

WEBVTT

NOTE duration: "00:03:33.162"

NOTE Confidence: 0.9949938

00:00:07.919 --> 00:00:09.780 The current standard of care

NOTE Confidence: 0.9853596

00:00:10.400 --> 00:00:12.420 for the treatment of depression

NOTE Confidence: 0.9853596

00:00:12.639 --> 00:00:13.785 is based on what we

NOTE Confidence: 0.9853596

00:00:13.785 --> 00:00:14.764 call the monoamine

NOTE Confidence: 0.92236924

00:00:15.144 --> 00:00:16.364 deficiency hypothesis.

NOTE Confidence: 0.89875174

00:00:17.465 --> 00:00:18.605 Essentially presuming

NOTE Confidence: 0.99219114

00:00:19.145 --> 00:00:20.765 that one of three neurotransmitters

NOTE Confidence: 0.9689531

00:00:21.145 --> 00:00:22.605 in the brain is deficient

NOTE Confidence: 0.9689531

00:00:22.744 --> 00:00:24.904 or under active. Neurotransmitters can

NOTE Confidence: 0.9689531

00:00:24.904 --> 00:00:25.785 be thought of as the

NOTE Confidence: 0.9689531

00:00:25.785 --> 00:00:27.680 chemical messengers within the brain.

NOTE Confidence: 0.9689531

00:00:27.680 --> 00:00:28.880 It's what helps one cell

NOTE Confidence: 0.9689531

00:00:28.880 --> 00:00:30.080 in the brain communicate with

NOTE Confidence: 0.9689531

00:00:30.080 --> 00:00:31.680 another to pass that message

NOTE Confidence: 0.9689531

00:00:31.680 --> 00:00:33.120 along. But the reality is
NOTE Confidence: 0.9689531

00:00:33.120 --> 00:00:33.920 there are more than a
NOTE Confidence: 0.9689531

00:00:33.920 --> 00:00:34.820 hundred neurotransmitters
NOTE Confidence: 0.96063924

00:00:35.200 --> 00:00:36.900 in the brain and billions
NOTE Confidence: 0.96063924

00:00:37.120 --> 00:00:38.820 of connections between neurons.
NOTE Confidence: 0.98944396

00:00:39.445 --> 00:00:41.364 So we know that that's
NOTE Confidence: 0.98944396

00:00:41.364 --> 00:00:42.585 a limited hypothesis.
NOTE Confidence: 0.81806546

00:00:47.925 --> 00:00:48.825 For decades,
NOTE Confidence: 0.9977783

00:00:49.445 --> 00:00:51.305 we thought that the primary
NOTE Confidence: 0.94607097

00:00:51.930 --> 00:00:53.370 pathology, the primary cause of
NOTE Confidence: 0.94607097

00:00:53.370 --> 00:00:55.050 depression was some abnormality in
NOTE Confidence: 0.94607097

00:00:55.050 --> 00:00:55.789 these neurotransmitters,
NOTE Confidence: 0.947881

00:00:56.250 --> 00:00:58.190 specifically serotonin or norepinephrine.
NOTE Confidence: 0.99139637

00:00:58.809 --> 00:01:00.109 However, norepinephrine
NOTE Confidence: 0.99921584

