

WEBVTT

NOTE duration: "00:05:33.184"

NOTE Confidence: 0.99572754

00:00:04.080 --> 00:00:04.580 Endometriosis

NOTE Confidence: 0.97703046

00:00:05.200 --> 00:00:06.799 is a disease where the

NOTE Confidence: 0.97703046

00:00:06.799 --> 00:00:08.639 endometrial lining of the uterus

NOTE Confidence: 0.97703046

00:00:08.639 --> 00:00:11.059 grows inside the abdomen. Endometrial

NOTE Confidence: 0.97703046

00:00:11.200 --> 00:00:12.794 cells respond to hormones, so

NOTE Confidence: 0.97703046

00:00:12.794 --> 00:00:13.995 they are the same cells

NOTE Confidence: 0.97703046

00:00:13.995 --> 00:00:15.115 that grow and shed when

NOTE Confidence: 0.97703046

00:00:15.115 --> 00:00:16.555 someone has their menstrual cycle

NOTE Confidence: 0.97703046

00:00:16.555 --> 00:00:17.835 or their period. When you

NOTE Confidence: 0.97703046

00:00:17.835 --> 00:00:19.114 have that tissue growing where

NOTE Confidence: 0.97703046

00:00:19.114 --> 00:00:20.875 it's not supposed to and

NOTE Confidence: 0.97703046

00:00:20.875 --> 00:00:21.935 essentially menstruating

NOTE Confidence: 0.9745745

00:00:22.235 --> 00:00:23.775 every month in the abdomen,

NOTE Confidence: 0.9745745

00:00:23.835 --> 00:00:25.869 internal bleeding every month, it

NOTE Confidence: 0.9745745

00:00:25.869 --> 00:00:27.170 causes a lot of pain
NOTE Confidence: 0.9745745

00:00:27.310 --> 00:00:28.109 and it can lead to
NOTE Confidence: 0.9745745

00:00:28.109 --> 00:00:28.609 infertility.
NOTE Confidence: 0.9970703

00:00:29.390 --> 00:00:30.849 Because the pain is predominantly
NOTE Confidence: 0.9970703

00:00:30.990 --> 00:00:31.810 in the pelvis
NOTE Confidence: 0.98285866

00:00:32.110 --> 00:00:33.729 and because most of these
NOTE Confidence: 0.98285866

00:00:33.790 --> 00:00:35.729 lesions grow in the pelvis,
NOTE Confidence: 0.98285866

00:00:35.949 --> 00:00:37.390 we've always thought of this
NOTE Confidence: 0.98285866

00:00:37.390 --> 00:00:39.170 as an isolated gynecologic
NOTE Confidence: 0.9885457

00:00:39.629 --> 00:00:41.955 disease. But largely because of
NOTE Confidence: 0.9885457

00:00:41.955 --> 00:00:42.915 some of the research we've
NOTE Confidence: 0.9885457

00:00:42.915 --> 00:00:44.455 done here at Yale, we're
NOTE Confidence: 0.9885457

00:00:44.755 --> 00:00:46.755 identifying that this disease has
NOTE Confidence: 0.9885457

00:00:46.755 --> 00:00:48.295 impacts throughout the body.
NOTE Confidence: 0.9820963

00:00:48.755 --> 00:00:50.995 For example, women can have
NOTE Confidence: 0.9820963

00:00:50.995 --> 00:00:52.215 concomitant cardiovascular

NOTE Confidence: 0.8861003
00:00:52.595 --> 00:00:53.930 conditions with endometriosis,
NOTE Confidence: 0.9671875
00:00:54.630 --> 00:00:56.650 neurologic conditions such as migraine,
NOTE Confidence: 0.99316406
00:00:57.350 --> 00:00:57.850 immunologic
NOTE Confidence: 0.90399843
00:00:58.870 --> 00:01:00.870 and autoimmune conditions such as
NOTE Confidence: 0.90399843
00:01:00.870 --> 00:01:01.370 fibromyalgia
NOTE Confidence: 0.9564306
00:01:02.390 --> 00:01:04.390 or chronic fatigue syndrome, which
NOTE Confidence: 0.9564306
00:01:04.390 --> 00:01:06.405 is indirect evidence that it's
NOTE Confidence: 0.9564306
00:01:06.405 --> 00:01:07.844 the disease that is not
NOTE Confidence: 0.9564306
00:01:07.844 --> 00:01:09.924 confined to pelvis, but rather
NOTE Confidence: 0.9564306
00:01:09.924 --> 00:01:10.424 affects
NOTE Confidence: 0.98413086
00:01:10.884 --> 00:01:11.865 entire body.
NOTE Confidence: 0.9738206
00:01:16.405 --> 00:01:18.479 I always had painful periods.
NOTE Confidence: 0.9738206
00:01:18.479 --> 00:01:20.159 I always had debilitating cramps
NOTE Confidence: 0.9738206
00:01:20.159 --> 00:01:21.140 and bad headaches,
NOTE Confidence: 0.9934419
00:01:22.240 --> 00:01:23.759 and that started when I
NOTE Confidence: 0.9934419

