Confidence: 0.837158753333333

00:49:58.510 --> 00:50:00.883 And I think that is something that

NOTE Confidence: 0.837158753333333

00:50:00.883 --> 00:50:03.746 we want to see more work done on

NOTE Confidence: 0.837158753333333

00:50:03.746 --> 00:50:06.647 before it can be accepted as a

NOTE Confidence: 0.837158753333333

00:50:06.647 --> 00:50:08.228 recommended clinical practice.

NOTE Confidence: 0.837158753333333

00:50:08.230 --> 00:50:09.277 You're absolutely right,

NOTE Confidence: 0.837158753333333

00:50:09.277 --> 00:50:11.720 there is a growing body of evidence

NOTE Confidence: 0.837158753333333

00:50:11.784 --> 00:50:13.982 and data that is suggesting that we

NOTE Confidence: 0.837158753333333

00:50:13.982 --> 00:50:15.985 could perhaps just do immuno chemistry

NOTE Confidence: 0.837158753333333

00:50:15.985 --> 00:50:18.309 rather than fish and that would solve

NOTE Confidence: 0.837158753333333

00:50:18.310 --> 00:50:20.165 a big problem because as you say,

NOTE Confidence: 0.837158753333333

00:50:20.170 --> 00:50:22.750 access to cytogenetics and fish

NOTE Confidence: 0.837158753333333

00:50:22.750 --> 00:50:25.686 is not easy for all laboratories.

NOTE Confidence: 0.837158753333333

00:50:25.686 --> 00:50:28.100 You know we're lucky to work in

NOTE Confidence: 0.837158753333333

00:50:28.100 --> 00:50:29.590 institutions where we do have.

NOTE Confidence: 0.837158753333333

00:50:29.590 --> 00:50:31.966 As to genetics and ancillary tests,

NOTE Confidence: 0.837158753333333

00:50:31.970 --> 00:50:33.866 uh, but you know,

NOTE Confidence: 0.837158753333333

00:50:33.866 --> 00:50:35.762 we these international terminology

NOTE Confidence: 0.837158753333333

00:50:35.762 --> 00:50:39.600 systems are meant to be used by the

NOTE Confidence: 0.837158753333333

00:50:39.600 --> 00:50:41.007 global psychopathology community,

NOTE Confidence: 0.837158753333333

00:50:41.010 --> 00:50:42.768 and if we set our benchmark,

NOTE Confidence: 0.837158753333333

00:50:42.770 --> 00:50:43.763 which is unachievable,

NOTE Confidence: 0.837158753333333

00:50:43.763 --> 00:50:46.080 then the project sort of loses its

NOTE Confidence: 0.837158753333333

00:50:46.139 --> 00:50:48.050 value because we've set the bar so

NOTE Confidence: 0.837158753333333

00:50:48.050 --> 00:50:50.667 high that it is completely unachievable by,

NOTE Confidence: 0.837158753333333

00:50:50.670 --> 00:50:51.496 you know,

NOTE Confidence: 0.837158753333333

00:50:51.496 --> 00:50:53.974 by the vast majority of our

NOTE Confidence: 0.837158753333333

00:50:53.974 --> 00:50:55.930 colleagues practicing cyto pathology.

NOTE Confidence: 0.837158753333333

00:50:55.930 --> 00:50:58.162 So I think we do have to be realistic,

NOTE Confidence: 0.837158753333333

00:50:58.170 --> 00:50:59.940 I think.

NOTE Confidence: 0.837158753333333

00:50:59.940 --> 00:51:02.817 Using that and that's why I emphasized

NOTE Confidence: 0.837158753333333

00:51:02.817 --> 00:51:06.131 so much the use of you know commonly

NOTE Confidence: 0.837158753333333

00:51:06.131 --> 00:51:09.058 used immunochemical immuno histo and

NOTE Confidence: 0.837158753333333

00:51:09.058 --> 00:51:11.586 cytochemical panels that include

NOTE Confidence: 0.837158753333333

00:51:11.586 --> 00:51:14.408 desmin and epithelial membrane antigen

NOTE Confidence: 0.837158753333333

00:51:14.408 --> 00:51:18.340 and bap one which it is easier for a

NOTE Confidence: 0.837158753333333

00:51:18.340 --> 00:51:19.900 smaller psychopathology laboratory

NOTE Confidence: 0.837158753333333

00:51:19.900 --> 00:51:22.500 to standardize and validate and

NOTE Confidence: 0.837158753333333

00:51:22.500 --> 00:51:25.068 be able to perform reproducibly

NOTE Confidence: 0.837158753333333

00:51:25.068 --> 00:51:27.493 and accurately within their own

NOTE Confidence: 0.837158753333333

00:51:27.493 --> 00:51:30.010 laboratory or at least have access.

