

WEBVTT

NOTE duration:"01:05:43.8720000"

NOTE language:en-us

NOTE Confidence: 0.86681885

00:00:00.000 --> 00:00:03.168 Yes, I thank you very much for inviting me,

NOTE Confidence: 0.86681885

00:00:03.170 --> 00:00:06.798 so we're going to talk about. Tess.

NOTE Confidence: 0.86681885

00:00:06.798 --> 00:00:11.502 You may dispense initially with some of the.

NOTE Confidence: 0.86681885

00:00:11.510 --> 00:00:16.720 Detail disclosure please sign in.

NOTE Confidence: 0.86681885

00:00:16.720 --> 00:00:21.218 Uh. There's no commercial support.

NOTE Confidence: 0.86681885

00:00:21.218 --> 00:00:24.740 This is the number you need to use.

NOTE Confidence: 0.86681885

00:00:24.740 --> 00:00:28.639 To get CME credit for this conference.

NOTE Confidence: 0.86681885

00:00:28.640 --> 00:00:33.820 August 14 conference I have no disclosure.

NOTE Confidence: 0.86681885

00:00:33.820 --> 00:00:37.596 So what I'm going to talk about initially

NOTE Confidence: 0.86681885

00:00:37.596 --> 00:00:40.132 is hyperchloremic metabolic acidosis or

NOTE Confidence: 0.86681885

00:00:40.132 --> 00:00:43.156 non anion gap metabolic acidosis were

NOTE Confidence: 0.86681885

00:00:43.156 --> 00:00:46.540 the problem is not in gay Navarre said,

NOTE Confidence: 0.86681885

00:00:46.540 --> 00:00:49.980 but in loss of base.

NOTE Confidence: 0.86681885

00:00:49.980 --> 00:00:52.296 Then I will talk about what

NOTE Confidence: 0.86681885

00:00:52.296 --> 00:00:53.840 we know about genetics,

NOTE Confidence: 0.86681885

00:00:53.840 --> 00:00:57.398 Amartya or theory is fairly rare.

NOTE Confidence: 0.86681885

00:00:57.400 --> 00:00:57.795 Disorder.

NOTE Confidence: 0.86681885

00:00:57.795 --> 00:01:00.955 But it actually shows a great deal of

NOTE Confidence: 0.86681885

00:01:00.955 --> 00:01:04.022 light or normal Physiology of acid base

NOTE Confidence: 0.86681885

00:01:04.022 --> 00:01:06.928 regulation by the kidney appear to give

NOTE Confidence: 0.86681885

00:01:06.928 --> 00:01:09.860 a wonderful talk a couple of weeks ago.

NOTE Confidence: 0.86681885

00:01:09.860 --> 00:01:11.340 This will, you know,

NOTE Confidence: 0.86681885

00:01:11.340 --> 00:01:13.930 sounds komplement summer thing that he said.

NOTE Confidence: 0.86681885

00:01:13.930 --> 00:01:15.780 Then I will move on,

NOTE Confidence: 0.86681885

00:01:15.780 --> 00:01:17.630 talk about the clinical, presentation,

NOTE Confidence: 0.86681885

00:01:17.630 --> 00:01:21.170 diagnosis and treatment all or here.

NOTE Confidence: 0.86681885

00:01:21.170 --> 00:01:23.960 No, the patient presentation is

NOTE Confidence: 0.86681885

00:01:23.960 --> 00:01:26.750 initially with an acidosis iir,

NOTE Confidence: 0.86681885

00:01:26.750 --> 00:01:29.540 low bicarbonate by high chloride,

NOTE Confidence: 0.86681885

00:01:29.540 --> 00:01:33.996 no one on ion, and the issue is,
NOTE Confidence: 0.86681885

00:01:34.000 --> 00:01:39.679 is it due to GI loss of bicarbonate diarrhea?
NOTE Confidence: 0.86681885

00:01:39.680 --> 00:01:42.856 Or is the arena origin were the problem?
NOTE Confidence: 0.86681885

00:01:42.860 --> 00:01:46.804 Is either loss of bicarbonate by the kidney?
NOTE Confidence: 0.86681885

00:01:46.810 --> 00:01:49.680 Or there's a defect in
NOTE Confidence: 0.86681885

00:01:49.680 --> 00:01:50.828 generational bicarbonate.
NOTE Confidence: 0.86681885

00:01:50.830 --> 00:01:53.239 By the kidney.
NOTE Confidence: 0.86681885

00:01:53.240 --> 00:01:56.656 To just remind you about Peter talked about,
NOTE Confidence: 0.86681885

00:01:56.660 --> 00:01:59.628 we have to initially reclaim about 5000
NOTE Confidence: 0.86681885

00:01:59.628 --> 00:02:02.272 milligrams of back hornaday any loss
NOTE Confidence: 0.86681885

00:02:02.272 --> 00:02:04.427 of bicarbonate is additional asset
NOTE Confidence: 0.86681885

00:02:04.427 --> 00:02:07.416 to the body disapper i'ma leave the
NOTE Confidence: 0.86681885

00:02:07.416 --> 00:02:09.896 job that's done by proximal tubule
NOTE Confidence: 0.86681885

00:02:09.896 --> 00:02:11.600 were shooting hydrogen exchanger,
NOTE Confidence: 0.86681885

00:02:11.600 --> 00:02:14.030 allows the back order to recover
NOTE Confidence: 0.86681885

00:02:14.030 --> 00:02:17.059 or two just point out there is

NOTE Confidence: 0.86681885
00:02:17.059 --> 00:02:19.705 carbon hydrates in the brush border,
NOTE Confidence: 0.86681885
00:02:19.710 --> 00:02:23.203 data type floor and one in the
NOTE Confidence: 0.86681885
00:02:23.203 --> 00:02:25.660 cytoplasm that allows it to be.
NOTE Confidence: 0.86681885
00:02:25.660 --> 00:02:28.065 A bulk removal of bicarbonate
NOTE Confidence: 0.86681885
00:02:28.065 --> 00:02:30.658 85% happens in proximate trivial.
NOTE Confidence: 0.86681885
00:02:30.658 --> 00:02:33.293 There's an exit pathway through
NOTE Confidence: 0.86681885
00:02:33.293 --> 00:02:35.175 electrogenic sodium carbonate bicarbonate
NOTE Confidence: 0.86681885
00:02:35.175 --> 00:02:38.164 exit lot and come back to that.
NOTE Confidence: 0.86681885
00:02:38.170 --> 00:02:41.292 So rest of reclamation occurs in loop
NOTE Confidence: 0.86681885
00:02:41.292 --> 00:02:44.265 of Henle again through the sodium
NOTE Confidence: 0.86681885
00:02:44.265 --> 00:02:46.840 hydrogen exchanger sorted by time
NOTE Confidence: 0.86681885
00:02:46.840 --> 00:02:50.188 you get to a core collecting duct.
NOTE Confidence: 0.86681885
00:02:50.190 --> 00:02:53.193 Most of the back corner of this
NOTE Confidence: 0.86681885
00:02:53.193 --> 00:02:55.650 all has been reabsorbed.
NOTE Confidence: 0.86681885
00:02:55.650 --> 00:02:56.346 Under job,
NOTE Confidence: 0.86681885

00:02:56.346 --> 00:02:58.782 here is a different job is really
NOTE Confidence: 0.86681885

00:02:58.782 --> 00:03:01.188 to regenerate about corner lossed
NOTE Confidence: 0.86681885

00:03:01.188 --> 00:03:04.164 in neutralization acid that has been
NOTE Confidence: 0.86681885

00:03:04.238 --> 00:03:07.087 part of your dietary intake is only
NOTE Confidence: 0.86681885

00:03:07.087 --> 00:03:09.576 about \$70,000,000 a day in assembly,
NOTE Confidence: 0.86681885

00:03:09.576 --> 00:03:10.420 kilogram, individual.
NOTE Confidence: 0.86681885

00:03:10.420 --> 00:03:14.218 But it can add up over period of time.
NOTE Confidence: 0.86681885

00:03:14.220 --> 00:03:17.174 So every day we need to regenerate
NOTE Confidence: 0.86681885

00:03:17.174 --> 00:03:19.865 70 million colon, we do that.
NOTE Confidence: 0.86681885

00:03:19.865 --> 00:03:22.240 Partly by Tuttle acid phosphate
NOTE Confidence: 0.86681885

00:03:22.240 --> 00:03:24.779 within the major part of it,
NOTE Confidence: 0.86681885

00:03:24.780 --> 00:03:27.844 but much of it also by ammonium me.
NOTE Confidence: 0.86681885

00:03:27.850 --> 00:03:31.147 Look at that lipid more in detail
NOTE Confidence: 0.86681885

00:03:31.147 --> 00:03:32.560 because that's where.
NOTE Confidence: 0.86681885

00:03:32.560 --> 00:03:34.625 This becomes complicated if you
NOTE Confidence: 0.86681885

00:03:34.625 --> 00:03:37.270 look at this a convoluted tubule.

NOTE Confidence: 0.86681885
00:03:37.270 --> 00:03:38.978 Sorry acorda collecting duct,
NOTE Confidence: 0.86681885
00:03:38.978 --> 00:03:41.113 you have three different cells.
NOTE Confidence: 0.86681885
00:03:41.120 --> 00:03:43.688 One is the principle cell within
NOTE Confidence: 0.86681885
00:03:43.688 --> 00:03:45.400 ACH and Ron K.
NOTE Confidence: 0.86681885
00:03:45.400 --> 00:03:47.818 This is primarily to create the
NOTE Confidence: 0.86681885
00:03:47.818 --> 00:03:50.110 negative charge in the tribute.
NOTE Confidence: 0.86681885
00:03:50.110 --> 00:03:53.134 At the same time they absorb sodium in
NOTE Confidence: 0.86681885
00:03:53.134 --> 00:03:55.669 exchange for execution of potassium.
NOTE Confidence: 0.86681885
00:03:55.670 --> 00:03:58.764 As also the cell that has a
NOTE Confidence: 0.86681885
00:03:58.764 --> 00:04:00.090 koporin allowing water
NOTE Confidence: 0.7251586
00:04:00.184 --> 00:04:01.600 they absorption.
NOTE Confidence: 0.7251586
00:04:01.600 --> 00:04:04.066 Then there are intercalated cell type.
NOTE Confidence: 0.7251586
00:04:04.070 --> 00:04:06.386 A were showed him hydrogen exchanger
NOTE Confidence: 0.7251586
00:04:06.386 --> 00:04:09.386 is an aluminum side and the unknown
NOTE Confidence: 0.7251586
00:04:09.386 --> 00:04:11.234 exchanger dialogues chloride bicarb
NOTE Confidence: 0.7251586

00:04:11.234 --> 00:04:13.929 and exchange on the base for last.

NOTE Confidence: 0.7251586

00:04:13.930 --> 00:04:16.360 For this could be switched over

NOTE Confidence: 0.7251586

00:04:16.360 --> 00:04:19.778 with none in exchange or which is a

NOTE Confidence: 0.7251586

00:04:19.778 --> 00:04:21.490 different molecule called pandering

NOTE Confidence: 0.7251586

00:04:21.490 --> 00:04:24.341 on the Lumenal side and how to

NOTE Confidence: 0.7251586

00:04:24.341 --> 00:04:26.744 germinate EPS on the blood side.

NOTE Confidence: 0.7251586

00:04:26.744 --> 00:04:29.164 Remember that here we have

NOTE Confidence: 0.7251586

00:04:29.164 --> 00:04:31.840 correct on high risk type 2.

NOTE Confidence: 0.7251586

00:04:31.840 --> 00:04:34.708 That is important in the cytoplasm.

NOTE Confidence: 0.7251586

00:04:34.710 --> 00:04:37.110 Allow this reaction to go.

NOTE Confidence: 0.7251586

00:04:37.110 --> 00:04:39.505 Turn it about coordinate to

NOTE Confidence: 0.7251586

00:04:39.505 --> 00:04:41.900 move hydrogen to be secreted,

NOTE Confidence: 0.7251586

00:04:41.900 --> 00:04:44.642 or the opposite with academic secreted

NOTE Confidence: 0.7251586

00:04:44.642 --> 00:04:48.128 sorptive than it is to deliver Columbia.

NOTE Confidence: 0.706817002

00:04:50.580 --> 00:04:54.250 Now to make sure. A.

NOTE Confidence: 0.706817002

00:04:54.250 --> 00:04:56.380 Molecule in the major buffer.

NOTE Confidence: 0.706817002

00:04:56.380 --> 00:05:00.588 The past allows us to actually respond to.

NOTE Confidence: 0.706817002

00:05:00.590 --> 00:05:02.804 Acid loading or respond to the

NOTE Confidence: 0.706817002

00:05:02.804 --> 00:05:06.464 acid I beat in a day is not taxable

NOTE Confidence: 0.706817002

00:05:06.464 --> 00:05:08.559 asset that only changes mildly

NOTE Confidence: 0.706817002

00:05:08.641 --> 00:05:11.266 depends on the phosphate intake.

NOTE Confidence: 0.706817002

00:05:11.270 --> 00:05:13.420 It really is primarily ammonia

NOTE Confidence: 0.706817002

00:05:13.420 --> 00:05:15.570 ammonia excretion can go up

NOTE Confidence: 0.706817002

00:05:15.650 --> 00:05:18.098 tenfold from 40 milligrams a day,

NOTE Confidence: 0.706817002

00:05:18.100 --> 00:05:21.089 which is normal to 400 mill class.

NOTE Confidence: 0.706817002

00:05:21.090 --> 00:05:24.106 It doesn't have to do that again to

NOTE Confidence: 0.706817002

00:05:24.106 --> 00:05:27.486 remind you what Peter described in detail.

NOTE Confidence: 0.706817002

00:05:27.490 --> 00:05:30.046 Is that ammonium ion is actually

NOTE Confidence: 0.706817002

00:05:30.046 --> 00:05:31.840 generated in proximate, trivial.

NOTE Confidence: 0.706817002

00:05:31.840 --> 00:05:33.880 As NH 4 plus,

NOTE Confidence: 0.706817002

00:05:33.880 --> 00:05:35.950 this comes from the glutamine

NOTE Confidence: 0.706817002

00:05:35.950 --> 00:05:38.020 molecule going through a fairly
NOTE Confidence: 0.706817002

00:05:38.093 --> 00:05:39.860 complex cellular reaction.
NOTE Confidence: 0.706817002

00:05:39.860 --> 00:05:42.160 If it's true, different pathways,
NOTE Confidence: 0.706817002

00:05:42.160 --> 00:05:45.922 but and you end up with ammonium ion being
NOTE Confidence: 0.706817002

00:05:45.922 --> 00:05:48.598 generated in the Approximate Tribune,
NOTE Confidence: 0.706817002

00:05:48.600 --> 00:05:51.330 there is a sharp pathway in the
NOTE Confidence: 0.706817002

00:05:51.330 --> 00:05:54.122 loop of Henle so that ammonia
NOTE Confidence: 0.706817002

00:05:54.122 --> 00:05:56.677 could replace potassium and then
NOTE Confidence: 0.706817002

00:05:56.677 --> 00:05:59.178 be changed to ammonium gas,
NOTE Confidence: 0.706817002

00:05:59.180 --> 00:06:02.366 which is then secreted into the.
NOTE Confidence: 0.706817002

00:06:02.370 --> 00:06:04.470 Collecting dark with hydrogen now
NOTE Confidence: 0.706817002

00:06:04.470 --> 00:06:06.570 coming out of intercalated cell,
NOTE Confidence: 0.706817002

00:06:06.570 --> 00:06:07.830 making ammonium ion,
NOTE Confidence: 0.706817002

00:06:07.830 --> 00:06:10.770 trapping it and out of the ammonium.
NOTE Confidence: 0.706817002

00:06:10.770 --> 00:06:13.209 That's made here about 100% of
NOTE Confidence: 0.706817002

00:06:13.209 --> 00:06:15.921 what comes out of here is it is

NOTE Confidence: 0.706817002

00:06:15.921 --> 00:06:18.328 coming on approximate reviewer.

NOTE Confidence: 0.706817002

00:06:18.330 --> 00:06:20.526 There is a limit of absorption

NOTE Confidence: 0.706817002

00:06:20.526 --> 00:06:22.950 ammonia back to the circulation.

NOTE Confidence: 0.706817002

00:06:22.950 --> 00:06:25.416 Any ammonia that goes back to

NOTE Confidence: 0.706817002

00:06:25.416 --> 00:06:27.989 circulation it could be 20 percent.