00:01:23.759 --> 00:01:25.119 was thirteen. Once I was
NOTE Confidence: 0.9934419

00:01:25.119 --> 00:01:27.039 fourteen, I started having really
NOTE Confidence: 0.9934419

00:01:27.039 --> 00:01:29.360 severe abdominal pain, and I
NOTE Confidence: 0.9934419

00:01:29.360 --> 00:01:31.005 was in the emergency room
NOTE Confidence: 0.9934419

00:01:31.005 --> 00:01:32.384 once every two weeks.
NOTE Confidence: 0.9462193

00:01:33.405 --> 00:01:35.564 The gold standard diagnosis historically
NOTE Confidence: 0.9462193

00:01:35.564 --> 00:01:36.225 for endometriosis
NOTE Confidence: 0.9453014

00:01:36.525 --> 00:01:38.045 has been a surgical diagnosis,
NOTE Confidence: 0.9453014

00:01:38.045 --> 00:01:39.485 meaning we don't have great
NOTE Confidence: 0.9453014

00:01:39.485 --> 00:01:41.104 ways to diagnose it. Otherwise,
NOTE Confidence: 0.9453014

00:01:41.165 --> 00:01:42.365 eighty five percent of patients
NOTE Confidence: 0.9453014

00:01:42.365 --> 00:01:43.024 with endometriosis
NOTE Confidence: 0.9975586

00:01:43.405 --> 00:01:44.685 don't have lesions large enough
NOTE Confidence: 0.9975586

00:01:44.685 --> 00:01:45.744 to be seen on imaging.
NOTE Confidence: 0.9749747

00:01:46.100 --> 00:01:47.219 Many people will have a
NOTE Confidence: 0.9749747

00:01:47.219 --> 00:01:48.420 diagnostic surgery to take a

NOTE Confidence: 0.9749747

00:01:48.420 --> 00:01:49.619 look inside the abdomen. This

NOTE Confidence: 0.9749747

00:01:49.619 --> 00:01:50.899 is done with laparoscopy, which

NOTE Confidence: 0.9749747

00:01:50.899 --> 00:01:52.100 means small incisions looking at

NOTE Confidence: 0.9749747

00:01:52.100 --> 00:01:53.460 the abdomen. We can bring

NOTE Confidence: 0.9749747

00:01:53.460 --> 00:01:54.820 a camera and really zoom

NOTE Confidence: 0.9749747

00:01:54.820 --> 00:01:56.659 in and see all of

NOTE Confidence: 0.9749747

00:01:56.659 --> 00:01:58.100 the tissue and look closely

NOTE Confidence: 0.9749747

00:01:58.100 --> 00:01:59.085 at it to find any

NOTE Confidence: 0.9749747

00:01:59.085 --> 00:02:00.305 potential lesions of endometriosis

NOTE Confidence: 0.97091675

00:02:00.845 --> 00:02:01.805 to resect it and get

NOTE Confidence: 0.97091675

00:02:01.805 --> 00:02:03.105 a pathologic diagnosis.