NOTE Confidence: 0.837158753333333

00:51:30.010 --> 00:51:30.856 To the immunostains,

NOTE Confidence: 0.837158753333333

00:51:30.856 --> 00:51:33.188 but I know there are parts of the

NOTE Confidence: 0.837158753333333

00:51:33.188 --> 00:51:34.028 world where, uh,

NOTE Confidence: 0.837158753333333

00:51:34.028 --> 00:51:34.980 the diagnosis of MISO?

NOTE Confidence: 0.837158753333333

00:51:34.980 --> 00:51:37.996 Thi Lio Ma actually is just based on

NOTE Confidence: 0.837158753333333

00:51:37.996 --> 00:51:40.504 cyto morphology and perhaps some immuno

NOTE Confidence: 0.837158753333333

00:51:40.504 --> 00:51:43.024 cytochemical stains like oil red O

NOTE Confidence: 0.837158753333333

00:51:43.030 --> 00:51:46.110 positive iti in in in in mesothelioma.

NOTE Confidence: 0.837158753333333

00:51:46.110 --> 00:51:48.665 And that was a great point that

NOTE Confidence: 0.837158753333333

00:51:48.665 --> 00:51:50.435 Professor Claire Michael who's the

NOTE Confidence: 0.837158753333333

00:51:50.435 --> 00:51:52.306 lead chapter also for me the helium

NOTE Confidence: 0.837158753333333

00:51:52.306 --> 00:51:53.842 appointed out and she said you

NOTE Confidence: 0.837158753333333

00:51:53.842 --> 00:51:56.604 know we should try and find good

NOTE Confidence: 0.837158753333333

00:51:56.604 --> 00:51:59.684 cheap and easy stains for you know,

NOTE Confidence: 0.837158753333333

00:51:59.684 --> 00:52:00.201 mesothelioma.

NOTE Confidence: 0.837158753333333

00:52:00.201 --> 00:52:02.786 Because not everybody will have

NOTE Confidence: 0.837158753333333

00:52:02.786 --> 00:52:05.712 access to cytogenetics and to even

NOTE Confidence: 0.837158753333333

00:52:05.712 --> 00:52:09.189 immuno chemistry and to you know some

NOTE Confidence: 0.837158753333333

00:52:09.189 --> 00:52:11.893 colleagues practicing in constrained

NOTE Confidence: 0.837158753333333

00:52:11.893 --> 00:52:13.710 resources just histochemistry with

NOTE Confidence: 0.837158753333333

00:52:13.710 --> 00:52:16.370 oil red O and some other immunity

NOTE Confidence: 0.837158753333333

00:52:16.441 --> 00:52:18.919 and some other stains could be very

NOTE Confidence: 0.837158753333333

00:52:18.919 --> 00:52:21.072 very beneficial in the context of

NOTE Confidence: 0.837158753333333

00:52:21.072 --> 00:52:22.777 a good strong clinical suspicion

NOTE Confidence: 0.837158753333333

00:52:22.777 --> 00:52:24.534 of a mesothelioma for instance.

NOTE Confidence: 0.837158753333333

00:52:24.534 --> 00:52:26.682 So thank you for bringing up

NOTE Confidence: 0.837158753333333

00:52:26.682 --> 00:52:28.540 that very pertinent question.

NOTE Confidence: 0.864783045555555

00:52:28.980 --> 00:52:30.390 Thank you, thank you thank

NOTE Confidence: 0.864783045555555

00:52:30.390 --> 00:52:32.070 I have a question. Copying.

NOTE Confidence: 0.94591886

00:52:37.420 --> 00:52:39.380 OK, can you hear me now?