NOTE Confidence: 0.706817002

00:06:27.990 --> 00:06:30.600 40% of that will then react

NOTE Confidence: 0.706817002

00:06:30.600 --> 00:06:32.340 with the bicarbonate generated.

NOTE Confidence: 0.706817002

00:06:32.340 --> 00:06:35.238 Influx or trivial to make urea molecule

NOTE Confidence: 0.706817002

00:06:35.238 --> 00:06:37.840 so internal net total body event.

NOTE Confidence: 0.706817002

00:06:37.840 --> 00:06:40.952 It really is the ammonia in the URL

NOTE Confidence: 0.706817002

00:06:40.952 --> 00:06:43.622 that tells you how much bicarbonate

NOTE Confidence: 0.706817002

00:06:43.622 --> 00:06:46.724 was added to the blood, if any.

NOTE Confidence: 0.706817002

00:06:46.724 --> 00:06:49.678 By common is lossed in the urine.

NOTE Confidence: 0.706817002

00:06:49.680 --> 00:06:51.976 Obviously you're not aesthetic.

NOTE Confidence: 0.706817002

00:06:51.976 --> 00:06:55.420 Scription is lowered by that amount.

NOTE Confidence: 0.706817002

00:06:55.420 --> 00:06:57.775 No one knew information that
NOTE Confidence: 0.706817002

00:06:57.775 --> 00:06:59.659 actually has been interesting,
NOTE Confidence: 0.706817002

00:06:59.660 --> 00:07:02.015 because we always assume that
NOTE Confidence: 0.706817002

00:07:02.015 --> 00:07:04.370 ammonia industry being a gas,
NOTE Confidence: 0.706817002

00:07:04.370 --> 00:07:07.196 it will cross the cell membrane
NOTE Confidence: 0.706817002

00:07:07.196 --> 00:07:08.609 without any problem.
NOTE Confidence: 0.706817002

00:07:08.610 --> 00:07:11.592 But it turns out actually unique
NOTE Confidence: 0.706817002

00:07:11.592 --> 00:07:13.580 transporter for ammonia board
NOTE Confidence: 0.706817002

00:07:13.664 --> 00:07:15.669 on the Lumiere side side,
NOTE Confidence: 0.706817002

00:07:15.670 --> 00:07:19.162 as well as on the urinary side so that
NOTE Confidence: 0.706817002

00:07:19.162 --> 00:07:22.284 you have a transporter that transport
NOTE Confidence: 0.706817002

00:07:22.284 --> 00:07:25.850 on your across the cell membrane.
NOTE Confidence: 0.706817002

00:07:25.850 --> 00:07:28.986 Into the urinary space, so that then
NOTE Confidence: 0.706817002

00:07:28.986 --> 00:07:31.530 that could actually trap hydrogen,
NOTE Confidence: 0.706817002

00:07:31.530 --> 00:07:33.186 therefore plus is generated,
NOTE Confidence: 0.706817002

00:07:33.186 --> 00:07:36.679 ends up in New York and this end

NOTE Confidence: 0.706817002
00:07:36.679 --> 00:07:38.989 experiment showing that in mice
NOTE Confidence: 0.706817002
00:07:38.989 --> 00:07:42.037 being loaded with the transporter or
NOTE Confidence: 0.706817002
00:07:42.037 --> 00:07:45.193 without transfer and transport is much
NOTE Confidence: 0.706817002
00:07:45.193 --> 00:07:49.540 choruses glycoprotein molecule without it.
NOTE Confidence: 0.706817002
00:07:49.540 --> 00:07:50.380 Without it,
NOTE Confidence: 0.706817002
00:07:50.380 --> 00:07:52.900 the transportation is much lower level
NOTE Confidence: 0.706817002
00:07:52.900 --> 00:07:56.050 than with the transporter being available.
NOTE Confidence: 0.706817002
00:07:56.050 --> 00:07:56.980 So clearly,
NOTE Confidence: 0.706817002
00:07:56.980 --> 00:07:57.445 again,
NOTE Confidence: 0.706817002
00:07:57.445 --> 00:07:58.840 just like urea,
NOTE Confidence: 0.706817002
00:07:58.840 --> 00:08:02.044 that we thought was always crossing
NOTE Confidence: 0.706817002
00:08:02.044 --> 00:08:04.775 membrane water is suddenly got
NOTE Confidence: 0.706817002
00:08:04.775 --> 00:08:08.275 all of these need their own fast
NOTE Confidence: 0.706817002
00:08:08.275 --> 00:08:09.807 facilitated transport across
NOTE Confidence: 0.706817002
00:08:09.807 --> 00:08:12.465 the cell into your own space.
NOTE Confidence: 0.706817002

00:08:12.470 --> 00:08:15.170 Now, what controls ammonia excretion?
NOTE Confidence: 0.706817002

00:08:15.170 --> 00:08:17.870 The major one base status,
NOTE Confidence: 0.706817002

00:08:17.870 --> 00:08:21.110 so acidemia the cell generates the
NOTE Confidence: 0.706817002

00:08:21.110 --> 00:08:23.270 motor ammonia approximate trivial,
NOTE Confidence: 0.706817002

00:08:23.270 --> 00:08:26.510 which ends up in the URL,
NOTE Confidence: 0.706817002

00:08:26.510 --> 00:08:29.750 but the other control is serum
NOTE Confidence: 0.706817002

00:08:29.750 --> 00:08:30.830 potassium again,
NOTE Confidence: 0.706817002

00:08:30.830 --> 00:08:33.987 that has to do with the fact
NOTE Confidence: 0.706817002

00:08:33.987 --> 00:08:36.830 that hyperkalemia is also should
NOTE Confidence: 0.706817002

00:08:36.830 --> 00:08:38.927 be intracellular acidosis.
NOTE Confidence: 0.706817002

00:08:38.930 --> 00:08:41.154 Hyperkalemia just the opposite,
NOTE Confidence: 0.706817002

00:08:41.154 --> 00:08:43.934 and this is basically review.
NOTE Confidence: 0.706817002

00:08:43.940 --> 00:08:46.150 Putting all the data together,
NOTE Confidence: 0.706817002

00:08:46.150 --> 00:08:48.360 showing that the higher the
NOTE Confidence: 0.706817002

00:08:48.360 --> 00:08:50.128 level up from potassium,
NOTE Confidence: 0.75946456

00:08:50.130 --> 00:08:53.217 the lower the level of urine ammonia,

NOTE Confidence: 0.75946456
00:08:53.220 --> 00:08:55.725 so does illustrate line relationship
NOTE Confidence: 0.75946456
00:08:55.725 --> 00:08:58.230 between the strong potassium ammonia
NOTE Confidence: 0.75946456
00:08:58.304 --> 00:09:00.530 that ends up in the universal
NOTE Confidence: 0.75946456
00:09:00.530 --> 00:09:02.522 ammonia generated in the proximal
NOTE Confidence: 0.75946456
00:09:02.522 --> 00:09:04.278 tubule from glutamine delivered
NOTE Confidence: 0.75946456
00:09:04.278 --> 00:09:06.922 to post on trivial from deliver.
NOTE Confidence: 0.75946456
00:09:06.922 --> 00:09:08.690 Just summarizing it that
NOTE Confidence: 0.75946456
00:09:08.690 --> 00:09:10.900 when there is a simialr,
NOTE Confidence: 0.75946456
00:09:10.900 --> 00:09:14.708 the signal from the liver to the kidney.
NOTE Confidence: 0.75946456
00:09:14.710 --> 00:09:18.084 By delivery of glutamine to the kidney.
NOTE Confidence: 0.75946456
00:09:18.090 --> 00:09:20.508 It's not really substrate limited reaction.
NOTE Confidence: 0.75946456
00:09:20.510 --> 00:09:23.793 There's always an operator mean that then
NOTE Confidence: 0.75946456
00:09:23.793 --> 00:09:26.841 allow generation ammonia based on at best
NOTE Confidence: 0.75946456
00:09:26.841 --> 00:09:29.187 shadows based on the potassium asados.
NOTE Confidence: 0.75946456
00:09:29.190 --> 00:09:30.510 The ammonia then preferential
NOTE Confidence: 0.75946456

00:09:30.510 --> 00:09:32.160 ends up in the urine.

NOTE Confidence: 0.75946456

00:09:32.160 --> 00:09:37.200 Some of it ends up in the Cortex back to the.

NOTE Confidence: 0.75946456

00:09:37.200 --> 00:09:39.246 From back to the plasma will

NOTE Confidence: 0.75946456

00:09:39.246 --> 00:09:41.660 relax a bit about coordination.

NOTE Confidence: 0.75946456

00:09:41.660 --> 00:09:43.994 Rated in Proxamol tribute to remind

NOTE Confidence: 0.75946456

00:09:43.994 --> 00:09:46.892 you again that cell pH and strong

NOTE Confidence: 0.75946456

00:09:46.892 --> 00:09:49.012 potassium or the major regulator

NOTE Confidence: 0.75946456

00:09:49.012 --> 00:09:51.090 of diammonium generated an ex

NOTE Confidence: 0.75946456

00:09:51.090 --> 00:09:53.400 created title as it can increase,

NOTE Confidence: 0.75946456

00:09:53.400 --> 00:09:56.400 but the increase really has to do with

NOTE Confidence: 0.75946456

00:09:56.400 --> 00:10:00.126 a PK or tactical asset for spayed and.

NOTE Confidence: 0.75946456

00:10:00.130 --> 00:10:02.525 Angel occurs as urine becomes

NOTE Confidence: 0.75946456

00:10:02.525 --> 00:10:04.920 more and more acid image.

NOTE Confidence: 0.75946456

00:10:04.920 --> 00:10:08.266 The highest amount is about 3 fold.

NOTE Confidence: 0.75946456

00:10:08.270 --> 00:10:11.630 For ammonia can increase by about 10:30.

NOTE Confidence: 0.75946456

00:10:11.630 --> 00:10:15.128 So come back to the initial

NOTE Confidence: 0.75946456
00:10:15.128 --> 00:10:16.294 initial classification.
NOTE Confidence: 0.75946456
00:10:16.300 --> 00:10:20.220 One could look at the ammonia as giving you a
NOTE Confidence: 0.75946456
00:10:20.314 --> 00:10:24.234 signal to were the problem is in development.
NOTE Confidence: 0.75946456
00:10:24.240 --> 00:10:26.724 Africa casino says if the ammonia
NOTE Confidence: 0.75946456
00:10:26.724 --> 00:10:29.968 is high in is probably GI loss,
NOTE Confidence: 0.75946456
00:10:29.970 --> 00:10:31.738 with kidney being normal.
NOTE Confidence: 0.75946456
00:10:31.738 --> 00:10:32.639 Norris, Molly,
NOTE Confidence: 0.75946456
00:10:32.639 --> 00:10:35.393 normally Placid in your making more
NOTE Confidence: 0.75946456
00:10:35.393 --> 00:10:38.497 ammonia to get rid of hydrogen ion
NOTE Confidence: 0.75946456
00:10:38.497 --> 00:10:40.552 and you're a back hallway.
NOTE Confidence: 0.75946456
00:10:40.560 --> 00:10:41.739 It is slow.
NOTE Confidence: 0.75946456
00:10:41.739 --> 00:10:45.114 It is probably renal either from loss of
NOTE Confidence: 0.75946456
00:10:45.114 --> 00:10:48.348 bicarbonate or from defecting by coordinate.
NOTE Confidence: 0.75946456
00:10:48.350 --> 00:10:50.580 Generation.
NOTE Confidence: 0.75946456
00:10:50.580 --> 00:10:50.918 No,
NOTE Confidence: 0.75946456

00:10:50.918 --> 00:10:52.608 unfortunately it doesn't measure ammonia.

NOTE Confidence: 0.75946456

00:10:52.610 --> 00:10:54.235 We have actually worked met

NOTE Confidence: 0.75946456

00:10:54.235 --> 00:10:56.340 with him a couple of times.

NOTE Confidence: 0.75946456

00:10:56.340 --> 00:10:56.950 I said,

NOTE Confidence: 0.75946456

00:10:56.950 --> 00:10:58.475 could you actually measure it

NOTE Confidence: 0.75946456

00:10:58.475 --> 00:11:00.953 so we don't have to deal with

NOTE Confidence: 0.75946456

00:11:00.953 --> 00:11:02.449 this very complicated concept?

NOTE Confidence: 0.75946456

00:11:02.450 --> 00:11:04.140 All your in onion gap?

NOTE Confidence: 0.75946456

00:11:04.140 --> 00:11:06.168 Or really you're in Korean gap.

NOTE Confidence: 0.75946456

00:11:06.170 --> 00:11:08.550 Not gonna spend much time on it,

NOTE Confidence: 0.75946456

00:11:08.550 --> 00:11:11.592 just to remind you it we only measure urine,

NOTE Confidence: 0.75946456

00:11:11.600 --> 00:11:13.290 sodium plasma question and chloride.

NOTE Confidence: 0.75946456

00:11:13.290 --> 00:11:14.990 We are really ignoring ammonium,

NOTE Confidence: 0.75946456

00:11:14.990 --> 00:11:17.694 which is a major carry-on in the URL.

NOTE Confidence: 0.75946456

00:11:17.700 --> 00:11:19.728 So if you don't measure that,

NOTE Confidence: 0.75946456

00:11:19.730 --> 00:11:22.220 that's what's missing in your end.

NOTE Confidence: 0.75946456

00:11:22.220 --> 00:11:26.708 Normally this reaction will be less than 0.

NOTE Confidence: 0.75946456

00:11:26.710 --> 00:11:29.326 In normal individual, could you confirm?

NOTE Confidence: 0.75946456

00:11:29.330 --> 00:11:31.910 Ultimately you are.

NOTE Confidence: 0.75946456

00:11:31.910 --> 00:11:34.520 If you have metabolic acidosis and

NOTE Confidence: 0.75946456

00:11:34.520 --> 00:11:37.309 kidney is normal kidney this morning.

NOTE Confidence: 0.75946456

00:11:37.310 --> 00:11:39.974 Normally the ammonia production goes up

NOTE Confidence: 0.75946456

00:11:39.974 --> 00:11:42.709 dramatically so that this becomes much,

NOTE Confidence: 0.75946456

00:11:42.710 --> 00:11:45.010 much lower than zero becomes

NOTE Confidence: 0.75946456

00:11:45.010 --> 00:11:47.660 more negative as it carry on.

NOTE Confidence: 0.75946456

00:11:47.660 --> 00:11:49.948 Not an animal gap,

NOTE Confidence: 0.75946456

00:11:49.948 --> 00:11:50.520 basically.

NOTE Confidence: 0.75946456

00:11:50.520 --> 00:11:53.677 If the problem is that the kidney

NOTE Confidence: 0.75946456

00:11:53.677 --> 00:11:55.030 cannot make ammonia,

NOTE Confidence: 0.75946456

00:11:55.030 --> 00:11:58.824 should ammonia production is low then this?

NOTE Confidence: 0.75946456

00:11:58.830 --> 00:12:02.628 Formula becomes positive the more positive.

NOTE Confidence: 0.75946456

00:12:02.630 --> 00:12:05.222 The lesser amount of Mone ya it is not
NOTE Confidence: 0.75946456

00:12:05.222 --> 00:12:07.888 a one point reaction relationship.
NOTE Confidence: 0.75946456

00:12:07.890 --> 00:12:10.529 It is basically a very quarter relationship.
NOTE Confidence: 0.75946456

00:12:10.530 --> 00:12:13.022 Here is a study done but battle
NOTE Confidence: 0.75946456

00:12:13.022 --> 00:12:15.879 here showing that if you look at the
NOTE Confidence: 0.75946456

00:12:15.879 --> 00:12:18.490 amount of ammonia urinal and yeah the
NOTE Confidence: 0.75946456

00:12:18.490 --> 00:12:20.974 more negative and you're a patient
NOTE Confidence: 0.75946456

00:12:20.974 --> 00:12:23.875 with diarrhea where they have a lot
NOTE Confidence: 0.75946456

00:12:23.875 --> 00:12:25.940 more Iamonia your depression with
NOTE Confidence: 0.7553825

00:12:26.020 --> 00:12:29.144 RCA with very little ammonia. It becomes.
NOTE Confidence: 0.7553825

00:12:29.144 --> 00:12:31.976 Positive here it becomes negative if
NOTE Confidence: 0.7553825

00:12:31.976 --> 00:12:35.493 you have a normal individual on conium
NOTE Confidence: 0.7553825

00:12:35.493 --> 00:12:38.810 chloride or the individual has diarrhea.
NOTE Confidence: 0.7553825

00:12:38.810 --> 00:12:41.600 So that's really the measure study
NOTE Confidence: 0.7553825

00:12:41.600 --> 00:12:43.460 showing the relationship between
NOTE Confidence: 0.7553825

00:12:43.531 --> 00:12:46.099 urine and gab and ammonia in the URL,

NOTE Confidence: 0.7553825
00:12:46.100 --> 00:12:49.340 and it's not a one to one relationship.