NOTE Confidence: 0.9892578

00:02:04.925 --> 00:02:06.145 Once it's diagnosed

NOTE Confidence: 0.9722493

00:02:06.525 --> 00:02:07.885 in a patient, I tell

NOTE Confidence: 0.9722493

00:02:07.885 --> 00:02:09.245 them we have good news

NOTE Confidence: 0.9722493

00:02:09.245 --> 00:02:10.605 and bad news. So the

NOTE Confidence: 0.9722493

00:02:10.605 --> 00:02:12.044 good news, we know why
NOTE Confidence: 0.9722493

00:02:12.044 --> 00:02:13.645 you had this much pain
NOTE Confidence: 0.9722493

00:02:13.645 --> 00:02:14.544 throughout your
NOTE Confidence: 0.98291016

00:02:14.960 --> 00:02:16.800 menstrual cycles and so on.
NOTE Confidence: 0.98291016

00:02:16.800 --> 00:02:18.080 The bad news is that
NOTE Confidence: 0.98291016

00:02:18.080 --> 00:02:18.580 endometriosis
NOTE Confidence: 0.8927002

00:02:18.959 --> 00:02:19.620 is chronic,
NOTE Confidence: 0.9696327

00:02:20.080 --> 00:02:22.400 and basically, a patient needs
NOTE Confidence: 0.9696327

00:02:22.400 --> 00:02:24.160 treatment for the entire length
NOTE Confidence: 0.9696327

00:02:24.160 --> 00:02:25.540 of reproductive lifespan.
NOTE Confidence: 0.8796387

00:02:26.480 --> 00:02:27.700 Typically treat endometriosis
NOTE Confidence: 0.88342285

00:02:28.160 --> 00:02:29.060 first medically.
NOTE Confidence: 0.9813029

00:02:29.575 --> 00:02:30.935 Often something as simple as
NOTE Confidence: 0.9813029

00:02:30.935 --> 00:02:32.474 a birth control pill can
NOTE Confidence: 0.9813029

00:02:32.614 --> 00:02:33.594 stop endometriosis
NOTE Confidence: 0.99902344

00:02:33.974 --> 00:02:34.635 from progressing.

NOTE Confidence: 0.997733
00:02:34.935 --> 00:02:36.135 We have other drugs that
NOTE Confidence: 0.997733
00:02:36.135 --> 00:02:37.034 modify hormones.
NOTE Confidence: 0.9916585
00:02:37.415 --> 00:02:39.974 However, when hormonal therapies don't
NOTE Confidence: 0.9916585
00:02:39.974 --> 00:02:40.474 work,
NOTE Confidence: 0.99975586
00:02:40.775 --> 00:02:42.454 we often need to perform
NOTE Confidence: 0.99975586
00:02:42.454 --> 00:02:42.954 surgery.
NOTE Confidence: 0.9969727
00:02:43.720 --> 00:02:45.739 The resection of those lesions
NOTE Confidence: 0.9886952
00:02:46.120 --> 00:02:47.400 and the benefit in terms
NOTE Confidence: 0.9886952
00:02:47.400 --> 00:02:49.000 of pain is variable. So
NOTE Confidence: 0.9886952
00:02:49.000 --> 00:02:50.760 it's not well predicted to
NOTE Confidence: 0.9886952
00:02:50.760 --> 00:02:52.120 say a patient will have
NOTE Confidence: 0.9886952
00:02:52.120 --> 00:02:53.099 this much duration
NOTE Confidence: 0.9871993
00:02:53.480 --> 00:02:54.599 of time of pain relief
NOTE Confidence: 0.9871993
00:02:54.599 --> 00:02:55.800 after excision, but we do
NOTE Confidence: 0.9871993
00:02:55.800 --> 00:02:56.919 know that when you pair
NOTE Confidence: 0.9871993

00:02:56.919 --> 00:02:57.915 surgical excision

NOTE Confidence: 0.9317133

00:02:58.474 --> 00:03:00.474 with medication management, specifically hormonal

NOTE Confidence: 0.9317133

00:03:00.474 --> 00:03:01.995 management after the surgery, you

NOTE Confidence: 0.9317133

00:03:01.995 --> 00:03:03.194 have longer durations of pain

NOTE Confidence: 0.9317133

00:03:03.194 --> 00:03:04.734 relief compared to surgery alone.

NOTE Confidence: 0.9317133

00:03:04.794 --> 00:03:05.915 So it's a tool and

NOTE Confidence: 0.9317133

00:03:05.915 --> 00:03:06.814 it's not curative.