NOTE Confidence: 0.94591886

00:52:39.380 --> 00:52:41.530 Yeah yeah OK alright

NOTE Confidence: 0.721407751428572

00:52:43.780 --> 00:52:49.160 thanks for your great this great talk so.

NOTE Confidence: 0.721407751428572

00:52:49.160 --> 00:52:52.760 So based on this you know that international

NOTE Confidence: 0.721407751428572

00:52:52.760 --> 00:52:56.734 reporting systems and since we know,

NOTE Confidence: 0.721407751428572

00:52:56.734 --> 00:53:00.414 recommend the volume of the

NOTE Confidence: 0.721407751428572

00:53:00.420 --> 00:53:04.850 specimen is you know 75.

NOTE Confidence: 0.721407751428572

00:53:04.850 --> 00:53:07.430 Uh CC, which is you know,

NOTE Confidence: 0.721407751428572

00:53:07.430 --> 00:53:10.018 largely based on the.

NOTE Confidence: 0.721407751428572

00:53:10.018 --> 00:53:12.606 The Hopkins study recommended.

NOTE Confidence: 0.721407751428572

00:53:12.610 --> 00:53:14.635 But there's other study out

NOTE Confidence: 0.721407751428572

00:53:14.635 --> 00:53:16.255 there in the literatures.

NOTE Confidence: 0.721407751428572

00:53:16.260 --> 00:53:19.240 They actually recommend larger variance,

NOTE Confidence: 0.721407751428572

00:53:19.240 --> 00:53:22.778 you know, talk about 200 or 250 miles,

NOTE Confidence: 0.721407751428572

00:53:22.778 --> 00:53:27.621 and you know in in the age now is

NOTE Confidence: 0.721407751428572

00:53:27.621 --> 00:53:30.540 proficient precision medicines.

NOTE Confidence: 0.721407751428572

00:53:30.540 --> 00:53:32.340 You know a lot this specimen.

NOTE Confidence: 0.721407751428572

00:53:32.340 --> 00:53:34.460 Not only you know,

NOTE Confidence: 0.721407751428572

00:53:34.460 --> 00:53:37.011 Rick required health diagnostic work

NOTE Confidence: 0.721407751428572

00:53:37.011 --> 00:53:39.930 up also for the answering tests which

NOTE Confidence: 0.721407751428572

00:53:40.005 --> 00:53:42.650 may guide clinical management patient.

NOTE Confidence: 0.721407751428572

00:53:42.650 --> 00:53:43.854 So I just wonder,

NOTE Confidence: 0.721407751428572

00:53:43.854 --> 00:53:46.928 you know for this kind of system out there,

NOTE Confidence: 0.721407751428572

00:53:46.930 --> 00:53:50.010 you kind of flat out recommended you

NOTE Confidence: 0.721407751428572

00:53:50.010 --> 00:53:55.328 know 75 mil specimen weather you know.

NOTE Confidence: 0.721407751428572

00:53:55.330 --> 00:53:57.255 You know whether you're consider

NOTE Confidence: 0.721407751428572

00:53:57.255 --> 00:53:59.580 you know whether this you know,

NOTE Confidence: 0.721407751428572

00:53:59.580 --> 00:54:01.770 particularly in the setting of the,

NOTE Confidence: 0.721407751428572

00:54:01.770 --> 00:54:04.750 you know malignancy and weather,

NOTE Confidence: 0.721407751428572

00:54:04.750 --> 00:54:05.860 has any room.

NOTE Confidence: 0.721407751428572

00:54:05.860 --> 00:54:10.906 You know I, because the the the the one.

NOTE Confidence: 0.721407751428572

00:54:10.910 --> 00:54:12.366 The issue would be,

NOTE Confidence: 0.721407751428572

00:54:12.366 --> 00:54:14.922 you know clinical thing and look at

NOTE Confidence: 0.721407751428572

00:54:14.922 --> 00:54:17.274 the old you are you even you are

NOTE Confidence: 0.721407751428572

00:54:17.274 --> 00:54:19.441 report you are sitting recommended

NOTE Confidence: 0.721407751428572

00:54:19.441 --> 00:54:22.086 only 75 and mail you know specimen.

NOTE Confidence: 0.721407751428572

00:54:22.090 --> 00:54:24.085 So that's one one of my question.

