

WEBVTT

NOTE duration:"01:04:26"

NOTE recognizability:0.881

NOTE language:en-us

NOTE Confidence: 0.848545325

00:00:00.000 --> 00:00:03.120 Folks, welcome to Yale Cancer Center,

NOTE Confidence: 0.848545325

00:00:03.120 --> 00:00:05.640 Grand Rounds. I'm Kevin Billingsley,

NOTE Confidence: 0.848545325

00:00:05.640 --> 00:00:09.203 and I have the pleasure of welcoming

NOTE Confidence: 0.848545325

00:00:09.203 --> 00:00:11.360 our visiting speaker today.

NOTE Confidence: 0.848545325

00:00:11.360 --> 00:00:13.208 Doctor Charles Balch is,

NOTE Confidence: 0.848545325

00:00:13.208 --> 00:00:14.296 no exaggeration,

NOTE Confidence: 0.848545325

00:00:14.296 --> 00:00:16.472 a giant of multidisciplinary

NOTE Confidence: 0.848545325

00:00:16.472 --> 00:00:19.439 cancer care and surgical oncology.

NOTE Confidence: 0.848545325

00:00:19.440 --> 00:00:22.359 We're thrilled to have him here today.

NOTE Confidence: 0.848545325

00:00:22.360 --> 00:00:24.845 Doctor Balch is a professor of Surgical

NOTE Confidence: 0.848545325

00:00:24.845 --> 00:00:27.430 Oncology in the past chair of the

NOTE Confidence: 0.848545325

00:00:27.430 --> 00:00:29.240 Department of Surgical Oncology at

NOTE Confidence: 0.848545325

00:00:29.240 --> 00:00:31.477 the UTMD Anderson Cancer Center.

NOTE Confidence: 0.848545325

00:00:31.480 --> 00:00:33.670 He has had an extensive and  
NOTE Confidence: 0.848545325

00:00:33.670 --> 00:00:35.680 distinguished career as both a clinical  
NOTE Confidence: 0.848545325

00:00:35.680 --> 00:00:37.552 and academic surgical oncologist,  
NOTE Confidence: 0.848545325

00:00:37.552 --> 00:00:40.943 and he's one of the leading authorities  
NOTE Confidence: 0.848545325

00:00:40.943 --> 00:00:44.436 in both Melanoma and Breast Cancer Care.  
NOTE Confidence: 0.848545325

00:00:44.440 --> 00:00:46.000 Over the course of his career,  
NOTE Confidence: 0.848545325

00:00:46.000 --> 00:00:48.855 Doctor Balsh has made significant  
NOTE Confidence: 0.848545325

00:00:48.855 --> 00:00:51.139 contributions to laboratory research  
NOTE Confidence: 0.848545325

00:00:51.139 --> 00:00:54.213 in tumor tumor immunology and  
NOTE Confidence: 0.848545325

00:00:54.213 --> 00:00:56.637 human T lymphocyte differentiation.  
NOTE Confidence: 0.848545325

00:00:56.640 --> 00:00:58.640 He started his medical career  
NOTE Confidence: 0.848545325

00:00:58.640 --> 00:01:00.640 in Med school at Columbia,  
NOTE Confidence: 0.848545325

00:01:00.640 --> 00:01:03.016 where he and then he went on to  
NOTE Confidence: 0.848545325

00:01:03.016 --> 00:01:05.052 surgical training at both Duke  
NOTE Confidence: 0.848545325

00:01:05.052 --> 00:01:07.796 and the University of Alabama,  
NOTE Confidence: 0.848545325

00:01:07.796 --> 00:01:09.912 followed by additional laboratory

NOTE Confidence: 0.848545325

00:01:09.912 --> 00:01:12.161 experience with an immunology

NOTE Confidence: 0.848545325

00:01:12.161 --> 00:01:13.946 fellowship at the Scripps Clinic,

NOTE Confidence: 0.848545325

00:01:13.946 --> 00:01:16.876 which clearly laid the groundwork

NOTE Confidence: 0.848545325

00:01:16.880 --> 00:01:19.508 for his Seminole contributions

NOTE Confidence: 0.848545325

00:01:19.508 --> 00:01:22.793 in tumor immunology and Melanoma.

NOTE Confidence: 0.848545325

00:01:22.800 --> 00:01:25.188 He's the founding Editor in Chief

NOTE Confidence: 0.848545325

00:01:25.188 --> 00:01:27.263 of the Analysis Surgical Oncology

NOTE Confidence: 0.848545325

00:01:27.263 --> 00:01:29.735 and Editor in Chief for the

NOTE Confidence: 0.848545325

00:01:29.735 --> 00:01:31.520 Patient Resource Cancer Guides,

NOTE Confidence: 0.848545325

00:01:31.520 --> 00:01:34.385 which are distributed to over

NOTE Confidence: 0.848545325

00:01:34.385 --> 00:01:38.280 1,000,000 patients every year.

NOTE Confidence: 0.848545325

00:01:38.280 --> 00:01:40.716 Doctor Balch has had an extensive

NOTE Confidence: 0.848545325

00:01:40.720 --> 00:01:43.304 history of prominent leadership roles

NOTE Confidence: 0.848545325

00:01:43.304 --> 00:01:46.280 in multiple centers across the country.

NOTE Confidence: 0.848545325

00:01:46.280 --> 00:01:48.430 He served as the Executive

NOTE Confidence: 0.848545325

00:01:48.430 --> 00:01:51.080 Vice President and CEO of ASCO.  
NOTE Confidence: 0.848545325

00:01:51.080 --> 00:01:53.736 He's also served as the President and CEO  
NOTE Confidence: 0.848545325

00:01:53.736 --> 00:01:57.038 of the City of Hope National Medical Center,  
NOTE Confidence: 0.848545325

00:01:57.040 --> 00:01:59.200 as well as the Chair of  
NOTE Confidence: 0.848545325

00:01:59.200 --> 00:02:02.559 Surgery at MD Anderson.  
NOTE Confidence: 0.848545325

00:02:02.560 --> 00:02:03.916 Over the course of his career,  
NOTE Confidence: 0.848545325

00:02:03.920 --> 00:02:06.750 he's accumulated over 700 publications  
NOTE Confidence: 0.848545325

00:02:06.750 --> 00:02:10.273 across a variety of areas in  
NOTE Confidence: 0.848545325

00:02:10.273 --> 00:02:12.677 research and clinical practice.  
NOTE Confidence: 0.848545325

00:02:12.680 --> 00:02:14.794 And one of the things that in  
NOTE Confidence: 0.848545325

00:02:14.794 --> 00:02:16.000 my conversations with him,  
NOTE Confidence: 0.848545325

00:02:16.000 --> 00:02:17.956 he and I have truly connected  
NOTE Confidence: 0.848545325

00:02:17.956 --> 00:02:21.225 on are the is the importance of  
NOTE Confidence: 0.848545325

00:02:21.225 --> 00:02:23.741 leadership and community building  
NOTE Confidence: 0.848545325

00:02:23.741 --> 00:02:25.628 around multidisciplinary cancer  
NOTE Confidence: 0.848545325

00:02:25.711 --> 00:02:27.759 care and care coordination.

NOTE Confidence: 0.848545325

00:02:27.760 --> 00:02:30.347 So one of the things that I think I

NOTE Confidence: 0.848545325

00:02:30.347 --> 00:02:32.189 have taken away from my conversations

NOTE Confidence: 0.848545325

00:02:32.189 --> 00:02:34.533 with him that I'm sure he will be

NOTE Confidence: 0.848545325

00:02:34.533 --> 00:02:37.400 sharing today is the importance and

NOTE Confidence: 0.848545325

00:02:37.400 --> 00:02:40.716 our ability as oncologists to serve

NOTE Confidence: 0.848545325

00:02:40.716 --> 00:02:42.606 our patients and our communities

NOTE Confidence: 0.848545325

00:02:42.606 --> 00:02:44.360 and a variety of ways.

NOTE Confidence: 0.848545325

00:02:44.360 --> 00:02:46.568 And he's really shown how all of us

NOTE Confidence: 0.848545325

00:02:46.568 --> 00:02:49.556 can do this over the course of our careers,

NOTE Confidence: 0.848545325

00:02:49.560 --> 00:02:52.716 both through our direct clinical care,

NOTE Confidence: 0.848545325

00:02:52.720 --> 00:02:54.160 through education,

NOTE Confidence: 0.848545325

00:02:54.160 --> 00:02:55.600 through mentorship,

NOTE Confidence: 0.848545325

00:02:55.600 --> 00:02:57.040 through research,

NOTE Confidence: 0.848545325

00:02:57.040 --> 00:02:59.140 both clinical translational

NOTE Confidence: 0.848545325

00:02:59.140 --> 00:03:01.240 and basic science,

NOTE Confidence: 0.848545325

00:03:01.240 --> 00:03:03.234 through leadership and patient advocacy.

NOTE Confidence: 0.848545325

00:03:03.234 --> 00:03:03.988 So today,

NOTE Confidence: 0.848545325

00:03:03.988 --> 00:03:07.844 he will be speaking on the role of surgery

NOTE Confidence: 0.848545325

00:03:07.844 --> 00:03:09.876 after neoadjuvant systemic therapy.

NOTE Confidence: 0.848545325

00:03:09.880 --> 00:03:11.960 And it is a real pleasure to have you here,

NOTE Confidence: 0.848545325

00:03:11.960 --> 00:03:12.740 Doctor Balch.

NOTE Confidence: 0.848545325

00:03:12.740 --> 00:03:13.520 Thank you.

NOTE Confidence: 0.797801424545454

00:03:19.510 --> 00:03:20.730 Well, thank you, Kevin,

NOTE Confidence: 0.797801424545454

00:03:20.730 --> 00:03:22.560 Bill and Sleep for a wonderful

NOTE Confidence: 0.797801424545454

00:03:22.617 --> 00:03:24.057 introduction and I'm honored to

NOTE Confidence: 0.797801424545454

00:03:24.057 --> 00:03:26.119 be here with all of you today.

NOTE Confidence: 0.797801424545454

00:03:26.120 --> 00:03:28.696 So there are many themes we could

NOTE Confidence: 0.797801424545454

00:03:28.696 --> 00:03:31.740 talk about because we are now in

NOTE Confidence: 0.797801424545454

00:03:31.740 --> 00:03:34.040 a revolution of oncology care.

NOTE Confidence: 0.797801424545454

00:03:34.040 --> 00:03:37.112 Profound changes are occurring

NOTE Confidence: 0.797801424545454

00:03:37.112 --> 00:03:40.022 now and I thought what would be

NOTE Confidence: 0.797801424545454

00:03:40.022 --> 00:03:42.600 important today is a theme to talk

NOTE Confidence: 0.797801424545454

00:03:42.600 --> 00:03:44.742 about how the field of surgery

NOTE Confidence: 0.797801424545454

00:03:44.742 --> 00:03:47.188 and surgical oncology is going to

NOTE Confidence: 0.797801424545454

00:03:47.188 --> 00:03:50.524 have to change and adopt to the

NOTE Confidence: 0.797801424545454

00:03:50.524 --> 00:03:53.834 new advances in molecular profile

NOTE Confidence: 0.797801424545454

00:03:53.834 --> 00:03:57.000 diagnosis in systemic therapies,

NOTE Confidence: 0.797801424545454

00:03:57.000 --> 00:03:59.650 in immunotherapy and the changes

NOTE Confidence: 0.797801424545454

00:03:59.650 --> 00:04:03.600 we are going to have to adopt to.

NOTE Confidence: 0.797801424545454

00:04:03.600 --> 00:04:05.823 So for some of you might say that's not

NOTE Confidence: 0.797801424545454

00:04:05.823 --> 00:04:07.880 what I'm doing in my practice today,

NOTE Confidence: 0.797801424545454

00:04:07.880 --> 00:04:09.842 but I can almost guarantee you

NOTE Confidence: 0.797801424545454

00:04:09.842 --> 00:04:12.038 within the next 5 to 10 years,

NOTE Confidence: 0.797801424545454

00:04:12.040 --> 00:04:14.343 everybody in this room who is a

NOTE Confidence: 0.797801424545454

00:04:14.343 --> 00:04:16.892 surgeon is going to be impacted by

NOTE Confidence: 0.797801424545454

00:04:16.892 --> 00:04:19.118 the things that we're showing today.

NOTE Confidence: 0.797801424545454

00:04:19.120 --> 00:04:20.960 And so as I go over some of these themes,  
NOTE Confidence: 0.797801424545454

00:04:20.960 --> 00:04:23.501 I'd like you to think about the  
NOTE Confidence: 0.797801424545454

00:04:23.501 --> 00:04:25.919 strategies that work in one tumor area,  
NOTE Confidence: 0.797801424545454

00:04:25.920 --> 00:04:28.434 but understand that these are common  
NOTE Confidence: 0.797801424545454

00:04:28.434 --> 00:04:30.558 to our understanding about the  
NOTE Confidence: 0.797801424545454

00:04:30.558 --> 00:04:32.838 management of other cancers as well.  
NOTE Confidence: 0.797801424545454

00:04:32.840 --> 00:04:35.720 That's particularly true in  
NOTE Confidence: 0.797801424545454

00:04:35.720 --> 00:04:37.880 the immunotherapy field.  
NOTE Confidence: 0.797801424545454

00:04:37.880 --> 00:04:41.765 So I've I've presented examples that  
NOTE Confidence: 0.797801424545454

00:04:41.765 --> 00:04:44.385 I think are larger strategies that  
NOTE Confidence: 0.797801424545454

00:04:44.385 --> 00:04:46.782 apply to our cancer care delivery  
NOTE Confidence: 0.797801424545454

00:04:46.782 --> 00:04:50.994 system that is now being almost  
NOTE Confidence: 0.797801424545454

00:04:50.994 --> 00:04:52.398 exclusively multidisciplinary.  
NOTE Confidence: 0.797801424545454

00:04:52.400 --> 00:04:54.968 There are very few circumstances now  
NOTE Confidence: 0.797801424545454

00:04:54.968 --> 00:04:57.679 where one modality in solid tumors  
NOTE Confidence: 0.797801424545454

00:04:57.679 --> 00:04:59.994 will treat the patient anymore.



NOTE Confidence: 0.797801424545454  
00:05:00.000 --> 00:05:01.158 So let me go over this.  
NOTE Confidence: 0.797801424545454  
00:05:01.160 --> 00:05:03.440 This is flying above the trees.  
NOTE Confidence: 0.797801424545454  
00:05:03.440 --> 00:05:04.592 Think about the strategies,  
NOTE Confidence: 0.797801424545454  
00:05:04.592 --> 00:05:06.320 not the details on the slides.  
NOTE Confidence: 0.797801424545454  
00:05:06.320 --> 00:05:08.680 And there are many things I can't cover  
NOTE Confidence: 0.797801424545454  
00:05:08.680 --> 00:05:11.552 in the time allowed that we we can  
NOTE Confidence: 0.797801424545454  
00:05:11.552 --> 00:05:15.037 take for questions later on if necessary.  
NOTE Confidence: 0.94070554  
00:05:20.200 --> 00:05:23.560 So we're should I use this?  
NOTE Confidence: 0.859273285454546  
00:05:41.030 --> 00:05:42.422 Yeah, you can advance with the  
NOTE Confidence: 0.859273285454546  
00:05:42.422 --> 00:05:45.590 the keyboard if you want. OK. All  
NOTE Confidence: 0.884209504210526  
00:05:45.590 --> 00:05:47.942 right. Well, let me start out with just  
NOTE Confidence: 0.884209504210526  
00:05:47.942 --> 00:05:50.304 the key messages of what I'm going  
NOTE Confidence: 0.884209504210526  
00:05:50.304 --> 00:05:52.536 to present as examples over time,  
NOTE Confidence: 0.884209504210526  
00:05:52.536 --> 00:05:56.000 so that you can focus on the strategies.  
NOTE Confidence: 0.884209504210526  
00:05:56.000 --> 00:05:58.744 The first thing because of the theme  
NOTE Confidence: 0.884209504210526

00:05:58.744 --> 00:06:01.703 of this talk is that surgery will  
NOTE Confidence: 0.884209504210526

00:06:01.703 --> 00:06:05.224 not be the first treatment for most  
NOTE Confidence: 0.884209504210526

00:06:05.224 --> 00:06:08.160 cancers except for stage 1 cancers.  
NOTE Confidence: 0.884209504210526

00:06:08.160 --> 00:06:09.996 That's a revolutionary change.  
NOTE Confidence: 0.884209504210526

00:06:09.996 --> 00:06:12.291 Where is heretofore the patients  
NOTE Confidence: 0.884209504210526

00:06:12.291 --> 00:06:14.913 usually went to the surgeon first who  
NOTE Confidence: 0.884209504210526

00:06:14.913 --> 00:06:16.960 then kind of coordinated the care.  
NOTE Confidence: 0.884209504210526

00:06:16.960 --> 00:06:21.010 But now because of these advances  
NOTE Confidence: 0.884209504210526

00:06:21.010 --> 00:06:23.035 in systemic therapy,  
NOTE Confidence: 0.884209504210526

00:06:23.040 --> 00:06:26.672 that surgery will not be the first and we  
NOTE Confidence: 0.884209504210526

00:06:26.672 --> 00:06:29.584 need to be part of a multidisciplinary  
NOTE Confidence: 0.884209504210526

00:06:29.584 --> 00:06:33.642 team and we must emphasize that be  
NOTE Confidence: 0.884209504210526

00:06:33.642 --> 00:06:36.070 involved in multidisciplinary treatment  
NOTE Confidence: 0.884209504210526

00:06:36.160 --> 00:06:39.253 plans because each of us bring to the  
NOTE Confidence: 0.884209504210526

00:06:39.253 --> 00:06:41.636 decision making a different perspective  
NOTE Confidence: 0.884209504210526

00:06:41.636 --> 00:06:44.965 based upon our training and so forth.

NOTE Confidence: 0.884209504210526

00:06:44.965 --> 00:06:47.310 And it's the collective wisdom of the

NOTE Confidence: 0.884209504210526

00:06:47.377 --> 00:06:49.085 different oncology specialists that

NOTE Confidence: 0.884209504210526

00:06:49.085 --> 00:06:52.240 is really what's best for the patient.

NOTE Confidence: 0.884209504210526

00:06:52.240 --> 00:06:55.528 So all of us treating cancer in a

NOTE Confidence: 0.884209504210526

00:06:55.528 --> 00:06:57.997 specific disease need to be together

NOTE Confidence: 0.884209504210526

00:06:58.000 --> 00:06:59.650 and collectively decide on the

NOTE Confidence: 0.884209504210526

00:06:59.650 --> 00:07:01.840 best treatment plan for a patient,

NOTE Confidence: 0.884209504210526

00:07:01.840 --> 00:07:04.984 what's the right combination and sequence

NOTE Confidence: 0.884209504210526

00:07:04.984 --> 00:07:08.439 that involves all of our modalities.

NOTE Confidence: 0.884209504210526

00:07:08.440 --> 00:07:10.764 And that as I'll show you that

NOTE Confidence: 0.884209504210526

00:07:10.764 --> 00:07:12.200 the standard of care,

NOTE Confidence: 0.884209504210526

00:07:12.200 --> 00:07:15.040 what we called neoadjuvant surgery,

NOTE Confidence: 0.884209504210526

00:07:15.040 --> 00:07:17.242 think our medical colleagues are beginning

NOTE Confidence: 0.884209504210526

00:07:17.242 --> 00:07:19.200 to talk about neoadjuvant surgery,

NOTE Confidence: 0.884209504210526

00:07:19.200 --> 00:07:21.475 that the primary treatment is systemic now,

NOTE Confidence: 0.884209504210526

00:07:21.480 --> 00:07:23.955 but it doesn't make a difference in the term.  
NOTE Confidence: 0.884209504210526

00:07:23.960 --> 00:07:26.921 But what we call neoadjuvant therapy is  
NOTE Confidence: 0.884209504210526

00:07:26.921 --> 00:07:30.292 now becoming the standard of care for many,  
NOTE Confidence: 0.884209504210526

00:07:30.292 --> 00:07:31.916 if not most cancers.  
NOTE Confidence: 0.884209504210526

00:07:31.920 --> 00:07:34.976 And this is an area based upon clinical  
NOTE Confidence: 0.884209504210526

00:07:34.976 --> 00:07:37.155 trials that is showing value in  
NOTE Confidence: 0.884209504210526

00:07:37.155 --> 00:07:39.480 almost every cancer where it's tested.  
NOTE Confidence: 0.884209504210526

00:07:39.480 --> 00:07:42.640 There's sure there's a few that are resisted,  
NOTE Confidence: 0.884209504210526

00:07:42.640 --> 00:07:44.628 but if you think about the future  
NOTE Confidence: 0.884209504210526

00:07:44.628 --> 00:07:46.279 and the advances we're making,  
NOTE Confidence: 0.884209504210526

00:07:46.280 --> 00:07:51.016 this will be a common element of our  
NOTE Confidence: 0.884209504210526

00:07:51.016 --> 00:07:52.756 treatment that the first treatment  
NOTE Confidence: 0.884209504210526

00:07:52.756 --> 00:07:54.400 will not be surgery,  
NOTE Confidence: 0.884209504210526

00:07:54.400 --> 00:07:56.560 it will be a systemic treatment.  
NOTE Confidence: 0.884209504210526

00:07:56.560 --> 00:07:58.824 And I'll go over with you about the  
NOTE Confidence: 0.884209504210526

00:07:58.824 --> 00:08:01.301 value of that to the patient in

NOTE Confidence: 0.884209504210526

00:08:01.301 --> 00:08:02.037 their management.

NOTE Confidence: 0.884209504210526

00:08:02.040 --> 00:08:05.239 The other part of this is that

NOTE Confidence: 0.884209504210526

00:08:05.239 --> 00:08:07.867 immunotherapy now is the established

NOTE Confidence: 0.884209504210526

00:08:07.867 --> 00:08:10.195 4th modality of cancer.