NOTE Confidence: 0.7553825
00:12:49.340 --> 00:12:52.068 Surely a qualitative election?

NOTE Confidence: 0.7553825
00:12:52.070 --> 00:12:55.222 The limitation is the fact that you cannot

NOTE Confidence: 0.7553825
00:12:55.222 --> 00:12:58.645 use this formula if the urine is alkaline.

NOTE Confidence: 0.7553825
00:12:58.650 --> 00:13:02.058 Other unknown in the urine bicarbonate.

NOTE Confidence: 0.7553825
00:13:02.060 --> 00:13:05.404 Or if there is presence of other anions,

NOTE Confidence: 0.7553825
00:13:05.410 --> 00:13:07.510 especially in the hybrid acidosis,

NOTE Confidence: 0.7553825
00:13:07.510 --> 00:13:10.018 but you have better hydroxy butyrate.

NOTE Confidence: 0.7553825
00:13:10.020 --> 00:13:14.124 I should acetate in the URL, you cannot use.

NOTE Confidence: 0.7553825
00:13:14.124 --> 00:13:17.820 This formula is only true about urine

NOTE Confidence: 0.7553825
00:13:17.928 --> 00:13:21.213 is acid in pH or a less than 6.5.

NOTE Confidence: 0.7553825
00:13:21.220 --> 00:13:23.485 Ann, if their clinical situation

NOTE Confidence: 0.7553825
00:13:23.485 --> 00:13:26.680 is such that there's no other non

NOTE Confidence: 0.7553825
00:13:26.680 --> 00:13:29.224 integer N or the normal animals.

NOTE Confidence: 0.7553825
00:13:29.230 --> 00:13:31.995 So you can use your smaller gap

NOTE Confidence: 0.7553825

00:13:31.995 --> 00:13:34.560 doesn't have that limitation here.

NOTE Confidence: 0.7553825

00:13:34.560 --> 00:13:37.493 The idea is to calculate your as

NOTE Confidence: 0.7553825

00:13:37.493 --> 00:13:39.772 well ality sodium plus potassium

NOTE Confidence: 0.7553825

00:13:39.772 --> 00:13:42.640 model by two plus urine, urea,

NOTE Confidence: 0.7553825

00:13:42.640 --> 00:13:44.230 nitrogen, urine, glucose,

NOTE Confidence: 0.7553825

00:13:44.230 --> 00:13:48.369 all of them in millimolar and then have

NOTE Confidence: 0.7553825

00:13:48.369 --> 00:13:51.407 the lab measure it was missing from

NOTE Confidence: 0.7553825

00:13:51.407 --> 00:13:54.978 this formula is NH 4 plus and is an ion.

NOTE Confidence: 0.7553825

00:13:54.980 --> 00:13:57.410 So image four will be your

NOTE Confidence: 0.7553825

00:13:57.410 --> 00:13:59.960 or smaller gap as measured.

NOTE Confidence: 0.7553825

00:13:59.960 --> 00:14:01.668 Management Calculator by two.

NOTE Confidence: 0.7553825

00:14:01.668 --> 00:14:03.376 If you do that,

NOTE Confidence: 0.7553825

00:14:03.380 --> 00:14:06.614 you have a reasonable one to one

NOTE Confidence: 0.7553825

00:14:06.614 --> 00:14:08.000 relationship between ammonia

NOTE Confidence: 0.7553825

00:14:08.085 --> 00:14:10.209 in the urine and or smaller.

NOTE Confidence: 0.7553825

00:14:10.210 --> 00:14:15.130 Job is not affected by presence of order.

NOTE Confidence: 0.7553825

00:14:15.130 --> 00:14:18.930 It can be affected if you have other

NOTE Confidence: 0.7553825

00:14:18.930 --> 00:14:21.930 smaller active material in your end.

NOTE Confidence: 0.7553825

00:14:21.930 --> 00:14:23.590 That's not very common man.

NOTE Confidence: 0.7553825

00:14:23.590 --> 00:14:25.781 It all is good example person's going

NOTE Confidence: 0.7553825

00:14:25.781 --> 00:14:28.619 to buy it or infusion turning up the

NOTE Confidence: 0.7553825

00:14:28.619 --> 00:14:30.820 account from my account into your

NOTE Confidence: 0.7553825

00:14:30.820 --> 00:14:32.913 end to use this formula is easier

NOTE Confidence: 0.7553825

00:14:32.913 --> 00:14:36.610 to use and it's more accurate years.

NOTE Confidence: 0.7553825

00:14:36.610 --> 00:14:40.178 Let me now move on to Jeanette Smartie,

NOTE Confidence: 0.7553825

00:14:40.180 --> 00:14:43.180 again with sight on understanding normal

NOTE Confidence: 0.7553825

00:14:43.180 --> 00:14:46.120 Physiology of acid base regulation.

NOTE Confidence: 0.7553825

00:14:46.120 --> 00:14:48.778 Again, initially going to cut proximate,

NOTE Confidence: 0.7553825

00:14:48.780 --> 00:14:49.222 trivial.

NOTE Confidence: 0.7553825

00:14:49.222 --> 00:14:52.316 And remember, here we have a sodium,

NOTE Confidence: 0.7553825

00:14:52.320 --> 00:14:54.164 hydrogen sodium hydrogen exchanger.

NOTE Confidence: 0.7553825

00:14:54.164 --> 00:14:57.414 Sorry on the Lumenal side and showed
NOTE Confidence: 0.7553825

00:14:57.414 --> 00:14:59.850 him by copper and bilateral side.
NOTE Confidence: 0.7553825

00:14:59.850 --> 00:15:02.944 Here we are looking at that cell,
NOTE Confidence: 0.7553825

00:15:02.950 --> 00:15:06.030 so initially going to look at is
NOTE Confidence: 0.7553825

00:15:06.030 --> 00:15:08.422 there any mutation in hydrogen
NOTE Confidence: 0.7553825

00:15:08.422 --> 00:15:10.882 sodium exchanger that should result
NOTE Confidence: 0.7553825

00:15:10.882 --> 00:15:13.480 in RTA in human being?
NOTE Confidence: 0.7553825

00:15:13.480 --> 00:15:16.588 There's a mouse model of that mutation.
NOTE Confidence: 0.7553825

00:15:16.590 --> 00:15:19.338 That looks like thanks a lot,
NOTE Confidence: 0.7553825

00:15:19.340 --> 00:15:19.759 Yeah,
NOTE Confidence: 0.7553825

00:15:19.759 --> 00:15:22.692 but there's no chase report in human
NOTE Confidence: 0.7553825

00:15:22.692 --> 00:15:26.010 yet for imitation in this molecule has
NOTE Confidence: 0.7553825

00:15:26.010 --> 00:15:29.409 been reported to cause RTA to several.
NOTE Confidence: 0.7553825

00:15:29.410 --> 00:15:31.755 Patient reported from Central America
NOTE Confidence: 0.7553825

00:15:31.755 --> 00:15:34.450 will assume a dominant proximal RTA,
NOTE Confidence: 0.7553825

00:15:34.450 --> 00:15:36.740 but when they looked at,

NOTE Confidence: 0.7553825
00:15:36.740 --> 00:15:39.030 this molecule was perfectly normal.
NOTE Confidence: 0.7553825
00:15:39.030 --> 00:15:41.315 They still don't know were
NOTE Confidence: 0.7553825
00:15:41.315 --> 00:15:43.143 there mutation is in.
NOTE Confidence: 0.7553825
00:15:43.150 --> 00:15:46.790 Maybe in a regulatory protein that relates.
NOTE Confidence: 0.7553825
00:15:46.790 --> 00:15:48.329 To this transporter,
NOTE Confidence: 0.7553825
00:15:48.329 --> 00:15:51.407 but it has not been proven.
NOTE Confidence: 0.7553825
00:15:51.410 --> 00:15:54.308 The major reason for genetic approximate
NOTE Confidence: 0.7553825
00:15:54.308 --> 00:15:58.080 ETA is actually a mutation in a
NOTE Confidence: 0.7553825
00:15:58.080 --> 00:15:59.829 sodium bicarbonate electrogenic
NOTE Confidence: 0.7553825
00:15:59.829 --> 00:16:02.670 transporter on the blood side.
NOTE Confidence: 0.7553825
00:16:02.670 --> 00:16:04.509 Basically transferring bicarbonate
NOTE Confidence: 0.7553825
00:16:04.509 --> 00:16:07.574 generated in the cell proximal
NOTE Confidence: 0.7553825
00:16:07.574 --> 00:16:10.787 tubule cell back to the circulation.
NOTE Confidence: 0.7553825
00:16:10.790 --> 00:16:13.590 This is also more recessive
NOTE Confidence: 0.7553825
00:16:13.590 --> 00:16:15.270 possible out there.
NOTE Confidence: 0.7553825

00:16:15.270 --> 00:16:17.010 And this patient usual
NOTE Confidence: 0.7553825

00:16:17.010 --> 00:16:18.315 presently showing status.
NOTE Confidence: 0.70070106

00:16:18.320 --> 00:16:20.490 They have carrot, cataract, theraband,
NOTE Confidence: 0.70070106

00:16:20.490 --> 00:16:23.100 croata party at the same time,
NOTE Confidence: 0.70070106

00:16:23.100 --> 00:16:25.764 and the obscene misclassification.
NOTE Confidence: 0.70070106

00:16:25.764 --> 00:16:28.428 So does a major.
NOTE Confidence: 0.70070106

00:16:28.430 --> 00:16:32.371 Genetic type of structure like here is
NOTE Confidence: 0.70070106

00:16:32.371 --> 00:16:36.719 in this sodium bicarbonate transporter.
NOTE Confidence: 0.70070106

00:16:36.720 --> 00:16:39.600 Now let's look at the.
NOTE Confidence: 0.70070106

00:16:39.600 --> 00:16:42.309 Cortical collecting duct where we are talking
NOTE Confidence: 0.70070106

00:16:42.309 --> 00:16:44.530 about the generation bicarbonate here.
NOTE Confidence: 0.70070106

00:16:44.530 --> 00:16:47.547 Obviously the whole situation and much more
NOTE Confidence: 0.70070106

00:16:47.547 --> 00:16:49.879 complicated the approximate trivial an here.
NOTE Confidence: 0.70070106

00:16:49.880 --> 00:16:52.764 The first molecule that was looked at
NOTE Confidence: 0.70070106

00:16:52.764 --> 00:16:56.450 how did and it appears it would do love.
NOTE Confidence: 0.70070106

00:16:56.450 --> 00:16:58.916 The work was done at Yale.

NOTE Confidence: 0.70070106
00:16:58.920 --> 00:17:00.156 Actually in Richfield,
NOTE Confidence: 0.70070106
00:17:00.156 --> 00:17:02.628 if translab were they looked at
NOTE Confidence: 0.70070106
00:17:02.628 --> 00:17:05.079 patients for mutation in this molecule,
NOTE Confidence: 0.70070106
00:17:05.080 --> 00:17:07.908 the molecule that is able to secrete
NOTE Confidence: 0.70070106
00:17:07.908 --> 00:17:09.950 hydrogen into the aerospace.
NOTE Confidence: 0.70070106
00:17:09.950 --> 00:17:13.490 Generate a one to 1000.
NOTE Confidence: 0.70070106
00:17:13.490 --> 00:17:16.278 Gradient between hydrogen concentration
NOTE Confidence: 0.70070106
00:17:16.278 --> 00:17:19.066 in Serum hydrogen concentration
NOTE Confidence: 0.70070106
00:17:19.066 --> 00:17:21.629 in the urine space.
NOTE Confidence: 0.70070106
00:17:21.630 --> 00:17:23.390 This molecule is a very
NOTE Confidence: 0.70070106
00:17:23.390 --> 00:17:24.798 large molecules can see.
NOTE Confidence: 0.70070106
00:17:24.800 --> 00:17:27.548 These are different subunits of air.
NOTE Confidence: 0.70070106
00:17:27.550 --> 00:17:32.458 Is primarily cytoplasmic the smaller area?
NOTE Confidence: 0.70070106
00:17:32.460 --> 00:17:35.706 Interest in membrane is called everyone.
NOTE Confidence: 0.70070106
00:17:35.710 --> 00:17:38.410 This is the V0 concept.
NOTE Confidence: 0.70070106

00:17:38.410 --> 00:17:42.738 This is where the ATP binding site is.

NOTE Confidence: 0.70070106

00:17:42.740 --> 00:17:45.734 We generate the energy for hydrogen

NOTE Confidence: 0.70070106

00:17:45.734 --> 00:17:48.998 to crossover into the universe face

NOTE Confidence: 0.70070106

00:17:48.998 --> 00:17:51.938 to secretly vision this molecule.

NOTE Confidence: 0.70070106

00:17:51.940 --> 00:17:55.180 Agility Pierce is a molecule data,

NOTE Confidence: 0.70070106

00:17:55.180 --> 00:17:59.016 so the mutation that has been recognized

NOTE Confidence: 0.70070106

00:17:59.016 --> 00:18:02.819 or patient bill or zoom or recessive.

NOTE Confidence: 0.70070106

00:18:02.820 --> 00:18:06.700 48 majority be sensorineural deafness.

NOTE Confidence: 0.70070106

00:18:06.700 --> 00:18:11.096 Not all but majority for the same

NOTE Confidence: 0.70070106

00:18:11.096 --> 00:18:14.589 molecule exist in the cochlea.

NOTE Confidence: 0.70070106

00:18:14.590 --> 00:18:16.390 In the V1 region.

NOTE Confidence: 0.70070106

00:18:16.390 --> 00:18:20.899 The B1 subunit is worth the initial mutation,

NOTE Confidence: 0.70070106

00:18:20.900 --> 00:18:24.211 but discovered in the 15 patient issue

NOTE Confidence: 0.70070106

00:18:24.211 --> 00:18:27.918 reported 13 had mutation in this subunit.

NOTE Confidence: 0.70070106

00:18:27.920 --> 00:18:32.008 Then the next mutation in the V0

NOTE Confidence: 0.70070106

00:18:32.008 --> 00:18:36.809 region in the a subunit of Visual Je.

NOTE Confidence: 0.70070106
00:18:36.810 --> 00:18:38.690 And as I mentioned,
NOTE Confidence: 0.70070106
00:18:38.690 --> 00:18:42.814 both of these are present in the cochlear
NOTE Confidence: 0.70070106
00:18:42.814 --> 00:18:47.007 hydrogenate EPS molecule in the near here.
NOTE Confidence: 0.70070106
00:18:47.010 --> 00:18:48.394 Most recently,
NOTE Confidence: 0.70070106
00:18:48.394 --> 00:18:52.546 hillebrant in Boston has reported a
NOTE Confidence: 0.70070106
00:18:52.546 --> 00:18:56.810 single patient now were not submitted B1.
NOTE Confidence: 0.70070106
00:18:56.810 --> 00:19:00.230 Or submitted a but submitted see.
NOTE Confidence: 0.70070106
00:19:00.230 --> 00:19:01.832 As being said,
NOTE Confidence: 0.70070106
00:19:01.832 --> 00:19:02.366 computation.
NOTE Confidence: 0.70070106
00:19:02.366 --> 00:19:06.599 This was a large series about looked at.
NOTE Confidence: 0.70070106
00:19:06.600 --> 00:19:10.302 One single patient had a submitted
NOTE Confidence: 0.70070106
00:19:10.302 --> 00:19:13.520 C Mutation causing this alati.
NOTE Confidence: 0.70070106
00:19:13.520 --> 00:19:17.209 Report it with a very interesting protein
NOTE Confidence: 0.70070106
00:19:17.209 --> 00:19:20.810 that's involved in traffic of heart rate,
NOTE Confidence: 0.70070106
00:19:20.810 --> 00:19:21.231 EPA's.
NOTE Confidence: 0.70070106

00:19:21.231 --> 00:19:24.178 Today membrane and this so called with
NOTE Confidence: 0.70070106

00:19:24.178 --> 00:19:27.720 you or 72 molecule is one other one Fox
NOTE Confidence: 0.70070106

00:19:27.720 --> 00:19:30.950 2 that's also involved in this process.
NOTE Confidence: 0.70070106

00:19:30.950 --> 00:19:33.834 The point I'm trying to make is
NOTE Confidence: 0.70070106

00:19:33.834 --> 00:19:36.418 database still don't have all the
NOTE Confidence: 0.70070106

00:19:36.418 --> 00:19:38.938 genes that explains all the patient
NOTE Confidence: 0.70070106

00:19:38.938 --> 00:19:41.663 that we see I will show you some
NOTE Confidence: 0.70070106

00:19:41.663 --> 00:19:44.300 of the human studies but how many
NOTE Confidence: 0.70070106

00:19:44.300 --> 00:19:46.400 of them we understand genetically
NOTE Confidence: 0.70070106

00:19:46.400 --> 00:19:48.727 harmony or play meaning unknown but
NOTE Confidence: 0.70070106

00:19:48.727 --> 00:19:50.998 these three finding or the letters
NOTE Confidence: 0.70070106

00:19:50.998 --> 00:19:53.206 in to describing the jeans in.
NOTE Confidence: 0.70070106

00:19:53.210 --> 00:19:55.628 Popping up here.
NOTE Confidence: 0.70070106

00:19:55.630 --> 00:19:58.374 The next molecule I was looked at
NOTE Confidence: 0.70070106

00:19:58.374 --> 00:20:00.670 is obviously Ionone Exchanger One.
NOTE Confidence: 0.70070106

00:20:00.670 --> 00:20:04.780 That transfers bicarbonate for chloride.