NOTE Confidence: 0.721407751428572

00:54:24.090 --> 00:54:25.670 The other question I had.

NOTE Confidence: 0.721407751428572

00:54:25.670 --> 00:54:26.710 One day I notice,

NOTE Confidence: 0.721407751428572

00:54:26.710 --> 00:54:27.230 you know,

NOTE Confidence: 0.721407751428572

00:54:27.230 --> 00:54:29.792 in this system you don't have a

NOTE Confidence: 0.721407751428572

00:54:29.792 --> 00:54:32.702 category you know call for new problem,

NOTE Confidence: 0.721407751428572

00:54:32.702 --> 00:54:35.983 which many other system has this category

NOTE Confidence: 0.721407751428572

00:54:35.983 --> 00:54:39.783 robust sister you know Milan and you know,

NOTE Confidence: 0.721407751428572

00:54:39.790 --> 00:54:41.248 PSC, you know,

NOTE Confidence: 0.721407751428572

00:54:41.248 --> 00:54:44.164 and because particularly you talk about

NOTE Confidence: 0.721407751428572

00:54:44.164 --> 00:54:47.925 one the sample you you talk about in your,

NOTE Confidence: 0.721407751428572

00:54:47.930 --> 00:54:50.114 you know presentation is.

NOTE Confidence: 0.721407751428572

00:54:50.114 --> 00:54:53.025 You know pseudo makes Soma,

NOTE Confidence: 0.721407751428572

00:54:53.025 --> 00:54:56.050 which you know you ****.

NOTE Confidence: 0.721407751428572

00:54:56.050 --> 00:54:58.612 Basically you see them using or

NOTE Confidence: 0.721407751428572

00:54:58.612 --> 00:55:00.950 missing like material without without,

NOTE Confidence: 0.721407751428572

00:55:00.950 --> 00:55:01.946 you know,

NOTE Confidence: 0.721407751428572

00:55:01.946 --> 00:55:04.824 without absolute component you put in the

NOTE Confidence: 0.721407751428572

00:55:04.824 --> 00:55:07.486 category called suspicious for malignancy.

NOTE Confidence: 0.721407751428572

00:55:07.486 --> 00:55:10.552 The same issue will be also raised

NOTE Confidence: 0.721407751428572

00:55:10.552 --> 00:55:13.490 for like a borderline tumors and

NOTE Confidence: 0.721407751428572

00:55:13.490 --> 00:55:16.710 which also shows this kind of you

NOTE Confidence: 0.721407751428572

00:55:16.710 --> 00:55:20.520 know sales or material in your.

NOTE Confidence: 0.721407751428572

00:55:20.520 --> 00:55:23.176 Uh, and aside, is opera Tonio you know,

NOTE Confidence: 0.721407751428572

00:55:23.180 --> 00:55:24.509 public watch specimen?

NOTE Confidence: 0.721407751428572

00:55:24.509 --> 00:55:26.724 So, because this particular category

NOTE Confidence: 0.721407751428572

00:55:26.724 --> 00:55:29.180 is switched from Milligan and carry,

NOTE Confidence: 0.721407751428572

00:55:29.180 --> 00:55:31.900 the risk is about 80%,

NOTE Confidence: 0.721407751428572

00:55:31.900 --> 00:55:34.035 so I don't know how this will

NOTE Confidence: 0.721407751428572

00:55:34.035 --> 00:55:35.470 have any clinical impact.

NOTE Confidence: 0.721407751428572

00:55:35.470 --> 00:55:37.000 How you do on clinic,

NOTE Confidence: 0.721407751428572

00:55:37.000 --> 00:55:39.475 because basically there's no surgical

NOTE Confidence: 0.721407751428572

00:55:39.475 --> 00:55:41.455 diagnosis clad out malignancy,

NOTE Confidence: 0.721407751428572

00:55:41.460 --> 00:55:43.800 but you called speech for Magnus.

NOTE Confidence: 0.721407751428572

00:55:43.800 --> 00:55:44.632 Thank you.

NOTE Confidence: 0.721407751428572

00:55:44.632 --> 00:55:45.048 Yeah,

00:55:45.590 --> 00:55:46.054 great questions.