NOTE Confidence: 0.884209504210526

00:08:10.200 --> 00:08:11.936 But I want to emphasize as I get

NOTE Confidence: 0.884209504210526

00:08:11.936 --> 00:08:12.760 to the slide,

NOTE Confidence: 0.884209504210526

00:08:12.760 --> 00:08:16.240 this is a totally different treatment

NOTE Confidence: 0.884209504210526

00:08:16.240 --> 00:08:18.104 and the standard chemotherapy,

NOTE Confidence: 0.884209504210526

00:08:18.104 --> 00:08:19.036 targeted therapy,

NOTE Confidence: 0.884209504210526

00:08:19.040 --> 00:08:21.164 endocrine therapy that directly

NOTE Confidence: 0.884209504210526

00:08:21.164 --> 00:08:23.305 treats the cancer immunotherapy,

NOTE Confidence: 0.884209504210526

00:08:23.305 --> 00:08:26.030 these checkpoint inhibitors do not

NOTE Confidence: 0.884209504210526

00:08:26.030 --> 00:08:28.704 treat cancer and that has to be the

NOTE Confidence: 0.884209504210526

00:08:28.704 --> 00:08:30.963 first part of the logic because we

NOTE Confidence: 0.884209504210526

00:08:30.963 --> 00:08:33.225 can't use the rules of chemotherapy

NOTE Confidence: 0.884209504210526

00:08:33.225 --> 00:08:35.520 when we applied to immunotherapy.  
NOTE Confidence: 0.884209504210526

00:08:35.520 --> 00:08:38.340 It's a different process and we're  
NOTE Confidence: 0.884209504210526

00:08:38.340 --> 00:08:40.720 treating a dysfunctional immune system  
NOTE Confidence: 0.884209504210526

00:08:40.720 --> 00:08:45.436 that is common to most cancers.  
NOTE Confidence: 0.884209504210526

00:08:45.440 --> 00:08:47.288 So the other emphasis on this  
NOTE Confidence: 0.884209504210526

00:08:47.288 --> 00:08:48.885 because there's some emphasis, well,  
NOTE Confidence: 0.884209504210526

00:08:48.885 --> 00:08:51.075 maybe we don't need surgery anymore,  
NOTE Confidence: 0.884209504210526

00:08:51.080 --> 00:08:53.040 but I would argue that surgery is  
NOTE Confidence: 0.884209504210526

00:08:53.040 --> 00:08:55.997 going to be incredibly important for staging,  
NOTE Confidence: 0.884209504210526

00:08:56.000 --> 00:08:59.008 as I'll show you as a reliable means  
NOTE Confidence: 0.884209504210526

00:08:59.008 --> 00:09:01.792 of staging the tumor response and  
NOTE Confidence: 0.884209504210526

00:09:01.792 --> 00:09:04.764 giving to the pathologists not only  
NOTE Confidence: 0.884209504210526

00:09:04.764 --> 00:09:07.074 whether there's a complete response,  
NOTE Confidence: 0.884209504210526

00:09:07.080 --> 00:09:10.097 but the residual tumor burden is now  
NOTE Confidence: 0.884209504210526

00:09:10.097 --> 00:09:12.829 an important prognostic factor that is  
NOTE Confidence: 0.884209504210526

00:09:12.829 --> 00:09:15.559 going to dictate our subsequent treatment.

NOTE Confidence: 0.968653163333334  
00:09:15.560 --> 00:09:17.666 And then because of these advances  
NOTE Confidence: 0.968653163333334  
00:09:17.666 --> 00:09:19.518 in systemic therapy that surgeons  
NOTE Confidence: 0.968653163333334  
00:09:19.518 --> 00:09:21.834 will no longer be performing the  
NOTE Confidence: 0.968653163333334  
00:09:21.834 --> 00:09:23.844 radical operations that we did in  
NOTE Confidence: 0.968653163333334  
00:09:23.844 --> 00:09:25.671 the past because that was all that  
NOTE Confidence: 0.968653163333334  
00:09:25.680 --> 00:09:28.680 was available for many cancers.  
NOTE Confidence: 0.968653163333334  
00:09:28.680 --> 00:09:31.683 And so we'll be doing de escalation  
NOTE Confidence: 0.968653163333334  
00:09:31.683 --> 00:09:34.159 much more conservative tissue sparing,  
NOTE Confidence: 0.968653163333334  
00:09:34.160 --> 00:09:37.238 organs sparing operations and even if,  
NOTE Confidence: 0.968653163333334  
00:09:37.240 --> 00:09:39.900 as I'll show you in three different  
NOTE Confidence: 0.968653163333334  
00:09:39.900 --> 00:09:42.319 cancers in our future watch and  
NOTE Confidence: 0.968653163333334  
00:09:42.319 --> 00:09:44.238 wait that we will not do surgery,  
NOTE Confidence: 0.968653163333334  
00:09:44.240 --> 00:09:45.628 we'll follow the patients.  
NOTE Confidence: 0.968653163333334  
00:09:45.628 --> 00:09:48.342 And then there's going to be a whole  
NOTE Confidence: 0.968653163333334  
00:09:48.342 --> 00:09:50.614 new lexicon that will need to do much  
NOTE Confidence: 0.968653163333334

00:09:50.677 --> 00:09:52.757 more research on salvage surgery.  
NOTE Confidence: 0.968653163333334

00:09:52.760 --> 00:09:54.335 Which patients can we select  
NOTE Confidence: 0.968653163333334

00:09:54.335 --> 00:09:55.595 not to do surgery?  
NOTE Confidence: 0.968653163333334

00:09:55.600 --> 00:09:57.556 How often do we follow them,  
NOTE Confidence: 0.968653163333334

00:09:57.560 --> 00:10:00.760 What operation do we do when they relapse?  
NOTE Confidence: 0.968653163333334

00:10:00.760 --> 00:10:03.190 And can we do this without  
NOTE Confidence: 0.968653163333334

00:10:03.190 --> 00:10:05.263 compromising their survival by not  
NOTE Confidence: 0.968653163333334

00:10:05.263 --> 00:10:07.519 doing an operation at the outset.  
NOTE Confidence: 0.968653163333334

00:10:07.520 --> 00:10:10.278 And I'll show you three different examples.  
NOTE Confidence: 0.968653163333334

00:10:10.280 --> 00:10:13.200 And then for those of you who are in training  
NOTE Confidence: 0.968653163333334

00:10:13.200 --> 00:10:15.999 that in all of us who are in practice,  
NOTE Confidence: 0.968653163333334

00:10:16.000 --> 00:10:18.370 the field is moving fast in  
NOTE Confidence: 0.968653163333334

00:10:18.370 --> 00:10:19.950 both the continuing education  
NOTE Confidence: 0.968653163333334

00:10:20.021 --> 00:10:22.237 through organizations like ASCO.  
NOTE Confidence: 0.968653163333334

00:10:22.240 --> 00:10:25.584 And in our training we need to have  
NOTE Confidence: 0.968653163333334

00:10:25.584 --> 00:10:28.597 surgeons who are trained in oncology.



NOTE Confidence: 0.968653163333334  
00:10:28.600 --> 00:10:29.860 And as Kevin Billingsley  
NOTE Confidence: 0.968653163333334  
00:10:29.860 --> 00:10:31.120 and I've talked about,  
NOTE Confidence: 0.968653163333334  
00:10:31.120 --> 00:10:33.310 I really present myself because the  
NOTE Confidence: 0.968653163333334  
00:10:33.310 --> 00:10:36.599 way I think is I'm an oncologist who  
NOTE Confidence: 0.968653163333334  
00:10:36.599 --> 00:10:39.100 operates because oncology deals with  
NOTE Confidence: 0.968653163333334  
00:10:39.100 --> 00:10:41.675 the chronic condition of cancer,  
NOTE Confidence: 0.968653163333334  
00:10:41.680 --> 00:10:45.005 whereas surgery deals with the episode of  
NOTE Confidence: 0.968653163333334  
00:10:45.005 --> 00:10:48.320 the operation of the perioperative period.  
NOTE Confidence: 0.968653163333334  
00:10:48.320 --> 00:10:50.875 But once the patient's wounds have healed,  
NOTE Confidence: 0.968653163333334  
00:10:50.880 --> 00:10:52.810 they're still an obligation for  
NOTE Confidence: 0.968653163333334  
00:10:52.810 --> 00:10:54.740 us as surgical oncologist to  
NOTE Confidence: 0.968653163333334  
00:10:54.807 --> 00:10:57.045 continue being involved in the long  
NOTE Confidence: 0.968653163333334  
00:10:57.045 --> 00:10:59.120 term management of the patient.  
NOTE Confidence: 0.968653163333334  
00:10:59.120 --> 00:11:01.753 So that's the summary of what  
NOTE Confidence: 0.968653163333334  
00:11:01.753 --> 00:11:03.318 I'm going to talk about.  
NOTE Confidence: 0.968653163333334

00:11:03.320 --> 00:11:05.690 I do want to just take a moment to say  
NOTE Confidence: 0.968653163333334

00:11:05.759 --> 00:11:09.300 I predicted this 30 years ago in my  
NOTE Confidence: 0.968653163333334

00:11:09.300 --> 00:11:12.360 presidential address in at the SSO,  
NOTE Confidence: 0.968653163333334

00:11:12.360 --> 00:11:14.997 and I wanted to point out what I said,  
NOTE Confidence: 0.968653163333334

00:11:15.000 --> 00:11:17.020 'cause this was about surgical  
NOTE Confidence: 0.968653163333334

00:11:17.020 --> 00:11:19.040 oncology in the 21st century.  
NOTE Confidence: 0.968653163333334

00:11:19.040 --> 00:11:21.720 And I said that in the 21st century,  
NOTE Confidence: 0.968653163333334

00:11:21.720 --> 00:11:24.478 only a minority of patients with cancer  
NOTE Confidence: 0.968653163333334

00:11:24.478 --> 00:11:27.597 will have surgery alone as a single modality.  
NOTE Confidence: 0.968653163333334

00:11:27.600 --> 00:11:30.264 And it's more likely that chemotherapy  
NOTE Confidence: 0.968653163333334

00:11:30.264 --> 00:11:33.346 and even radiation therapy will be the  
NOTE Confidence: 0.968653163333334

00:11:33.346 --> 00:11:35.396 initial treatment for many patients,  
NOTE Confidence: 0.968653163333334

00:11:35.400 --> 00:11:37.260 while surgical treatment for some  
NOTE Confidence: 0.968653163333334

00:11:37.260 --> 00:11:39.591 types of cancer will be relegated  
NOTE Confidence: 0.968653163333334

00:11:39.591 --> 00:11:41.997 to a secondary or tertiary level.  
NOTE Confidence: 0.968653163333334

00:11:42.000 --> 00:11:44.160 That was 30 years ago.

NOTE Confidence: 0.968653163333334  
00:11:44.160 --> 00:11:47.388 And that prediction now is really  
NOTE Confidence: 0.968653163333334  
00:11:47.388 --> 00:11:51.238 valid for most types of solid tumors.  
NOTE Confidence: 0.968653163333334  
00:11:51.240 --> 00:11:52.460 So why is that?  
NOTE Confidence: 0.968653163333334  
00:11:52.460 --> 00:11:54.899 Because we're now in a new pathology  
NOTE Confidence: 0.968653163333334  
00:11:54.899 --> 00:11:58.079 with molecular diagnostics in this slide,  
NOTE Confidence: 0.968653163333334  
00:11:58.080 --> 00:11:59.600 which is just a cartoon,  
NOTE Confidence: 0.968653163333334  
00:11:59.600 --> 00:12:02.996 showed the old way with these  
NOTE Confidence: 0.968653163333334  
00:12:03.000 --> 00:12:06.000 general diagnosis of solid tumors,  
NOTE Confidence: 0.968653163333334  
00:12:06.000 --> 00:12:08.345 we gave our therapy and hope that  
NOTE Confidence: 0.968653163333334  
00:12:08.345 --> 00:12:10.630 10% of the patients might respond  
NOTE Confidence: 0.968653163333334  
00:12:10.630 --> 00:12:13.399 and we declared that as a victory.  
NOTE Confidence: 0.968653163333334  
00:12:13.400 --> 00:12:15.760 But now with genomic analysis,  
NOTE Confidence: 0.968653163333334  
00:12:15.760 --> 00:12:19.090 we select patients based upon their  
NOTE Confidence: 0.968653163333334  
00:12:19.090 --> 00:12:21.990 specific mutational events and other factors.  
NOTE Confidence: 0.968653163333334  
00:12:21.990 --> 00:12:24.040 And now as you'll see,  
NOTE Confidence: 0.968653163333334

00:12:24.040 --> 00:12:26.476 instead of getting 10% response rates,  
NOTE Confidence: 0.968653163333334

00:12:26.480 --> 00:12:28.905 we're talking about 50 to 70%  
NOTE Confidence: 0.968653163333334

00:12:28.905 --> 00:12:30.925 pathological complete responses based  
NOTE Confidence: 0.968653163333334

00:12:30.925 --> 00:12:34.294 upon the selection of the patients and  
NOTE Confidence: 0.968653163333334

00:12:34.294 --> 00:12:37.366 these new agents that are so much more  
NOTE Confidence: 0.925574668095238

00:12:37.446 --> 00:12:39.708 effective. So as I mentioned,  
NOTE Confidence: 0.925574668095238

00:12:39.708 --> 00:12:42.579 one of the things that is revolutionary  
NOTE Confidence: 0.925574668095238

00:12:42.579 --> 00:12:45.646 is the advent of various immunotherapies  
NOTE Confidence: 0.925574668095238

00:12:45.646 --> 00:12:48.664 because we now have discovered which  
NOTE Confidence: 0.925574668095238

00:12:48.664 --> 00:12:51.746 is different than all of our strategies  
NOTE Confidence: 0.925574668095238

00:12:51.746 --> 00:12:54.588 beforehand where we assumed the immune system  
NOTE Confidence: 0.925574668095238

00:12:54.588 --> 00:12:57.290 was deficient and we gave various forms  
NOTE Confidence: 0.925574668095238

00:12:57.290 --> 00:13:00.760 of immune stimulants which didn't work.  
NOTE Confidence: 0.925574668095238

00:13:00.760 --> 00:13:04.387 So now we are discovered that in most human  
NOTE Confidence: 0.925574668095238

00:13:04.387 --> 00:13:07.638 cancers that have survived in our patients,  
NOTE Confidence: 0.925574668095238

00:13:07.640 --> 00:13:10.517 they've done that by releasing low doses

NOTE Confidence: 0.925574668095238

00:13:10.517 --> 00:13:13.105 of their tumor antigen and inducing

NOTE Confidence: 0.925574668095238

00:13:13.105 --> 00:13:16.087 tolerance so that no matter how much

NOTE Confidence: 0.925574668095238

00:13:16.164 --> 00:13:19.076 you try to stimulate the immune system,

NOTE Confidence: 0.925574668095238

00:13:19.080 --> 00:13:21.055 it can't respond because it's

NOTE Confidence: 0.925574668095238

00:13:21.055 --> 00:13:22.635 in a tolerant state.

NOTE Confidence: 0.925574668095238

00:13:22.640 --> 00:13:24.453 This is no different than if you

NOTE Confidence: 0.925574668095238

00:13:24.453 --> 00:13:26.307 were allergic to grass and you go

NOTE Confidence: 0.925574668095238

00:13:26.307 --> 00:13:28.456 to the allergist, what do they do?

NOTE Confidence: 0.925574668095238

00:13:28.456 --> 00:13:31.180 They inject low doses of grass so that

NOTE Confidence: 0.925574668095238

00:13:31.180 --> 00:13:33.160 regardless of your exposure to grass,

NOTE Confidence: 0.925574668095238

00:13:33.160 --> 00:13:35.512 your immune system does not recognize

NOTE Confidence: 0.925574668095238

00:13:35.512 --> 00:13:39.678 it as not self and does not react to it.

NOTE Confidence: 0.925574668095238

00:13:39.680 --> 00:13:41.976 And so I think we've learned now

NOTE Confidence: 0.925574668095238

00:13:41.976 --> 00:13:44.500 that for many human tumors and we're

NOTE Confidence: 0.925574668095238

00:13:44.500 --> 00:13:46.040 still sorting through this,

NOTE Confidence: 0.925574668095238

00:13:46.040 --> 00:13:49.799 but it is revolutionary as a discovery  
NOTE Confidence: 0.925574668095238

00:13:49.799 --> 00:13:52.915 that the main reason that tumors have  
NOTE Confidence: 0.925574668095238

00:13:52.915 --> 00:13:55.760 survived in patients we see clinically  
NOTE Confidence: 0.925574668095238

00:13:55.760 --> 00:13:58.196 is because they have blindfolded the  
NOTE Confidence: 0.925574668095238

00:13:58.196 --> 00:14:00.960 immune system into a tolerant state.  
NOTE Confidence: 0.925574668095238

00:14:00.960 --> 00:14:04.400 So if we can unblindfold the immune system,  
NOTE Confidence: 0.925574668095238

00:14:04.400 --> 00:14:08.000 we then have a personalized treatment  
NOTE Confidence: 0.925574668095238

00:14:08.000 --> 00:14:11.164 that reacts against the specific array of  
NOTE Confidence: 0.925574668095238

00:14:11.164 --> 00:14:14.519 tumor antigens in each individual patients.  
NOTE Confidence: 0.925574668095238

00:14:14.520 --> 00:14:17.400 So if tolerance is broken now,  
NOTE Confidence: 0.925574668095238

00:14:17.400 --> 00:14:19.310 then the immune system can  
NOTE Confidence: 0.925574668095238

00:14:19.310 --> 00:14:20.838 reject the foreign invaders.  
NOTE Confidence: 0.925574668095238

00:14:20.840 --> 00:14:21.770 And of course,  
NOTE Confidence: 0.925574668095238

00:14:21.770 --> 00:14:23.940 there's a price for that when we're  
NOTE Confidence: 0.925574668095238

00:14:24.006 --> 00:14:26.246 doing something profound by breaking  
NOTE Confidence: 0.925574668095238

00:14:26.246 --> 00:14:28.560 tolerance that the spillover is

NOTE Confidence: 0.925574668095238  
00:14:28.560 --> 00:14:31.160 breaking tolerance to self antigens.  
NOTE Confidence: 0.925574668095238  
00:14:31.160 --> 00:14:33.473 And so if you look at the array of  
NOTE Confidence: 0.925574668095238  
00:14:33.473 --> 00:14:35.239 complications we have with immunotherapy,  
NOTE Confidence: 0.925574668095238  
00:14:35.240 --> 00:14:39.076 you can explain them all as a  
NOTE Confidence: 0.925574668095238  
00:14:39.076 --> 00:14:40.720 form of autoimmunity.  
NOTE Confidence: 0.925574668095238  
00:14:40.720 --> 00:14:43.240 And that the good news is that we  
NOTE Confidence: 0.925574668095238  
00:14:43.240 --> 00:14:45.172 could treat autoimmune diseases  
NOTE Confidence: 0.925574668095238  
00:14:45.172 --> 00:14:47.450 with Prednisone and taper.  
NOTE Confidence: 0.925574668095238  
00:14:47.450 --> 00:14:50.600 Those over time reverse the toxicity.  
NOTE Confidence: 0.925574668095238  
00:14:50.600 --> 00:14:51.466 And interestingly,  
NOTE Confidence: 0.925574668095238  
00:14:51.466 --> 00:14:53.198 in contrast to chemotherapy,  
NOTE Confidence: 0.925574668095238  
00:14:53.200 --> 00:14:56.072 you can go back to the same immunotherapy  
NOTE Confidence: 0.925574668095238  
00:14:56.072 --> 00:14:58.084 in these patients and surprisingly  
NOTE Confidence: 0.925574668095238  
00:14:58.084 --> 00:15:00.016 they don't enter into toxicity the  
NOTE Confidence: 0.925574668095238  
00:15:00.016 --> 00:15:02.116 way they did the first time around.  
NOTE Confidence: 0.925574668095238

00:15:02.120 --> 00:15:04.480 So there's a lot we have to learn about this.  
NOTE Confidence: 0.925574668095238

00:15:04.480 --> 00:15:07.864 And when I wanted to point out if course  
NOTE Confidence: 0.925574668095238

00:15:07.864 --> 00:15:10.680 as you know that Jim Allison and to  
NOTE Confidence: 0.925574668095238

00:15:10.759 --> 00:15:14.279 Soko Hanjo received the Nobel Prize for this.  
NOTE Confidence: 0.925574668095238

00:15:14.280 --> 00:15:16.814 But I think another person who profoundly  
NOTE Confidence: 0.925574668095238

00:15:16.814 --> 00:15:18.677 influenced the field that I wanted  
NOTE Confidence: 0.925574668095238

00:15:18.677 --> 00:15:20.879 to give a shout out is here at Yale.  
NOTE Confidence: 0.925574668095238

00:15:20.880 --> 00:15:22.680 And that's my friend who I worked with,  
NOTE Confidence: 0.925574668095238

00:15:22.680 --> 00:15:23.910 Li Ping Chen,  
NOTE Confidence: 0.925574668095238

00:15:23.910 --> 00:15:27.775 when he was at Hopkins and we were  
NOTE Confidence: 0.925574668095238

00:15:27.775 --> 00:15:30.195 working on Melanoma immunotherapy.  
NOTE Confidence: 0.925574668095238

00:15:30.200 --> 00:15:32.240 And I wanted to give credit to Leipeng,  
NOTE Confidence: 0.925574668095238

00:15:32.240 --> 00:15:34.196 which I think is under appreciated  
NOTE Confidence: 0.925574668095238

00:15:34.196 --> 00:15:36.239 by the rest of the world.  
NOTE Confidence: 0.925574668095238

00:15:36.240 --> 00:15:39.565 He was the first to specifically state  
NOTE Confidence: 0.925574668095238

00:15:39.565 --> 00:15:42.439 that a monoclonal antibody against



NOTE Confidence: 0.925574668095238  
00:15:42.440 --> 00:15:45.555 B7H1 would break tolerance in a mouse  
NOTE Confidence: 0.925574668095238  
00:15:45.555 --> 00:15:48.955 model and therefore be a effective  
NOTE Confidence: 0.925574668095238  
00:15:48.955 --> 00:15:51.319 therapeutic strategy for cancers.  
NOTE Confidence: 0.925574668095238  
00:15:51.320 --> 00:15:54.760 And Leipeng worked with a group of us.  
NOTE Confidence: 0.925574668095238  
00:15:54.760 --> 00:15:57.518 This is Li Ping and Suzanne Tiplian,  
NOTE Confidence: 0.925574668095238  
00:15:57.520 --> 00:15:59.632 who I helped recruit to the  
NOTE Confidence: 0.925574668095238  
00:15:59.632 --> 00:16:01.040 surgery department at Hopkins,  
NOTE Confidence: 0.802761662  
00:16:01.040 --> 00:16:02.560 and her husband, Drew Pardo,  
NOTE Confidence: 0.802761662  
00:16:02.560 --> 00:16:05.080 who is the chair of immunology.  
NOTE Confidence: 0.802761662  
00:16:05.080 --> 00:16:07.782 So this is an example of translational  
NOTE Confidence: 0.802761662  
00:16:07.782 --> 00:16:09.709 research in the collaboration  
NOTE Confidence: 0.802761662  
00:16:09.709 --> 00:16:11.800 with clinical scientists.  
NOTE Confidence: 0.802761662  
00:16:11.800 --> 00:16:15.200 So Li Ping's research directly  
NOTE Confidence: 0.802761662  
00:16:15.200 --> 00:16:17.605 stimulated Drew and Suzanne to  
NOTE Confidence: 0.802761662  
00:16:17.605 --> 00:16:20.993 take out a seed culture they had  
NOTE Confidence: 0.802761662

00:16:20.993 --> 00:16:23.918 frozen to do a phase one study.  
NOTE Confidence: 0.802761662

00:16:23.920 --> 00:16:27.796 They grew up this monoclonal antibody.  
NOTE Confidence: 0.802761662

00:16:27.800 --> 00:16:29.216 Mike Carducci at Hopkins,  
NOTE Confidence: 0.802761662

00:16:29.216 --> 00:16:31.340 the phase one director gave it  
NOTE Confidence: 0.802761662

00:16:31.410 --> 00:16:33.846 to a young person as an assistant  
NOTE Confidence: 0.802761662

00:16:33.846 --> 00:16:35.400 professor named Julie Bramer,  
NOTE Confidence: 0.802761662

00:16:35.400 --> 00:16:38.080 who is a pulmonary oncologist.  
NOTE Confidence: 0.802761662

00:16:38.080 --> 00:16:40.180 And our recommendations was that you  
NOTE Confidence: 0.802761662

00:16:40.180 --> 00:16:42.813 use renal cell and Melanoma to test  
NOTE Confidence: 0.802761662

00:16:42.813 --> 00:16:45.141 this new drug because everybody knows  
NOTE Confidence: 0.802761662

00:16:45.141 --> 00:16:47.319 that's the only diseases that work  
NOTE Confidence: 0.802761662

00:16:47.320 --> 00:16:51.597 with immunotherapy based upon the past work.  
NOTE Confidence: 0.802761662

00:16:51.600 --> 00:16:53.733 But Julie came in one day at our Friday  
NOTE Confidence: 0.802761662

00:16:53.733 --> 00:16:55.440 meeting said you won't believe this,  
NOTE Confidence: 0.802761662

00:16:55.440 --> 00:16:58.116 but my lung cancer patients are  
NOTE Confidence: 0.802761662

00:16:58.116 --> 00:17:00.400 responding to this new drug.