NOTE Confidence: 0.70070106
00:20:04.780 --> 00:20:05.704 In the.
NOTE Confidence: 0.70070106
00:20:05.704 --> 00:20:08.938 The blood side of the portal collecting
NOTE Confidence: 0.70070106
00:20:08.938 --> 00:20:12.774 duct cells in the collector cell type way.
NOTE Confidence: 0.70070106
00:20:12.780 --> 00:20:13.340 Ann,
NOTE Confidence: 0.70070106
00:20:13.340 --> 00:20:16.700 this molecule is a very large
NOTE Confidence: 0.70070106
00:20:16.700 --> 00:20:19.030 molecule as shown here.
NOTE Confidence: 0.70070106
00:20:19.030 --> 00:20:22.014 The same molecule exist in the red cell,
NOTE Confidence: 0.70070106
00:20:22.020 --> 00:20:24.470 a one is shared between the kidney
NOTE Confidence: 0.70070106
00:20:24.470 --> 00:20:27.093 and dressed up in red cell is as
NOTE Confidence: 0.70070106
00:20:27.093 --> 00:20:29.123 a larger N terminus that anchors
NOTE Confidence: 0.70070106
00:20:29.123 --> 00:20:31.408 into the cycle's skeleton obdurate
NOTE Confidence: 0.70070106
00:20:31.408 --> 00:20:33.236 cell and maintain the
NOTE Confidence: 0.7916096
00:20:33.240 --> 00:20:35.634 shape of red cell the way
NOTE Confidence: 0.7916096
00:20:35.634 --> 00:20:38.135 that the Shepherd red cell is
NOTE Confidence: 0.7916096
00:20:38.135 --> 00:20:40.977 maintained is by an exchange of 14.
NOTE Confidence: 0.7916096

00:20:40.980 --> 00:20:44.652 Looking up to the door so lot of Psycho
NOTE Confidence: 0.7916096

00:20:44.652 --> 00:20:47.108 skeleton through the N Terminus.
NOTE Confidence: 0.7916096

00:20:47.110 --> 00:20:49.009 This enter Mrs.
NOTE Confidence: 0.7916096

00:20:49.009 --> 00:20:52.807 Shorter in the kidney and Exchanger.
NOTE Confidence: 0.7916096

00:20:52.810 --> 00:20:55.799 So that all the abnormalities of red
NOTE Confidence: 0.7916096

00:20:55.799 --> 00:20:59.152 cell as far as Cytosis, Orla, Cytosis,
NOTE Confidence: 0.7916096

00:20:59.152 --> 00:21:01.657 acanthocytosis really relates to a
NOTE Confidence: 0.7916096

00:21:01.657 --> 00:21:05.561 mutation in a one in the red cell, OK?
NOTE Confidence: 0.7916096

00:21:05.561 --> 00:21:07.754 Now then the.
NOTE Confidence: 0.7916096

00:21:07.754 --> 00:21:11.409 Patient have the renal one.
NOTE Confidence: 0.7916096

00:21:11.410 --> 00:21:14.362 And those cover that cells are
NOTE Confidence: 0.7916096

00:21:14.362 --> 00:21:15.838 actually separate population
NOTE Confidence: 0.7916096

00:21:15.838 --> 00:21:18.450 and show you why that is this.
NOTE Confidence: 0.7916096

00:21:18.450 --> 00:21:22.530 Or now the red cells that are due
NOTE Confidence: 0.7916096

00:21:22.530 --> 00:21:25.940 to Mutation in AE one in Russia.
NOTE Confidence: 0.7916096

00:21:25.940 --> 00:21:29.260 Now if you look at the Human Studies

NOTE Confidence: 0.7916096
00:21:29.260 --> 00:21:33.139 is a large normal dominant vessel,
NOTE Confidence: 0.7916096
00:21:33.140 --> 00:21:35.710 RTA primarily in this molecule,
NOTE Confidence: 0.7916096
00:21:35.710 --> 00:21:37.874 mutation or Gen 589.
NOTE Confidence: 0.7916096
00:21:37.874 --> 00:21:42.004 But there's also a group in Southwest
NOTE Confidence: 0.7916096
00:21:42.004 --> 00:21:45.006 Asia in Thailand, especially,
NOTE Confidence: 0.7916096
00:21:45.006 --> 00:21:48.586 but a mutation mutation in.
NOTE Confidence: 0.7916096
00:21:48.590 --> 00:21:50.974 The next molecule recognizing
NOTE Confidence: 0.7916096
00:21:50.974 --> 00:21:53.358 multiple in this one.
NOTE Confidence: 0.7916096
00:21:53.360 --> 00:21:55.658 Although patient will have water cytosis
NOTE Confidence: 0.7916096
00:21:55.658 --> 00:21:59.348 and this a lot here or compound heterozygous,
NOTE Confidence: 0.7916096
00:21:59.350 --> 00:22:01.490 there are two separate mutation.
NOTE Confidence: 0.7916096
00:22:01.490 --> 00:22:04.914 One in the EA, one of the kidney,
NOTE Confidence: 0.7916096
00:22:04.920 --> 00:22:08.091 the other man in the region color
NOTE Confidence: 0.7916096
00:22:08.091 --> 00:22:10.908 described that's involved in red cell shape.
NOTE Confidence: 0.7916096
00:22:10.910 --> 00:22:13.478 Here is this study just published.
NOTE Confidence: 0.7916096

00:22:13.480 --> 00:22:16.250 They looked at 15 patient.

NOTE Confidence: 0.7916096

00:22:16.250 --> 00:22:17.648 In Southeast Asia.

NOTE Confidence: 0.7916096

00:22:17.648 --> 00:22:21.810 13 of them only had a kidney problem.

NOTE Confidence: 0.7916096

00:22:21.810 --> 00:22:24.020 And these are the sight,

NOTE Confidence: 0.7916096

00:22:24.020 --> 00:22:26.684 these blue ones or the cycle

NOTE Confidence: 0.7916096

00:22:26.684 --> 00:22:29.768 mutation that they saw in the kidney.

NOTE Confidence: 0.7916096

00:22:29.770 --> 00:22:33.739 This one is such a mutation in red cell.

NOTE Confidence: 0.7916096

00:22:33.740 --> 00:22:35.950 Two patient patients 14 and

NOTE Confidence: 0.7916096

00:22:35.950 --> 00:22:37.718 patient 15 per compound.

NOTE Confidence: 0.7916096

00:22:37.720 --> 00:22:40.426 Heterozygous mutation in the red cell

NOTE Confidence: 0.7916096

00:22:40.426 --> 00:22:43.469 region as well as in the kidney.

NOTE Confidence: 0.7916096

00:22:43.470 --> 00:22:46.122 This one patient have seen actual

NOTE Confidence: 0.7916096

00:22:46.122 --> 00:22:47.890 documentation only reported endorsement,

NOTE Confidence: 0.7916096

00:22:47.890 --> 00:22:48.319 dyslexia.

NOTE Confidence: 0.7916096

00:22:48.319 --> 00:22:50.893 So so far there are patient

NOTE Confidence: 0.7916096

00:22:50.893 --> 00:22:52.180 had bought disease,

NOTE Confidence: 0.7916096
00:22:52.180 --> 00:22:54.286 but red cell and the kidney.
NOTE Confidence: 0.7916096
00:22:54.290 --> 00:22:57.730 They tend to be there all so far.
NOTE Confidence: 0.7916096
00:22:57.730 --> 00:23:00.070 Or complain because I guess the
NOTE Confidence: 0.7916096
00:23:00.070 --> 00:23:02.764 majority of this a lot here had no
NOTE Confidence: 0.7916096
00:23:02.764 --> 00:23:04.882 red cell mutation and they just
NOTE Confidence: 0.7916096
00:23:04.882 --> 00:23:07.473 have this a lot easier and also
NOTE Confidence: 0.7916096
00:23:07.473 --> 00:23:09.664 just have Orla Cytosis or Esper
NOTE Confidence: 0.7916096
00:23:09.664 --> 00:23:11.896 Cytosis and noticed a lot here.
NOTE Confidence: 0.80948097
00:23:14.920 --> 00:23:17.773 This is one of two large studies looking at.
NOTE Confidence: 0.80948097
00:23:17.780 --> 00:23:18.782 Human studies,
NOTE Confidence: 0.80948097
00:23:18.782 --> 00:23:21.788 what are the mutations are comma?
NOTE Confidence: 0.80948097
00:23:21.790 --> 00:23:25.774 And as you can see, the mutation in ATP.
NOTE Confidence: 0.80948097
00:23:25.774 --> 00:23:28.900 180 PS is much more common.
NOTE Confidence: 0.80948097
00:23:28.900 --> 00:23:33.290 This is now this on this or mutation in 180
NOTE Confidence: 0.80948097
00:23:33.392 --> 00:23:37.676 PS accounting for about half the patients.
NOTE Confidence: 0.80948097

00:23:37.680 --> 00:23:40.865 The one in an exchange rate is
NOTE Confidence: 0.80948097

00:23:40.865 --> 00:23:43.500 much less common, only 10%.
NOTE Confidence: 0.80948097

00:23:43.500 --> 00:23:47.310 But here in this group of
NOTE Confidence: 0.80948097

00:23:47.310 --> 00:23:49.959 patients closer about 10%.
NOTE Confidence: 0.80948097

00:23:49.960 --> 00:23:54.440 Had mutation of unknown significance and a
NOTE Confidence: 0.80948097

00:23:54.440 --> 00:23:59.099 large number about 1/5 of them were unknown.
NOTE Confidence: 0.80948097

00:23:59.100 --> 00:24:01.450 A much larger study done
NOTE Confidence: 0.80948097

00:24:01.450 --> 00:24:03.800 internationally published a year ago.
NOTE Confidence: 0.80948097

00:24:03.800 --> 00:24:05.920 Unfortunately, 39% of them.
NOTE Confidence: 0.80948097

00:24:05.920 --> 00:24:09.100 This group were not a study.
NOTE Confidence: 0.80948097

00:24:09.100 --> 00:24:11.220 They were unknown basically.
NOTE Confidence: 0.80948097

00:24:11.220 --> 00:24:12.810 But here again,
NOTE Confidence: 0.80948097

00:24:12.810 --> 00:24:15.990 as you can see the mutation,
NOTE Confidence: 0.80948097

00:24:15.990 --> 00:24:17.050 ATP SB1.
NOTE Confidence: 0.7497831

00:24:23.020 --> 00:24:27.076 The mutation rate EPS were much more comma.
NOTE Confidence: 0.7497831

00:24:27.080 --> 00:24:30.116 This is the population at EPA.

NOTE Confidence: 0.7497831
00:24:30.120 --> 00:24:34.012 Is these two 35% more in open
NOTE Confidence: 0.7497831
00:24:34.012 --> 00:24:37.320 iclone only accounted for about 15%.
NOTE Confidence: 0.7497831
00:24:37.320 --> 00:24:40.713 So hydrogen ATP is is a much more common
NOTE Confidence: 0.7497831
00:24:40.713 --> 00:24:43.908 reason for genetic RTA done an Exchanger,
NOTE Confidence: 0.7497831
00:24:43.910 --> 00:24:46.136 but there also a missing population
NOTE Confidence: 0.7497831
00:24:46.136 --> 00:24:48.840 where there may be a mutation of
NOTE Confidence: 0.7497831
00:24:48.840 --> 00:24:50.760 unknown significance or they have
NOTE Confidence: 0.7497831
00:24:50.760 --> 00:24:53.389 not been discovered that presenter.
NOTE Confidence: 0.771216
00:24:58.010 --> 00:25:01.898 No. Much of the patient up hearing loss.
NOTE Confidence: 0.771216
00:25:01.900 --> 00:25:04.624 Tend to be the group that
NOTE Confidence: 0.771216
00:25:04.624 --> 00:25:06.440 have hydrogen ATP's mutation.
NOTE Confidence: 0.771216
00:25:06.440 --> 00:25:09.976 A rare occasion bit on an exchanger have
NOTE Confidence: 0.771216
00:25:09.976 --> 00:25:13.358 certain nerola so clinically in professional.
NOTE Confidence: 0.771216
00:25:13.360 --> 00:25:16.741 Do you see a child has sensorineural
NOTE Confidence: 0.771216
00:25:16.741 --> 00:25:19.978 deafness with RTA is highly likely
NOTE Confidence: 0.771216

00:25:19.978 --> 00:25:22.798 that their problem is actually
NOTE Confidence: 0.771216

00:25:22.798 --> 00:25:25.428 inheriting Atps region and not
NOTE Confidence: 0.771216

00:25:25.428 --> 00:25:27.778 in our exchange of Reacher.
NOTE Confidence: 0.771216

00:25:27.780 --> 00:25:29.310 But again, with a steady,
NOTE Confidence: 0.771216

00:25:29.310 --> 00:25:31.150 maybe a large number Garland, No?
NOTE Confidence: 0.7869997

00:25:33.940 --> 00:25:36.260 What about renal function?
NOTE Confidence: 0.7869997

00:25:36.260 --> 00:25:39.740 What happens to patient lab genetic
NOTE Confidence: 0.7869997

00:25:39.834 --> 00:25:42.510 character? Overtime if we look
NOTE Confidence: 0.7869997

00:25:42.510 --> 00:25:45.120 at them when they are children.
NOTE Confidence: 0.7869997

00:25:45.120 --> 00:25:47.160 Most of them have sikidy
NOTE Confidence: 0.7869997

00:25:47.160 --> 00:25:49.200 type one 2/3 of them.
NOTE Confidence: 0.7869997

00:25:49.200 --> 00:25:52.080 I had abnormal renal function.
NOTE Confidence: 0.7869997

00:25:52.080 --> 00:25:55.120 But it means that the third of them.
NOTE Confidence: 0.7869997

00:25:55.120 --> 00:25:57.064 Have abnormal renal function.
NOTE Confidence: 0.7869997

00:25:57.064 --> 00:26:00.774 That's about 1/3 but the majority of security
NOTE Confidence: 0.7869997

00:26:00.774 --> 00:26:03.850 to a small number of security 3 or 4.