00:55:46.054 --> 00:55:47.678 I'll try and be brief in the

00:55:47.678 --> 00:55:50.310 interest of time, but I acknowledge.

00:55:50.310 --> 00:55:54.460 The limitations of the data that we

00:55:54.460 --> 00:55:57.584 have at the moment at the time of

00:55:57.584 --> 00:55:59.039 publication of the first edition,

00:55:59.040 --> 00:56:02.184 but what it has done is opened up

00:56:02.190 --> 00:56:04.795 this conversation that we're having

00:56:04.795 --> 00:56:07.955 today and which is what I was

00:56:07.955 --> 00:56:10.205 asked at the European Congress of

00:56:10.205 --> 00:56:12.447 Psychology in in Poland just last

00:56:12.447 --> 00:56:14.876 week where we had a whole session

00:56:14.954 --> 00:56:17.288 devoted to a tipiya versus NEO

00:56:17.288 --> 00:56:19.218 plasm in serious effusion cytology.

00:56:19.218 --> 00:56:20.322 Well seriously, in.

00:56:20.322 --> 00:56:21.426 All specimen doubts,

NOTE Confidence: 0.870563601666666

00:56:21.430 --> 00:56:24.380 but also addressing serious fluids,

NOTE Confidence: 0.870563601666666

00:56:24.380 --> 00:56:25.976 and that's a great question about

NOTE Confidence: 0.870563601666666

00:56:25.976 --> 00:56:27.350 taking your second question first,

NOTE Confidence: 0.870563601666666

00:56:27.350 --> 00:56:28.911 and I'll go back to the first

NOTE Confidence: 0.870563601666666

00:56:28.911 --> 00:56:31.420 time in a moment.

NOTE Confidence: 0.870563601666666

00:56:31.420 --> 00:56:34.325 So the new plasm category for fluids

NOTE Confidence: 0.870563601666666

00:56:34.325 --> 00:56:37.390 is is quite a tricky one to use.

NOTE Confidence: 0.870563601666666

00:56:37.390 --> 00:56:39.014 It will be very rarely used and

NOTE Confidence: 0.870563601666666

00:56:39.014 --> 00:56:40.646 in the kind of scenarios where

NOTE Confidence: 0.870563601666666

00:56:40.646 --> 00:56:42.398 you pointed out you know you've

NOTE Confidence: 0.870563601666666

00:56:42.398 --> 00:56:43.780 got mucinous material and you

NOTE Confidence: 0.870563601666666

00:56:43.780 --> 00:56:45.593 know it could be a NEO plasm,

NOTE Confidence: 0.870563601666666

00:56:45.593 --> 00:56:47.364 which may or may not be malignant,

NOTE Confidence: 0.870563601666666

00:56:47.370 --> 00:56:49.032 and so you know should that

NOTE Confidence: 0.870563601666666

00:56:49.032 --> 00:56:50.750 go into the tipiya category.

NOTE Confidence: 0.870563601666666

00:56:50.750 --> 00:56:52.328 Should that go into suspicious category,

NOTE Confidence: 0.870563601666666

00:56:52.330 --> 00:56:54.818 should that be in a NEO plasm category,

NOTE Confidence: 0.870563601666666

00:56:54.820 --> 00:56:57.088 I think at the moment what

NOTE Confidence: 0.870563601666666

00:56:57.088 --> 00:56:59.420 we are suggesting is that we

NOTE Confidence: 0.870563601666666

00:56:59.420 --> 00:57:01.260 put the query new plasm.

NOTE Confidence: 0.870563601666666

00:57:01.260 --> 00:57:03.350 The bland neoplasms including the

NOTE Confidence: 0.870563601666666

00:57:03.350 --> 00:57:06.087 borderline tumors into the atropia of

NOTE Confidence: 0.870563601666666

00:57:06.087 --> 00:57:07.839 undetermined significance category.

NOTE Confidence: 0.870563601666666

00:57:07.840 --> 00:57:10.584 So that is your sort of surrogate

NOTE Confidence: 0.870563601666666

00:57:10.584 --> 00:57:12.969 new plasm category for the moment.