NOTE Confidence: 0.802761662

00:17:00.400 --> 00:17:01.964 So BMS swooped in,

NOTE Confidence: 0.802761662

00:17:01.964 --> 00:17:03.919 bought the biotech company that

NOTE Confidence: 0.802761662

00:17:03.919 --> 00:17:06.274 had done the seed culture and

NOTE Confidence: 0.802761662

00:17:06.274 --> 00:17:08.159 that became the volume up.

NOTE Confidence: 0.802761662

00:17:08.160 --> 00:17:11.177 But it's a great example of collaboration

NOTE Confidence: 0.802761662

00:17:11.177 --> 00:17:12.967 between clinical and laboratory

NOTE Confidence: 0.802761662

00:17:12.967 --> 00:17:15.511 scientists that led directly to a

NOTE Confidence: 0.802761662

00:17:15.511 --> 00:17:18.039 major advance in cancer treatment.

NOTE Confidence: 0.802761662

00:17:18.040 --> 00:17:19.160 And I use this.

NOTE Confidence: 0.802761662

00:17:19.160 --> 00:17:20.560 This is an unusual example,

NOTE Confidence: 0.802761662

00:17:20.560 --> 00:17:23.953 but it shows the power of the immune system.

NOTE Confidence: 0.802761662

00:17:23.960 --> 00:17:27.200 This is a grapefruit sized Melanoma

NOTE Confidence: 0.802761662

00:17:27.200 --> 00:17:30.140 that was treated with a single dose

NOTE Confidence: 0.802761662

00:17:30.140 --> 00:17:33.023 of nivolumab and epilumab with a

NOTE Confidence: 0.802761662

00:17:33.023 --> 00:17:35.593 complete destruction of that tumor.

NOTE Confidence: 0.802761662

00:17:35.600 --> 00:17:38.600 That's APCR after one treatment.  
NOTE Confidence: 0.802761662

00:17:38.600 --> 00:17:40.418 And I use that only as an example to  
NOTE Confidence: 0.802761662

00:17:40.418 --> 00:17:42.336 show you the power of the immune system  
NOTE Confidence: 0.802761662

00:17:42.336 --> 00:17:44.039 when you take the blindfolds off,  
NOTE Confidence: 0.802761662

00:17:44.040 --> 00:17:45.800 when you break tolerance.  
NOTE Confidence: 0.802761662

00:17:45.800 --> 00:17:48.440 And that's unusual to have this,  
NOTE Confidence: 0.802761662

00:17:48.440 --> 00:17:49.520 but as I'll show you,  
NOTE Confidence: 0.802761662

00:17:49.520 --> 00:17:51.160 it's not uncommon either.  
NOTE Confidence: 0.802761662

00:17:51.160 --> 00:17:53.620 So now there are 9 powerful  
NOTE Confidence: 0.802761662

00:17:53.705 --> 00:17:56.273 checkpoint inhibitors with different  
NOTE Confidence: 0.802761662

00:17:56.273 --> 00:17:58.199 mechanisms of action.  
NOTE Confidence: 0.802761662

00:17:58.200 --> 00:18:00.454 And as we know with drugs that  
NOTE Confidence: 0.802761662

00:18:00.454 --> 00:18:02.556 when we combined drugs with  
NOTE Confidence: 0.802761662

00:18:02.556 --> 00:18:04.158 different mechanisms action,  
NOTE Confidence: 0.802761662

00:18:04.160 --> 00:18:06.518 we can get an additive effect.  
NOTE Confidence: 0.802761662

00:18:06.520 --> 00:18:09.712 So now we're showing that the

NOTE Confidence: 0.802761662

00:18:09.712 --> 00:18:12.462 combinations of anti CTLA 4 which

NOTE Confidence: 0.802761662

00:18:12.462 --> 00:18:14.994 works in the central lymphoid section

NOTE Confidence: 0.802761662

00:18:15.000 --> 00:18:18.288 and either anti PD one or PDL one

NOTE Confidence: 0.802761662

00:18:18.288 --> 00:18:22.101 which works in the periphery that they

NOTE Confidence: 0.802761662

00:18:22.101 --> 00:18:25.080 combination is better than either alone.

NOTE Confidence: 0.802761662

00:18:25.080 --> 00:18:27.425 And this slide just shows you briefly

NOTE Confidence: 0.802761662

00:18:27.425 --> 00:18:30.008 in a cartoon that they're now with

NOTE Confidence: 0.802761662

00:18:30.008 --> 00:18:32.264 different trade names but the same

NOTE Confidence: 0.802761662

00:18:32.331 --> 00:18:34.743 types of drugs working in this

NOTE Confidence: 0.802761662

00:18:34.743 --> 00:18:37.042 signaling pathway between PDL ONE and

NOTE Confidence: 0.802761662

00:18:37.042 --> 00:18:39.429 PD ONE and a separate mechanism of

NOTE Confidence: 0.802761662

00:18:39.429 --> 00:18:42.076 the first drug which was Ibilimed,

NOTE Confidence: 0.802761662

00:18:42.080 --> 00:18:45.090 which works in the central lymphoid tissue

NOTE Confidence: 0.802761662

00:18:45.090 --> 00:18:47.918 with a different mechanism of action.

NOTE Confidence: 0.802761662

00:18:47.920 --> 00:18:50.629 And now even after only 11 years

NOTE Confidence: 0.802761662

00:18:50.629 --> 00:18:53.598 when the 1st paper was presented,  
NOTE Confidence: 0.802761662

00:18:53.600 --> 00:18:55.640 I'll show you a slide in a minute.  
NOTE Confidence: 0.802761662

00:18:55.640 --> 00:18:59.321 You can see where the FDA has approved as  
NOTE Confidence: 0.802761662

00:18:59.321 --> 00:19:02.496 an indication the use of immunotherapy,  
NOTE Confidence: 0.802761662

00:19:02.496 --> 00:19:03.798 the same drug,  
NOTE Confidence: 0.802761662

00:19:03.800 --> 00:19:05.260 the same drug course.  
NOTE Confidence: 0.802761662

00:19:05.260 --> 00:19:06.720 We're not treating cancer.  
NOTE Confidence: 0.802761662

00:19:06.720 --> 00:19:09.842 We're treating a common deficit in  
NOTE Confidence: 0.802761662

00:19:09.842 --> 00:19:12.734 most cancers that come alongside our  
NOTE Confidence: 0.802761662

00:19:12.734 --> 00:19:15.093 traditional treatments to treat the  
NOTE Confidence: 0.802761662

00:19:15.093 --> 00:19:17.595 patients with a variety of cancers.  
NOTE Confidence: 0.802761662

00:19:17.600 --> 00:19:20.168 And every month there's new indications  
NOTE Confidence: 0.802761662

00:19:20.168 --> 00:19:22.676 that are approved based upon what  
NOTE Confidence: 0.802761662

00:19:22.676 --> 00:19:24.836 is now over 1000 clinical trials  
NOTE Confidence: 0.802761662

00:19:24.836 --> 00:19:27.692 going over various drug doses and  
NOTE Confidence: 0.802761662

00:19:27.692 --> 00:19:29.237 indications for immunotherapy.

NOTE Confidence: 0.802761662

00:19:29.240 --> 00:19:31.305 So that those powerful drugs

NOTE Confidence: 0.802761662

00:19:31.305 --> 00:19:33.370 that were started out with

NOTE Confidence: 0.901970194736842

00:19:33.447 --> 00:19:35.907 advanced disease have now moved

NOTE Confidence: 0.901970194736842

00:19:35.907 --> 00:19:37.875 into the neoadjuvant space.

NOTE Confidence: 0.901970194736842

00:19:37.880 --> 00:19:40.589 And I want to show you the reason why

NOTE Confidence: 0.901970194736842

00:19:40.589 --> 00:19:43.290 that is valuable in neoadjuvant therapy.

NOTE Confidence: 0.901970194736842

00:19:43.290 --> 00:19:46.350 So from this wonderful paper from

NOTE Confidence: 0.901970194736842

00:19:46.350 --> 00:19:49.080 my colleagues at MD Anderson

NOTE Confidence: 0.901970194736842

00:19:49.080 --> 00:19:51.990 that the advantages are one that

NOTE Confidence: 0.901970194736842

00:19:51.990 --> 00:19:53.930 downstages tumors and increases

NOTE Confidence: 0.901970194736842

00:19:54.009 --> 00:19:56.359 the ease of surgical resection,

NOTE Confidence: 0.901970194736842

00:19:56.360 --> 00:19:59.240 including importantly the conversion

NOTE Confidence: 0.901970194736842

00:19:59.240 --> 00:20:02.120 of inoperable or borderline

NOTE Confidence: 0.901970194736842

00:20:02.120 --> 00:20:05.200 operable tumors into operable ones.

NOTE Confidence: 0.901970194736842

00:20:05.200 --> 00:20:06.880 Importantly, as I'll show you,

NOTE Confidence: 0.901970194736842

00:20:06.880 --> 00:20:09.880 the pathological response is a surrogate

NOTE Confidence: 0.901970194736842

00:20:09.880 --> 00:20:12.600 endpoint for long term benefit.

NOTE Confidence: 0.901970194736842

00:20:12.600 --> 00:20:14.592 So we can find out if drugs work

NOTE Confidence: 0.901970194736842

00:20:14.592 --> 00:20:16.539 within six weeks instead of giving

NOTE Confidence: 0.901970194736842

00:20:16.539 --> 00:20:18.621 them after surgery and following the

NOTE Confidence: 0.901970194736842

00:20:18.687 --> 00:20:20.836 patient for five years and then going

NOTE Confidence: 0.901970194736842

00:20:20.836 --> 00:20:23.014 back and seeing how many survived.

NOTE Confidence: 0.901970194736842

00:20:23.014 --> 00:20:26.584 So doing this up front gives us a

NOTE Confidence: 0.901970194736842

00:20:26.584 --> 00:20:29.344 better indication early on based

NOTE Confidence: 0.901970194736842

00:20:29.344 --> 00:20:31.552 upon the pathological response.

NOTE Confidence: 0.901970194736842

00:20:31.560 --> 00:20:33.996 And what what you'll see is the

NOTE Confidence: 0.901970194736842

00:20:33.996 --> 00:20:36.272 residual tumor burden is important

NOTE Confidence: 0.901970194736842

00:20:36.272 --> 00:20:39.124 now in a cancer management.

NOTE Confidence: 0.901970194736842

00:20:39.124 --> 00:20:42.638 It allows us to test novel combination

NOTE Confidence: 0.901970194736842

00:20:42.638 --> 00:20:44.528 strategies and investigational drugs

NOTE Confidence: 0.901970194736842

00:20:44.528 --> 00:20:47.580 because we can take out the tumor



NOTE Confidence: 0.901970194736842

00:20:47.655 --> 00:20:50.497 after the exposure to these drugs and

NOTE Confidence: 0.901970194736842

00:20:50.497 --> 00:20:52.440 determine the new molecular profile

NOTE Confidence: 0.901970194736842

00:20:52.440 --> 00:20:54.600 of the cells that are refractory.

NOTE Confidence: 0.901970194736842

00:20:54.600 --> 00:20:57.064 And I'll show you a classic clinical

NOTE Confidence: 0.901970194736842

00:20:57.064 --> 00:20:59.439 trial that she demonstrates that.

NOTE Confidence: 0.901970194736842

00:20:59.440 --> 00:21:02.240 And then the other reason is the

NOTE Confidence: 0.901970194736842

00:21:02.240 --> 00:21:04.411 improved responses are better than

NOTE Confidence: 0.901970194736842

00:21:04.411 --> 00:21:06.696 in patients with advanced burned

NOTE Confidence: 0.901970194736842

00:21:06.696 --> 00:21:09.302 out metastatic disease where their

NOTE Confidence: 0.901970194736842

00:21:09.302 --> 00:21:11.506 previous chemotherapy itself is

NOTE Confidence: 0.901970194736842

00:21:11.506 --> 00:21:13.710 immunosuppressive and their volume

NOTE Confidence: 0.901970194736842

00:21:13.788 --> 00:21:16.615 of cancer itself provides an antigen

NOTE Confidence: 0.901970194736842

00:21:16.615 --> 00:21:19.440 excess which is immunosuppressive itself.

NOTE Confidence: 0.901970194736842

00:21:19.440 --> 00:21:21.197 So if we're doing this up front,

NOTE Confidence: 0.901970194736842

00:21:21.200 --> 00:21:23.036 when there's a smaller tumor burden,

NOTE Confidence: 0.901970194736842

00:21:23.040 --> 00:21:26.314 you get a better immune response and  
NOTE Confidence: 0.901970194736842

00:21:26.314 --> 00:21:28.438 then we have some molecular markers,  
NOTE Confidence: 0.901970194736842

00:21:28.440 --> 00:21:32.395 the CPS score and and other markers,  
NOTE Confidence: 0.901970194736842

00:21:32.400 --> 00:21:35.214 but we really need better and more  
NOTE Confidence: 0.901970194736842

00:21:35.214 --> 00:21:38.397 precise markers to help select our patients.  
NOTE Confidence: 0.901970194736842

00:21:38.400 --> 00:21:41.830 So these are just a partial example  
NOTE Confidence: 0.901970194736842

00:21:41.830 --> 00:21:44.263 of successful neoadjuvant trials that  
NOTE Confidence: 0.901970194736842

00:21:44.263 --> 00:21:47.791 have led to approved indication by the FDA.  
NOTE Confidence: 0.901970194736842

00:21:47.800 --> 00:21:50.560 And my point is this is a range of cancers,  
NOTE Confidence: 0.901970194736842

00:21:50.560 --> 00:21:53.530 this is a common abnormality to  
NOTE Confidence: 0.901970194736842

00:21:53.530 --> 00:21:54.520 human cancers.  
NOTE Confidence: 0.901970194736842

00:21:54.520 --> 00:21:57.110 And as we're learning how to use  
NOTE Confidence: 0.901970194736842

00:21:57.110 --> 00:21:59.382 these checkpoint inhibitors and  
NOTE Confidence: 0.901970194736842

00:21:59.382 --> 00:22:01.918 various combinations and sequences,  
NOTE Confidence: 0.901970194736842

00:22:01.920 --> 00:22:04.650 they're adding to the advances  
NOTE Confidence: 0.901970194736842

00:22:04.650 --> 00:22:07.685 of of our cancer management not

NOTE Confidence: 0.901970194736842  
00:22:07.685 --> 00:22:09.673 as a substitute necessarily,  
NOTE Confidence: 0.901970194736842  
00:22:09.680 --> 00:22:12.571 but alongside is what I call the  
NOTE Confidence: 0.901970194736842  
00:22:12.571 --> 00:22:15.359 4th modality of cancer treatment.  
NOTE Confidence: 0.901970194736842  
00:22:15.360 --> 00:22:18.270 So here's another hypothesis that has  
NOTE Confidence: 0.901970194736842  
00:22:18.270 --> 00:22:21.492 been proposed that I'll show you the  
NOTE Confidence: 0.901970194736842  
00:22:21.492 --> 00:22:24.278 results that led to a clinical trial.  
NOTE Confidence: 0.901970194736842  
00:22:24.280 --> 00:22:27.160 And as you could see in the upper cartoon  
NOTE Confidence: 0.901970194736842  
00:22:27.160 --> 00:22:29.795 that if the surgeon takes out the bulk  
NOTE Confidence: 0.901970194736842  
00:22:29.795 --> 00:22:32.339 of the tumor and leaves microscopic  
NOTE Confidence: 0.901970194736842  
00:22:32.339 --> 00:22:35.357 tumor left behind and gives immunotherapy,  
NOTE Confidence: 0.901970194736842  
00:22:35.360 --> 00:22:37.440 there's not many cancer cells  
NOTE Confidence: 0.901970194736842  
00:22:37.440 --> 00:22:39.520 to stimulate the immune system.  
NOTE Confidence: 0.901970194736842  
00:22:39.520 --> 00:22:40.560 But on the other hand,  
NOTE Confidence: 0.901970194736842  
00:22:40.560 --> 00:22:43.199 if you give the immunotherapy up front,  
NOTE Confidence: 0.901970194736842  
00:22:43.200 --> 00:22:46.119 when there is a larger and more  
NOTE Confidence: 0.901970194736842

00:22:46.119 --> 00:22:47.370 representative tumor burden  
NOTE Confidence: 0.901970194736842

00:22:47.448 --> 00:22:49.360 and tumor antigen exposure,  
NOTE Confidence: 0.901970194736842

00:22:49.360 --> 00:22:53.070 you will get a more robust and  
NOTE Confidence: 0.901970194736842

00:22:53.070 --> 00:22:54.914 consistent immune response.  
NOTE Confidence: 0.901970194736842

00:22:54.914 --> 00:22:58.199 And this is demonstrated amazingly  
NOTE Confidence: 0.901970194736842

00:22:58.199 --> 00:23:01.644 in this randomized clinical trial  
NOTE Confidence: 0.901970194736842

00:23:01.644 --> 00:23:04.396 which proves this hypothesis.  
NOTE Confidence: 0.901970194736842

00:23:04.400 --> 00:23:07.354 In fact, I'm astonished at the results.  
NOTE Confidence: 0.901970194736842

00:23:07.360 --> 00:23:10.580 So this randomized trial gave  
NOTE Confidence: 0.901970194736842

00:23:10.580 --> 00:23:13.156 everybody with metastatic Melanoma  
NOTE Confidence: 0.901970194736842

00:23:13.160 --> 00:23:16.316 18 courses of a single drug.  
NOTE Confidence: 0.901970194736842

00:23:16.320 --> 00:23:19.757 Drug in this case was pembro Elizabeth.  
NOTE Confidence: 0.909291

00:23:19.760 --> 00:23:22.895 And they were randomized  
NOTE Confidence: 0.909291

00:23:22.895 --> 00:23:24.675 to receive 18 courses,  
NOTE Confidence: 0.909291

00:23:24.680 --> 00:23:26.678 but half the group got three  
NOTE Confidence: 0.909291

00:23:26.678 --> 00:23:28.552 courses up front and everybody

NOTE Confidence: 0.909291  
00:23:28.552 --> 00:23:30.877 else got 18 courses afterwards.  
NOTE Confidence: 0.909291  
00:23:30.880 --> 00:23:32.716 So that was the only difference  
NOTE Confidence: 0.909291  
00:23:32.716 --> 00:23:33.634 with this monotherapy.  
NOTE Confidence: 0.909291  
00:23:33.640 --> 00:23:36.797 We don't use monotherapy anymore like this,  
NOTE Confidence: 0.909291  
00:23:36.800 --> 00:23:39.401 but look at the difference between  
NOTE Confidence: 0.909291  
00:23:39.401 --> 00:23:41.807 those patients who had three courses  
NOTE Confidence: 0.909291  
00:23:41.807 --> 00:23:43.577 of single agent immunotherapy  
NOTE Confidence: 0.909291  
00:23:43.577 --> 00:23:46.240 up front and those who didn't,  
NOTE Confidence: 0.909291  
00:23:46.240 --> 00:23:48.340 which demonstrates what I just  
NOTE Confidence: 0.909291  
00:23:48.340 --> 00:23:50.729 showed you in that hypothesis is  
NOTE Confidence: 0.909291  
00:23:50.729 --> 00:23:53.125 the value in survival rates by  
NOTE Confidence: 0.909291  
00:23:53.125 --> 00:23:54.865 giving checkpoint inhibitors before  
NOTE Confidence: 0.909291  
00:23:54.865 --> 00:23:58.660 they're to the bulk of their tumor is  
NOTE Confidence: 0.909291  
00:23:58.660 --> 00:24:01.900 removed and this gives the rationale  
NOTE Confidence: 0.909291  
00:24:01.900 --> 00:24:03.430 for neoadjuvant immunotherapy.  
NOTE Confidence: 0.909291

00:24:03.430 --> 00:24:06.895 Another example that I want to show  
NOTE Confidence: 0.909291

00:24:06.895 --> 00:24:09.797 you from my colleague Merrick Ross.  
NOTE Confidence: 0.909291

00:24:09.800 --> 00:24:12.936 This is a Melanoma patient who presented  
NOTE Confidence: 0.909291

00:24:12.936 --> 00:24:15.140 with borderline operable bulky nodal  
NOTE Confidence: 0.909291

00:24:15.140 --> 00:24:17.877 metastasis in the groin and the pelvis.  
NOTE Confidence: 0.909291

00:24:17.880 --> 00:24:20.358 And this patient would have ordinarily  
NOTE Confidence: 0.909291

00:24:20.358 --> 00:24:24.068 had a radical dissection of the groin  
NOTE Confidence: 0.909291

00:24:24.068 --> 00:24:27.376 and the pelvis after immunotherapy  
NOTE Confidence: 0.909291

00:24:27.376 --> 00:24:29.560 with combination immunotherapy,  
NOTE Confidence: 0.909291

00:24:29.560 --> 00:24:32.872 you can see that there is a down staging  
NOTE Confidence: 0.909291

00:24:32.880 --> 00:24:36.036 and the tumor size has decreased,  
NOTE Confidence: 0.909291

00:24:36.040 --> 00:24:38.140 so facilitating an operation.  
NOTE Confidence: 0.909291

00:24:38.140 --> 00:24:41.290 But it wouldn't surprise you that  
NOTE Confidence: 0.909291

00:24:41.377 --> 00:24:44.077 when all the tumor was removed  
NOTE Confidence: 0.909291

00:24:44.077 --> 00:24:45.877 there was nothing left.  
NOTE Confidence: 0.909291

00:24:45.880 --> 00:24:48.544 The masses that we're seeing were

NOTE Confidence: 0.909291

00:24:48.544 --> 00:24:50.736 inflammation and scar tissue in

NOTE Confidence: 0.909291

00:24:50.736 --> 00:24:52.400 a classic rejection response,

NOTE Confidence: 0.909291

00:24:52.400 --> 00:24:55.600 the same as what you'd see with a

NOTE Confidence: 0.909291

00:24:55.600 --> 00:24:57.996 transplanted organ or a viral infection.