NOTE Confidence: 0.99209756

00:03:07.915 --> 00:03:09.275 After we found the right

NOTE Confidence: 0.99209756

00:03:09.275 --> 00:03:11.594 medication or regimen, what what

NOTE Confidence: 0.99209756

00:03:11.594 --> 00:03:13.120 changed in your life? How

NOTE Confidence: 0.99209756

00:03:13.120 --> 00:03:14.260 did your life change?

NOTE Confidence: 0.99902344

00:03:15.360 --> 00:03:15.860 Everything

NOTE Confidence: 0.9980469

00:03:16.160 --> 00:03:18.320 changed. I gained my life

NOTE Confidence: 0.9980469

00:03:18.320 --> 00:03:18.820 back

NOTE Confidence: 0.9458008

00:03:19.200 --> 00:03:20.180 because I

NOTE Confidence: 0.9941406

00:03:20.560 --> 00:03:21.940 I didn't have a life.
NOTE Confidence: 0.9941406

00:03:22.000 --> 00:03:22.900 I was
NOTE Confidence: 0.9927832

00:03:23.200 --> 00:03:24.480 curled up in a ball
NOTE Confidence: 0.9927832

00:03:24.480 --> 00:03:25.760 in bed with a heating
NOTE Confidence: 0.9927832

00:03:25.760 --> 00:03:27.435 pad. I had rashes from
NOTE Confidence: 0.9927832

00:03:27.435 --> 00:03:28.475 my stomach because of how
NOTE Confidence: 0.9927832

00:03:28.475 --> 00:03:29.855 much I was using it.
NOTE Confidence: 1

00:03:30.315 --> 00:03:31.215 I was
NOTE Confidence: 0.9975411

00:03:31.915 --> 00:03:33.515 taking so many pain meds
NOTE Confidence: 0.9975411

00:03:33.515 --> 00:03:34.795 every single day. I had
NOTE Confidence: 0.9975411

00:03:34.795 --> 00:03:36.415 a pain management specialist.
NOTE Confidence: 0.9940389

00:03:37.035 --> 00:03:38.955 My entire life revolved around
NOTE Confidence: 0.9940389

00:03:38.955 --> 00:03:40.155 the appointments that I was
NOTE Confidence: 0.9940389

00:03:40.155 --> 00:03:40.975 going to.
NOTE Confidence: 0.88612586

00:03:41.310 --> 00:03:43.550 And now I'm working, I'm
NOTE Confidence: 0.88612586

00:03:43.550 --> 00:03:44.210 in school,

NOTE Confidence: 0.9984375
00:03:45.470 --> 00:03:46.930 I got my life back.
NOTE Confidence: 0.9734933
00:03:50.910 --> 00:03:52.190 I am a firm believer
NOTE Confidence: 0.9734933
00:03:52.190 --> 00:03:52.930 that endometriosis
NOTE Confidence: 0.9851602
00:03:53.415 --> 00:03:54.694 has to be diagnosed early
NOTE Confidence: 0.9851602
00:03:54.694 --> 00:03:56.135 in life, not when woman
NOTE Confidence: 0.9851602
00:03:56.135 --> 00:03:57.174 is in her thirties and
NOTE Confidence: 0.9851602
00:03:57.174 --> 00:03:58.075 planning pregnancy,
NOTE Confidence: 0.9719587
00:03:58.614 --> 00:04:01.015 but perhaps fourteen, sixteen, and
NOTE Confidence: 0.9719587
00:04:01.015 --> 00:04:02.375 so on when she is
NOTE Confidence: 0.9719587
00:04:02.375 --> 00:04:04.155 experiencing those painful periods.
NOTE Confidence: 0.9921387
00:04:05.254 --> 00:04:06.875 Several years ago, we identified
NOTE Confidence: 0.95654297
00:04:07.629 --> 00:04:09.310 micro RNAs in the blood
NOTE Confidence: 0.95654297
00:04:09.310 --> 00:04:10.290 as very sensitive,
NOTE Confidence: 0.9951172
00:04:10.830 --> 00:04:11.569 and specific
NOTE Confidence: 0.9999349
00:04:11.870 --> 00:04:13.090 biomarkers of endometriosis.
NOTE Confidence: 0.975708