NOTE Confidence: 0.870563601666666

00:57:12.970 --> 00:57:15.778 Let's see by the time of the second edition,

NOTE Confidence: 0.870563601666666

00:57:15.780 --> 00:57:17.160 in four or five years,

NOTE Confidence: 0.870563601666666

00:57:17.160 --> 00:57:20.478 if there is enough data out there

NOTE Confidence: 0.870563601666666

00:57:20.478 --> 00:57:23.219 to justify having an additional

NOTE Confidence: 0.870563601666666

00:57:23.219 --> 00:57:25.058 NEO plasm category.

NOTE Confidence: 0.870563601666666

00:57:25.060 --> 00:57:26.200 In addition to ATYPIA,

NOTE Confidence: 0.870563601666666

00:57:26.200 --> 00:57:28.240 we would be very much prepared to

NOTE Confidence: 0.870563601666666

00:57:28.240 --> 00:57:31.408 consider it. So that is a great question.

NOTE Confidence: 0.870563601666666

00:57:31.410 --> 00:57:33.534 But it wasn't something that we

NOTE Confidence: 0.870563601666666

00:57:33.534 --> 00:57:35.999 had enough data on to be able

NOTE Confidence: 0.870563601666666

00:57:35.999 --> 00:57:37.937 to address in the first issue.

NOTE Confidence: 0.870563601666666

00:57:37.940 --> 00:57:39.148 In the first edition,

NOTE Confidence: 0.870563601666666

00:57:39.148 --> 00:57:41.636 and so we have actually just put them

NOTE Confidence: 0.870563601666666

00:57:41.636 --> 00:57:44.100 or suggest that we put those under tipiya,

NOTE Confidence: 0.870563601666666

00:57:44.100 --> 00:57:46.669 but the discussion that we had in

NOTE Confidence: 0.870563601666666

00:57:46.669 --> 00:57:49.412 Poland was that a tip here actually

NOTE Confidence: 0.870563601666666

00:57:49.412 --> 00:57:51.752 includes the kind of cases which

NOTE Confidence: 0.870563601666666

00:57:51.829 --> 00:57:55.125 probably sit better in a NEO plasm category.

NOTE Confidence: 0.870563601666666

00:57:55.130 --> 00:57:56.555 Also, for instance,

NOTE Confidence: 0.870563601666666

00:57:56.555 --> 00:57:58.455 benign music Thielen preparations,

NOTE Confidence: 0.870563601666666

00:57:58.460 --> 00:58:00.620 though well differentiated papillary miso?

NOTE Confidence: 0.870563601666666

00:58:00.620 --> 00:58:01.781 Thi lio ma.

NOTE Confidence: 0.870563601666666

00:58:01.781 --> 00:58:03.716 Or the localized musically OMERS,

NOTE Confidence: 0.870563601666666

00:58:03.720 --> 00:58:05.520 which are essentially benign tumors?

NOTE Confidence: 0.870563601666666

00:58:05.520 --> 00:58:07.638 Should they all be called miso?

NOTE Confidence: 0.870563601666666

00:58:07.640 --> 00:58:08.951 Thi Lio Ma's,

NOTE Confidence: 0.870563601666666

00:58:08.951 --> 00:58:12.458 where do you know a typical or benign

NOTE Confidence: 0.870563601666666

00:58:12.458 --> 00:58:15.146 mesothelial proliferations go in the system,

NOTE Confidence: 0.870563601666666

00:58:15.150 --> 00:58:16.655 so those were all questions

NOTE Confidence: 0.870563601666666

00:58:16.655 --> 00:58:18.160 that are now being raised,

NOTE Confidence: 0.870563601666666

00:58:18.160 --> 00:58:21.387 and we hope that we will have

NOTE Confidence: 0.870563601666666

00:58:21.387 --> 00:58:23.565 more data in in the next few

NOTE Confidence: 0.870563601666666

00:58:23.565 --> 00:58:25.689 years to be able to answer that.

NOTE Confidence: 0.870563601666666

00:58:25.690 --> 00:58:28.182 Going back to your first question in

NOTE Confidence: 0.870563601666666

00:58:28.182 --> 00:58:30.800 terms of volumes of recommended sample.