NOTE Confidence: 0.909291

00:24:57.996 --> 00:25:00.390 That the mass that we're seeing

NOTE Confidence: 0.909291

00:25:00.466 --> 00:25:02.800 on X-ray was not tumor anymore,

NOTE Confidence: 0.909291

00:25:02.800 --> 00:25:06.838 it was scar and inflammatory tissue.

NOTE Confidence: 0.909291

00:25:06.840 --> 00:25:10.320 So the key point here is we can't

NOTE Confidence: 0.909291

00:25:10.320 --> 00:25:13.240 gauge responses by X-ray verification.

NOTE Confidence: 0.909291

00:25:13.240 --> 00:25:15.354 The surgeon needs to take it out,

NOTE Confidence: 0.909291

00:25:15.360 --> 00:25:17.873 give it to the pathologist to determine

NOTE Confidence: 0.909291

00:25:17.873 --> 00:25:20.748 the degree of response and to do a

NOTE Confidence: 0.909291

00:25:20.748 --> 00:25:22.800 new molecular profile to look at the

NOTE Confidence: 0.909291

00:25:22.800 --> 00:25:27.078 molecular profile of the refractory cells.

NOTE Confidence: 0.909291

00:25:27.080 --> 00:25:30.056 So this was the first immunotherapy

NOTE Confidence: 0.909291

00:25:30.056 --> 00:25:32.970 trial presented in the world 2010.

NOTE Confidence: 0.909291

00:25:32.970 --> 00:25:35.840 So this is a very new field.

NOTE Confidence: 0.909291

00:25:35.840 --> 00:25:38.096 This was using the maximum tolerated

NOTE Confidence: 0.909291

00:25:38.096 --> 00:25:40.925 dose of a single agent EPI LUMA Med

NOTE Confidence: 0.909291

00:25:40.925 --> 00:25:43.148 and of course the problem with this

NOTE Confidence: 0.909291

00:25:43.148 --> 00:25:45.154 although this became a standard of

NOTE Confidence: 0.909291

00:25:45.154 --> 00:25:47.320 treatment until we found out that

NOTE Confidence: 0.909291

00:25:47.320 --> 00:25:50.539 at that MTD that 50% of patients

NOTE Confidence: 0.909291

00:25:50.539 --> 00:25:53.570 had grade three grade 4 toxicity and

NOTE Confidence: 0.909291

00:25:53.659 --> 00:25:56.165 some patients died because of that.

NOTE Confidence: 0.909291

00:25:56.165 --> 00:25:59.000 It was also shown that as a single

NOTE Confidence: 0.909291

00:25:59.000 --> 00:26:01.478 agents it's inferior to an anti

NOTE Confidence: 0.909291

00:26:01.480 --> 00:26:02.794 PD1 checkpoint inhibitor.

NOTE Confidence: 0.909291

00:26:02.794 --> 00:26:06.406 So in large part this drug was not

NOTE Confidence: 0.909291

00:26:06.406 --> 00:26:09.160 used anymore because of the toxicity.

NOTE Confidence: 0.909291

00:26:09.160 --> 00:26:09.627 However,



NOTE Confidence: 0.909291

00:26:09.627 --> 00:26:12.896 the the teaching point here is you

NOTE Confidence: 0.909291

00:26:12.896 --> 00:26:15.900 can't treat immunotherapy agents like

NOTE Confidence: 0.909291

00:26:15.900 --> 00:26:18.954 drugs and in fact a dose now of 1 to

NOTE Confidence: 0.909291

00:26:18.954 --> 00:26:22.106 3 milligrams which is not very toxic

NOTE Confidence: 0.909291

00:26:22.106 --> 00:26:24.643 when added to another checkpoint

NOTE Confidence: 0.909291

00:26:24.643 --> 00:26:27.558 inhibitor has an added benefit.

NOTE Confidence: 0.909291

00:26:27.560 --> 00:26:29.696 So we have to get away from testing

NOTE Confidence: 0.909291

00:26:29.696 --> 00:26:32.090 these some of these agents by their

NOTE Confidence: 0.909291

00:26:32.090 --> 00:26:33.890 maximum tolerated doses when actually

NOTE Confidence: 0.909291

00:26:33.950 --> 00:26:35.861 lower doses work just as well if

NOTE Confidence: 0.909291

00:26:35.861 --> 00:26:37.814 not better and a more tolerable.

NOTE Confidence: 0.909291

00:26:37.814 --> 00:26:41.046 So we'll go over the details of this

NOTE Confidence: 0.909291

00:26:41.046 --> 00:26:43.556 randomized study that looked at

NOTE Confidence: 0.909291

00:26:43.556 --> 00:26:46.570 different dose schedules and doses of

NOTE Confidence: 0.909291

00:26:46.570 --> 00:26:49.348 combining hippilumamid at 3kg and 1

NOTE Confidence: 0.909291

00:26:49.348 --> 00:26:51.804 milligrams with combinations of nivo.  
NOTE Confidence: 0.909291

00:26:51.804 --> 00:26:53.836 And this Arm B,  
NOTE Confidence: 0.909291

00:26:53.840 --> 00:26:57.160 just to accelerate the talk,  
NOTE Confidence: 0.909291

00:26:57.160 --> 00:26:59.578 turned out to be the most  
NOTE Confidence: 0.909291

00:26:59.578 --> 00:27:01.190 efficacious in the least  
NOTE Confidence: 0.903695714545455

00:27:01.276 --> 00:27:03.404 toxic. But here's the teaching point I  
NOTE Confidence: 0.903695714545455

00:27:03.404 --> 00:27:05.799 wanted to make in this randomized study.  
NOTE Confidence: 0.903695714545455

00:27:05.800 --> 00:27:08.635 This is the radiological response to patients  
NOTE Confidence: 0.903695714545455

00:27:08.635 --> 00:27:11.460 being treated in this randomized study  
NOTE Confidence: 0.903695714545455

00:27:11.460 --> 00:27:14.080 with metastatic Melanoma, mainly stage 3.  
NOTE Confidence: 0.903695714545455

00:27:14.080 --> 00:27:16.600 And you can see there's a complete  
NOTE Confidence: 0.903695714545455

00:27:16.677 --> 00:27:19.754 response radiologically in 10% of patients,  
NOTE Confidence: 0.903695714545455

00:27:19.754 --> 00:27:22.039 a partial response in 50%.  
NOTE Confidence: 0.903695714545455

00:27:22.040 --> 00:27:24.440 However, when the patients had surgery  
NOTE Confidence: 0.903695714545455

00:27:24.440 --> 00:27:26.799 and the pathologist could examine it,  
NOTE Confidence: 0.903695714545455

00:27:26.800 --> 00:27:29.120 you see the difference,

NOTE Confidence: 0.903695714545455  
00:27:29.120 --> 00:27:32.000 57% of those patients had APCR  
NOTE Confidence: 0.903695714545455  
00:27:32.000 --> 00:27:34.500 and 7% had a near PCR.  
NOTE Confidence: 0.903695714545455  
00:27:34.500 --> 00:27:36.425 So compare the difference between  
NOTE Confidence: 0.903695714545455  
00:27:36.425 --> 00:27:38.479 the radiologic response and  
NOTE Confidence: 0.903695714545455  
00:27:38.479 --> 00:27:40.599 what the pathologist found.  
NOTE Confidence: 0.903695714545455  
00:27:40.600 --> 00:27:43.414 You cannot look at these masses on  
NOTE Confidence: 0.903695714545455  
00:27:43.414 --> 00:27:46.159 X-rays and know what's inside them  
NOTE Confidence: 0.903695714545455  
00:27:46.160 --> 00:27:49.422 because these tumors in many cases are  
NOTE Confidence: 0.903695714545455  
00:27:49.422 --> 00:27:52.078 replaced by inflammation and scar tissue.  
NOTE Confidence: 0.903695714545455  
00:27:52.080 --> 00:27:54.501 So the surgeon has to take them out and  
NOTE Confidence: 0.903695714545455  
00:27:54.501 --> 00:27:56.798 give the specimen to the pathologist.  
NOTE Confidence: 0.903695714545455  
00:27:56.800 --> 00:27:59.716 And as I'll show you in tumor after tumor,  
NOTE Confidence: 0.903695714545455  
00:27:59.720 --> 00:28:03.661 the determination of PCR near PCR versus  
NOTE Confidence: 0.903695714545455  
00:28:03.661 --> 00:28:07.588 more residual tumor burden is now an  
NOTE Confidence: 0.903695714545455  
00:28:07.588 --> 00:28:10.798 important part of our cancer management.  
NOTE Confidence: 0.903695714545455

00:28:10.800 --> 00:28:13.440 But in my early days, giving interleukin

NOTE Confidence: 0.903695714545455

00:28:13.440 --> 00:28:16.000 interferons tumor cell vaccines,

NOTE Confidence: 0.903695714545455

00:28:16.000 --> 00:28:18.932 if we had a 5% PCR rate,

NOTE Confidence: 0.903695714545455

00:28:18.932 --> 00:28:20.636 that was a victory.

NOTE Confidence: 0.903695714545455

00:28:20.640 --> 00:28:23.026 If we had a 15% partial response,

NOTE Confidence: 0.903695714545455

00:28:23.026 --> 00:28:24.838 that was a victory.

NOTE Confidence: 0.903695714545455

00:28:24.840 --> 00:28:27.234 And as I told one person earlier,

NOTE Confidence: 0.903695714545455

00:28:27.240 --> 00:28:29.640 we tortured people with alpha

NOTE Confidence: 0.903695714545455

00:28:29.640 --> 00:28:32.040 interferon over many dose schedules

NOTE Confidence: 0.903695714545455

00:28:32.118 --> 00:28:34.701 in years because that's all we had

NOTE Confidence: 0.903695714545455

00:28:34.701 --> 00:28:37.440 and we improved survival rates by 2%.

NOTE Confidence: 0.903695714545455

00:28:37.440 --> 00:28:39.816 So now in this new era of Melanoma

NOTE Confidence: 0.903695714545455

00:28:39.816 --> 00:28:41.547 management with the advent of

NOTE Confidence: 0.903695714545455

00:28:41.547 --> 00:28:42.975 immunotherapy because we still

NOTE Confidence: 0.903695714545455

00:28:42.975 --> 00:28:44.880 don't have good chemotherapy,

NOTE Confidence: 0.903695714545455

00:28:44.880 --> 00:28:46.800 we have some targeted therapy.

NOTE Confidence: 0.903695714545455

00:28:46.800 --> 00:28:48.965 Look at the pathological responses

NOTE Confidence: 0.903695714545455

00:28:48.965 --> 00:28:52.199 now that range in this study between

NOTE Confidence: 0.903695714545455

00:28:52.200 --> 00:28:57.240 65 and 80% and pathological complete

NOTE Confidence: 0.903695714545455

00:28:57.240 --> 00:29:02.056 response in dose schedule BPCR in

NOTE Confidence: 0.903695714545455

00:29:02.056 --> 00:29:05.222 57% of patients Never in the history

NOTE Confidence: 0.903695714545455

00:29:05.222 --> 00:29:07.720 of treating cancer have we seen

NOTE Confidence: 0.903695714545455

00:29:07.720 --> 00:29:09.800 these kind of dramatic responses.

NOTE Confidence: 0.903695714545455

00:29:09.800 --> 00:29:12.518 So this also shows you just in one other

NOTE Confidence: 0.903695714545455

00:29:12.518 --> 00:29:15.054 cartoon the value of combining two

NOTE Confidence: 0.903695714545455

00:29:15.054 --> 00:29:16.790 different checkpoint inhibitors which

NOTE Confidence: 0.903695714545455

00:29:16.790 --> 00:29:19.237 have different mechanisms of action.

NOTE Confidence: 0.903695714545455

00:29:19.240 --> 00:29:22.957 And if you look on the two pies charts,

NOTE Confidence: 0.903695714545455

00:29:22.960 --> 00:29:25.867 you can see that with an anti PD one

NOTE Confidence: 0.903695714545455

00:29:25.867 --> 00:29:30.756 you get a 20% PCR but if you add low

NOTE Confidence: 0.903695714545455

00:29:30.756 --> 00:29:35.200 doses of ipilumab you double that to 43%.

NOTE Confidence: 0.903695714545455

00:29:35.200 --> 00:29:38.063 So again showing as we use with  
NOTE Confidence: 0.903695714545455

00:29:38.063 --> 00:29:39.290 combination chemotherapy with  
NOTE Confidence: 0.903695714545455

00:29:39.360 --> 00:29:41.440 different mechanisms of action,  
NOTE Confidence: 0.903695714545455

00:29:41.440 --> 00:29:44.398 the new standard is using these  
NOTE Confidence: 0.903695714545455

00:29:44.398 --> 00:29:45.877 combined checkpoint inhibitors.  
NOTE Confidence: 0.903695714545455

00:29:45.880 --> 00:29:48.631 But the important point is the lower  
NOTE Confidence: 0.903695714545455

00:29:48.631 --> 00:29:51.029 doses and shorter schedules work just  
NOTE Confidence: 0.903695714545455

00:29:51.029 --> 00:29:54.025 as well as high doses given over a  
NOTE Confidence: 0.903695714545455

00:29:54.025 --> 00:29:56.012 long time because what we're doing  
NOTE Confidence: 0.903695714545455

00:29:56.012 --> 00:29:58.760 is like turning on and off switch,  
NOTE Confidence: 0.903695714545455

00:29:58.760 --> 00:29:59.843 we're breaking tolerance.  
NOTE Confidence: 0.903695714545455

00:29:59.843 --> 00:30:02.789 And I predict that we will not be  
NOTE Confidence: 0.903695714545455

00:30:02.789 --> 00:30:04.529 giving a year of immunotherapy  
NOTE Confidence: 0.903695714545455

00:30:04.529 --> 00:30:07.037 before we'll have to do the clinical  
NOTE Confidence: 0.903695714545455

00:30:07.037 --> 00:30:09.125 studies to show that it's equally  
NOTE Confidence: 0.903695714545455

00:30:09.125 --> 00:30:11.120 good of giving shorter courses.

NOTE Confidence: 0.965439999285714  
00:30:14.280 --> 00:30:16.760 So this is one of my first key  
NOTE Confidence: 0.965439999285714  
00:30:16.760 --> 00:30:19.037 points about the impact on surgery.  
NOTE Confidence: 0.965439999285714  
00:30:19.040 --> 00:30:23.352 So this is a study Prada study going on  
NOTE Confidence: 0.965439999285714  
00:30:23.352 --> 00:30:26.059 now which is a randomized study but for  
NOTE Confidence: 0.965439999285714  
00:30:26.059 --> 00:30:28.757 which we have some of the early results.  
NOTE Confidence: 0.965439999285714  
00:30:28.760 --> 00:30:30.610 These are patients who present  
NOTE Confidence: 0.965439999285714  
00:30:30.610 --> 00:30:33.120 with stage 3B and 3C disease.  
NOTE Confidence: 0.965439999285714  
00:30:33.120 --> 00:30:36.295 They have clinically and radiologically  
NOTE Confidence: 0.965439999285714  
00:30:36.295 --> 00:30:39.920 detected nodal metastasis and index node has  
NOTE Confidence: 0.965439999285714  
00:30:39.920 --> 00:30:43.559 a marker placed in the largest lymph node.  
NOTE Confidence: 0.965439999285714  
00:30:43.560 --> 00:30:46.360 Then the patients gets only two cycles  
NOTE Confidence: 0.965439999285714  
00:30:46.360 --> 00:30:48.640 of combination of immunotherapy,  
NOTE Confidence: 0.965439999285714  
00:30:48.640 --> 00:30:51.790 only two cycles and then that index  
NOTE Confidence: 0.965439999285714  
00:30:51.790 --> 00:30:54.638 node that's all that is removed.  
NOTE Confidence: 0.965439999285714  
00:30:54.640 --> 00:30:57.744 And you can see the strategy those patients  
NOTE Confidence: 0.965439999285714

00:30:57.744 --> 00:31:00.879 who had APCR or near PCR less than 10%

NOTE Confidence: 0.965439999285714

00:31:00.880 --> 00:31:03.796 viable cells had no therapeutic lymph

NOTE Confidence: 0.965439999285714

00:31:03.796 --> 00:31:07.199 node dissection and no adjuvant therapy.

NOTE Confidence: 0.965439999285714

00:31:07.200 --> 00:31:09.404 Where's those that had

NOTE Confidence: 0.965439999285714

00:31:09.404 --> 00:31:12.159 APCR did get a therapeutic,

NOTE Confidence: 0.965439999285714

00:31:12.160 --> 00:31:14.290 no dissection and follow up and

NOTE Confidence: 0.965439999285714

00:31:14.290 --> 00:31:17.039 those that did not get a response

NOTE Confidence: 0.965439999285714

00:31:17.039 --> 00:31:19.553 had both a therapeutic lymph node

NOTE Confidence: 0.965439999285714

00:31:19.553 --> 00:31:21.960 dissection and adjuvant immunotherapy.

NOTE Confidence: 0.965439999285714

00:31:21.960 --> 00:31:24.725 But the point is that's already been

NOTE Confidence: 0.965439999285714

00:31:24.725 --> 00:31:27.633 reported is that in the patients entered

NOTE Confidence: 0.965439999285714

00:31:27.633 --> 00:31:31.168 into this trial that 60% of them never

NOTE Confidence: 0.965439999285714

00:31:31.168 --> 00:31:34.000 needed a therapeutic lymph node dissection,

NOTE Confidence: 0.965439999285714

00:31:34.000 --> 00:31:37.240 which was their standard treatment before

NOTE Confidence: 0.965439999285714

00:31:37.240 --> 00:31:40.440 because they achieved APCR or near PCR.

NOTE Confidence: 0.965439999285714

00:31:40.440 --> 00:31:42.974 And I'll show you more examples of



NOTE Confidence: 0.965439999285714  
00:31:42.974 --> 00:31:45.398 this and other diseases as well.  
NOTE Confidence: 0.965439999285714  
00:31:45.400 --> 00:31:47.960 So let me move on to breast  
NOTE Confidence: 0.965439999285714  
00:31:47.960 --> 00:31:50.200 cancer and neoadjuvant therapy.  
NOTE Confidence: 0.965439999285714  
00:31:50.200 --> 00:31:53.798 So there's another principle here that if we  
NOTE Confidence: 0.965439999285714  
00:31:53.798 --> 00:31:56.354 don't get a pathological complete response,  
NOTE Confidence: 0.965439999285714  
00:31:56.360 --> 00:31:58.448 you could predict that the residual  
NOTE Confidence: 0.965439999285714  
00:31:58.448 --> 00:32:00.544 tumors are going to be refractory  
NOTE Confidence: 0.965439999285714  
00:32:00.544 --> 00:32:03.080 to the drugs that you gave up front.  
NOTE Confidence: 0.965439999285714  
00:32:03.080 --> 00:32:06.296 So why continue them afterwards when  
NOTE Confidence: 0.965439999285714  
00:32:06.296 --> 00:32:09.046 these refractory tumors probably have  
NOTE Confidence: 0.965439999285714  
00:32:09.046 --> 00:32:11.762 a different molecular profile in the  
NOTE Confidence: 0.965439999285714  
00:32:11.762 --> 00:32:13.869 strategy here which is a classic in  
NOTE Confidence: 0.965439999285714  
00:32:13.869 --> 00:32:16.090 that I think applies to other tumors  
NOTE Confidence: 0.965439999285714  
00:32:16.090 --> 00:32:18.158 as well was this Catherine study  
NOTE Confidence: 0.965439999285714  
00:32:18.158 --> 00:32:20.468 which took her two positive patients  
NOTE Confidence: 0.965439999285714

00:32:20.468 --> 00:32:22.518 who got neoadjuvant treatment.  
NOTE Confidence: 0.965439999285714

00:32:22.518 --> 00:32:25.713 They all had residual invasive  
NOTE Confidence: 0.965439999285714

00:32:25.713 --> 00:32:28.999 disease after getting their standard,  
NOTE Confidence: 0.965439999285714

00:32:29.000 --> 00:32:32.185 her two therapy either single or dual  
NOTE Confidence: 0.965439999285714

00:32:32.185 --> 00:32:34.924 therapy targeted therapy and then we're  
NOTE Confidence: 0.965439999285714

00:32:34.924 --> 00:32:37.089 randomized to switch their treatment  
NOTE Confidence: 0.965439999285714

00:32:37.089 --> 00:32:39.974 if they had residual disease into a  
NOTE Confidence: 0.965439999285714

00:32:39.974 --> 00:32:42.288 different drug TDM one or continued  
NOTE Confidence: 0.965439999285714

00:32:42.288 --> 00:32:45.232 the same drug that they were on before.  
NOTE Confidence: 0.965439999285714

00:32:45.240 --> 00:32:47.851 And this study of course showed that  
NOTE Confidence: 0.965439999285714

00:32:47.851 --> 00:32:49.501 by switching therapies intuitively  
NOTE Confidence: 0.965439999285714

00:32:49.501 --> 00:32:50.878 this makes sense.  
NOTE Confidence: 0.965439999285714

00:32:50.880 --> 00:32:53.519 You get an improved survival rate in  
NOTE Confidence: 0.965439999285714

00:32:53.519 --> 00:32:55.912 those patients who we stopped after  
NOTE Confidence: 0.965439999285714

00:32:55.912 --> 00:32:58.360 six weeks and switched to another  
NOTE Confidence: 0.965439999285714

00:32:58.436 --> 00:33:00.511 therapy to treat the refractory

NOTE Confidence: 0.965439999285714

00:33:00.511 --> 00:33:03.195 tumors and that in turn increased

NOTE Confidence: 0.965439999285714

00:33:03.195 --> 00:33:05.835 survival rate in these patients.