00:04:13.870 --> 00:04:14.849 We've looked,
NOTE Confidence: 0.9367547
00:04:15.150 --> 00:04:16.669 more recently at using these
NOTE Confidence: 0.9367547
00:04:16.669 --> 00:04:18.510 same type of biomarkers in
NOTE Confidence: 0.9367547
00:04:18.510 --> 00:04:20.110 adolescents and younger women when
NOTE Confidence: 0.9367547
00:04:20.110 --> 00:04:21.410 the disease first starts.
NOTE Confidence: 0.98669434
00:04:22.335 --> 00:04:24.115 We are not just diagnosing
NOTE Confidence: 0.98669434
00:04:24.414 --> 00:04:26.595 patients and providing clinical care.
NOTE Confidence: 0.9945204
00:04:26.974 --> 00:04:28.735 In this institution, we are
NOTE Confidence: 0.9945204
00:04:28.735 --> 00:04:30.115 doing cutting edge research
NOTE Confidence: 0.93481445
00:04:30.815 --> 00:04:31.955 on noninvasive
NOTE Confidence: 0.9986165
00:04:32.255 --> 00:04:33.634 biomarkers for endometriosis
NOTE Confidence: 0.92550224
00:04:34.095 --> 00:04:36.495 such as blood samples or
NOTE Confidence: 0.92550224
00:04:36.495 --> 00:04:37.589 saliva samples
NOTE Confidence: 0.9749756
00:04:38.389 --> 00:04:39.850 with hope and goal
NOTE Confidence: 0.99128604
00:04:40.230 --> 00:04:41.770 to have a blood test
NOTE Confidence: 0.99128604
00:04:41.830 --> 00:04:43.430 that can diagnose a patient

NOTE Confidence: 0.99128604
00:04:43.430 --> 00:04:44.889 with reliable certainty
NOTE Confidence: 0.9998779
00:04:45.510 --> 00:04:46.169 of endometriosis
NOTE Confidence: 0.99174803
00:04:46.870 --> 00:04:48.330 without need to be doing
NOTE Confidence: 0.99174803
00:04:48.550 --> 00:04:49.050 laparoscopy.
NOTE Confidence: 0.999646
00:04:50.665 --> 00:04:52.425 We're also developing biomarkers that
NOTE Confidence: 0.999646
00:04:52.425 --> 00:04:53.464 might help us choose the
NOTE Confidence: 0.999646
00:04:53.464 --> 00:04:54.825 best treatment for somebody with
NOTE Confidence: 0.999646
00:04:54.825 --> 00:04:55.325 endometriosis.
NOTE Confidence: 0.99750435
00:04:56.025 --> 00:04:57.464 The birth control pill is
NOTE Confidence: 0.99750435
00:04:57.464 --> 00:04:59.225 the most commonly used first
NOTE Confidence: 0.99750435
00:04:59.225 --> 00:05:00.985 line medication, but it doesn't
NOTE Confidence: 0.99750435
00:05:00.985 --> 00:05:02.919 always work. We've recently published
NOTE Confidence: 0.99750435
00:05:02.919 --> 00:05:04.199 a paper that shows that
NOTE Confidence: 0.99750435
00:05:04.199 --> 00:05:04.860 we can
NOTE Confidence: 0.985083
00:05:05.240 --> 00:05:07.740 identify who's resistant to progesterone,
NOTE Confidence: 0.98433256

00:05:08.199 --> 00:05:09.800 who's not going to respond
NOTE Confidence: 0.98433256

00:05:09.800 --> 00:05:11.240 to birth control pills, so
NOTE Confidence: 0.98433256

00:05:11.240 --> 00:05:13.659 we can use personalized medicine
NOTE Confidence: 0.98433256

00:05:13.720 --> 00:05:15.400 to find the best treatment
NOTE Confidence: 0.98433256

00:05:15.400 --> 00:05:16.300 for each patient.
NOTE Confidence: 1

00:05:16.755 --> 00:05:17.975 This is an inflammatory
NOTE Confidence: 0.94628906

00:05:18.355 --> 00:05:18.855 disease.
NOTE Confidence: 0.9707288

00:05:19.155 --> 00:05:20.515 We're starting to understand the
NOTE Confidence: 0.9707288

00:05:20.515 --> 00:05:22.115 biology behind it, and I
NOTE Confidence: 0.9707288

00:05:22.115 --> 00:05:23.315 believe that will lead to
NOTE Confidence: 0.9707288

00:05:23.315 --> 00:05:25.015 new more specific treatments.