NOTE Confidence: 0.7869997
00:26:03.850 --> 00:26:05.842 When they become adult.
NOTE Confidence: 0.7869997
00:26:05.842 --> 00:26:07.336 This sub is.
NOTE Confidence: 0.7869997
00:26:07.340 --> 00:26:11.268 It changes now more than half or security
NOTE Confidence: 0.7869997
00:26:11.268 --> 00:26:14.420 to pasembur around 30% or security
NOTE Confidence: 0.7869997
00:26:14.420 --> 00:26:18.445 three or security for at this point.
NOTE Confidence: 0.7869997
00:26:18.450 --> 00:26:21.278 Rate of decline in GFR is actually
NOTE Confidence: 0.7869997
00:26:21.278 --> 00:26:24.820 quite low at .8 ML per year on average.
NOTE Confidence: 0.7869997
00:26:24.820 --> 00:26:25.568 But remember,
NOTE Confidence: 0.7869997
00:26:25.568 --> 00:26:27.812 G4 remains quite a stable until
NOTE Confidence: 0.7869997
00:26:27.812 --> 00:26:29.883 you're about 40 there Geoforest
NOTE Confidence: 0.7869997
00:26:29.883 --> 00:26:31.978 changing when you're quite young,
NOTE Confidence: 0.7869997
00:26:31.980 --> 00:26:34.896 so that by the age of 40 they already
NOTE Confidence: 0.7869997
00:26:34.896 --> 00:26:37.547 have lost significant allergy far.
NOTE Confidence: 0.7869997
00:26:37.550 --> 00:26:40.358 So the aging of the kidney
NOTE Confidence: 0.7869997
00:26:40.358 --> 00:26:42.230 occurs earlier than that.
NOTE Confidence: 0.7869997

00:26:42.230 --> 00:26:45.668 And here looking at comparison group
NOTE Confidence: 0.7869997

00:26:45.668 --> 00:26:49.647 or no more population in in his study.
NOTE Confidence: 0.7869997

00:26:49.650 --> 00:26:52.585 Looking at those with endangered
NOTE Confidence: 0.7869997

00:26:52.585 --> 00:26:56.050 form 840 and seeing who has.
NOTE Confidence: 0.7869997

00:26:56.050 --> 00:27:01.460 See KD of any type is much more common here.
NOTE Confidence: 0.7869997

00:27:01.460 --> 00:27:05.247 We talking about 76% of this RTA.
NOTE Confidence: 0.7869997

00:27:05.250 --> 00:27:07.950 Only 14% of this population.
NOTE Confidence: 0.7869997

00:27:07.950 --> 00:27:10.114 Otherwise normal euro population.
NOTE Confidence: 0.7869997

00:27:10.114 --> 00:27:12.278 But when we age,
NOTE Confidence: 0.7869997

00:27:12.280 --> 00:27:14.444 even overpopulation have some
NOTE Confidence: 0.7869997

00:27:14.444 --> 00:27:16.608 kind of renal disease.
NOTE Confidence: 0.7869997

00:27:16.610 --> 00:27:17.150 44%.
NOTE Confidence: 0.7869997

00:27:17.150 --> 00:27:20.934 Some of them are CKD, 234 etc.
NOTE Confidence: 0.7869997

00:27:20.934 --> 00:27:24.390 But almost 100% of the Salatia
NOTE Confidence: 0.7869997

00:27:24.390 --> 00:27:26.830 now have decreasing cheerful.
NOTE Confidence: 0.7869997

00:27:26.830 --> 00:27:29.010 So comparative populations at the

NOTE Confidence: 0.7869997

00:27:29.010 --> 00:27:32.040 same age that they have much more.

NOTE Confidence: 0.7869997

00:27:32.040 --> 00:27:34.325 The likelihood of Elon declined

NOTE Confidence: 0.7869997

00:27:34.325 --> 00:27:36.610 to have renal failure at

NOTE Confidence: 0.7869997

00:27:36.691 --> 00:27:38.647 the age of 40 and above.

NOTE Confidence: 0.73410916

00:27:41.230 --> 00:27:44.062 No, there is a type one or two

NOTE Confidence: 0.73410916

00:27:44.062 --> 00:27:46.300 together that you could imagine.

NOTE Confidence: 0.73410916

00:27:46.300 --> 00:27:49.420 It has to do with coronavirus type tool,

NOTE Confidence: 0.73410916

00:27:49.420 --> 00:27:50.707 but that's occurring.

NOTE Confidence: 0.73410916

00:27:50.707 --> 00:27:53.281 Anhydrase that is shared between Proximate

NOTE Confidence: 0.73410916

00:27:53.281 --> 00:27:55.499 Tribune and cortical collecting duct.

NOTE Confidence: 0.73410916

00:27:55.500 --> 00:27:58.396 Type 40 is only in the brush border

NOTE Confidence: 0.73410916

00:27:58.396 --> 00:28:02.065 and we have no brush border in the

NOTE Confidence: 0.73410916

00:28:02.065 --> 00:28:05.088 quarter collecting back and this is the.

NOTE Confidence: 0.73410916

00:28:05.090 --> 00:28:07.320 Give out why cell syndrome.

NOTE Confidence: 0.73410916

00:28:07.320 --> 00:28:08.910 These operational person

NOTE Confidence: 0.73410916

00:28:08.910 --> 00:28:11.030 with a super process.
NOTE Confidence: 0.73410916
00:28:11.030 --> 00:28:13.390 Cerebral calcification mental retardation,
NOTE Confidence: 0.73410916
00:28:13.390 --> 00:28:14.570 shortest others,
NOTE Confidence: 0.73410916
00:28:14.570 --> 00:28:17.390 visual impairment and conductive deafness
NOTE Confidence: 0.73410916
00:28:17.390 --> 00:28:21.650 at that point is also more excessive,
NOTE Confidence: 0.73410916
00:28:21.650 --> 00:28:24.600 and due to carbon hydrates.
NOTE Confidence: 0.73410916
00:28:24.600 --> 00:28:25.780 Deficiency typed.
NOTE Confidence: 0.7186719
00:28:28.910 --> 00:28:30.878 There also genetic hyperkalemic
NOTE Confidence: 0.7186719
00:28:30.878 --> 00:28:32.846 RTA to very quickly.
NOTE Confidence: 0.7186719
00:28:32.850 --> 00:28:35.745 These are called Hyper Aldo
NOTE Confidence: 0.7186719
00:28:35.745 --> 00:28:38.640 Pseudo Hyper Aldo Type 1.
NOTE Confidence: 0.7186719
00:28:38.640 --> 00:28:40.480 And these are two types.
NOTE Confidence: 0.7186719
00:28:40.480 --> 00:28:44.264 Either you have a problem in sodium channel.
NOTE Confidence: 0.7186719
00:28:44.270 --> 00:28:47.180 Is sodium channel that doesn't open.
NOTE Confidence: 0.7186719
00:28:47.180 --> 00:28:50.960 And his suit hyper Aldo Type 1.
NOTE Confidence: 0.7186719
00:28:50.960 --> 00:28:53.280 Inserting channel or a problem

NOTE Confidence: 0.7186719
00:28:53.280 --> 00:28:55.136 in mineral Corticoid Receptor.

NOTE Confidence: 0.7186719
00:28:55.140 --> 00:28:58.804 So middle court have no effect in both

NOTE Confidence: 0.7186719
00:28:58.804 --> 00:29:02.556 of these are low level is quite high,

NOTE Confidence: 0.7186719
00:29:02.560 --> 00:29:05.296 but although effect is minimal because

NOTE Confidence: 0.7186719
00:29:05.296 --> 00:29:08.594 added the channel is our normal order

NOTE Confidence: 0.7186719
00:29:08.594 --> 00:29:11.378 receptor America record as an access.

NOTE Confidence: 0.7186719
00:29:11.380 --> 00:29:14.452 These are children who have sought

NOTE Confidence: 0.7186719
00:29:14.452 --> 00:29:17.090 wasting hyper kaylie make failure

NOTE Confidence: 0.7186719
00:29:17.090 --> 00:29:20.108 to develop and become unable to

NOTE Confidence: 0.7186719
00:29:20.108 --> 00:29:22.990 Gnosis they usually are quite sick.

NOTE Confidence: 0.7186719
00:29:22.990 --> 00:29:24.730 At very young age,

NOTE Confidence: 0.7186719
00:29:24.730 --> 00:29:28.318 1 depleted between a failure and very high

NOTE Confidence: 0.7186719
00:29:28.318 --> 00:29:31.870 under level but very poor response at all,

NOTE Confidence: 0.7186719
00:29:31.870 --> 00:29:34.120 not sure.

NOTE Confidence: 0.7186719
00:29:34.120 --> 00:29:37.570 Type 2 is boring syndrome.

NOTE Confidence: 0.7186719

00:29:37.570 --> 00:29:40.570 You have heard much more about it in
NOTE Confidence: 0.7186719

00:29:40.570 --> 00:29:43.409 the talk on potassium regulation,
NOTE Confidence: 0.7186719

00:29:43.410 --> 00:29:45.000 not expending time.
NOTE Confidence: 0.7186719

00:29:45.000 --> 00:29:47.650 These are individuals have problem.
NOTE Confidence: 0.7186719

00:29:47.650 --> 00:29:51.790 Add this sellable in the wink.
NOTE Confidence: 0.7186719

00:29:51.790 --> 00:29:55.014 System and as a result they have an
NOTE Confidence: 0.7186719

00:29:55.014 --> 00:29:57.710 open sodium chloride transporter.
NOTE Confidence: 0.7186719

00:29:57.710 --> 00:30:00.440 Typical hypertensive hyper Kelly make.
NOTE Confidence: 0.7186719

00:30:00.440 --> 00:30:02.456 With Lauren in normal,
NOTE Confidence: 0.7186719

00:30:02.456 --> 00:30:05.480 although a normal chair for their
NOTE Confidence: 0.7186719

00:30:05.570 --> 00:30:08.810 usually present where hyperchloremic
NOTE Confidence: 0.7186719

00:30:08.810 --> 00:30:12.050 telecaster doses with hyperkalemia.
NOTE Confidence: 0.7186719

00:30:12.050 --> 00:30:14.458 So there's some larger genetic sort here.
NOTE Confidence: 0.731675722222222

00:30:16.840 --> 00:30:19.188 If it's proximal RTA.
NOTE Confidence: 0.731675722222222

00:30:19.188 --> 00:30:22.123 So far in human being,
NOTE Confidence: 0.731675722222222

00:30:22.130 --> 00:30:25.550 the problem is in sodium bicarbonate

NOTE Confidence: 0.7316757222222222
00:30:25.550 --> 00:30:28.770 transporter and disorders more recessive.
NOTE Confidence: 0.7316757222222222
00:30:28.770 --> 00:30:30.990 If you are disallowed here.
NOTE Confidence: 0.7316757222222222
00:30:30.990 --> 00:30:34.368 Most commonly is hydrogen ATP's mutation.
NOTE Confidence: 0.7316757222222222
00:30:34.370 --> 00:30:38.955 Less commonly is an exchange of Mutation.
NOTE Confidence: 0.7316757222222222
00:30:38.960 --> 00:30:41.270 If you have a mix proximally
NOTE Confidence: 0.7316757222222222
00:30:41.270 --> 00:30:43.919 stone in human being is imitation,
NOTE Confidence: 0.7316757222222222
00:30:43.920 --> 00:30:45.996 the calling on highways.
NOTE Confidence: 0.7316757222222222
00:30:45.996 --> 00:30:49.110 It was type retail imic RTA.
NOTE Confidence: 0.7316757222222222
00:30:49.110 --> 00:30:51.770 Type 1 mineral Corticoid Receptor
NOTE Confidence: 0.7316757222222222
00:30:51.770 --> 00:30:54.430 Mutation or the inactive Mutation.
NOTE Confidence: 0.7316757222222222
00:30:54.430 --> 00:30:58.980 Type 2 is a wing pathway mutation.
NOTE Confidence: 0.7316757222222222
00:30:58.980 --> 00:31:01.080 Causing hypercalcemia where to
NOTE Confidence: 0.7316757222222222
00:31:01.080 --> 00:31:03.180 have recording talk acidosis.
NOTE Confidence: 0.7316757222222222
00:31:03.180 --> 00:31:04.494 The type tool,
NOTE Confidence: 0.7316757222222222
00:31:04.494 --> 00:31:07.122 or hypervolemic hypertensive the type one
NOTE Confidence: 0.7316757222222222

00:31:07.122 --> 00:31:10.527 or hypervolemic hypertensive sword waster,
NOTE Confidence: 0.7316757222222222

00:31:10.530 --> 00:31:13.242 but they're very differently.
NOTE Confidence: 0.7316757222222222

00:31:13.242 --> 00:31:15.954 Presentation when you talking
NOTE Confidence: 0.7316757222222222

00:31:15.954 --> 00:31:18.199 bout hyperkalemic art here.
NOTE Confidence: 0.7316757222222222

00:31:18.200 --> 00:31:20.874 So let's move on to clinical presentation
NOTE Confidence: 0.7316757222222222

00:31:20.874 --> 00:31:24.598 and how do we see this patient in the clinic?
NOTE Confidence: 0.7316757222222222

00:31:24.600 --> 00:31:28.345 Now to again give you a cartoonish
NOTE Confidence: 0.7316757222222222

00:31:28.345 --> 00:31:32.867 view of how I visualize the problem.
NOTE Confidence: 0.7316757222222222

00:31:32.870 --> 00:31:35.240 Here is a normal individual.
NOTE Confidence: 0.7316757222222222

00:31:35.240 --> 00:31:37.410 Code filters, about 5000 milligrams,
NOTE Confidence: 0.7316757222222222

00:31:37.410 --> 00:31:39.890 a back order today.
NOTE Confidence: 0.7316757222222222

00:31:39.890 --> 00:31:40.510 And.
NOTE Confidence: 0.63717616

00:31:42.810 --> 00:31:47.434 Array absorbs all that \$5000 back order 8.
NOTE Confidence: 0.63717616

00:31:47.440 --> 00:31:51.469 The urine pH. Your impatience, I said there's
NOTE Confidence: 0.63717616

00:31:51.469 --> 00:31:54.127 absolutely no backward into your end.
NOTE Confidence: 0.63717616

00:31:54.130 --> 00:31:56.480 Whenever you actually load them,

NOTE Confidence: 0.63717616
00:31:56.480 --> 00:31:59.870 bigger case drops below 5.2.
NOTE Confidence: 0.63717616
00:31:59.870 --> 00:32:03.349 In proximal RTA, at the beginning they
NOTE Confidence: 0.63717616
00:32:03.349 --> 00:32:06.530 have 5000 milligrams about court filter.
NOTE Confidence: 0.63717616
00:32:06.530 --> 00:32:10.540 Summary absorbed alot examining urine
NOTE Confidence: 0.63717616
00:32:10.540 --> 00:32:14.550 urine is Marshall Clinic Clinic.
NOTE Confidence: 0.63717616
00:32:14.550 --> 00:32:18.195 As the amount of Bicarb in this room falls,
NOTE Confidence: 0.63717616
00:32:18.200 --> 00:32:21.140 it matches with the real George with
NOTE Confidence: 0.63717616
00:32:21.140 --> 00:32:24.140 the ability in urine becomes asset.
NOTE Confidence: 0.63717616
00:32:24.140 --> 00:32:26.150 So you have variable urine.
NOTE Confidence: 0.63717616
00:32:26.150 --> 00:32:30.154 pH depends on the filter loads of
NOTE Confidence: 0.63717616
00:32:30.154 --> 00:32:32.674 bicarbonate. There's a lot here.
NOTE Confidence: 0.63717616
00:32:32.674 --> 00:32:34.618 There's a constant leak.
NOTE Confidence: 0.63717616
00:32:34.620 --> 00:32:36.654 In the back, carbonate and three
NOTE Confidence: 0.63717616
00:32:36.654 --> 00:32:38.940 in the back corner regeneration.
NOTE Confidence: 0.63717616
00:32:38.940 --> 00:32:41.757 A simple to look at it as if it's
NOTE Confidence: 0.63717616

00:32:41.757 --> 00:32:44.788 part of a unity internal bicarbonate.

NOTE Confidence: 0.63717616

00:32:44.790 --> 00:32:48.300 So no matter how much it fills her load,

NOTE Confidence: 0.63717616

00:32:48.300 --> 00:32:50.250 is it high or below?

NOTE Confidence: 0.63717616

00:32:50.250 --> 00:32:52.200 There's an obligatory loss of

NOTE Confidence: 0.63717616

00:32:52.200 --> 00:32:52.980 bicarbonate soda.

NOTE Confidence: 0.63717616

00:32:52.980 --> 00:32:55.748 Urine is always Auckland.

NOTE Confidence: 0.63717616

00:32:55.750 --> 00:32:56.827 In hyperkalemic type,

NOTE Confidence: 0.63717616

00:32:56.827 --> 00:33:00.246 which I will talk at the end, the problem

NOTE Confidence: 0.63717616

00:33:00.246 --> 00:33:02.964 is not in reabsorption of bicarbonate.

NOTE Confidence: 0.63717616

00:33:02.970 --> 00:33:05.440 The urine is always acid.

NOTE Confidence: 0.63717616

00:33:05.440 --> 00:33:08.392 The problem is purely in reclamation

NOTE Confidence: 0.63717616

00:33:08.392 --> 00:33:10.694 in regeneration, back, or relate.