NOTE Confidence: 0.965439999285714

00:33:05.840 --> 00:33:08.048 And this is going on in all the

NOTE Confidence: 0.965439999285714

00:33:08.048 --> 00:33:09.680 other subtypes of breast cancer.

NOTE Confidence: 0.965439999285714

00:33:09.680 --> 00:33:12.025 And my point here is you look

NOTE Confidence: 0.965439999285714

00:33:12.025 --> 00:33:14.079 at the residual tumor burden,

NOTE Confidence: 0.965439999285714

00:33:14.080 --> 00:33:17.374 which shown in the different colors

NOTE Confidence: 0.965439999285714

00:33:17.374 --> 00:33:20.564 the differences in survival rates over

NOTE Confidence: 0.965439999285714

00:33:20.564 --> 00:33:23.735 8 years based upon the subtypes of

NOTE Confidence: 0.965439999285714

00:33:23.735 --> 00:33:26.436 breast cancer and how those patients

NOTE Confidence: 0.965439999285714

00:33:26.436 --> 00:33:29.731 who have APCR or new PCR do very

NOTE Confidence: 0.965439999285714

00:33:29.731 --> 00:33:31.239 well over 8 years.

NOTE Confidence: 0.965439999285714

00:33:31.240 --> 00:33:32.338 But in contrast,

NOTE Confidence: 0.965439999285714

00:33:32.338 --> 00:33:34.534 those patients who have more residual

NOTE Confidence: 0.965439999285714

00:33:34.534 --> 00:33:36.735 tumor burden obviously are going to

NOTE Confidence: 0.965439999285714

00:33:36.735 --> 00:33:39.166 need a different therapy and have a  
NOTE Confidence: 0.965439999285714

00:33:39.166 --> 00:33:41.259 worse prognosis if we continue to give  
NOTE Confidence: 0.965439999285714

00:33:41.259 --> 00:33:44.080 the same treatment and don't switch.  
NOTE Confidence: 0.965439999285714

00:33:44.080 --> 00:33:45.788 And so now there are a number  
NOTE Confidence: 0.965439999285714

00:33:45.788 --> 00:33:46.520 of clinical trials,  
NOTE Confidence: 0.87672718

00:33:46.520 --> 00:33:48.600 I'm just showing one examples.  
NOTE Confidence: 0.87672718

00:33:48.600 --> 00:33:51.270 It was showing that post neoadjuvant  
NOTE Confidence: 0.87672718

00:33:51.270 --> 00:33:53.484 treatment options a different treatment  
NOTE Confidence: 0.87672718

00:33:53.484 --> 00:33:56.032 than what was given up front but  
NOTE Confidence: 0.87672718

00:33:56.032 --> 00:33:58.530 directed by the residual tumor burden  
NOTE Confidence: 0.87672718

00:33:58.530 --> 00:34:00.655 cause can improve survival rates  
NOTE Confidence: 0.87672718

00:34:00.655 --> 00:34:03.160 with a range of switching therapies.  
NOTE Confidence: 0.87672718

00:34:03.160 --> 00:34:07.194 So the teaching point here is now we  
NOTE Confidence: 0.87672718

00:34:07.194 --> 00:34:10.050 have enough agents we can go to second  
NOTE Confidence: 0.87672718

00:34:10.131 --> 00:34:12.769 line therapy early based upon the  
NOTE Confidence: 0.87672718

00:34:12.769 --> 00:34:15.187 residual tumor burden after the surgeon

NOTE Confidence: 0.87672718

00:34:15.187 --> 00:34:17.477 takes the area out where the tumor

NOTE Confidence: 0.87672718

00:34:17.477 --> 00:34:20.039 was and gives it to the pathologist.

NOTE Confidence: 0.87672718

00:34:20.040 --> 00:34:23.851 So here's another important strategy is

NOTE Confidence: 0.87672718

00:34:23.851 --> 00:34:26.536 if we're combining chemotherapy with

NOTE Confidence: 0.87672718

00:34:26.536 --> 00:34:28.894 immunotherapy that the chemotherapy that

NOTE Confidence: 0.87672718

00:34:28.894 --> 00:34:32.187 works directly on the tumor is going to

NOTE Confidence: 0.87672718

00:34:32.187 --> 00:34:34.515 break down the tumor into apoptosis.

NOTE Confidence: 0.87672718

00:34:34.520 --> 00:34:36.840 It will release tumor antigen

NOTE Confidence: 0.87672718

00:34:36.840 --> 00:34:39.199 and in so doing becomes a boost,

NOTE Confidence: 0.87672718

00:34:39.200 --> 00:34:41.444 an immunological boost or an internal

NOTE Confidence: 0.87672718

00:34:41.444 --> 00:34:44.190 vaccine if you will for the immune

NOTE Confidence: 0.87672718

00:34:44.190 --> 00:34:46.160 system where tolerance is broken.

NOTE Confidence: 0.87672718

00:34:46.160 --> 00:34:48.463 So it wouldn't surprise you if you

NOTE Confidence: 0.87672718

00:34:48.463 --> 00:34:50.200 use these combinations you will

NOTE Confidence: 0.87672718

00:34:50.200 --> 00:34:51.238 get better responses.

NOTE Confidence: 0.87672718

00:34:51.240 --> 00:34:54.294 And in these non randomized studies  
NOTE Confidence: 0.87672718

00:34:54.294 --> 00:34:58.063 in the right you can see the PCR  
NOTE Confidence: 0.87672718

00:34:58.063 --> 00:35:02.612 rates was 60% or more PCR by using  
NOTE Confidence: 0.87672718

00:35:02.612 --> 00:35:06.040 a combination of neoadjuvant therapy  
NOTE Confidence: 0.87672718

00:35:06.040 --> 00:35:07.840 and in a series of trials,  
NOTE Confidence: 0.87672718

00:35:07.840 --> 00:35:09.676 I'll just go over them quickly,  
NOTE Confidence: 0.87672718

00:35:09.680 --> 00:35:12.818 the KEYNOTE 522 and the impassioned  
NOTE Confidence: 0.87672718

00:35:12.818 --> 00:35:14.910 O31 using different checkpoint  
NOTE Confidence: 0.87672718

00:35:14.999 --> 00:35:17.774 inhibitors combined with the same  
NOTE Confidence: 0.87672718

00:35:17.774 --> 00:35:21.122 classic chemotherapy up front for 12  
NOTE Confidence: 0.87672718

00:35:21.122 --> 00:35:24.488 weeks and then randomizing the patients  
NOTE Confidence: 0.87672718

00:35:24.488 --> 00:35:27.599 between checkpoint inhibitors or placebo.  
NOTE Confidence: 0.87672718

00:35:27.600 --> 00:35:30.136 You can see in both of these trials  
NOTE Confidence: 0.87672718

00:35:30.136 --> 00:35:33.356 that the PCR rate was higher in both  
NOTE Confidence: 0.87672718

00:35:33.356 --> 00:35:35.668 trials by adding immunotherapy to  
NOTE Confidence: 0.87672718

00:35:35.668 --> 00:35:37.920 chemotherapy is neoadjuvant therapy.

NOTE Confidence: 0.87672718

00:35:37.920 --> 00:35:40.930 So now for and this is only for right now

NOTE Confidence: 0.87672718

00:35:41.003 --> 00:35:44.160 been used in triple negative breast cancer.

NOTE Confidence: 0.87672718

00:35:44.160 --> 00:35:46.308 Although the recent studies to show

NOTE Confidence: 0.87672718

00:35:46.308 --> 00:35:48.272 that the addition of immunotherapy

NOTE Confidence: 0.87672718

00:35:48.272 --> 00:35:51.056 in selected patients with ER positive

NOTE Confidence: 0.87672718

00:35:51.056 --> 00:35:54.436 tumors also are have an additive effect.

NOTE Confidence: 0.87672718

00:35:54.440 --> 00:35:58.160 But now with these advances in this shift

NOTE Confidence: 0.87672718

00:35:58.160 --> 00:36:00.555 that neoadjuvant therapy is preferred

NOTE Confidence: 0.87672718

00:36:00.555 --> 00:36:03.411 in almost all breast cancer patients

NOTE Confidence: 0.87672718

00:36:03.411 --> 00:36:06.120 except for maybe stage 1A and 1B.

NOTE Confidence: 0.87672718

00:36:06.120 --> 00:36:08.748 And that is a profound change in how we

NOTE Confidence: 0.87672718

00:36:08.748 --> 00:36:12.252 treat breast cancer And that APCR is

NOTE Confidence: 0.87672718

00:36:12.252 --> 00:36:15.117 associated with markedly improved outcomes.

NOTE Confidence: 0.87672718

00:36:15.120 --> 00:36:18.276 And it gives us a an insight within

NOTE Confidence: 0.87672718

00:36:18.276 --> 00:36:20.743 6 to 8 weeks how well our patients

NOTE Confidence: 0.87672718

00:36:20.743 --> 00:36:23.519 are going to do in contrast to our  
NOTE Confidence: 0.87672718

00:36:23.519 --> 00:36:25.626 classic studies doing surgery 1st  
NOTE Confidence: 0.87672718

00:36:25.626 --> 00:36:27.736 and then giving adjuvant therapy  
NOTE Confidence: 0.87672718

00:36:27.736 --> 00:36:30.200 and then trying to measure 5 year  
NOTE Confidence: 0.87672718

00:36:30.200 --> 00:36:32.678 survival rates 8 to 10 years later.  
NOTE Confidence: 0.87672718

00:36:32.680 --> 00:36:35.158 So this is a very important advance.  
NOTE Confidence: 0.87672718

00:36:35.160 --> 00:36:37.926 It allows us to keep moving on with  
NOTE Confidence: 0.87672718

00:36:37.926 --> 00:36:40.556 new strategies and cancer management.  
NOTE Confidence: 0.87672718

00:36:40.560 --> 00:36:43.080 The highest pathological response rates,  
NOTE Confidence: 0.87672718

00:36:43.080 --> 00:36:44.172 around 63%,  
NOTE Confidence: 0.87672718

00:36:44.172 --> 00:36:47.448 is used with the combination of  
NOTE Confidence: 0.87672718

00:36:47.448 --> 00:36:51.412 pembrolizumab and a classic chemotherapy  
NOTE Confidence: 0.87672718

00:36:51.412 --> 00:36:55.404 Carbotaxol followed by ACEC and the  
NOTE Confidence: 0.87672718

00:36:55.404 --> 00:36:58.358 Pembro not only improves the PCR rates,  
NOTE Confidence: 0.87672718

00:36:58.360 --> 00:37:01.538 but also results in smaller residual cancers  
NOTE Confidence: 0.87672718

00:37:01.538 --> 00:37:04.439 across the entire spectrum of disease,



NOTE Confidence: 0.87672718

00:37:04.440 --> 00:37:07.280 and that means it facilitates

NOTE Confidence: 0.87672718

00:37:07.280 --> 00:37:08.837 more conservative operations.

NOTE Confidence: 0.87672718

00:37:08.837 --> 00:37:11.951 It switches patients who needed a

NOTE Confidence: 0.87672718

00:37:11.951 --> 00:37:14.648 mastectomy for for medical reasons into

NOTE Confidence: 0.87672718

00:37:14.648 --> 00:37:17.480 having the options of having lumpectomies

NOTE Confidence: 0.87672718

00:37:17.557 --> 00:37:19.917 because their tumors are smaller.

NOTE Confidence: 0.87672718

00:37:19.920 --> 00:37:22.489 So we also have learned that patients

NOTE Confidence: 0.87672718

00:37:22.489 --> 00:37:24.849 with residual disease have a poor

NOTE Confidence: 0.87672718

00:37:24.849 --> 00:37:26.441 prognosis and need additional

NOTE Confidence: 0.87672718

00:37:26.441 --> 00:37:27.635 or different treatment

NOTE Confidence: 0.844040274545454

00:37:27.640 --> 00:37:30.727 and allows us based upon the response

NOTE Confidence: 0.844040274545454

00:37:30.727 --> 00:37:32.720 to individualize their therapy.

NOTE Confidence: 0.844040274545454

00:37:32.720 --> 00:37:34.480 So this is our future,

NOTE Confidence: 0.844040274545454

00:37:34.480 --> 00:37:36.005 not only in breast cancer

NOTE Confidence: 0.844040274545454

00:37:36.005 --> 00:37:37.920 but in other tumors as well.

NOTE Confidence: 0.844040274545454

00:37:37.920 --> 00:37:40.467 So this is another part of our advance which

NOTE Confidence: 0.844040274545454

00:37:40.467 --> 00:37:42.837 I'll show you in other diseases as well.

NOTE Confidence: 0.844040274545454

00:37:42.840 --> 00:37:45.346 I showed you in Melanoma how we're

NOTE Confidence: 0.844040274545454

00:37:45.346 --> 00:37:47.355 now eliminating the therapeutic no

NOTE Confidence: 0.844040274545454

00:37:47.355 --> 00:37:50.393 dissections in those patients who have APCR.

NOTE Confidence: 0.844040274545454

00:37:50.400 --> 00:37:52.542 This is from my colleague Henry Cure

NOTE Confidence: 0.844040274545454

00:37:52.542 --> 00:37:54.654 at MD Anderson who's presenting this

NOTE Confidence: 0.844040274545454

00:37:54.654 --> 00:37:56.922 information for the first time next

NOTE Confidence: 0.844040274545454

00:37:56.922 --> 00:37:59.016 month in Miami and he kindly loaned

NOTE Confidence: 0.844040274545454

00:37:59.016 --> 00:38:01.620 me the slides to show to you today.

NOTE Confidence: 0.844040274545454

00:38:01.620 --> 00:38:04.458 So they have a prospective trial of

NOTE Confidence: 0.844040274545454

00:38:04.458 --> 00:38:07.028 eliminating breast surgery in selected

NOTE Confidence: 0.844040274545454

00:38:07.028 --> 00:38:09.812 patients who are exceptional responders

NOTE Confidence: 0.844040274545454

00:38:09.812 --> 00:38:12.400 for neoadjuvant systemic therapy.

NOTE Confidence: 0.844040274545454

00:38:12.400 --> 00:38:15.242 And the reason that they do this

NOTE Confidence: 0.844040274545454

00:38:15.242 --> 00:38:18.400 after their neoadjuvant therapy and

NOTE Confidence: 0.844040274545454

00:38:18.400 --> 00:38:21.310 they these are generally used with

NOTE Confidence: 0.844040274545454

00:38:21.310 --> 00:38:24.075 chemotherapy that they use a vacuum

NOTE Confidence: 0.844040274545454

00:38:24.075 --> 00:38:26.952 assisted core biopsy to in the area

NOTE Confidence: 0.844040274545454

00:38:26.952 --> 00:38:30.280 where the tumor is guided by ultrasound.

NOTE Confidence: 0.844040274545454

00:38:30.280 --> 00:38:32.578 And if there's no residual disease

NOTE Confidence: 0.844040274545454

00:38:32.578 --> 00:38:35.160 they have no further breast surgery

NOTE Confidence: 0.844040274545454

00:38:35.160 --> 00:38:37.296 but if they have residual disease

NOTE Confidence: 0.844040274545454

00:38:37.296 --> 00:38:38.720 they get standard treatment.

NOTE Confidence: 0.844040274545454

00:38:38.720 --> 00:38:40.925 So Henry is presenting for the first

NOTE Confidence: 0.844040274545454

00:38:40.925 --> 00:38:43.079 time they're multi institutional study,

NOTE Confidence: 0.844040274545454

00:38:43.080 --> 00:38:45.990 50 patients who had no breast

NOTE Confidence: 0.844040274545454

00:38:45.990 --> 00:38:48.365 surgery whose average size at the

NOTE Confidence: 0.844040274545454

00:38:48.365 --> 00:38:50.845 beginning was 2.3 centimeters and

NOTE Confidence: 0.844040274545454

00:38:50.845 --> 00:38:54.295 after a brief exposure to systemic

NOTE Confidence: 0.844040274545454

00:38:54.295 --> 00:38:57.276 chemotherapy was less than a centimeter.

NOTE Confidence: 0.844040274545454

00:38:57.280 --> 00:39:01.472 They had to do 15 vacuum assisted  
NOTE Confidence: 0.844040274545454

00:39:01.472 --> 00:39:04.480 biopsies in these patients.  
NOTE Confidence: 0.844040274545454

00:39:04.480 --> 00:39:07.994 But here are the results so far,  
NOTE Confidence: 0.844040274545454

00:39:08.000 --> 00:39:11.030 62% had APCR among the triple  
NOTE Confidence: 0.844040274545454

00:39:11.030 --> 00:39:13.050 negative breast cancer patients  
NOTE Confidence: 0.844040274545454

00:39:13.133 --> 00:39:15.873 who had a checkpoint inhibitors  
NOTE Confidence: 0.844040274545454

00:39:15.873 --> 00:39:19.320 plus chemotherapy was 71 percent,  
NOTE Confidence: 0.844040274545454

00:39:19.320 --> 00:39:21.516 55% in the her two positive.  
NOTE Confidence: 0.844040274545454

00:39:21.520 --> 00:39:23.760 And what he's going to present so  
NOTE Confidence: 0.844040274545454

00:39:23.760 --> 00:39:26.280 far after 4.1 years of treatment  
NOTE Confidence: 0.844040274545454

00:39:26.280 --> 00:39:28.160 with no surgical treatment,  
NOTE Confidence: 0.844040274545454

00:39:28.160 --> 00:39:30.170 not a single patient has relapsed  
NOTE Confidence: 0.844040274545454

00:39:30.170 --> 00:39:32.080 so far in the breast.  
NOTE Confidence: 0.844040274545454

00:39:32.080 --> 00:39:34.144 And I could go over and show you  
NOTE Confidence: 0.844040274545454

00:39:34.144 --> 00:39:36.180 other studies where we're now looking  
NOTE Confidence: 0.844040274545454

00:39:36.180 --> 00:39:37.640 at eliminating radiation therapy

NOTE Confidence: 0.844040274545454

00:39:37.640 --> 00:39:39.720 in these patients who have APCR.

NOTE Confidence: 0.844040274545454

00:39:39.720 --> 00:39:42.864 It's changing how we treat patients

NOTE Confidence: 0.844040274545454

00:39:42.864 --> 00:39:45.726 based upon their responses to

NOTE Confidence: 0.844040274545454

00:39:45.726 --> 00:39:47.706 neoadjuvant treatment and they're

NOTE Confidence: 0.844040274545454

00:39:47.706 --> 00:39:49.897 now doing a study not yet reported

NOTE Confidence: 0.844040274545454

00:39:49.897 --> 00:39:52.248 in patients getting systemic therapy

NOTE Confidence: 0.844040274545454

00:39:52.248 --> 00:39:54.216 standard lumpectomy and being

NOTE Confidence: 0.844040274545454

00:39:54.216 --> 00:39:56.424 randomized to getting no radiation

NOTE Confidence: 0.844040274545454

00:39:56.424 --> 00:39:59.292 therapy to the breast if they had

NOTE Confidence: 0.844040274545454

00:39:59.292 --> 00:40:01.956 APCR including in their lymph nodes.

NOTE Confidence: 0.844040274545454

00:40:01.960 --> 00:40:04.072 So let me as another example

NOTE Confidence: 0.844040274545454

00:40:04.072 --> 00:40:05.480 go over lung cancer.

NOTE Confidence: 0.844040274545454

00:40:05.480 --> 00:40:08.582 This is another example where the

NOTE Confidence: 0.844040274545454

00:40:08.582 --> 00:40:10.650 molecular profile profoundly effects

NOTE Confidence: 0.844040274545454

00:40:10.725 --> 00:40:13.251 our targeted treatment even in subsets

NOTE Confidence: 0.844040274545454

00:40:13.251 --> 00:40:15.914 of patients now of three to 7%.

NOTE Confidence: 0.844040274545454

00:40:15.914 --> 00:40:18.112 And in these small subsets we not

NOTE Confidence: 0.844040274545454

00:40:18.112 --> 00:40:20.079 only have first line therapy,

NOTE Confidence: 0.844040274545454

00:40:20.080 --> 00:40:21.499 second line therapy,

NOTE Confidence: 0.844040274545454

00:40:21.499 --> 00:40:25.104 even third line therapy for these small

NOTE Confidence: 0.844040274545454

00:40:25.104 --> 00:40:27.834 subsets defined by molecular markers.

NOTE Confidence: 0.844040274545454

00:40:27.840 --> 00:40:29.240 And as we do more of this,

NOTE Confidence: 0.844040274545454

00:40:29.240 --> 00:40:31.193 this is going to be the standard

NOTE Confidence: 0.844040274545454

00:40:31.193 --> 00:40:33.519 of care for all cancers as our

NOTE Confidence: 0.844040274545454

00:40:33.519 --> 00:40:35.294 molecular profile allows us to

NOTE Confidence: 0.844040274545454

00:40:35.294 --> 00:40:37.498 select patients who are responsive

NOTE Confidence: 0.844040274545454

00:40:37.498 --> 00:40:39.274 to certain systemic therapy,

NOTE Confidence: 0.844040274545454

00:40:39.280 --> 00:40:40.584 but not for others.

NOTE Confidence: 0.844040274545454

00:40:40.584 --> 00:40:43.504 But I wanted to show you in terms

NOTE Confidence: 0.844040274545454

00:40:43.504 --> 00:40:44.836 of the immunotherapy,

NOTE Confidence: 0.844040274545454

00:40:44.840 --> 00:40:47.354 how these first studies of using

NOTE Confidence: 0.844040274545454

00:40:47.354 --> 00:40:49.651 neoadjuvant therapy had a major

NOTE Confidence: 0.844040274545454

00:40:49.651 --> 00:40:52.300 pathological response in 45% of patients.