00:01:00.570 --> 00:01:01.309 and serotonin
NOTE Confidence: 0.9972424

00:01:02.089 --> 00:01:03.050 did not seem to be

NOTE Confidence: 0.9972424
00:01:03.050 --> 00:01:05.085 able to account for the
NOTE Confidence: 0.9972424
00:01:05.085 --> 00:01:06.605 symptoms of depression in people
NOTE Confidence: 0.9972424
00:01:06.605 --> 00:01:07.905 who had major depression.
NOTE Confidence: 0.99011517
00:01:08.765 --> 00:01:09.265 Instead,
NOTE Confidence: 0.9996078
00:01:10.125 --> 00:01:11.505 the chemical messengers
NOTE Confidence: 0.9898932
00:01:11.965 --> 00:01:13.645 between the nerve cells in
NOTE Confidence: 0.9898932
00:01:13.645 --> 00:01:14.925 the higher centers of the
NOTE Confidence: 0.9898932
00:01:14.925 --> 00:01:16.625 brain involved in
NOTE Confidence: 0.98202014
00:01:17.240 --> 00:01:19.560 regulating mood and emotion, which
NOTE Confidence: 0.98202014
00:01:19.560 --> 00:01:21.420 include glutamate and GABA,
NOTE Confidence: 0.96880084
00:01:21.880 --> 00:01:22.380 were
NOTE Confidence: 0.9993185
00:01:22.760 --> 00:01:23.260 possibilities
NOTE Confidence: 0.9948621
00:01:23.959 --> 00:01:25.420 as alternative causes
NOTE Confidence: 0.998946
00:01:25.720 --> 00:01:27.260 for the symptoms of depression.
NOTE Confidence: 0.9914207
00:01:28.280 --> 00:01:29.640 We know that these two,
NOTE Confidence: 0.9914207

00:01:29.640 --> 00:01:31.420 which are the most ubiquitous
NOTE Confidence: 0.9914207

00:01:31.479 --> 00:01:32.140 and abundant
NOTE Confidence: 0.98139346

00:01:32.525 --> 00:01:33.905 neurotransmitters in the brain,
NOTE Confidence: 0.9971725

00:01:34.685 --> 00:01:35.905 actually regulate
NOTE Confidence: 0.99951625

00:01:36.444 --> 00:01:37.825 how the brain is
NOTE Confidence: 0.99306345

00:01:38.205 --> 00:01:39.905 changing over time and adapting.
NOTE Confidence: 0.97727877

00:01:40.285 --> 00:01:41.565 When you are exposed to
NOTE Confidence: 0.97727877

00:01:41.565 --> 00:01:43.405 severe and chronic stress, like
NOTE Confidence: 0.97727877

00:01:43.405 --> 00:01:44.925 people experience when they have
NOTE Confidence: 0.97727877

00:01:44.925 --> 00:01:45.425 depression,
NOTE Confidence: 0.93703365

00:01:46.229 --> 00:01:47.770 you lose some of the
NOTE Confidence: 0.93703365

00:01:47.829 --> 00:01:49.689 connections between the nerve cells.
NOTE Confidence: 0.9981577

00:01:49.990 --> 00:01:51.930 And the communication in these
NOTE Confidence: 0.9981577

00:01:52.070 --> 00:01:52.570 circuits
NOTE Confidence: 0.9972775

00:01:53.350 --> 00:01:54.490 becomes inefficient
NOTE Confidence: 0.8631372

00:01:55.189 --> 00:01:56.009 and noisy.

NOTE Confidence: 0.99747676
00:01:56.549 --> 00:01:57.770 Because of the
NOTE Confidence: 0.9962541
00:01:58.070 --> 00:01:59.210 noisy communication
NOTE Confidence: 0.99747926
00:02:00.070 --> 00:02:01.575 in the circuits involved
NOTE Confidence: 0.9789317
00:02:02.454 --> 00:02:04.634 in regulating mood and emotion.
NOTE Confidence: 0.9961215
00:02:05.414 --> 00:02:07.094 We think that the loss
NOTE Confidence: 0.9961215
00:02:07.094 --> 00:02:09.194 of these synaptic connections
NOTE Confidence: 0.99807
00:02:10.694 --> 00:02:12.375 contributes to the biology of
NOTE Confidence: 0.99807
00:02:12.375 --> 00:02:12.875 depression.
NOTE Confidence: 0.9972985
00:02:19.400 --> 00:02:20.840 It's critical to understand the
NOTE Confidence: 0.9972985
00:02:20.840 --> 00:02:21.340 neurobiology
NOTE Confidence: 0.9903181
00:02:22.360 --> 00:02:23.720 of depression and how the
NOTE Confidence: 0.9903181
00:02:23.720 --> 00:02:25.160 brain plays a role in
NOTE Confidence: 0.9903181
00:02:25.160 --> 00:02:26.860 that for two main reasons.
NOTE Confidence: 0.9903181
00:02:27.000 --> 00:02:28.459 One, it helps us understand
NOTE Confidence: 0.9903181
00:02:28.519 --> 00:02:29.419 how the disease
NOTE Confidence: 0.995989