NOTE Confidence: 0.63717616

00:33:10.694 --> 00:33:13.322 The problem is generation about pneumonia

NOTE Confidence: 0.63717616

00:33:13.322 --> 00:33:16.347 as required to regenerate bicarbonate.

NOTE Confidence: 0.63717616

00:33:16.350 --> 00:33:19.410 That's loss in daily basis from

NOTE Confidence: 0.63717616

00:33:19.410 --> 00:33:22.060 the food stuff that beat.

NOTE Confidence: 0.63717616

00:33:22.060 --> 00:33:25.665 So the urine pH should be helpful

NOTE Confidence: 0.63717616

00:33:25.665 --> 00:33:29.019 initially in separating one from the other.

NOTE Confidence: 0.63717616

00:33:29.020 --> 00:33:29.448 No,

NOTE Confidence: 0.63717616

00:33:29.448 --> 00:33:32.872 the classical is to do on window chlorite.

NOTE Confidence: 0.63717616

00:33:32.880 --> 00:33:35.520 Asked recently it has been proposed

NOTE Confidence: 0.63717616

00:33:35.520 --> 00:33:37.280 that because ammonium chloride

NOTE Confidence: 0.63717616

00:33:37.354 --> 00:33:38.890 is not very appetizing,

NOTE Confidence: 0.63717616

00:33:38.890 --> 00:33:41.458 many children become nauseated with it.

NOTE Confidence: 0.63717616

00:33:41.460 --> 00:33:43.945 You have to give a fair amount

NOTE Confidence: 0.63717616

00:33:43.945 --> 00:33:46.861 .1 gram per kilogram and do that

NOTE Confidence: 0.63717616

00:33:46.861 --> 00:33:49.501 a different one with Rosa might

NOTE Confidence: 0.63717616

00:33:49.588 --> 00:33:52.906 plus full record is on hasn't been

NOTE Confidence: 0.63717616

00:33:52.906 --> 00:33:54.760 forced missed initial study,

NOTE Confidence: 0.63717616

00:33:54.760 --> 00:33:56.480 but group in England,

NOTE Confidence: 0.63717616

00:33:56.480 --> 00:33:59.228 but they showed an in control.

NOTE Confidence: 0.63717616

00:33:59.230 --> 00:34:01.948 I'm gonna price Europeans blocks in
NOTE Confidence: 0.63717616

00:34:01.948 --> 00:34:04.640 every control normal individual hominum car.
NOTE Confidence: 0.63717616

00:34:04.640 --> 00:34:05.600 I'll order.
NOTE Confidence: 0.63717616

00:34:05.600 --> 00:34:09.440 It also dropped in their population when they
NOTE Confidence: 0.63717616

00:34:09.532 --> 00:34:12.990 were given source mods full of Corazones.
NOTE Confidence: 0.63717616

00:34:12.990 --> 00:34:13.956 And, uh,
NOTE Confidence: 0.63717616

00:34:13.956 --> 00:34:15.888 this a lot here,
NOTE Confidence: 0.63717616

00:34:15.890 --> 00:34:19.278 and none were I able to acidify,
NOTE Confidence: 0.63717616

00:34:19.280 --> 00:34:21.528 wait, I'm gonna chloride,
NOTE Confidence: 0.63717616

00:34:21.528 --> 00:34:24.900 or with Rosa my full Corazon.
NOTE Confidence: 0.63717616

00:34:24.900 --> 00:34:28.272 The only difference is that William
NOTE Confidence: 0.63717616

00:34:28.272 --> 00:34:32.176 chloride urine pH stays low for much
NOTE Confidence: 0.63717616

00:34:32.176 --> 00:34:35.290 longer time than with record design.
NOTE Confidence: 0.63717616

00:34:35.290 --> 00:34:37.155 And again, you're impatient could
NOTE Confidence: 0.63717616

00:34:37.155 --> 00:34:39.970 not drop to normal in either group.
NOTE Confidence: 0.63717616

00:34:39.970 --> 00:34:43.114 And it went on a chloride or Phillip

NOTE Confidence: 0.63717616
00:34:43.114 --> 00:34:43.900 Orizon Grossman,
NOTE Confidence: 0.63717616
00:34:43.900 --> 00:34:46.258 an ammonia generation is much higher
NOTE Confidence: 0.63717616
00:34:46.258 --> 00:34:47.437 if your chloride,
NOTE Confidence: 0.63717616
00:34:47.440 --> 00:34:50.720 and if we can further.
NOTE Confidence: 0.63717616
00:34:50.720 --> 00:34:53.552 This has not been proven to be under
NOTE Confidence: 0.63717616
00:34:53.552 --> 00:34:55.908 percent sensitive and percentage specific.
NOTE Confidence: 0.63717616
00:34:55.910 --> 00:34:57.502 Here's a study where,
NOTE Confidence: 0.63717616
00:34:57.502 --> 00:34:59.492 as you can see below,
NOTE Confidence: 0.63717616
00:34:59.500 --> 00:35:00.828 milk, right?
NOTE Confidence: 0.63717616
00:35:00.828 --> 00:35:04.812 In normal population all 40 were
NOTE Confidence: 0.63717616
00:35:04.812 --> 00:35:07.270 able to acidify.
NOTE Confidence: 0.63717616
00:35:07.270 --> 00:35:09.778 However, when they are given flu,
NOTE Confidence: 0.63717616
00:35:09.780 --> 00:35:12.288 cortisone for some I only 30.
NOTE Confidence: 0.63717616
00:35:12.290 --> 00:35:16.370 Three of the 40 for able to acidify.
NOTE Confidence: 0.63717616
00:35:16.370 --> 00:35:18.800 So it was not sensitive enough.
NOTE Confidence: 0.63717616

00:35:18.800 --> 00:35:20.825 Actually there were false positives

NOTE Confidence: 0.63717616

00:35:20.825 --> 00:35:22.850 which are shown here here.

NOTE Confidence: 0.63717616

00:35:22.850 --> 00:35:25.454 We are only 17 that really had

NOTE Confidence: 0.63717616

00:35:25.454 --> 00:35:27.310 a problem acidifying whatever.

NOTE Confidence: 0.63717616

00:35:27.310 --> 00:35:30.706 24 we throw some artful localism.

NOTE Confidence: 0.63717616

00:35:30.710 --> 00:35:33.419 In the population of the stone disease.

NOTE Confidence: 0.63717616

00:35:33.420 --> 00:35:34.442 In again,

NOTE Confidence: 0.63717616

00:35:34.442 --> 00:35:37.508 in England and a percent sensitivity

NOTE Confidence: 0.63717616

00:35:37.508 --> 00:35:38.530 was reported.

NOTE Confidence: 0.63717616

00:35:38.530 --> 00:35:41.790 24% specificity with a positive

NOTE Confidence: 0.63717616

00:35:41.790 --> 00:35:45.050 critic value or 70 four

NOTE Confidence: 0.80222857

00:35:45.173 --> 00:35:47.186 5% negatively raquelle 100%.

NOTE Confidence: 0.80222857

00:35:47.186 --> 00:35:52.010 So if the person cannot acidify the urine.

NOTE Confidence: 0.80222857

00:35:52.010 --> 00:35:54.002 They proposed I should

NOTE Confidence: 0.80222857

00:35:54.002 --> 00:35:55.496 give ammonium chloride.

NOTE Confidence: 0.80222857

00:35:55.500 --> 00:35:58.006 If they are satisfied with reporters on,

NOTE Confidence: 0.80222857

00:35:58.010 --> 00:36:00.146 there's no need to do that.

NOTE Confidence: 0.80222857

00:36:00.150 --> 00:36:00.866 That's really,

NOTE Confidence: 0.80222857

00:36:00.866 --> 00:36:03.014 really the bottom line right now.

NOTE Confidence: 0.80222857

00:36:03.020 --> 00:36:06.644 My point is that they almost rarely need.

NOTE Confidence: 0.80222857

00:36:06.650 --> 00:36:09.730 Either the two test it should be able

NOTE Confidence: 0.80222857

00:36:09.730 --> 00:36:12.009 separated individuals clinically quite well.

NOTE Confidence: 0.80222857

00:36:12.010 --> 00:36:14.434 It's a rare patient that you

NOTE Confidence: 0.80222857

00:36:14.434 --> 00:36:16.540 have to actually acid Lord,

NOTE Confidence: 0.80222857

00:36:16.540 --> 00:36:19.840 forgive for some actual person.

NOTE Confidence: 0.80222857

00:36:19.840 --> 00:36:22.015 Potassium is low in both

NOTE Confidence: 0.80222857

00:36:22.015 --> 00:36:23.755 proximal RTA as well,

NOTE Confidence: 0.80222857

00:36:23.760 --> 00:36:28.304 just on normal to high in Type 4.

NOTE Confidence: 0.80222857

00:36:28.310 --> 00:36:29.230 This area,

NOTE Confidence: 0.80222857

00:36:29.230 --> 00:36:31.990 while is a very common presentation,

NOTE Confidence: 0.80222857

00:36:31.990 --> 00:36:35.170 has not been fully explained.

NOTE Confidence: 0.80222857

00:36:35.170 --> 00:36:37.042 Hypokalemia is definitely due
NOTE Confidence: 0.80222857

00:36:37.042 --> 00:36:39.382 to renal wasting of potassium.
NOTE Confidence: 0.80222857

00:36:39.390 --> 00:36:42.792 Is not corrected when you correct
NOTE Confidence: 0.80222857

00:36:42.792 --> 00:36:46.005 acidemia by giving sodium bicarbonate
NOTE Confidence: 0.80222857

00:36:46.005 --> 00:36:49.389 or other alkalinizing solutions.
NOTE Confidence: 0.80222857

00:36:49.390 --> 00:36:50.970 Do you not care?
NOTE Confidence: 0.80222857

00:36:50.970 --> 00:36:54.481 Wasting is partly due to loss of sodium
NOTE Confidence: 0.80222857

00:36:54.481 --> 00:36:57.116 potassium bicarbonate in the URL.
NOTE Confidence: 0.80222857

00:36:57.120 --> 00:37:00.488 Part of it in the subgroup of Abbott
NOTE Confidence: 0.80222857

00:37:00.488 --> 00:37:03.402 Russell induced RTA is due to leakage
NOTE Confidence: 0.80222857

00:37:03.402 --> 00:37:06.361 of potassium because of the whole that
NOTE Confidence: 0.80222857

00:37:06.361 --> 00:37:09.476 is created by Apple in the distal
NOTE Confidence: 0.80222857

00:37:09.476 --> 00:37:12.642 convoluted in cortical collecting duct.
NOTE Confidence: 0.80222857

00:37:12.642 --> 00:37:13.998 There is.
NOTE Confidence: 0.80222857

00:37:14.000 --> 00:37:16.456 Enact interest activity because
NOTE Confidence: 0.80222857

00:37:16.456 --> 00:37:18.298 of interstellar acidosis,

NOTE Confidence: 0.80222857

00:37:18.300 --> 00:37:21.690 and that causes more sodium

NOTE Confidence: 0.80222857

00:37:21.690 --> 00:37:24.402 wasting and potassium wasting.

NOTE Confidence: 0.80222857

00:37:24.410 --> 00:37:27.104 There's also increased add or if

NOTE Confidence: 0.80222857

00:37:27.104 --> 00:37:28.900 there's one dictation associated.

NOTE Confidence: 0.80222857

00:37:28.900 --> 00:37:31.724 We are not sure which ones are dominant

NOTE Confidence: 0.80222857

00:37:31.724 --> 00:37:35.070 event in the usual, just larger.

NOTE Confidence: 0.80222857

00:37:35.070 --> 00:37:38.278 Obviously if there was a defect in hydrogen,

NOTE Confidence: 0.80222857

00:37:38.280 --> 00:37:41.668 potassium ATP S which is part of.

NOTE Confidence: 0.80222857

00:37:41.670 --> 00:37:44.114 Quarter collection dashed bank.

NOTE Confidence: 0.80222857

00:37:44.114 --> 00:37:47.169 Would explain RTA and applique

NOTE Confidence: 0.80222857

00:37:47.169 --> 00:37:50.618 limia but there has been no mutation

NOTE Confidence: 0.80222857

00:37:50.618 --> 00:37:54.070 reported in human in this transporter.

NOTE Confidence: 0.80222857

00:37:54.070 --> 00:37:56.166 There is one toxin.

NOTE Confidence: 0.80222857

00:37:56.166 --> 00:37:59.310 Naturally, inhibitors transporter run a date,

NOTE Confidence: 0.80222857

00:37:59.310 --> 00:38:02.370 but that is not associated with

NOTE Confidence: 0.80222857

00:38:02.370 --> 00:38:05.599 hypokalemia or disloyalty at present time,
NOTE Confidence: 0.80222857

00:38:05.600 --> 00:38:10.368 so we are still are not totally sure.
NOTE Confidence: 0.80222857

00:38:10.370 --> 00:38:13.682 Why have a training base so comma so
NOTE Confidence: 0.80222857

00:38:13.682 --> 00:38:17.210 common in both proximal and distal RTA?
NOTE Confidence: 0.80222857

00:38:17.210 --> 00:38:21.858 Some other reasons are included in the slide.
NOTE Confidence: 0.80222857

00:38:21.860 --> 00:38:23.640 Now, what about your ammonia?
NOTE Confidence: 0.80222857

00:38:23.640 --> 00:38:25.316 Would that be helpful?
NOTE Confidence: 0.80222857

00:38:25.316 --> 00:38:29.339 It is annoying all types of RTA is not there.
NOTE Confidence: 0.80222857

00:38:29.340 --> 00:38:31.530 Core of the Physiology right
NOTE Confidence: 0.80222857

00:38:31.530 --> 00:38:33.720 ear and over the causes.
NOTE Confidence: 0.80222857

00:38:33.720 --> 00:38:36.240 Now you know Bologna.
NOTE Confidence: 0.80222857

00:38:36.240 --> 00:38:38.376 So you can actually say that
NOTE Confidence: 0.80222857

00:38:38.376 --> 00:38:41.154 it's easy to decide what RTA is
NOTE Confidence: 0.80222857

00:38:41.154 --> 00:38:43.284 initially by looking at Harmonial.
NOTE Confidence: 0.80222857

00:38:43.290 --> 00:38:47.554 True, la GI loss if it is low,
NOTE Confidence: 0.80222857

00:38:47.560 --> 00:38:49.696 you're in either loss,

NOTE Confidence: 0.80222857
00:38:49.696 --> 00:38:52.900 total loss of bicarbonate excuse me,
NOTE Confidence: 0.80222857
00:38:52.900 --> 00:38:55.570 or defecting back already generation.
NOTE Confidence: 0.6184056
00:39:01.470 --> 00:39:04.598 If it is due to loss of Microbially.
NOTE Confidence: 0.6184056
00:39:04.600 --> 00:39:07.442 If the urine pH lesson is about
NOTE Confidence: 0.6184056
00:39:07.442 --> 00:39:10.485 5.3 and the patient is academic
NOTE Confidence: 0.6184056
00:39:10.485 --> 00:39:13.365 data disallowed here your patient
NOTE Confidence: 0.6184056
00:39:13.365 --> 00:39:17.064 is seen by color 14 urine pH is 6.
NOTE Confidence: 0.6184056
00:39:17.070 --> 00:39:20.380 You already have a diagnosis.
NOTE Confidence: 0.6184056
00:39:20.380 --> 00:39:23.436 You don't need to ask your low dissipation.
NOTE Confidence: 0.6184056
00:39:23.440 --> 00:39:26.260 However, if the urine pH is.
NOTE Confidence: 0.6184056
00:39:26.260 --> 00:39:30.652 6. And if I can't, is 19,
NOTE Confidence: 0.6184056
00:39:30.652 --> 00:39:34.700 it could be either distal or proximal RTA.
NOTE Confidence: 0.6184056
00:39:34.700 --> 00:39:36.560 All you have to do.
NOTE Confidence: 0.6184056
00:39:36.560 --> 00:39:38.850 Is acidified individual to less
NOTE Confidence: 0.6184056
00:39:38.850 --> 00:39:41.719 than 14 decide which one it is?
NOTE Confidence: 0.6184056

00:39:41.720 --> 00:39:43.808 That's when I'm on in chloride.

NOTE Confidence: 0.6184056

00:39:43.810 --> 00:39:49.570 Or frozen my records not ask your cell phone.

NOTE Confidence: 0.6184056

00:39:49.570 --> 00:39:52.126 If potassium is normal or high.