NOTE Confidence: 0.844040274545454

00:40:52.300 --> 00:40:54.680 But the reason I wanted to show

NOTE Confidence: 0.844040274545454

00:40:54.751 --> 00:40:57.159 these slides is this is an example

NOTE Confidence: 0.90974770375

00:40:57.160 --> 00:40:59.365 published in the New England Journal of

NOTE Confidence: 0.90974770375

00:40:59.365 --> 00:41:01.440 Medicine of the pre treatment imaging.

NOTE Confidence: 0.90974770375

00:41:01.440 --> 00:41:02.760 And after four weeks

NOTE Confidence: 0.90974770375

00:41:02.760 --> 00:41:04.080 there was residual tumor.

NOTE Confidence: 0.90974770375

00:41:04.080 --> 00:41:06.796 This was judged as a partial response,

NOTE Confidence: 0.90974770375

00:41:06.800 --> 00:41:09.240 but when the surgeon took out that mass,

NOTE Confidence: 0.90974770375

00:41:09.240 --> 00:41:11.676 there was no viable tumor left.

NOTE Confidence: 0.90974770375

00:41:11.680 --> 00:41:13.655 And this is again illustrating

NOTE Confidence: 0.90974770375

00:41:13.655 --> 00:41:15.235 and yet another disease,

NOTE Confidence: 0.90974770375

00:41:15.240 --> 00:41:17.320 the importance of the surgeon

NOTE Confidence: 0.90974770375

00:41:17.320 --> 00:41:19.200 doing the staging and giving

NOTE Confidence: 0.90974770375

00:41:19.200 --> 00:41:21.080 the tumor to the pathologist.

NOTE Confidence: 0.90974770375

00:41:21.080 --> 00:41:23.355 Here's another example from the same article,

NOTE Confidence: 0.90974770375

00:41:23.360 --> 00:41:25.880 fairly large tumor that didn't move at all.

NOTE Confidence: 0.90974770375

00:41:25.880 --> 00:41:28.435 This was judged as a non response,

NOTE Confidence: 0.90974770375

00:41:28.440 --> 00:41:30.265 but nevertheless the surgeons took

NOTE Confidence: 0.90974770375

00:41:30.265 --> 00:41:32.946 it out and that mass that you're

NOTE Confidence: 0.90974770375

00:41:32.946 --> 00:41:34.906 seeing on X-ray was replaced

NOTE Confidence: 0.90974770375

00:41:34.906 --> 00:41:37.280 completely by scar and inflammation,

NOTE Confidence: 0.90974770375

00:41:37.280 --> 00:41:38.618 it was APCR.

NOTE Confidence: 0.90974770375

00:41:38.618 --> 00:41:40.848 So now they're randomized studies

NOTE Confidence: 0.90974770375

00:41:40.848 --> 00:41:42.400 of neoadjuvant therapy.

NOTE Confidence: 0.90974770375

00:41:42.400 --> 00:41:44.311 I'll just go over this quickly in

NOTE Confidence: 0.90974770375

00:41:44.311 --> 00:41:46.476 the interest of time using either

NOTE Confidence: 0.90974770375

00:41:46.476 --> 00:41:47.760 nivolumab plus chemotherapy,

NOTE Confidence: 0.90974770375

00:41:47.760 --> 00:41:49.692 platinum doublets or pembrolizumab

NOTE Confidence: 0.90974770375

00:41:49.692 --> 00:41:52.107 with essentially the same results



NOTE Confidence: 0.90974770375

00:41:52.107 --> 00:41:53.959 in randomized studies.

NOTE Confidence: 0.90974770375

00:41:53.960 --> 00:41:57.016 And you could see in this one study

NOTE Confidence: 0.90974770375

00:41:57.016 --> 00:42:01.617 Checkpoint 8.6 that adding the PD1

NOTE Confidence: 0.90974770375

00:42:01.617 --> 00:42:03.765 nivolumab plus chemotherapy was

NOTE Confidence: 0.90974770375

00:42:03.765 --> 00:42:05.913 better than chemotherapy alone.

NOTE Confidence: 0.90974770375

00:42:05.920 --> 00:42:09.112 And in this study now moving from

NOTE Confidence: 0.90974770375

00:42:09.112 --> 00:42:13.961 stage 3 to stage two lung cancer also

NOTE Confidence: 0.90974770375

00:42:13.961 --> 00:42:15.987 demonstrated it with pembrolizumab

NOTE Confidence: 0.90974770375

00:42:15.987 --> 00:42:18.681 that you get an additive effect

NOTE Confidence: 0.90974770375

00:42:18.681 --> 00:42:22.018 with the hazard ratio of .58 in a

NOTE Confidence: 0.90974770375

00:42:22.018 --> 00:42:23.775 highly significant difference in

NOTE Confidence: 0.90974770375

00:42:23.775 --> 00:42:26.265 event free survival and later on

NOTE Confidence: 0.90974770375

00:42:26.265 --> 00:42:28.722 with follow up in overall survival.

NOTE Confidence: 0.90974770375

00:42:28.722 --> 00:42:32.089 So these two studies are just two

NOTE Confidence: 0.90974770375

00:42:32.089 --> 00:42:34.703 examples demonstrating the additive

NOTE Confidence: 0.90974770375

00:42:34.703 --> 00:42:37.431 value of checkpoint inhibitors  
NOTE Confidence: 0.90974770375

00:42:37.431 --> 00:42:39.477 plus standard chemotherapy.  
NOTE Confidence: 0.90974770375

00:42:39.480 --> 00:42:41.196 And the teaching point here is  
NOTE Confidence: 0.90974770375

00:42:41.196 --> 00:42:43.443 if you look at the responders in  
NOTE Confidence: 0.90974770375

00:42:43.443 --> 00:42:45.519 the outcome in the green lines,  
NOTE Confidence: 0.90974770375

00:42:45.520 --> 00:42:47.704 most of these patients will survive  
NOTE Confidence: 0.90974770375

00:42:47.704 --> 00:42:50.520 for a long time without relapsing.  
NOTE Confidence: 0.90974770375

00:42:50.520 --> 00:42:51.160 In fact,  
NOTE Confidence: 0.90974770375

00:42:51.160 --> 00:42:53.400 at MD Anderson and her Melanoma group,  
NOTE Confidence: 0.90974770375

00:42:53.400 --> 00:42:56.116 my colleagues tell me that it is  
NOTE Confidence: 0.90974770375

00:42:56.116 --> 00:42:59.168 less than 5% of patients who have  
NOTE Confidence: 0.90974770375

00:42:59.168 --> 00:43:01.528 APCR after neoadjuvant therapy have  
NOTE Confidence: 0.90974770375

00:43:01.528 --> 00:43:03.958 failed so far in their experience  
NOTE Confidence: 0.90974770375

00:43:03.958 --> 00:43:06.360 that now goes past five years.  
NOTE Confidence: 0.90974770375

00:43:06.360 --> 00:43:09.580 So let me show the last example  
NOTE Confidence: 0.90974770375

00:43:09.580 --> 00:43:10.960 on colorectal surgery,

NOTE Confidence: 0.90974770375

00:43:10.960 --> 00:43:13.948 which is also another area where

NOTE Confidence: 0.90974770375

00:43:13.948 --> 00:43:15.940 neoadjuvant therapy here using

NOTE Confidence: 0.90974770375

00:43:16.028 --> 00:43:18.800 chemotherapy and radiation therapy.

NOTE Confidence: 0.90974770375

00:43:18.800 --> 00:43:20.936 And I don't have time to go over

NOTE Confidence: 0.90974770375

00:43:20.936 --> 00:43:22.880 the details other than to show you

NOTE Confidence: 0.90974770375

00:43:22.880 --> 00:43:24.535 in randomized trials which I'll

NOTE Confidence: 0.90974770375

00:43:24.535 --> 00:43:26.720 just briefly show the the results.

NOTE Confidence: 0.90974770375

00:43:26.720 --> 00:43:29.420 Different combinations and sequences

NOTE Confidence: 0.90974770375

00:43:29.420 --> 00:43:32.795 of chemotherapy and radiation therapy

NOTE Confidence: 0.90974770375

00:43:32.795 --> 00:43:36.228 up front has caused a pathological

NOTE Confidence: 0.90974770375

00:43:36.228 --> 00:43:38.456 or near pathological complete

NOTE Confidence: 0.90974770375

00:43:38.456 --> 00:43:42.839 response in almost 50% of patients.

NOTE Confidence: 0.90974770375

00:43:42.840 --> 00:43:46.160 So again just to show you the value

NOTE Confidence: 0.90974770375

00:43:46.160 --> 00:43:48.272 of clinical trials in advancing

NOTE Confidence: 0.90974770375

00:43:48.272 --> 00:43:49.840 our standards of care,

NOTE Confidence: 0.90974770375

00:43:49.840 --> 00:43:52.590 these are two randomized studies  
NOTE Confidence: 0.90974770375

00:43:52.590 --> 00:43:54.790 showing different combinations and  
NOTE Confidence: 0.90974770375

00:43:54.790 --> 00:43:56.918 sequences of radiation therapy,  
NOTE Confidence: 0.90974770375

00:43:56.920 --> 00:44:00.035 both short term and long term therapy  
NOTE Confidence: 0.90974770375

00:44:00.040 --> 00:44:03.448 and then whether the chemotherapy was  
NOTE Confidence: 0.90974770375

00:44:03.448 --> 00:44:05.720 given sequentially or simultaneously.  
NOTE Confidence: 0.90974770375

00:44:05.720 --> 00:44:07.897 But the bottom line is the patients  
NOTE Confidence: 0.90974770375

00:44:07.897 --> 00:44:10.343 who got longer exposures to standard  
NOTE Confidence: 0.90974770375

00:44:10.343 --> 00:44:12.753 chemotherapy as neoadjuvant therapy did,  
NOTE Confidence: 0.90974770375

00:44:12.760 --> 00:44:15.370 those did better than those who  
NOTE Confidence: 0.90974770375

00:44:15.370 --> 00:44:17.715 got shorter courses and this was  
NOTE Confidence: 0.90974770375

00:44:17.715 --> 00:44:19.440 shown in the repeater study.  
NOTE Confidence: 0.90974770375

00:44:19.440 --> 00:44:22.038 The this is a failure rate.  
NOTE Confidence: 0.90974770375

00:44:22.040 --> 00:44:24.722 Those patients who got longer courses  
NOTE Confidence: 0.90974770375

00:44:24.722 --> 00:44:27.026 of chemotherapy did better than  
NOTE Confidence: 0.90974770375

00:44:27.026 --> 00:44:29.236 those who had standard treatment.

NOTE Confidence: 0.90974770375

00:44:29.240 --> 00:44:31.622 And in this protege study now

NOTE Confidence: 0.90974770375

00:44:31.622 --> 00:44:33.867 with seven years follow up that

NOTE Confidence: 0.90974770375

00:44:33.867 --> 00:44:36.002 the patients who got radiation

NOTE Confidence: 0.90974770375

00:44:36.002 --> 00:44:37.710 therapy first followed by

NOTE Confidence: 0.876722491578947

00:44:37.785 --> 00:44:40.725 long term course of more intensive

NOTE Confidence: 0.876722491578947

00:44:40.725 --> 00:44:42.558 chemotherapy with Fulfurinex did

NOTE Confidence: 0.876722491578947

00:44:42.558 --> 00:44:44.706 better than those who had the

NOTE Confidence: 0.876722491578947

00:44:44.706 --> 00:44:46.511 standard short term chemotherapy

NOTE Confidence: 0.876722491578947

00:44:46.511 --> 00:44:49.159 simultaneous with radiation therapy.

NOTE Confidence: 0.876722491578947

00:44:49.160 --> 00:44:52.639 And now overall survival at 7 years

NOTE Confidence: 0.876722491578947

00:44:52.640 --> 00:44:55.811 event free survival shows a benefit of

NOTE Confidence: 0.876722491578947

00:44:55.811 --> 00:44:59.040 this which became the standard treatment

NOTE Confidence: 0.876722491578947

00:44:59.040 --> 00:45:01.077 and in the experience at MD Anderson,

NOTE Confidence: 0.876722491578947

00:45:01.080 --> 00:45:04.125 this is from our Chair of Colorectal

NOTE Confidence: 0.876722491578947

00:45:04.125 --> 00:45:05.632 department, George Chang.

NOTE Confidence: 0.876722491578947

00:45:05.632 --> 00:45:08.848 You could see those patients again  
NOTE Confidence: 0.876722491578947

00:45:08.848 --> 00:45:11.000 that achieved APCR did better  
NOTE Confidence: 0.876722491578947

00:45:11.000 --> 00:45:12.600 with long term follow up.  
NOTE Confidence: 0.876722491578947

00:45:12.600 --> 00:45:16.600 These were 18% of the patients but no  
NOTE Confidence: 0.876722491578947

00:45:16.600 --> 00:45:19.379 local recurrences in a very low risk  
NOTE Confidence: 0.876722491578947

00:45:19.379 --> 00:45:22.373 of distant metastasis based upon the  
NOTE Confidence: 0.876722491578947

00:45:22.373 --> 00:45:25.680 responses to the neoadjuvant therapy,  
NOTE Confidence: 0.876722491578947

00:45:25.680 --> 00:45:28.240 again showing this in yet  
NOTE Confidence: 0.876722491578947

00:45:28.240 --> 00:45:30.800 another disease as a strategy.  
NOTE Confidence: 0.876722491578947

00:45:30.800 --> 00:45:33.440 And then finally this Oprah study  
NOTE Confidence: 0.876722491578947

00:45:33.440 --> 00:45:35.764 which again randomized patients  
NOTE Confidence: 0.876722491578947

00:45:35.764 --> 00:45:38.276 with different combinations of  
NOTE Confidence: 0.876722491578947

00:45:38.280 --> 00:45:40.440 of neoadjuvant chemotherapy,  
NOTE Confidence: 0.876722491578947

00:45:40.440 --> 00:45:44.040 long term radiation therapy and  
NOTE Confidence: 0.876722491578947

00:45:44.040 --> 00:45:46.784 chemotherapy and then we're randomized  
NOTE Confidence: 0.876722491578947

00:45:46.784 --> 00:45:49.620 to receive either watch and wait

NOTE Confidence: 0.876722491578947  
00:45:49.620 --> 00:45:52.350 if clinically and by X-ray they  
NOTE Confidence: 0.876722491578947  
00:45:52.443 --> 00:45:55.278 had a clinical complete response.  
NOTE Confidence: 0.876722491578947  
00:45:55.280 --> 00:45:57.660 They went into a watch and wait  
NOTE Confidence: 0.876722491578947  
00:45:57.660 --> 00:45:59.600 program and the results of this  
NOTE Confidence: 0.876722491578947  
00:45:59.600 --> 00:46:00.560 we're pretty striking.  
NOTE Confidence: 0.876722491578947  
00:46:00.560 --> 00:46:03.008 You can see that the patients who had  
NOTE Confidence: 0.876722491578947  
00:46:03.008 --> 00:46:05.292 the more intensive neoadjuvant therapy  
NOTE Confidence: 0.876722491578947  
00:46:05.292 --> 00:46:08.688 did better with long long course  
NOTE Confidence: 0.876722491578947  
00:46:08.688 --> 00:46:11.598 radiation therapy followed by FOLFOX.  
NOTE Confidence: 0.876722491578947  
00:46:11.600 --> 00:46:14.960 And the important point is that  
NOTE Confidence: 0.876722491578947  
00:46:14.960 --> 00:46:17.740 the that I wanted to show here  
NOTE Confidence: 0.876722491578947  
00:46:17.740 --> 00:46:21.570 is the three-year failure of the  
NOTE Confidence: 0.876722491578947  
00:46:21.570 --> 00:46:24.630 event free survival in patients who  
NOTE Confidence: 0.876722491578947  
00:46:24.630 --> 00:46:26.989 had no surgery was 53%.  
NOTE Confidence: 0.876722491578947  
00:46:26.989 --> 00:46:29.563 And if regrowth of the tumor  
NOTE Confidence: 0.876722491578947

00:46:29.563 --> 00:46:32.576 then all of these patients were

NOTE Confidence: 0.876722491578947

00:46:32.576 --> 00:46:36.427 salvage with a TME operation.

NOTE Confidence: 0.876722491578947

00:46:36.427 --> 00:46:39.976 But in those who had shorter courses

NOTE Confidence: 0.876722491578947

00:46:39.976 --> 00:46:42.596 of chemotherapy did not do as well.

NOTE Confidence: 0.876722491578947

00:46:42.600 --> 00:46:43.506 But overall,

NOTE Confidence: 0.876722491578947

00:46:43.506 --> 00:46:45.318 as in this slide,

NOTE Confidence: 0.876722491578947

00:46:45.320 --> 00:46:47.870 nearly half the patients who

NOTE Confidence: 0.876722491578947

00:46:47.870 --> 00:46:49.400 received neoadjuvant therapy,

NOTE Confidence: 0.876722491578947

00:46:49.400 --> 00:46:51.855 especially with the longer courses

NOTE Confidence: 0.876722491578947

00:46:51.855 --> 00:46:53.819 of chemotherapy and longer

NOTE Confidence: 0.876722491578947

00:46:53.819 --> 00:46:55.879 courses of radiation therapy.

NOTE Confidence: 0.876722491578947

00:46:55.880 --> 00:46:59.142 You can see that half of the

NOTE Confidence: 0.876722491578947

00:46:59.142 --> 00:47:00.870 patients avoided surgery even

NOTE Confidence: 0.876722491578947

00:47:00.870 --> 00:47:03.240 after six years of follow up.

NOTE Confidence: 0.876722491578947

00:47:03.240 --> 00:47:05.640 And those who recurred and had

NOTE Confidence: 0.876722491578947

00:47:05.640 --> 00:47:07.240 salvage surgery had essentially



NOTE Confidence: 0.876722491578947  
00:47:07.306 --> 00:47:09.472 the same survival rates based upon  
NOTE Confidence: 0.876722491578947  
00:47:09.472 --> 00:47:11.677 the time of diagnosis as those  
NOTE Confidence: 0.876722491578947  
00:47:11.677 --> 00:47:13.753 patients who had surgery up front.  
NOTE Confidence: 0.9310673915  
00:47:15.880 --> 00:47:18.776 So I wanted to finish with what I  
NOTE Confidence: 0.9310673915  
00:47:18.776 --> 00:47:22.280 think is an example of our future when  
NOTE Confidence: 0.9310673915  
00:47:22.280 --> 00:47:26.390 we have the biomarkers that can give  
NOTE Confidence: 0.9310673915  
00:47:26.390 --> 00:47:29.890 us an exact prediction of response  
NOTE Confidence: 0.9310673915  
00:47:29.890 --> 00:47:32.074 rates with checkpoint inhibitors.  
NOTE Confidence: 0.9310673915  
00:47:32.080 --> 00:47:35.015 So in standard pathology report  
NOTE Confidence: 0.9310673915  
00:47:35.015 --> 00:47:37.363 usually shows the immunochemistry  
NOTE Confidence: 0.9310673915  
00:47:37.363 --> 00:47:39.720 results with either microsatellite  
NOTE Confidence: 0.9310673915  
00:47:39.720 --> 00:47:42.920 instability high or mixed  
NOTE Confidence: 0.8814902  
00:47:46.440 --> 00:47:46.960 mixed  
NOTE Confidence: 0.704941  
00:47:49.960 --> 00:47:55.016 responses in mismatch repair deficiency.  
NOTE Confidence: 0.704941  
00:47:55.016 --> 00:47:57.813 Sorry. And the point here is this is  
NOTE Confidence: 0.704941

00:47:57.813 --> 00:48:00.597 for the first time that the FDA approved

NOTE Confidence: 0.704941

00:48:00.600 --> 00:48:03.505 a drug with checkpoint inhibitors

NOTE Confidence: 0.704941

00:48:03.505 --> 00:48:07.240 based solely on the molecular profile.

NOTE Confidence: 0.704941

00:48:07.240 --> 00:48:10.720 So regardless of which tumor type it is,

NOTE Confidence: 0.704941

00:48:10.720 --> 00:48:13.492 colorectal, gastric, pediatric breasts,

NOTE Confidence: 0.704941

00:48:13.492 --> 00:48:16.957 sarcomas which are very infrequent.

NOTE Confidence: 0.704941

00:48:16.960 --> 00:48:19.284 The most common is in colorectal cancer

NOTE Confidence: 0.704941

00:48:19.284 --> 00:48:22.336 which is 10 to 15% of patients have

NOTE Confidence: 0.704941

00:48:22.336 --> 00:48:25.120 these biomarkers which is a surrogate

NOTE Confidence: 0.704941

00:48:25.200 --> 00:48:27.920 for a poorly differentiated tumor.

NOTE Confidence: 0.704941

00:48:27.920 --> 00:48:29.340 So think about it,

NOTE Confidence: 0.704941

00:48:29.340 --> 00:48:31.115 the immune response is looking

NOTE Confidence: 0.704941

00:48:31.115 --> 00:48:32.974 for foreigners, not self.

NOTE Confidence: 0.704941

00:48:32.974 --> 00:48:36.200 The more foreign the object is in our body,

NOTE Confidence: 0.704941

00:48:36.200 --> 00:48:39.119 the more robust the immune system is.

NOTE Confidence: 0.704941

00:48:39.120 --> 00:48:41.130 So it shouldn't surprise you that

NOTE Confidence: 0.704941

00:48:41.130 --> 00:48:42.840 the more poorly differentiated tumor,

NOTE Confidence: 0.704941

00:48:42.840 --> 00:48:45.720 higher tumor mutation burden or have

NOTE Confidence: 0.704941

00:48:45.720 --> 00:48:49.125 these biomarkers are going to be the

NOTE Confidence: 0.704941

00:48:49.125 --> 00:48:50.997 most responsive to immunotherapy.

NOTE Confidence: 0.704941

00:48:51.000 --> 00:48:52.120 But this is dramatic.

NOTE Confidence: 0.704941

00:48:52.120 --> 00:48:53.800 When the first studies were done,

NOTE Confidence: 0.704941

00:48:53.800 --> 00:48:56.390 you can see there was a pathological

NOTE Confidence: 0.704941

00:48:56.390 --> 00:48:56.760 response,

NOTE Confidence: 0.704941

00:48:56.760 --> 00:48:59.085 major response in every patients

NOTE Confidence: 0.704941

00:48:59.085 --> 00:49:02.329 who were treated with a checkpoint

NOTE Confidence: 0.704941

00:49:02.329 --> 00:49:04.360 inhibitor and look at these results.