NOTE Confidence: 0.870563601666666

00:58:30.800 --> 00:58:32.726 Again at the time of publication,

NOTE Confidence: 0.870563601666666

00:58:32.730 --> 00:58:35.274 we had a good study which you know

NOTE Confidence: 0.870563601666666

00:58:35.274 --> 00:58:38.019 was based on a very large sample size,

NOTE Confidence: 0.870563601666666

00:58:38.020 --> 00:58:39.550 and so we've gone with it.

NOTE Confidence: 0.870563601666666

00:58:39.550 --> 00:58:41.850 And since the publication of

NOTE Confidence: 0.870563601666666

00:58:41.850 --> 00:58:43.230 the international system,

NOTE Confidence: 0.870563601666666

00:58:43.230 --> 00:58:45.456 and even while it was in publication,

NOTE Confidence: 0.870563601666666

00:58:45.460 --> 00:58:47.626 there was a whole flurry of

NOTE Confidence: 0.870563601666666

00:58:47.626 --> 00:58:49.070 articles that suggested different

NOTE Confidence: 0.915392737272727

00:58:49.136 --> 00:58:50.672 volumes, some smaller volumes

NOTE Confidence: 0.915392737272727

00:58:50.672 --> 00:58:52.088 and some higher volumes,

NOTE Confidence: 0.915392737272727

00:58:52.090 --> 00:58:56.260 which in their institutional data was.

NOTE Confidence: 0.915392737272727

00:58:56.260 --> 00:58:58.535 A better marker for the sub you

NOTE Confidence: 0.915392737272727

00:58:58.535 --> 00:59:00.990 know for for the optimal volume,

NOTE Confidence: 0.915392737272727

00:59:00.990 --> 00:59:04.238 and I think there will be an institutional

NOTE Confidence: 0.915392737272727

00:59:04.238 --> 00:59:06.588 bias depending on whether you work in

NOTE Confidence: 0.915392737272727

00:59:06.588 --> 00:59:09.088 a Cancer Center or whether you work

NOTE Confidence: 0.915392737272727

00:59:09.088 --> 00:59:11.380 in a Community Hospital because your

NOTE Confidence: 0.915392737272727

00:59:11.455 --> 00:59:13.707 caseload is completely different.

NOTE Confidence: 0.915392737272727

00:59:13.710 --> 00:59:15.852 You're you know the sample volumes

NOTE Confidence: 0.915392737272727

00:59:15.852 --> 00:59:18.407 that you might get in a Cancer

NOTE Confidence: 0.915392737272727

00:59:18.407 --> 00:59:20.519 Center may be small volume samples,

NOTE Confidence: 0.915392737272727

00:59:20.520 --> 00:59:23.286 but they're all almost positive samples,

NOTE Confidence: 0.915392737272727

00:59:23.290 --> 00:59:24.907 so you know that they're not being

NOTE Confidence: 0.915392737272727

00:59:24.907 --> 00:59:26.809 sent to you for making a diagnosis.

NOTE Confidence: 0.915392737272727

00:59:26.810 --> 00:59:28.808 You already know the diagnosis they're

NOTE Confidence: 0.915392737272727

00:59:28.808 --> 00:59:30.731 actually sending you the sample just

NOTE Confidence: 0.915392737272727

00:59:30.731 --> 00:59:32.883 for the ancillary World Cup and as long

NOTE Confidence: 0.915392737272727

00:59:32.941 --> 00:59:34.949 as the sample is high in cell content,

NOTE Confidence: 0.915392737272727

00:59:34.950 --> 00:59:37.414 it doesn't matter whether it is 50

NOTE Confidence: 0.915392737272727

00:59:37.414 --> 00:59:40.320 mil or it's 75 mil or it's 200 mil.

NOTE Confidence: 0.915392737272727

00:59:40.320 --> 00:59:43.232 So the 75 mil optimal volume sample

NOTE Confidence: 0.915392737272727

00:59:43.232 --> 00:59:46.261 was really based on that curve which

NOTE Confidence: 0.915392737272727

00:59:46.261 --> 00:59:48.805 showed that once you have reached

NOTE Confidence: 0.915392737272727

00:59:48.889 --> 00:59:51.710 the 50 to 75 mil mark after that,

NOTE Confidence: 0.915392737272727

00:59:51.710 --> 00:59:54.350 there is no particular advantage

NOTE Confidence: 0.915392737272727

00:59:54.350 --> 00:59:56.900 because if the sample is negative.