NOTE Confidence: 0.6184056

00:39:52.130 --> 00:39:55.070 Most likely talking about Typo Rakia.

NOTE Confidence: 0.6184056

00:39:55.070 --> 00:39:57.985 So measuring the urine ammonia

NOTE Confidence: 0.6184056

00:39:57.985 --> 00:40:00.317 making strong potassium should.

NOTE Confidence: 0.6184056

00:40:00.320 --> 00:40:03.246 Lead you fairly close your final diagnosis.

NOTE Confidence: 0.6184056

00:40:03.250 --> 00:40:07.093 The only thing will remain is the urine pH

NOTE Confidence: 0.6184056

00:40:07.093 --> 00:40:10.617 obtained with strong potassium is low enough.

NOTE Confidence: 0.6184056

00:40:10.620 --> 00:40:13.644 To make a diagnosis definitively know enough,

NOTE Confidence: 0.6184056

00:40:13.650 --> 00:40:16.338 I think about carbon 1415 is a

NOTE Confidence: 0.6184056

00:40:16.338 --> 00:40:19.280 cut off if you're below that,

NOTE Confidence: 0.6184056

00:40:19.280 --> 00:40:21.450 you already have your diagnosis.

NOTE Confidence: 0.71097165

00:40:24.110 --> 00:40:27.404 Assume Alexia is present in Proxamol

NOTE Confidence: 0.71097165

00:40:27.404 --> 00:40:30.865 occasional present in this storm that let's

NOTE Confidence: 0.71097165

00:40:30.865 --> 00:40:34.570 call an absent in Type 4 RTA naturally,

NOTE Confidence: 0.71097165
00:40:34.570 --> 00:40:37.746 tax is very helpful.

NOTE Confidence: 0.71097165
00:40:37.746 --> 00:40:40.128 Is absent approximately.

NOTE Confidence: 0.71097165
00:40:40.130 --> 00:40:42.968 Almost always present in this style.

NOTE Confidence: 0.71097165
00:40:42.970 --> 00:40:45.874 An absence type for so a patient that

NOTE Confidence: 0.71097165
00:40:45.874 --> 00:40:49.989 you see in the clinic, the proximal RTA.

NOTE Confidence: 0.71097165
00:40:49.990 --> 00:40:52.210 If they have a stone disease,

NOTE Confidence: 0.71097165
00:40:52.210 --> 00:40:54.454 you have really question that diagnosis

NOTE Confidence: 0.71097165
00:40:54.454 --> 00:40:56.650 most likely to have this alot.

NOTE Confidence: 0.71097165
00:40:56.650 --> 00:40:59.254 Yeah, I mean if calcinosis or Natalie

NOTE Confidence: 0.71097165
00:40:59.254 --> 00:41:02.046 Tharsis type for you, are they in?

NOTE Confidence: 0.71097165
00:41:02.046 --> 00:41:04.698 No because of a classroom and

NOTE Confidence: 0.71097165
00:41:04.698 --> 00:41:07.769 almost over sub some renal failure.

NOTE Confidence: 0.71097165
00:41:07.770 --> 00:41:10.795 No, the reason for nephrocalcinosis

NOTE Confidence: 0.71097165
00:41:10.795 --> 00:41:13.215 nephrolithiasis has to do

NOTE Confidence: 0.71097165
00:41:13.215 --> 00:41:15.290 with during citrate.

NOTE Confidence: 0.71097165

00:41:15.290 --> 00:41:17.672 Which in proximity is normal and

NOTE Confidence: 0.71097165

00:41:17.672 --> 00:41:20.543 I would come back to why it is

NOTE Confidence: 0.71097165

00:41:20.543 --> 00:41:23.288 normal but slow in this a lot here

NOTE Confidence: 0.71097165

00:41:23.288 --> 00:41:25.844 and again it is relatively normal.

NOTE Confidence: 0.71097165

00:41:25.850 --> 00:41:28.760 4 degrees of renal failure.

NOTE Confidence: 0.71097165

00:41:28.760 --> 00:41:31.238 Citri level drops very low failure,

NOTE Confidence: 0.71097165

00:41:31.240 --> 00:41:34.294 but it's normal for the gorilla

NOTE Confidence: 0.71097165

00:41:34.294 --> 00:41:36.330 failure intact for RTA.

NOTE Confidence: 0.71097165

00:41:36.330 --> 00:41:40.330 Now citrate is filtered normally

NOTE Confidence: 0.71097165

00:41:40.330 --> 00:41:43.530 into the Proxamol Tribute.

NOTE Confidence: 0.71097165

00:41:43.530 --> 00:41:47.471 Is reabsorbed the amount that is utilized

NOTE Confidence: 0.71097165

00:41:47.471 --> 00:41:51.380 in the mitochondria has to do with cell pH?

NOTE Confidence: 0.71097165

00:41:51.380 --> 00:41:55.404 If the cell is ademic match of citrate,

NOTE Confidence: 0.71097165

00:41:55.410 --> 00:41:57.930 enter dramatic andreya grocery citric

NOTE Confidence: 0.71097165

00:41:57.930 --> 00:42:00.450 acid cycle to generate bicarbonate.

NOTE Confidence: 0.71097165

00:42:00.450 --> 00:42:03.610 But if cell is alkaline.

NOTE Confidence: 0.71097165
00:42:03.610 --> 00:42:07.050 The citrate ends up back in the serum.
NOTE Confidence: 0.71097165
00:42:07.050 --> 00:42:11.938 Some of it ends up into your hand.
NOTE Confidence: 0.71097165
00:42:11.940 --> 00:42:14.978 If there's a sedena in the cell,
NOTE Confidence: 0.71097165
00:42:14.980 --> 00:42:17.578 the urine citrate is very low.
NOTE Confidence: 0.71097165
00:42:17.580 --> 00:42:21.017 Note, almost all the citrate is reabsorbed
NOTE Confidence: 0.71097165
00:42:21.017 --> 00:42:23.799 in across similar in the patient.
NOTE Confidence: 0.71097165
00:42:23.800 --> 00:42:26.536 Has RTA but cell is not a city.
NOTE Confidence: 0.71097165
00:42:26.540 --> 00:42:28.586 Macon will come back to that.
NOTE Confidence: 0.71097165
00:42:28.590 --> 00:42:32.325 Then set the secrets ends up in the area.
NOTE Confidence: 0.71097165
00:42:32.330 --> 00:42:34.710 I know one individual beer citrate usual
NOTE Confidence: 0.71097165
00:42:34.710 --> 00:42:37.370 more than 300 milligrams as it cut off.
NOTE Confidence: 0.71097165
00:42:37.370 --> 00:42:38.378 That is normal.
NOTE Confidence: 0.71097165
00:42:38.378 --> 00:42:40.730 Another separator is them into your hand.
NOTE Confidence: 0.71097165
00:42:40.730 --> 00:42:44.678 If the cell has no more pH.
NOTE Confidence: 0.71097165
00:42:44.680 --> 00:42:47.753 Now this is what a stone can
NOTE Confidence: 0.71097165

00:42:47.753 --> 00:42:50.900 look like in this a lot here.

NOTE Confidence: 0.71097165

00:42:50.900 --> 00:42:53.008 These stores are almost

NOTE Confidence: 0.71097165

00:42:53.008 --> 00:42:54.589 always calcium phosphate.

NOTE Confidence: 0.71097165

00:42:54.590 --> 00:42:55.886 Not calcium oxalate.

NOTE Confidence: 0.71097165

00:42:55.886 --> 00:42:59.434 The reason being that the stone in these

NOTE Confidence: 0.71097165

00:42:59.434 --> 00:43:02.528 patients is becausw of defect in urine,

NOTE Confidence: 0.71097165

00:43:02.530 --> 00:43:04.294 pH and high calcium.

NOTE Confidence: 0.71097165

00:43:04.294 --> 00:43:05.617 In New York.

NOTE Confidence: 0.71097165

00:43:05.620 --> 00:43:08.924 This differently study done by the group

NOTE Confidence: 0.71097165

00:43:08.924 --> 00:43:12.478 and UCSF many years ago look at night

NOTE Confidence: 0.71097165

00:43:12.478 --> 00:43:15.758 to patient RTA and they had type 180,

NOTE Confidence: 0.71097165

00:43:15.760 --> 00:43:19.729 not type 2 distal proximal and 30 type 4.

NOTE Confidence: 0.71097165

00:43:19.730 --> 00:43:22.544 They look at border bone and the

NOTE Confidence: 0.71097165

00:43:22.544 --> 00:43:25.679 kidney 18 who had never calcinosis.

NOTE Confidence: 0.71097165

00:43:25.680 --> 00:43:27.180 Ordered this RTA.

NOTE Confidence: 0.71097165

00:43:27.180 --> 00:43:29.680 Ask you Malaysia and Rick.

NOTE Confidence: 0.71097165

00:43:29.680 --> 00:43:33.820 It was seen in track two only in this group,

NOTE Confidence: 0.71097165

00:43:33.820 --> 00:43:36.376 so bone disease is very different

NOTE Confidence: 0.71097165

00:43:36.376 --> 00:43:38.782 than the stone disease and that

NOTE Confidence: 0.71097165

00:43:38.782 --> 00:43:41.278 helps you a lot in the clinic in

NOTE Confidence: 0.71097165

00:43:41.354 --> 00:43:44.169 separating or theater being proxamol.

NOTE Confidence: 0.71097165

00:43:44.170 --> 00:43:45.774 Most of this stuff.

NOTE Confidence: 0.71097165

00:43:45.774 --> 00:43:47.779 Ask your opinion or dude

NOTE Confidence: 0.71097165

00:43:47.779 --> 00:43:49.968 acidaemia was also common intact.

NOTE Confidence: 0.71097165

00:43:49.970 --> 00:43:52.035 Four she can commonly have

NOTE Confidence: 0.71097165

00:43:52.035 --> 00:43:53.274 underlying liver disease.

NOTE Confidence: 0.71097165

00:43:53.280 --> 00:43:56.472 Here again looking at genetic RTA only and

NOTE Confidence: 0.71097165

00:43:56.472 --> 00:43:59.498 what they looked at Africell Stenosis.

NOTE Confidence: 0.71097165

00:43:59.500 --> 00:44:01.600 And this is percent of the

NOTE Confidence: 0.71097165

00:44:01.600 --> 00:44:03.000 patient and the calcinosis.

NOTE Confidence: 0.71097165

00:44:03.000 --> 00:44:06.528 It will almost 100% with 180P A's almost

NOTE Confidence: 0.71097165

00:44:06.528 --> 00:44:09.210 under percent had never calcinosis,
NOTE Confidence: 0.71097165

00:44:09.210 --> 00:44:10.644 but only 20.
NOTE Confidence: 0.71097165

00:44:10.644 --> 00:44:12.556 Persistent had naturally Cyrus.
NOTE Confidence: 0.73002136

00:44:12.560 --> 00:44:15.787 This is also true that almost all
NOTE Confidence: 0.73002136

00:44:15.787 --> 00:44:18.229 weird unexchanged effect have never
NOTE Confidence: 0.73002136

00:44:18.229 --> 00:44:21.139 calcinosis while only close to half
NOTE Confidence: 0.73002136

00:44:21.139 --> 00:44:23.598 of nucleotides is so difficult
NOTE Confidence: 0.73002136

00:44:23.598 --> 00:44:25.933 is much more common disallowed.
NOTE Confidence: 0.73002136

00:44:25.940 --> 00:44:30.516 Here it doesn't matter what you do too.
NOTE Confidence: 0.73002136

00:44:30.520 --> 00:44:32.820 But more common in patient
NOTE Confidence: 0.73002136

00:44:32.820 --> 00:44:35.120 will have 180 PSD effect.
NOTE Confidence: 0.7004814

00:44:37.710 --> 00:44:40.656 No preview why this alati's stone?
NOTE Confidence: 0.7004814

00:44:40.660 --> 00:44:44.338 You have hypercalciuria becausw of acidemia
NOTE Confidence: 0.7004814

00:44:44.338 --> 00:44:47.599 exchanging hydrogen for calcium in the
NOTE Confidence: 0.7004814

00:44:47.599 --> 00:44:50.479 bone and have low citrate in the URL.
NOTE Confidence: 0.7004814

00:44:50.480 --> 00:44:53.910 So calcium then buys phosphate is insoluble,

NOTE Confidence: 0.7004814

00:44:53.910 --> 00:44:57.360 and because you're in the alkaline

NOTE Confidence: 0.7004814

00:44:57.360 --> 00:45:00.971 calcium phosphorus stone is pH dependent

NOTE Confidence: 0.7004814

00:45:00.971 --> 00:45:04.016 and a precipitate forming system.

NOTE Confidence: 0.7004814

00:45:04.020 --> 00:45:06.414 In proximity air, that's been long debate

NOTE Confidence: 0.7004814

00:45:06.414 --> 00:45:09.060 about why and they have normal citrate.

NOTE Confidence: 0.7004814

00:45:09.060 --> 00:45:10.500 Well, that measurement actually

NOTE Confidence: 0.7004814

00:45:10.500 --> 00:45:12.660 has not been done that commonly.

NOTE Confidence: 0.7004814

00:45:12.660 --> 00:45:14.646 The reason is what Peter pointed

NOTE Confidence: 0.7004814

00:45:14.646 --> 00:45:16.980 out to in the last lecture,

NOTE Confidence: 0.7004814

00:45:16.980 --> 00:45:19.130 which is that this patient

NOTE Confidence: 0.7004814

00:45:19.130 --> 00:45:21.280 actually have an alkaline serum.

NOTE Confidence: 0.7004814

00:45:21.280 --> 00:45:24.298 There's the problem is they cannot.

NOTE Confidence: 0.7004814

00:45:24.300 --> 00:45:28.185 Can they not take the generated bicarbonate?

NOTE Confidence: 0.7004814

00:45:28.190 --> 00:45:31.795 From the cell into the

NOTE Confidence: 0.7004814

00:45:31.795 --> 00:45:33.958 blood doctor circulation.

NOTE Confidence: 0.7004814

00:45:33.960 --> 00:45:37.026 But in the effect isn't an exchange.

NOTE Confidence: 0.7004814

00:45:37.030 --> 00:45:39.598 So, so the cell becomes alkaline.

NOTE Confidence: 0.7004814

00:45:39.600 --> 00:45:42.138 Are they kept by Cortona be

NOTE Confidence: 0.7004814

00:45:42.138 --> 00:45:45.008 transfer or call me on the cell,

NOTE Confidence: 0.7004814

00:45:45.010 --> 00:45:48.076 prevent reabsorption citrate into the South?

NOTE Confidence: 0.7004814

00:45:48.080 --> 00:45:50.618 So the euro succeed in normal.

NOTE Confidence: 0.7004814

00:45:50.620 --> 00:45:54.351 This is the most studied in genetically

NOTE Confidence: 0.7004814

00:45:54.351 --> 00:45:58.377 Proctor RTA due to Mutation in this one.

NOTE Confidence: 0.7004814

00:45:58.380 --> 00:46:02.956 Is this mutation in this molecule again not?

NOTE Confidence: 0.7004814

00:46:02.960 --> 00:46:05.160 And reporting human being again,

NOTE Confidence: 0.7004814

00:46:05.160 --> 00:46:06.603 the problem is.

NOTE Confidence: 0.7004814

00:46:06.603 --> 00:46:09.489 Different and it may motor citrate

NOTE Confidence: 0.7004814

00:46:09.489 --> 00:46:12.196 may be different in the URL.

NOTE Confidence: 0.7004814

00:46:12.200 --> 00:46:14.738 Depends on where the problem is.

NOTE Confidence: 0.7004814

00:46:14.740 --> 00:46:15.940 At this point,

NOTE Confidence: 0.7004814

00:46:15.940 --> 00:46:17.540 the problem bicarbonate transfer

NOTE Confidence: 0.7004814

00:46:17.540 --> 00:46:19.410 is seldom is alkaline.

NOTE Confidence: 0.7004814

00:46:19.410 --> 00:46:21.948 These patients have low urine pneumonia.

NOTE Confidence: 0.7004814

00:46:21.950 --> 00:46:24.035 Becaused effect in this transfer

NOTE Confidence: 0.7004814

00:46:24.035 --> 00:46:25.703 abnormal restrain and there

NOTE Confidence: 0.7004814

00:46:25.703 --> 00:46:27.889 are your normal urine calcium.

NOTE Confidence: 0.7004814

00:46:27.890 --> 00:46:32.530 They don't develop a storm in the candy.