NOTE Confidence: 0.704941

00:49:04.360 --> 00:49:07.587 A single dose of ipilumab and only

NOTE Confidence: 0.704941

00:49:07.587 --> 00:49:11.220 two doses of nivolumab led to 100%

NOTE Confidence: 0.704941

00:49:11.220 --> 00:49:13.540 pathological response in these

NOTE Confidence: 0.704941

00:49:13.540 --> 00:49:16.845 patients who were MMR deficient and

NOTE Confidence: 0.704941

00:49:16.845 --> 00:49:19.826 even in 27% of those who did not  
NOTE Confidence: 0.704941

00:49:19.826 --> 00:49:22.980 have that mutation with this short  
NOTE Confidence: 0.704941

00:49:22.980 --> 00:49:26.204 term dual agent and his larger series  
NOTE Confidence: 0.704941

00:49:26.204 --> 00:49:27.759 have been presented like this.  
NOTE Confidence: 0.704941

00:49:27.760 --> 00:49:31.510 At ASCO you could see that 95% of  
NOTE Confidence: 0.704941

00:49:31.510 --> 00:49:33.985 patients have expressing this biomarker  
NOTE Confidence: 0.704941

00:49:33.985 --> 00:49:37.976 in this case in colon cancer had a  
NOTE Confidence: 0.704941

00:49:37.976 --> 00:49:41.262 major pathological response at 67% had  
NOTE Confidence: 0.704941

00:49:41.262 --> 00:49:45.288 APCR with short term dual immunotherapy  
NOTE Confidence: 0.704941

00:49:45.288 --> 00:49:48.840 based upon this tumor marker.  
NOTE Confidence: 0.704941

00:49:48.840 --> 00:49:51.276 And here's the other point is larger  
NOTE Confidence: 0.704941

00:49:51.276 --> 00:49:53.223 series have been reported again  
NOTE Confidence: 0.704941

00:49:53.223 --> 00:49:55.950 using one dose of IPI and at a low  
NOTE Confidence: 0.704941

00:49:56.027 --> 00:49:58.679 dose only 1 milligram per kilogram.  
NOTE Confidence: 0.704941

00:49:58.680 --> 00:50:00.836 Remember we started out at 10 milligrams,  
NOTE Confidence: 0.704941

00:50:00.840 --> 00:50:06.550 which was too toxic in that in 99% of

NOTE Confidence: 0.704941

00:50:06.550 --> 00:50:09.880 patients they had a pathological response.

NOTE Confidence: 0.704941

00:50:09.880 --> 00:50:11.480 So this is pretty dramatic.

NOTE Confidence: 0.704941

00:50:11.480 --> 00:50:12.644 Now for the surgeons.

NOTE Confidence: 0.704941

00:50:12.644 --> 00:50:14.841 This was published in the New England

NOTE Confidence: 0.704941

00:50:14.841 --> 00:50:18.106 Journal of Medicine only on 12

NOTE Confidence: 0.704941

00:50:18.106 --> 00:50:21.434 patients who expressed this biomarker

NOTE Confidence: 0.704941

00:50:21.434 --> 00:50:24.518 and who got a checkpoint inhibitor

NOTE Confidence: 0.704941

00:50:24.520 --> 00:50:27.754 and based upon that response had

NOTE Confidence: 0.704941

00:50:27.754 --> 00:50:30.520 no radiation therapy and no surgery

NOTE Confidence: 0.704941

00:50:30.520 --> 00:50:32.760 and had been followed up now for

NOTE Confidence: 0.704941

00:50:32.760 --> 00:50:34.680 more than four to five years.

NOTE Confidence: 0.704941

00:50:34.680 --> 00:50:36.080 And these aren't small tumors.

NOTE Confidence: 0.704941

00:50:36.080 --> 00:50:37.641 You could see in this example published

NOTE Confidence: 0.704941

00:50:37.641 --> 00:50:39.478 in the New England Journal Medicine,

NOTE Confidence: 0.704941

00:50:39.480 --> 00:50:42.618 these were large tumors that over

NOTE Confidence: 0.704941

00:50:42.618 --> 00:50:45.600 time with this checkpoint inhibitor  
NOTE Confidence: 0.704941

00:50:45.600 --> 00:50:47.490 disappeared and in these patients  
NOTE Confidence: 0.704941

00:50:47.490 --> 00:50:50.320 with the follow up with no radiation,  
NOTE Confidence: 0.704941

00:50:50.320 --> 00:50:51.044 no surgery,  
NOTE Confidence: 0.704941

00:50:51.044 --> 00:50:52.854 there were no recurrences based  
NOTE Confidence: 0.704941

00:50:52.854 --> 00:50:54.440 upon this tumor marker.  
NOTE Confidence: 0.704941

00:50:54.440 --> 00:50:57.191 So this also applies in the lower  
NOTE Confidence: 0.704941

00:50:57.191 --> 00:50:59.518 frequency of patients with GI tumors.  
NOTE Confidence: 0.704941

00:50:59.520 --> 00:51:01.664 Gastrointestinal and esophageal cancers,  
NOTE Confidence: 0.704941

00:51:01.664 --> 00:51:05.969 which you could see in these studies used  
NOTE Confidence: 0.704941

00:51:05.969 --> 00:51:09.476 in a combination of pembrolizumab and Folfex,  
NOTE Confidence: 0.704941

00:51:09.480 --> 00:51:13.266 achieved 23 of 26 patients were  
NOTE Confidence: 0.704941

00:51:13.266 --> 00:51:15.159 free of disease.  
NOTE Confidence: 0.704941

00:51:15.160 --> 00:51:18.205 And the overall survival in these patients  
NOTE Confidence: 0.704941

00:51:18.205 --> 00:51:21.088 who presented with advanced disease,  
NOTE Confidence: 0.704941

00:51:21.088 --> 00:51:24.800 treated with preoperative disease

NOTE Confidence: 0.704941

00:51:24.800 --> 00:51:27.122 and that 65% of those patients

NOTE Confidence: 0.704941

00:51:27.122 --> 00:51:29.280 based upon the tumor marker,

NOTE Confidence: 0.704941

00:51:29.280 --> 00:51:32.605 it's a small percentage of patients had

NOTE Confidence: 0.704941

00:51:32.605 --> 00:51:36.040 APCR with gastric and esophageal cancers.

NOTE Confidence: 0.704941

00:51:36.040 --> 00:51:38.917 And now they're going on in this

NOTE Confidence: 0.855290297777778

00:51:38.920 --> 00:51:40.051 series of trials,

NOTE Confidence: 0.855290297777778

00:51:40.051 --> 00:51:42.313 the first one in Cohort 1,

NOTE Confidence: 0.855290297777778

00:51:42.320 --> 00:51:45.286 they found APCR in 60% of

NOTE Confidence: 0.855290297777778

00:51:45.286 --> 00:51:48.316 patients with this MMR deficiency.

NOTE Confidence: 0.855290297777778

00:51:48.320 --> 00:51:52.400 The the major response was 80%.

NOTE Confidence: 0.855290297777778

00:51:52.400 --> 00:51:54.682 And now the next phase of this

NOTE Confidence: 0.855290297777778

00:51:54.682 --> 00:51:57.745 trial is those patients who have a

NOTE Confidence: 0.855290297777778

00:51:57.745 --> 00:52:00.250 complete or near complete response

NOTE Confidence: 0.855290297777778

00:52:00.250 --> 00:52:01.678 radiologically and endoscopically

NOTE Confidence: 0.855290297777778

00:52:01.678 --> 00:52:05.450 get no surgery and follow up for GI,

NOTE Confidence: 0.855290297777778

00:52:05.450 --> 00:52:08.475 for gastric and gastroesophageal malignancy.

NOTE Confidence: 0.855290297777778

00:52:08.480 --> 00:52:10.160 So I've shown you in Melanoma,

NOTE Confidence: 0.855290297777778

00:52:10.160 --> 00:52:12.272 in lung cancer and breast cancer

NOTE Confidence: 0.855290297777778

00:52:12.272 --> 00:52:14.623 and now in colorectal cancer based

NOTE Confidence: 0.855290297777778

00:52:14.623 --> 00:52:17.245 upon tumor markers and usually based

NOTE Confidence: 0.855290297777778

00:52:17.245 --> 00:52:19.061 upon combinations of checkpoint

NOTE Confidence: 0.855290297777778

00:52:19.061 --> 00:52:20.809 inhibitors plus chemotherapy that

NOTE Confidence: 0.855290297777778

00:52:20.809 --> 00:52:23.374 we're now moving in selected patients

NOTE Confidence: 0.855290297777778

00:52:23.374 --> 00:52:26.223 to not doing surgery and watch and

NOTE Confidence: 0.855290297777778

00:52:26.223 --> 00:52:28.808 wait and then follow up with the

NOTE Confidence: 0.855290297777778

00:52:28.808 --> 00:52:30.999 patients and in those that fail,

NOTE Confidence: 0.855290297777778

00:52:31.000 --> 00:52:33.460 which is still the minority of

NOTE Confidence: 0.855290297777778

00:52:33.460 --> 00:52:35.800 patients to do salvage surgery.

NOTE Confidence: 0.855290297777778

00:52:35.800 --> 00:52:37.480 So these are my summary slides.

NOTE Confidence: 0.855290297777778

00:52:37.480 --> 00:52:39.184 There are changes now,

NOTE Confidence: 0.855290297777778

00:52:39.184 --> 00:52:41.740 but these strategies I've told you



NOTE Confidence: 0.855290297777778

00:52:41.819 --> 00:52:44.375 are increasingly going to be applied

NOTE Confidence: 0.855290297777778

00:52:44.375 --> 00:52:46.923 for all solid tumors that will

NOTE Confidence: 0.855290297777778

00:52:46.923 --> 00:52:49.597 impact all of us in oncology fields.

NOTE Confidence: 0.855290297777778

00:52:49.600 --> 00:52:52.065 That new adjuvant therapies selected

NOTE Confidence: 0.855290297777778

00:52:52.065 --> 00:52:55.029 by tumor molecular profiles is now

NOTE Confidence: 0.855290297777778

00:52:55.029 --> 00:52:57.129 and will increasingly become the

NOTE Confidence: 0.855290297777778

00:52:57.129 --> 00:52:59.840 standard of care for most cancers,

NOTE Confidence: 0.855290297777778

00:52:59.840 --> 00:53:03.480 for all but the earliest stage 1 cancers.

NOTE Confidence: 0.855290297777778

00:53:03.480 --> 00:53:06.434 And that surgery is vitally important for

NOTE Confidence: 0.855290297777778

00:53:06.434 --> 00:53:09.560 staging and local regional Disease Control.

NOTE Confidence: 0.855290297777778

00:53:09.560 --> 00:53:11.282 I've showed you data that there

NOTE Confidence: 0.855290297777778

00:53:11.282 --> 00:53:13.678 may be a place for watch and wait,

NOTE Confidence: 0.855290297777778

00:53:13.680 --> 00:53:15.976 but that's in a selected group of

NOTE Confidence: 0.855290297777778

00:53:15.976 --> 00:53:17.999 patients and then everybody else.

NOTE Confidence: 0.855290297777778

00:53:18.000 --> 00:53:20.550 There's still an important role for

NOTE Confidence: 0.855290297777778

00:53:20.550 --> 00:53:22.960 surgery in staging these patients.  
NOTE Confidence: 0.855290297777778

00:53:22.960 --> 00:53:25.666 And interestingly now as we're doing  
NOTE Confidence: 0.855290297777778

00:53:25.666 --> 00:53:28.160 less surgery for early disease,  
NOTE Confidence: 0.855290297777778

00:53:28.160 --> 00:53:30.062 we're going to be doing more  
NOTE Confidence: 0.855290297777778

00:53:30.062 --> 00:53:32.266 surgery for stage 4 and borderline  
NOTE Confidence: 0.855290297777778

00:53:32.266 --> 00:53:34.441 resectable Stage 3 disease because  
NOTE Confidence: 0.855290297777778

00:53:34.441 --> 00:53:36.679 we can downstage the patients.  
NOTE Confidence: 0.855290297777778

00:53:36.680 --> 00:53:39.158 And those of us treating even Stage  
NOTE Confidence: 0.855290297777778

00:53:39.158 --> 00:53:41.379 4 disease need to know whether  
NOTE Confidence: 0.855290297777778

00:53:41.379 --> 00:53:43.545 the masses we're seeing on X-ray  
NOTE Confidence: 0.855290297777778

00:53:43.545 --> 00:53:46.040 is inflammation or viable tumor,  
NOTE Confidence: 0.855290297777778

00:53:46.040 --> 00:53:48.704 take it out and do a molecular profile  
NOTE Confidence: 0.855290297777778

00:53:48.704 --> 00:53:51.996 on those tumor cells that are not responding.  
NOTE Confidence: 0.855290297777778

00:53:52.000 --> 00:53:53.876 So we need to better refine the  
NOTE Confidence: 0.855290297777778

00:53:53.876 --> 00:53:55.279 role of watch and wait.  
NOTE Confidence: 0.855290297777778

00:53:55.280 --> 00:53:56.480 This is a new thing.

NOTE Confidence: 0.855290297777778

00:53:56.480 --> 00:53:59.770 I'm not proposing it except in clinical

NOTE Confidence: 0.855290297777778

00:53:59.770 --> 00:54:01.870 trials and the intensity of follow

NOTE Confidence: 0.855290297777778

00:54:01.870 --> 00:54:04.117 up in the appropriate type of salvage

NOTE Confidence: 0.855290297777778

00:54:04.117 --> 00:54:06.056 surgery on relapse is going to be

NOTE Confidence: 0.855290297777778

00:54:06.056 --> 00:54:08.132 a new area for which we are going

NOTE Confidence: 0.855290297777778

00:54:08.132 --> 00:54:10.288 to need a lot of prospective data.

NOTE Confidence: 0.855290297777778

00:54:10.288 --> 00:54:12.760 And I think as I've shown you,

NOTE Confidence: 0.855290297777778

00:54:12.760 --> 00:54:14.910 we're changing the standards of

NOTE Confidence: 0.855290297777778

00:54:14.910 --> 00:54:17.060 care based upon these prospective

NOTE Confidence: 0.855290297777778

00:54:17.127 --> 00:54:19.500 clinical trials that are neoadjuvant

NOTE Confidence: 0.855290297777778

00:54:19.500 --> 00:54:21.800 trials that involve surgery as

NOTE Confidence: 0.855290297777778

00:54:21.800 --> 00:54:23.946 part of the clinical trial.

NOTE Confidence: 0.855290297777778

00:54:23.946 --> 00:54:26.211 So surgeons must engage their

NOTE Confidence: 0.855290297777778

00:54:26.211 --> 00:54:29.248 patients in the clinical trials where

NOTE Confidence: 0.855290297777778

00:54:29.248 --> 00:54:31.384 appropriate and design surgical

NOTE Confidence: 0.855290297777778

00:54:31.384 --> 00:54:34.059 trials to document the results  
NOTE Confidence: 0.855290297777778

00:54:34.059 --> 00:54:36.039 of DE escalation strategies,  
NOTE Confidence: 0.855290297777778

00:54:36.040 --> 00:54:38.340 new sequences of treatment and  
NOTE Confidence: 0.855290297777778

00:54:38.340 --> 00:54:40.640 the results of salvage therapy.  
NOTE Confidence: 0.855290297777778

00:54:40.640 --> 00:54:44.078 And I think for those of of us training  
NOTE Confidence: 0.855290297777778

00:54:44.078 --> 00:54:46.874 residents and fellows that surgical  
NOTE Confidence: 0.855290297777778

00:54:46.874 --> 00:54:49.459 training must include more exposure  
NOTE Confidence: 0.855290297777778

00:54:49.459 --> 00:54:51.880 to contemporary cancer management.  
NOTE Confidence: 0.855290297777778

00:54:51.880 --> 00:54:55.276 And that the pool of American Board of  
NOTE Confidence: 0.855290297777778

00:54:55.276 --> 00:54:57.272 Surgery certified surgical oncologist  
NOTE Confidence: 0.855290297777778

00:54:57.272 --> 00:54:59.657 must increase to meet the demands  
NOTE Confidence: 0.855290297777778

00:54:59.657 --> 00:55:02.184 in the public to have surgeons who  
NOTE Confidence: 0.855290297777778

00:55:02.184 --> 00:55:05.047 are also trained in oncology to be  
NOTE Confidence: 0.855290297777778

00:55:05.047 --> 00:55:07.397 part of the multidisciplinary team.  
NOTE Confidence: 0.954372974090909

00:55:07.400 --> 00:55:09.648 And as many of you know at least  
NOTE Confidence: 0.954372974090909

00:55:09.648 --> 00:55:11.786 in the tertiary hospitals that in

NOTE Confidence: 0.954372974090909

00:55:11.786 --> 00:55:14.615 order to keep up with the rapidly

NOTE Confidence: 0.954372974090909

00:55:14.615 --> 00:55:19.385 moving field based upon one or two

NOTE Confidence: 0.954372974090909

00:55:19.385 --> 00:55:21.770 diseases are increasingly going to

NOTE Confidence: 0.954372974090909

00:55:21.860 --> 00:55:24.500 have to focus their treatment to one

NOTE Confidence: 0.954372974090909

00:55:24.500 --> 00:55:27.405 or two organ sites in order to stay

NOTE Confidence: 0.954372974090909

00:55:27.405 --> 00:55:29.635 current with the rapid advances.

NOTE Confidence: 0.954372974090909

00:55:29.640 --> 00:55:32.280 So here are my key messages for the

NOTE Confidence: 0.954372974090909

00:55:32.280 --> 00:55:34.884 surgeons 1 to be prepared and informed

NOTE Confidence: 0.954372974090909

00:55:34.884 --> 00:55:37.815 to make major changes in the surgical

NOTE Confidence: 0.954372974090909

00:55:37.815 --> 00:55:40.280 management of your cancer practice,

NOTE Confidence: 0.954372974090909

00:55:40.280 --> 00:55:42.136 including deferring surgery until

NOTE Confidence: 0.954372974090909

00:55:42.136 --> 00:55:44.920 after a trial of neoadjuvant therapy.

NOTE Confidence: 0.954372974090909

00:55:44.920 --> 00:55:47.074 Because of the benefit I've shown

NOTE Confidence: 0.954372974090909

00:55:47.074 --> 00:55:49.399 you now in multiple tumor types,

NOTE Confidence: 0.954372974090909

00:55:49.400 --> 00:55:52.015 to consider surgical excision for

NOTE Confidence: 0.954372974090909

00:55:52.015 --> 00:55:54.630 borderline or inoperable tumors that  
NOTE Confidence: 0.954372974090909

00:55:54.705 --> 00:55:57.924 are downstage with systemic therapy and  
NOTE Confidence: 0.954372974090909

00:55:57.924 --> 00:56:00.340 consider more conservative surgical  
NOTE Confidence: 0.954372974090909

00:56:00.340 --> 00:56:02.756 procedures with the downstaging.  
NOTE Confidence: 0.954372974090909

00:56:02.760 --> 00:56:05.728 And then we as surgeons have to adopt  
NOTE Confidence: 0.954372974090909

00:56:05.728 --> 00:56:08.398 A mindset of being an oncologist  
NOTE Confidence: 0.954372974090909

00:56:08.398 --> 00:56:10.505 who operates cancer management is  
NOTE Confidence: 0.954372974090909

00:56:10.505 --> 00:56:12.875 dealing with now a chronic disease.  
NOTE Confidence: 0.954372974090909

00:56:12.880 --> 00:56:15.617 Surgery is kind of a vertical specialty  
NOTE Confidence: 0.954372974090909

00:56:15.617 --> 00:56:17.880 that focuses on the operation  
NOTE Confidence: 0.954372974090909

00:56:17.880 --> 00:56:19.916 and the perioperative period.  
NOTE Confidence: 0.954372974090909

00:56:19.920 --> 00:56:21.768 But our job is not done once  
NOTE Confidence: 0.954372974090909

00:56:21.768 --> 00:56:23.040 the wounds have healed.  
NOTE Confidence: 0.954372974090909

00:56:23.040 --> 00:56:25.086 There is another phase for which  
NOTE Confidence: 0.954372974090909

00:56:25.086 --> 00:56:27.755 we need to be involved in giving  
NOTE Confidence: 0.954372974090909

00:56:27.755 --> 00:56:30.203 systemic therapy up front and how

NOTE Confidence: 0.954372974090909  
00:56:30.203 --> 00:56:32.360 we do what we do afterwards.  
NOTE Confidence: 0.954372974090909  
00:56:32.360 --> 00:56:36.058 And we also need to be at the arena  
NOTE Confidence: 0.954372974090909  
00:56:36.058 --> 00:56:38.800 when treatment plans are made to  
NOTE Confidence: 0.954372974090909  
00:56:38.800 --> 00:56:40.880 bring the surgeons perspective  
NOTE Confidence: 0.954372974090909  
00:56:40.880 --> 00:56:42.440 to multidisciplinary treatment  
NOTE Confidence: 0.954372974090909  
00:56:42.440 --> 00:56:43.964 And without being critical,  
NOTE Confidence: 0.954372974090909  
00:56:43.964 --> 00:56:46.250 I know that your medical oncology  
NOTE Confidence: 0.954372974090909  
00:56:46.319 --> 00:56:48.444 training and radiation oncology training  
NOTE Confidence: 0.954372974090909  
00:56:48.444 --> 00:56:50.948 does not include surgery as part  
NOTE Confidence: 0.954372974090909  
00:56:50.948 --> 00:56:53.706 of your training and in fact you're  
NOTE Confidence: 0.954372974090909  
00:56:53.706 --> 00:56:56.718 biased because you see our failures.  
NOTE Confidence: 0.954372974090909  
00:56:56.720 --> 00:56:58.080 I'll give you one example.  
NOTE Confidence: 0.954372974090909  
00:56:58.080 --> 00:57:01.349 My daughter who's APA in GI medical  
NOTE Confidence: 0.954372974090909  
00:57:01.349 --> 00:57:04.772 oncology at MD Anderson sees a few of  
NOTE Confidence: 0.954372974090909  
00:57:04.772 --> 00:57:06.237 these salvage surgery patients that  
NOTE Confidence: 0.954372974090909

00:57:06.237 --> 00:57:08.572 say our patients come in with these  
NOTE Confidence: 0.954372974090909