00:02:29.775 --> 00:02:30.995 develops and progresses
NOTE Confidence: 0.93593514

00:02:31.855 --> 00:02:32.815 and we can start to
NOTE Confidence: 0.93593514

00:02:32.815 --> 00:02:34.514 target treatments based on that.
NOTE Confidence: 0.9733093

00:02:35.055 --> 00:02:36.975 There are clear differences between
NOTE Confidence: 0.9733093

00:02:36.975 --> 00:02:38.014 a healthy brain and a
NOTE Confidence: 0.9733093

00:02:38.014 --> 00:02:39.935 depressed brain. And the exciting
NOTE Confidence: 0.9733093

00:02:39.935 --> 00:02:41.455 thing is when you treat
NOTE Confidence: 0.9733093

00:02:41.455 --> 00:02:42.195 that depression
NOTE Confidence: 0.8240439

00:02:43.560 --> 00:02:44.060 effectively,
NOTE Confidence: 0.9726094

00:02:44.680 --> 00:02:45.880 the brain goes back to
NOTE Confidence: 0.9726094

00:02:45.880 --> 00:02:47.160 looking like a healthy brain.
NOTE Confidence: 0.9726094

00:02:47.160 --> 00:02:48.840 We recognize that the treatment
NOTE Confidence: 0.9726094

00:02:48.840 --> 00:02:50.200 for depression is a long
NOTE Confidence: 0.9726094

00:02:50.200 --> 00:02:51.960 term process because for many
NOTE Confidence: 0.9726094

00:02:51.960 --> 00:02:53.560 people depression is a long
NOTE Confidence: 0.9726094

00:02:53.560 --> 00:02:54.700 term disorder.

NOTE Confidence: 0.98611706
00:02:56.135 --> 00:02:57.995 So we need new treatments.
NOTE Confidence: 0.996671
00:02:58.695 --> 00:03:00.535 We've needed new ways to
NOTE Confidence: 0.996671
00:03:00.535 --> 00:03:01.514 approach depression
NOTE Confidence: 0.9893214
00:03:01.815 --> 00:03:03.835 for people that haven't responded
NOTE Confidence: 0.9893214
00:03:03.975 --> 00:03:05.675 well to their prior treatments.
NOTE Confidence: 0.9838158
00:03:06.215 --> 00:03:07.115 We are
NOTE Confidence: 0.9529343
00:03:07.415 --> 00:03:09.095 in a new era of
NOTE Confidence: 0.9529343
00:03:09.095 --> 00:03:10.569 psychiatry. Psychiatry. This is a
NOTE Confidence: 0.9529343
00:03:10.569 --> 00:03:11.629 paradigm shift
NOTE Confidence: 0.71403617
00:03:12.250 --> 00:03:13.150 away from
NOTE Confidence: 0.91190445
00:03:14.970 --> 00:03:17.069 a model of monoamaminergic
NOTE Confidence: 0.99161196
00:03:17.930 --> 00:03:18.430 deficiency
NOTE Confidence: 0.9467005
00:03:19.290 --> 00:03:19.790 to
NOTE Confidence: 0.9985506
00:03:20.169 --> 00:03:21.389 a fuller understanding
NOTE Confidence: 0.99820477
00:03:21.690 --> 00:03:23.450 of the brain as a
NOTE Confidence: 0.99820477

00:03:23.450 --> 00:03:23.950 complex

NOTE Confidence: 0.99591416

00:03:24.747 --> 00:03:25.247 neurochemical

NOTE Confidence: 0.99535906

00:03:28.747 --> 00:03:29.247 organ.