NOTE Confidence: 0.915392737272727

00:59:56.900 --> 00:59:58.447 It is probably going to be negative,

NOTE Confidence: 0.915392737272727

00:59:58.450 --> 00:59:59.880 even if it's 200 mill.

NOTE Confidence: 0.915392737272727

00:59:59.880 --> 01:00:03.039 That is where you know that data came from,

NOTE Confidence: 0.915392737272727

01:00:03.040 --> 01:00:04.996 but the converse is also true.

NOTE Confidence: 0.915392737272727

01:00:05.000 --> 01:00:07.900 You might, you know,

NOTE Confidence: 0.915392737272727

01:00:07.900 --> 01:00:09.760 have a sample that's really really

NOTE Confidence: 0.915392737272727

01:00:09.760 --> 01:00:11.960 cellular and rich in malignant cells,

NOTE Confidence: 0.915392737272727

01:00:11.960 --> 01:00:13.822 for which you could get away with

NOTE Confidence: 0.915392737272727

01:00:13.822 --> 01:00:15.070 a much smaller sample.

NOTE Confidence: 0.915392737272727

01:00:15.070 --> 01:00:17.702 So I think the it's opened up

NOTE Confidence: 0.915392737272727

01:00:17.702 --> 01:00:19.429 a conversation around volumes

NOTE Confidence: 0.915392737272727

01:00:19.429 --> 01:00:20.980 around cell content,

NOTE Confidence: 0.915392737272727

01:00:20.980 --> 01:00:23.647 and I think there is quite a lot of work to

NOTE Confidence: 0.915392737272727

01:00:23.647 --> 01:00:25.919 be done before the 2nd edition comes out,

NOTE Confidence: 0.915392737272727

01:00:25.920 --> 01:00:26.679 but they're all.

NOTE Confidence: 0.915392737272727

01:00:26.679 --> 01:00:28.197 Things that I'm taking on board

NOTE Confidence: 0.915392737272727

01:00:28.197 --> 01:00:29.510 from our discussion today.

NOTE Confidence: 0.915392737272727

01:00:29.510 --> 01:00:30.742 So thank you very,

NOTE Confidence: 0.915392737272727

01:00:30.742 --> 01:00:31.358 very much.

NOTE Confidence: 0.806994687

01:00:32.430 --> 01:00:34.134 Thank you, thank you,

NOTE Confidence: 0.806994687

01:00:34.134 --> 01:00:37.680 uh, any more questions.

NOTE Confidence: 0.806994687

01:00:37.680 --> 01:00:40.431 So send I think Doctor Lu will

NOTE Confidence: 0.806994687

01:00:40.431 --> 01:00:44.760 have a separate zoom meeting, yes.

NOTE Confidence: 0.806994687

01:00:44.760 --> 01:00:46.079 So thank you so much, Ashish.

NOTE Confidence: 0.806994687

01:00:46.079 --> 01:00:48.950 So it's very nice to meet you and like

NOTE Confidence: 0.806994687

01:00:49.022 --> 01:00:51.514 you say we have so many discussions.

NOTE Confidence: 0.806994687

01:00:51.520 --> 01:00:53.500 Kind of good discussion and we're

NOTE Confidence: 0.806994687

01:00:53.500 --> 01:00:55.749 looking forward to your second edition.

NOTE Confidence: 0.972664305

01:00:56.510 --> 01:00:58.118 Thank you so much.

NOTE Confidence: 0.972664305

01:00:58.120 --> 01:00:59.312 Thank you very much.

NOTE Confidence: 0.972664305

01:00:59.312 --> 01:01:00.896 It's been a great honor and

NOTE Confidence: 0.972664305

01:01:00.896 --> 01:01:02.370 privilege to be able to talk

NOTE Confidence: 0.972664305

01:01:02.370 --> 01:01:03.294 to you this afternoon.

NOTE Confidence: 0.972664305

01:01:03.300 --> 01:01:05.540 Many Many thanks again for inviting me.

NOTE Confidence: 0.972664305

01:01:05.540 --> 01:01:07.000 Thank you, thank you.