00:57:08.572 --> 00:57:10.144 huge inoperable, miserable tumors.  
NOTE Confidence: 0.954372974090909

00:57:10.144 --> 00:57:13.760 I don't see why we're doing salvage surgery.  
NOTE Confidence: 0.954372974090909

00:57:13.760 --> 00:57:15.874 So I immediately called my son Glenn,  
NOTE Confidence: 0.954372974090909

00:57:15.880 --> 00:57:17.855 who's doing all the colorectal  
NOTE Confidence: 0.954372974090909

00:57:17.855 --> 00:57:19.040 surgery and said,  
NOTE Confidence: 0.954372974090909

00:57:19.040 --> 00:57:20.540 you know that happens but only  
NOTE Confidence: 0.954372974090909

00:57:20.540 --> 00:57:22.120 in 5% of our patients.  
NOTE Confidence: 0.954372974090909

00:57:22.120 --> 00:57:25.073 But my daughter thinks that we should be  
NOTE Confidence: 0.954372974090909

00:57:25.073 --> 00:57:27.635 doing this because she sees the failures,  
NOTE Confidence: 0.954372974090909

00:57:27.640 --> 00:57:30.416 the ones that do well don't go to  
NOTE Confidence: 0.954372974090909

00:57:30.416 --> 00:57:32.439 those medical oncology clinics.  
NOTE Confidence: 0.954372974090909

00:57:32.440 --> 00:57:35.569 So I think it's bringing the surgeon's  
NOTE Confidence: 0.954372974090909

00:57:35.569 --> 00:57:38.359 perspective to those that are different  
NOTE Confidence: 0.954372974090909

00:57:38.360 --> 00:57:40.560 in medical and radiation oncology.  
NOTE Confidence: 0.954372974090909

00:57:40.560 --> 00:57:42.396 And it's the collective wisdom we



NOTE Confidence: 0.954372974090909  
00:57:42.396 --> 00:57:44.880 all bring that is better for patient  
NOTE Confidence: 0.954372974090909  
00:57:44.880 --> 00:57:46.080 care decision making.  
NOTE Confidence: 0.966842886363636  
00:57:48.760 --> 00:57:50.716 And then this last thing I  
NOTE Confidence: 0.966842886363636  
00:57:50.716 --> 00:57:52.360 don't have a solution for,  
NOTE Confidence: 0.966842886363636  
00:57:52.360 --> 00:57:54.400 but I want to give you an example.  
NOTE Confidence: 0.966842886363636  
00:57:54.400 --> 00:57:56.759 My son Glenn, who's head of the  
NOTE Confidence: 0.966842886363636  
00:57:56.759 --> 00:57:58.838 division of colorectal surgery at Emory  
NOTE Confidence: 0.966842886363636  
00:57:58.840 --> 00:58:02.596 had a conversation with his chair.  
NOTE Confidence: 0.966842886363636  
00:58:02.600 --> 00:58:04.520 So John Sweeney said Glenn,  
NOTE Confidence: 0.966842886363636  
00:58:04.520 --> 00:58:06.356 I noticed your Rvus are down,  
NOTE Confidence: 0.966842886363636  
00:58:06.360 --> 00:58:09.480 what's going on and Glenn responded.  
NOTE Confidence: 0.966842886363636  
00:58:09.480 --> 00:58:11.256 Well, half of my rectal cancer  
NOTE Confidence: 0.966842886363636  
00:58:11.256 --> 00:58:12.865 patients are getting a clinical  
NOTE Confidence: 0.966842886363636  
00:58:12.865 --> 00:58:14.680 complete response and going into  
NOTE Confidence: 0.966842886363636  
00:58:14.680 --> 00:58:17.335 watch and weight status and now I'm  
NOTE Confidence: 0.966842886363636

00:58:17.335 --> 00:58:19.235 flooded with these patients doing  
NOTE Confidence: 0.966842886363636

00:58:19.235 --> 00:58:20.814 flexible sigmoidoscopy exams every  
NOTE Confidence: 0.966842886363636

00:58:20.814 --> 00:58:23.663 three months and there is little RVU  
NOTE Confidence: 0.966842886363636

00:58:23.663 --> 00:58:26.437 values for this new group of patients.  
NOTE Confidence: 0.966842886363636

00:58:26.440 --> 00:58:28.296 And so my point is in this new  
NOTE Confidence: 0.966842886363636

00:58:28.296 --> 00:58:30.079 era of oncology management,  
NOTE Confidence: 0.966842886363636

00:58:30.080 --> 00:58:32.944 how are we going to gain gauge the  
NOTE Confidence: 0.966842886363636

00:58:32.944 --> 00:58:34.622 clinical performance that here to  
NOTE Confidence: 0.966842886363636

00:58:34.622 --> 00:58:36.715 for is based upon volume of care.  
NOTE Confidence: 0.966842886363636

00:58:36.720 --> 00:58:38.810 When oncology advances in all  
NOTE Confidence: 0.966842886363636

00:58:38.810 --> 00:58:41.921 of our fields are driving us to  
NOTE Confidence: 0.966842886363636

00:58:41.921 --> 00:58:43.797 perform less intensive therapy,  
NOTE Confidence: 0.966842886363636

00:58:43.800 --> 00:58:45.560 surgeons are doing more  
NOTE Confidence: 0.966842886363636

00:58:45.560 --> 00:58:46.440 conservative operation,  
NOTE Confidence: 0.966842886363636

00:58:46.440 --> 00:58:47.880 less frequent lymphadenectomies,  
NOTE Confidence: 0.966842886363636

00:58:47.880 --> 00:58:49.800 more watch and wait.

NOTE Confidence: 0.966842886363636

00:58:49.800 --> 00:58:52.476 Radiation oncologists are going from six

NOTE Confidence: 0.966842886363636

00:58:52.476 --> 00:58:55.131 weeks standard courses to three weeks

NOTE Confidence: 0.966842886363636

00:58:55.131 --> 00:58:57.513 to weekly to no radiation oncology.

NOTE Confidence: 0.966842886363636

00:58:57.520 --> 00:59:00.166 So they'll be less income if you're

NOTE Confidence: 0.966842886363636

00:59:00.166 --> 00:59:02.240 doing shorter courses of radiation.

NOTE Confidence: 0.966842886363636

00:59:02.240 --> 00:59:04.010 And of course we're a medical

NOTE Confidence: 0.966842886363636

00:59:04.010 --> 00:59:04.600 oncology colleagues.

NOTE Confidence: 0.966842886363636

00:59:04.600 --> 00:59:06.952 I think we're going to be giving

NOTE Confidence: 0.966842886363636

00:59:06.952 --> 00:59:09.080 shorter courses of adjuvant therapy

NOTE Confidence: 0.966842886363636

00:59:09.080 --> 00:59:11.144 especially immunotherapy instead of

NOTE Confidence: 0.966842886363636

00:59:11.144 --> 00:59:14.800 one to two years of expensive drugs.

NOTE Confidence: 0.966842886363636

00:59:14.800 --> 00:59:16.568 And then what are we going to do

NOTE Confidence: 0.966842886363636

00:59:16.568 --> 00:59:18.281 with these patients who are in watch

NOTE Confidence: 0.966842886363636

00:59:18.281 --> 00:59:19.798 and wait and are well patients

NOTE Confidence: 0.966842886363636

00:59:19.798 --> 00:59:21.555 that just need to be follow up

NOTE Confidence: 0.966842886363636

00:59:21.560 --> 00:59:23.275 the the oncology specialist can't  
NOTE Confidence: 0.966842886363636

00:59:23.275 --> 00:59:25.480 see the new patients in those  
NOTE Confidence: 0.966842886363636

00:59:25.480 --> 00:59:27.168 interactive treatment if they're  
NOTE Confidence: 0.966842886363636

00:59:27.168 --> 00:59:29.520 seeing well patients for follow up.  
NOTE Confidence: 0.966842886363636

00:59:29.520 --> 00:59:31.333 So we have to delegate that follow  
NOTE Confidence: 0.966842886363636

00:59:31.333 --> 00:59:33.678 up to mid level providers or even  
NOTE Confidence: 0.966842886363636

00:59:33.678 --> 00:59:35.186 non oncology trained physicians  
NOTE Confidence: 0.966842886363636

00:59:35.186 --> 00:59:36.935 who will follow these patients  
NOTE Confidence: 0.966842886363636

00:59:36.935 --> 00:59:39.119 and send them back in those few  
NOTE Confidence: 0.966842886363636

00:59:39.120 --> 00:59:41.040 that relapse and that's a change  
NOTE Confidence: 0.966842886363636

00:59:41.040 --> 00:59:43.240 in how we manage our patients.  
NOTE Confidence: 0.966842886363636

00:59:43.240 --> 00:59:45.720 It's a different team effect  
NOTE Confidence: 0.966842886363636

00:59:45.720 --> 00:59:47.603 but with the like Glenn said if  
NOTE Confidence: 0.966842886363636

00:59:47.603 --> 00:59:49.810 half of his patients are getting  
NOTE Confidence: 0.966842886363636

00:59:49.810 --> 00:59:51.594 a clinical complete response,  
NOTE Confidence: 0.966842886363636

00:59:51.600 --> 00:59:53.088 he can't follow all of those

NOTE Confidence: 0.966842886363636

00:59:53.088 --> 00:59:54.080 patients for a lifetime,

NOTE Confidence: 0.966842886363636

00:59:54.080 --> 00:59:56.520 somebody else has to do that and

NOTE Confidence: 0.966842886363636

00:59:56.520 --> 00:59:58.920 then send back those that relapse.

NOTE Confidence: 0.966842886363636

00:59:58.920 --> 01:00:01.678 So that's the end of my talk.

NOTE Confidence: 0.966842886363636

01:00:01.680 --> 01:00:04.116 I hope that this has been helpful

NOTE Confidence: 0.966842886363636

01:00:04.116 --> 01:00:05.959 in telling you about our.

NOTE Confidence: 0.966842886363636

01:00:05.960 --> 01:00:07.670 Present and future strategies and

NOTE Confidence: 0.966842886363636

01:00:07.670 --> 01:00:10.228 how that will impact on the surgical

NOTE Confidence: 0.966842886363636

01:00:10.228 --> 01:00:12.624 management of our cancer patients and

NOTE Confidence: 0.966842886363636

01:00:12.624 --> 01:00:15.592 the value of clinical trials in make

NOTE Confidence: 0.966842886363636

01:00:15.592 --> 01:00:18.317 in changing our standards of care.

NOTE Confidence: 0.966842886363636

01:00:18.320 --> 01:00:20.328 So thank you all for the opportunity of

NOTE Confidence: 0.966842886363636

01:00:20.328 --> 01:00:22.436 coming and I hope this was helpful to you.

NOTE Confidence: 0.63686657

01:00:28.180 --> 01:00:30.825 Thank you for a talk that

NOTE Confidence: 0.63686657

01:00:30.825 --> 01:00:32.660 was uplifting, exciting

NOTE Confidence: 0.874764266666667

01:00:32.660 --> 01:00:35.480 and also provocative.  
NOTE Confidence: 0.874764266666667

01:00:35.480 --> 01:00:36.592 I know that I was getting late.  
NOTE Confidence: 0.874764266666667

01:00:36.592 --> 01:00:37.432 There may be some time  
NOTE Confidence: 0.832760725

01:00:37.640 --> 01:00:39.024 for one question from  
NOTE Confidence: 0.832760725

01:00:39.024 --> 01:00:40.120 the audience for Hoocha.  
NOTE Confidence: 0.832569248333333

01:00:40.720 --> 01:00:42.556 So thank you, Charles, for presenting,  
NOTE Confidence: 0.832569248333333

01:00:42.560 --> 01:00:45.128 really just giving us food for  
NOTE Confidence: 0.832569248333333

01:00:45.128 --> 01:00:47.095 thought and talking about where  
NOTE Confidence: 0.832569248333333

01:00:47.095 --> 01:00:48.880 cancer care is and perhaps where it's.  
NOTE Confidence: 0.832569248333333

01:00:48.880 --> 01:00:51.517 I want to come back to your last point,  
NOTE Confidence: 0.832569248333333

01:00:51.520 --> 01:00:53.700 which is interdisciplinary collaborations.  
NOTE Confidence: 0.832569248333333

01:00:53.700 --> 01:00:56.120 And for the trainees in the room,  
NOTE Confidence: 0.832569248333333

01:00:56.120 --> 01:00:58.958 I thought it'd be helpful to share a lens of,  
NOTE Confidence: 0.832569248333333

01:00:58.960 --> 01:01:01.741 you know I was in Hopkins during that period  
NOTE Confidence: 0.832569248333333

01:01:01.741 --> 01:01:04.636 and many of those first offers were felons.  
NOTE Confidence: 0.832569248333333

01:01:04.640 --> 01:01:07.844 Patrick Ford, the lung trial you showed and

NOTE Confidence: 0.832569248333333  
01:01:07.844 --> 01:01:10.436 was a fellow sitting in a conference and  
NOTE Confidence: 0.832569248333333  
01:01:10.436 --> 01:01:13.346 we were talking about this with surgeons,  
NOTE Confidence: 0.832569248333333  
01:01:13.346 --> 01:01:15.690 medical oncologists and radiation  
NOTE Confidence: 0.832569248333333  
01:01:15.690 --> 01:01:17.728 oncologists and the colorectal trials.  
NOTE Confidence: 0.832569248333333  
01:01:17.728 --> 01:01:20.688 My very good friend Louise Diaz and I  
NOTE Confidence: 0.832569248333333  
01:01:20.688 --> 01:01:22.860 remember sitting with Louise running our  
NOTE Confidence: 0.832569248333333  
01:01:22.860 --> 01:01:25.232 colon tumor board and an observation  
NOTE Confidence: 0.832569248333333  
01:01:25.232 --> 01:01:28.766 that was made on a small trial that on  
NOTE Confidence: 0.832569248333333  
01:01:28.766 --> 01:01:31.030 our phase one trial one of the patients  
NOTE Confidence: 0.832569248333333  
01:01:31.094 --> 01:01:33.000 was mismatched repair efficient,  
NOTE Confidence: 0.832569248333333  
01:01:33.000 --> 01:01:37.300 it was one patient and it was an observation  
NOTE Confidence: 0.832569248333333  
01:01:37.300 --> 01:01:39.040 made and wrote Suzanne Topallion,  
NOTE Confidence: 0.832569248333333  
01:01:39.040 --> 01:01:40.276 he's a surgeon as you mentioned.  
NOTE Confidence: 0.832569248333333  
01:01:40.280 --> 01:01:42.835 He wrote that in the clinical Cancer  
NOTE Confidence: 0.832569248333333  
01:01:42.835 --> 01:01:44.805 Research it was an advance smaller  
NOTE Confidence: 0.832569248333333

01:01:44.805 --> 01:01:47.187 than this that led to this entire  
NOTE Confidence: 0.832569248333333

01:01:47.187 --> 01:01:50.118 field of opening up in multiple tumor  
NOTE Confidence: 0.832569248333333

01:01:50.118 --> 01:01:53.154 types from that very small observation.  
NOTE Confidence: 0.832569248333333

01:01:53.160 --> 01:01:56.564 So my question to you is that how do  
NOTE Confidence: 0.832569248333333

01:01:56.564 --> 01:01:58.790 we encourage that as we're becoming  
NOTE Confidence: 0.832569248333333

01:01:58.864 --> 01:02:00.793 bigger that event happenstance that's  
NOTE Confidence: 0.832569248333333

01:02:00.793 --> 01:02:02.277 how research is done,  
NOTE Confidence: 0.832569248333333

01:02:02.280 --> 01:02:05.727 that's how great clinical initiatives happen.  
NOTE Confidence: 0.832569248333333

01:02:05.727 --> 01:02:07.736 How do we foster that as leaders  
NOTE Confidence: 0.832569248333333

01:02:07.736 --> 01:02:09.641 we're sitting in this room that that's  
NOTE Confidence: 0.832569248333333

01:02:09.641 --> 01:02:11.255 a luxury that we barely have.  
NOTE Confidence: 0.832569248333333

01:02:11.255 --> 01:02:13.600 So I wondered what's your thoughts about,  
NOTE Confidence: 0.832569248333333

01:02:13.600 --> 01:02:15.968 I think the answer is we're if we're  
NOTE Confidence: 0.832569248333333

01:02:15.968 --> 01:02:17.960 looking for advances in care see  
NOTE Confidence: 0.832569248333333

01:02:17.960 --> 01:02:21.348 opportunities and we can base a clinical  
NOTE Confidence: 0.832569248333333

01:02:21.348 --> 01:02:23.800 trial prospectively on a hypothesis



NOTE Confidence: 0.832569248333333  
01:02:23.800 --> 01:02:26.440 or even retrospective data that leads  
NOTE Confidence: 0.832569248333333  
01:02:26.440 --> 01:02:29.400 to the design of the trial that we  
NOTE Confidence: 0.832569248333333  
01:02:29.400 --> 01:02:31.280 need to be thinking about.  
NOTE Confidence: 0.832569248333333  
01:02:31.280 --> 01:02:34.556 We have to practice evidence based care.  
NOTE Confidence: 0.832569248333333  
01:02:34.560 --> 01:02:36.964 And if we don't have this in this  
NOTE Confidence: 0.832569248333333  
01:02:36.964 --> 01:02:38.077 rapidly developing field,  
NOTE Confidence: 0.832569248333333  
01:02:38.080 --> 01:02:40.502 we're going to go back to empirical  
NOTE Confidence: 0.832569248333333  
01:02:40.502 --> 01:02:42.955 medicine based upon marketing of drug  
NOTE Confidence: 0.832569248333333  
01:02:42.955 --> 01:02:45.200 companies and and instrument companies.  
NOTE Confidence: 0.832569248333333  
01:02:45.200 --> 01:02:47.711 So I think you know to add to what  
NOTE Confidence: 0.832569248333333  
01:02:47.711 --> 01:02:50.123 Nita has said that it's so important  
NOTE Confidence: 0.832569248333333  
01:02:50.123 --> 01:02:52.949 for us to insist on our patients  
NOTE Confidence: 0.832569248333333  
01:02:52.949 --> 01:02:55.239 wherever possible being in clinical  
NOTE Confidence: 0.832569248333333  
01:02:55.239 --> 01:02:57.788 trials where they're eligible so that  
NOTE Confidence: 0.832569248333333  
01:02:57.788 --> 01:03:00.802 we can advance the field based upon  
NOTE Confidence: 0.832569248333333

01:03:00.802 --> 01:03:03.748 evidence and not based upon marketing

NOTE Confidence: 0.832569248333333

01:03:03.748 --> 01:03:04.960 strategies but it.

NOTE Confidence: 0.832569248333333

01:03:04.960 --> 01:03:07.516 But we all need to have an open mind

NOTE Confidence: 0.832569248333333

01:03:07.516 --> 01:03:09.880 is you know and I'm enthusiastic

NOTE Confidence: 0.832569248333333

01:03:09.880 --> 01:03:10.576 about the results,

NOTE Confidence: 0.832569248333333

01:03:10.576 --> 01:03:12.200 but if you looked at the slides,

NOTE Confidence: 0.832569248333333

01:03:12.200 --> 01:03:14.240 there are a lot of patients who failed

NOTE Confidence: 0.832569248333333

01:03:14.240 --> 01:03:15.232 with our current treatment.

NOTE Confidence: 0.832569248333333

01:03:15.232 --> 01:03:19.000 So there's still a lot to do and I

NOTE Confidence: 0.832569248333333

01:03:19.000 --> 01:03:20.640 think that's going to be based upon

NOTE Confidence: 0.832569248333333

01:03:20.640 --> 01:03:22.760 the team working together,

NOTE Confidence: 0.832569248333333

01:03:22.760 --> 01:03:24.344 each bringing different perspectives.

NOTE Confidence: 0.832569248333333

01:03:24.344 --> 01:03:27.800 I love the story with Lei Ping Chen

NOTE Confidence: 0.832569248333333

01:03:27.800 --> 01:03:29.886 who said this works in the mouse,

NOTE Confidence: 0.832569248333333

01:03:29.886 --> 01:03:32.140 maybe it works in the patient and

NOTE Confidence: 0.832569248333333

01:03:32.215 --> 01:03:34.560 he brought that hypothesis to what

NOTE Confidence: 0.832569248333333

01:03:34.560 --> 01:03:38.920 became a major immunotherapy advance.

NOTE Confidence: 0.832569248333333

01:03:38.920 --> 01:03:42.000 So the collaboration and between

NOTE Confidence: 0.832569248333333

01:03:42.000 --> 01:03:44.053 the clinical teams and between the

NOTE Confidence: 0.832569248333333

01:03:44.053 --> 01:03:45.970 research teams and the clinical

NOTE Confidence: 0.832569248333333

01:03:45.970 --> 01:03:47.320 teams is I think the

NOTE Confidence: 0.959373785

01:03:47.320 --> 01:03:50.878 what's important and championing the

NOTE Confidence: 0.959373785

01:03:50.880 --> 01:03:52.936 collective wisdom that we all bring

NOTE Confidence: 0.959373785

01:03:52.936 --> 01:03:54.693 with our different perspectives in

NOTE Confidence: 0.959373785

01:03:54.693 --> 01:03:56.560 bringing that together in our decision.

NOTE Confidence: 0.892907145625

01:03:59.920 --> 01:04:01.348 Thank you very much.

NOTE Confidence: 0.892907145625

01:04:01.348 --> 01:04:03.490 I think Doctor Balch will be

NOTE Confidence: 0.892907145625

01:04:03.566 --> 01:04:05.678 here for a little bit longer.

NOTE Confidence: 0.892907145625

01:04:05.680 --> 01:04:07.792 I don't want to take more

NOTE Confidence: 0.892907145625

01:04:07.792 --> 01:04:09.200 practice to this point.

NOTE Confidence: 0.892907145625

01:04:09.200 --> 01:04:10.957 If you people can come down and

NOTE Confidence: 0.892907145625

01:04:10.957 --> 01:04:12.815 I know you'll be spending some

NOTE Confidence: 0.892907145625

01:04:12.815 --> 01:04:14.560 time with the surgical residents,

NOTE Confidence: 0.892907145625

01:04:14.560 --> 01:04:15.328 it's been wonderful.

NOTE Confidence: 0.892907145625

01:04:15.328 --> 01:04:16.864 Thank you all for the honor

NOTE Confidence: 0.892907145625

01:04:16.864 --> 01:04:18.078 of coming here today.

NOTE Confidence: 0.339922975

01:04:23.080 --> 01:04:26.000 No. And I get this. He get this luggage.