NOTE Confidence: 0.7004814

00:46:32.530 --> 00:46:34.782 Classification Approximal RTA basically.

NOTE Confidence: 0.7004814

00:46:34.782 --> 00:46:38.160 Primary is a familiar with sporadic

NOTE Confidence: 0.7004814

00:46:38.242 --> 00:46:40.774 such tender in the majority have

NOTE Confidence: 0.7004814

00:46:40.774 --> 00:46:43.033 basically a disease does involving

NOTE Confidence: 0.7004814

00:46:43.033 --> 00:46:45.478 the whole truckload tribute and

NOTE Confidence: 0.7004814

00:46:45.478 --> 00:46:47.842 they have really Fanconi Syndrome.

NOTE Confidence: 0.7004814

00:46:47.842 --> 00:46:48.646 Cystinosis Wilson.

NOTE Confidence: 0.7004814

00:46:48.646 --> 00:46:50.254 This is being genetic,

NOTE Confidence: 0.7004814

00:46:50.260 --> 00:46:52.612 but in the whole series of them

NOTE Confidence: 0.7004814

00:46:52.612 --> 00:46:55.576 in adult or we see often either a
NOTE Confidence: 0.7004814

00:46:55.576 --> 00:46:58.067 light chain disease or low casually
NOTE Confidence: 0.7004814

00:46:58.067 --> 00:47:00.737 situation with short term force,
NOTE Confidence: 0.7004814

00:47:00.740 --> 00:47:02.970 approximate review and most of
NOTE Confidence: 0.7004814

00:47:02.970 --> 00:47:05.650 them have drug you starting a
NOTE Confidence: 0.7004814

00:47:05.650 --> 00:47:07.505 drug induced box last year.
NOTE Confidence: 0.7004814

00:47:07.510 --> 00:47:10.042 Ifosfamide custom covering
NOTE Confidence: 0.7004814

00:47:10.042 --> 00:47:11.730 anhydrous inhibitors.
NOTE Confidence: 0.7004814

00:47:11.730 --> 00:47:14.570 This all again primary familiar,
NOTE Confidence: 0.7004814

00:47:14.570 --> 00:47:16.834 sporadic secondary systemic disease.
NOTE Confidence: 0.7004814

00:47:16.834 --> 00:47:19.664 The most common adult sugar,
NOTE Confidence: 0.7004814

00:47:19.670 --> 00:47:21.320 but others comma.
NOTE Confidence: 0.7004814

00:47:21.320 --> 00:47:24.070 Primal sources and lupus never
NOTE Confidence: 0.7004814

00:47:24.070 --> 00:47:26.690 calcinosis as a primary event.
NOTE Confidence: 0.7004814

00:47:26.690 --> 00:47:28.034 Secondary arterial obstruction,
NOTE Confidence: 0.7004814

00:47:28.034 --> 00:47:31.660 or the ones that we usually worry about.

NOTE Confidence: 0.7004814
00:47:31.660 --> 00:47:33.920 Income piloti is when you
NOTE Confidence: 0.7004814
00:47:33.920 --> 00:47:35.276 have normal electrolyte.
NOTE Confidence: 0.7004814
00:47:35.280 --> 00:47:37.088 Lifeless signify the individual's
NOTE Confidence: 0.7004814
00:47:37.088 --> 00:47:39.800 head load the individual next time,
NOTE Confidence: 0.7004814
00:47:39.800 --> 00:47:44.016 not acidify the urine and the problem is.
NOTE Confidence: 0.7004814
00:47:44.020 --> 00:47:48.748 That they begin with inability to.
NOTE Confidence: 0.7004814
00:47:48.750 --> 00:47:52.439 IK St Harrington iron you have interstellar
NOTE Confidence: 0.7004814
00:47:52.439 --> 00:47:55.670 sidosis they have low urine citrate.
NOTE Confidence: 0.7004814
00:47:55.670 --> 00:47:57.263 They developed africell
NOTE Confidence: 0.7004814
00:47:57.263 --> 00:47:59.387 cyanosis that quarter damage.
NOTE Confidence: 0.7004814
00:47:59.390 --> 00:48:02.708 Does Schumer kidney that then causes
NOTE Confidence: 0.7004814
00:48:02.708 --> 00:48:06.435 no you remove then they develop
NOTE Confidence: 0.7004814
00:48:06.435 --> 00:48:09.955 complete urine ammonia or decreases.
NOTE Confidence: 0.7004814
00:48:09.960 --> 00:48:12.510 This little function here looking show
NOTE Confidence: 0.7004814
00:48:12.510 --> 00:48:15.532 damage as a secondary event taking what
NOTE Confidence: 0.7004814

00:48:15.532 --> 00:48:18.451 is called incomplete or fear to complete,
NOTE Confidence: 0.7004814

00:48:18.460 --> 00:48:20.430 like here.
NOTE Confidence: 0.7004814

00:48:20.430 --> 00:48:23.742 In computer today is seen in children who
NOTE Confidence: 0.7004814

00:48:23.742 --> 00:48:27.227 have for sure valve defect in the urine,
NOTE Confidence: 0.7004814

00:48:27.230 --> 00:48:29.996 in the urethra and this patient
NOTE Confidence: 0.7004814

00:48:29.996 --> 00:48:32.329 when they have incomplete or K.
NOTE Confidence: 0.7004814

00:48:32.330 --> 00:48:35.305 Your height is lower than normal individual.
NOTE Confidence: 0.7004814

00:48:35.310 --> 00:48:36.158 You look.
NOTE Confidence: 0.7004814

00:48:36.158 --> 00:48:37.430 Complete RTA there.
NOTE Confidence: 0.7004814

00:48:37.430 --> 00:48:39.900 Much shorter than normal individual
NOTE Confidence: 0.7004814

00:48:39.900 --> 00:48:42.370 as reflected on the bike
NOTE Confidence: 0.7231367

00:48:42.457 --> 00:48:45.417 or and that they have no RTA normal
NOTE Confidence: 0.7231367

00:48:45.417 --> 00:48:48.057 height or TL Ng hide Ng bicorne.
NOTE Confidence: 0.7231367

00:48:48.060 --> 00:48:51.036 This basically tells that in kids.
NOTE Confidence: 0.7231367

00:48:51.040 --> 00:48:53.530 You have to maintain normal bicarbonate
NOTE Confidence: 0.7231367

00:48:53.530 --> 00:48:55.999 to make sure that they grow.

NOTE Confidence: 0.7231367

00:48:56.000 --> 00:48:58.912 That is basically the bottom line or

NOTE Confidence: 0.7231367

00:48:58.912 --> 00:49:01.369 immune disease can cause are here.

NOTE Confidence: 0.7231367

00:49:01.370 --> 00:49:04.254 That's what we see in adult sugar.

NOTE Confidence: 0.7231367

00:49:04.260 --> 00:49:07.556 The most common, the bottom line is complete.

NOTE Confidence: 0.7231367

00:49:07.560 --> 00:49:11.664 RCA is seen in about 3 to 5% or sugar

NOTE Confidence: 0.7231367

00:49:11.664 --> 00:49:14.478 in completed artists in about the third

NOTE Confidence: 0.7231367

00:49:14.478 --> 00:49:17.559 or patients with Sjogren's syndrome.

NOTE Confidence: 0.7231367

00:49:17.560 --> 00:49:19.785 In the largest population for

NOTE Confidence: 0.7231367

00:49:19.785 --> 00:49:21.565 right now with shoulder,

NOTE Confidence: 0.7231367

00:49:21.570 --> 00:49:24.699 the most common renal finding is RTA.

NOTE Confidence: 0.7231367

00:49:24.700 --> 00:49:27.970 Here's another very patient in China.

NOTE Confidence: 0.7231367

00:49:27.970 --> 00:49:31.070 Of those 95 outside RTA,

NOTE Confidence: 0.7231367

00:49:31.070 --> 00:49:34.495 the majority night 1095 dischord

NOTE Confidence: 0.7231367

00:49:34.495 --> 00:49:37.235 here four had franconi.

NOTE Confidence: 0.7231367

00:49:37.240 --> 00:49:38.647 Proximal part here,

NOTE Confidence: 0.7231367

00:49:38.647 --> 00:49:42.605 as well as a small #120I and they

NOTE Confidence: 0.7231367

00:49:42.605 --> 00:49:45.455 have severe is Sean nephritis.

NOTE Confidence: 0.7231367

00:49:45.460 --> 00:49:48.030 As you can see here,

NOTE Confidence: 0.7231367

00:49:48.030 --> 00:49:50.964 an autoimmune disease damage in their

NOTE Confidence: 0.7231367

00:49:50.964 --> 00:49:53.690 design and sometimes proxy material.

NOTE Confidence: 0.7231367

00:49:53.690 --> 00:49:56.768 This is 1 patient Bob seed

NOTE Confidence: 0.7231367

00:49:56.768 --> 00:49:57.794 insurance syndrome.

NOTE Confidence: 0.7231367

00:49:57.800 --> 00:50:00.370 They were missing harriton Atps

NOTE Confidence: 0.7231367

00:50:00.370 --> 00:50:02.940 pump compared to normal kidney.

NOTE Confidence: 0.7231367

00:50:02.940 --> 00:50:06.018 This is using a mouse antibody.

NOTE Confidence: 0.7231367

00:50:06.020 --> 00:50:09.786 Is that really true? In all patients.

NOTE Confidence: 0.7231367

00:50:09.790 --> 00:50:12.046 With defect in.

NOTE Confidence: 0.7231367

00:50:12.046 --> 00:50:13.550 Short term,

NOTE Confidence: 0.7231367

00:50:13.550 --> 00:50:15.705 this adult acquired art here

NOTE Confidence: 0.7231367

00:50:15.705 --> 00:50:17.860 is only one patient word.

NOTE Confidence: 0.7231367

00:50:17.860 --> 00:50:20.254 This asthmatic border in a larger

NOTE Confidence: 0.7231367
00:50:20.254 --> 00:50:22.789 study of 11 patient bought alignment
NOTE Confidence: 0.7231367
00:50:22.789 --> 00:50:25.363 that looked at problem in Harrison
NOTE Confidence: 0.7231367
00:50:25.363 --> 00:50:28.638 80 PS problem in Corona and highways.
NOTE Confidence: 0.7231367
00:50:28.640 --> 00:50:30.348 Probably none exchanger amazing
NOTE Confidence: 0.7231367
00:50:30.348 --> 00:50:33.810 thing is that a day don't with Alisa,
NOTE Confidence: 0.7231367
00:50:33.810 --> 00:50:36.828 Lottie with control being those that
NOTE Confidence: 0.7231367
00:50:36.828 --> 00:50:39.800 kidney disease and those who are
NOTE Confidence: 0.7231367
00:50:39.800 --> 00:50:42.873 normal there problem in all three areas.
NOTE Confidence: 0.7231367
00:50:42.880 --> 00:50:44.974 So in patients who have ordering
NOTE Confidence: 0.7231367
00:50:44.974 --> 00:50:46.770 units on the Fridays here,
NOTE Confidence: 0.7231367
00:50:46.770 --> 00:50:50.890 do the sugar and the problem is not only one.
NOTE Confidence: 0.7231367
00:50:50.890 --> 00:50:52.303 A specific transporter.
NOTE Confidence: 0.7231367
00:50:52.303 --> 00:50:54.658 The problems in the sun.
NOTE Confidence: 0.7231367
00:50:54.660 --> 00:50:57.504 All of activities related to urgent
NOTE Confidence: 0.7231367
00:50:57.504 --> 00:50:59.840 scription or actually abnormal beta.
NOTE Confidence: 0.7231367

00:50:59.840 --> 00:51:02.410 Alternate EPA's bait calling and
NOTE Confidence: 0.7231367

00:51:02.410 --> 00:51:05.990 I raised or bid on exchange.
NOTE Confidence: 0.7231367

00:51:05.990 --> 00:51:08.342 This is especially true Logan when
NOTE Confidence: 0.7231367

00:51:08.342 --> 00:51:11.478 they look at anybody to corner and I race.
NOTE Confidence: 0.7231367

00:51:11.480 --> 00:51:14.468 These are patients who are controlled.
NOTE Confidence: 0.7231367

00:51:14.470 --> 00:51:17.630 Real is location sugar without.
NOTE Confidence: 0.7231367

00:51:17.630 --> 00:51:21.870 Without RTA Shogun with RTA.
NOTE Confidence: 0.7231367

00:51:21.870 --> 00:51:24.438 Antique organ high rise higher in
NOTE Confidence: 0.7231367

00:51:24.438 --> 00:51:27.604 those who had RTA higher still in
NOTE Confidence: 0.7231367

00:51:27.604 --> 00:51:30.328 those who had strong hair without
NOTE Confidence: 0.7231367

00:51:30.328 --> 00:51:33.176 hair compared to control but higher
NOTE Confidence: 0.7231367

00:51:33.176 --> 00:51:35.902 begins with the last two books.
NOTE Confidence: 0.7231367

00:51:35.902 --> 00:51:39.610 And if you look at the amount of an
NOTE Confidence: 0.7231367

00:51:39.715 --> 00:51:43.936 antibody to covenant high waist shown here.
NOTE Confidence: 0.7231367

00:51:43.940 --> 00:51:45.324 Compared to buy Korean,
NOTE Confidence: 0.7231367

00:51:45.324 --> 00:51:47.400 serum or potassium in this room,

NOTE Confidence: 0.7231367

00:51:47.400 --> 00:51:48.780 there's a correlation between

NOTE Confidence: 0.7231367

00:51:48.780 --> 00:51:50.505 the amount and a body,

NOTE Confidence: 0.7231367

00:51:50.510 --> 00:51:53.856 and these two finding in the syrup.

NOTE Confidence: 0.7231367

00:51:53.860 --> 00:51:57.059 So in human being with us a lot, yeah.

NOTE Confidence: 0.7231367

00:51:57.059 --> 00:51:59.273 In a subgroup that everybody is

NOTE Confidence: 0.7231367

00:51:59.273 --> 00:52:01.567 coming on Holidays and that's the

NOTE Confidence: 0.7231367

00:52:01.567 --> 00:52:03.805 other group that have both proxamol.

NOTE Confidence: 0.7231367

00:52:03.810 --> 00:52:06.370 As well as this a lot here it is shorter.

NOTE Confidence: 0.7231367

00:52:06.370 --> 00:52:07.858 To secure this,

NOTE Confidence: 0.7231367

00:52:07.858 --> 00:52:10.834 start commonly had problem in all

NOTE Confidence: 0.7231367

00:52:10.834 --> 00:52:13.730 components of this or how to signature.

NOTE Confidence: 0.7231367

00:52:13.730 --> 00:52:17.678 Is a mouse model tried for the

NOTE Confidence: 0.7231367

00:52:17.678 --> 00:52:19.370 concept with human?

NOTE Confidence: 0.7231367

00:52:19.370 --> 00:52:21.760 Common highways anybody against them

NOTE Confidence: 0.7231367

00:52:21.760 --> 00:52:24.650 they cannot access the fighting on it.

NOTE Confidence: 0.7231367

00:52:24.650 --> 00:52:28.066 So to summarize, in order in munis lot,

NOTE Confidence: 0.7231367

00:52:28.070 --> 00:52:30.626 yeah, the problem is very general.

NOTE Confidence: 0.7231367

00:52:30.630 --> 00:52:32.760 In the cell, Tribulus Dozer,

NOTE Confidence: 0.69493294

00:52:32.760 --> 00:52:35.328 Proximal and this thought that comma,

NOTE Confidence: 0.69493294

00:52:35.330 --> 00:52:38.330 Nevada body carbon hydrates.

NOTE Confidence: 0.69493294

00:52:38.330 --> 00:52:41.014 Treatment in alkali therapy

NOTE Confidence: 0.69493294

00:52:41.014 --> 00:52:45.040 in this all is not difficult.

NOTE Confidence: 0.69493294

00:52:45.040 --> 00:52:47.546 .5 to one Mil Quality Julie enough.

NOTE Confidence: 0.69493294

00:52:47.550 --> 00:52:50.556 You have to also replace potassium.

NOTE Confidence: 0.69493294

00:52:50.560 --> 00:52:52.528 The motor alkali you need based

NOTE Confidence: 0.69493294

00:52:52.528 --> 00:52:55.110 on age it drops as the patient

NOTE Confidence: 0.69493294

00:52:55.110 --> 00:52:57.100 gets older here because you're

NOTE Confidence: 0.69493294

00:52:57.100 --> 00:52:59.090 growing the making the bone,

NOTE Confidence: 0.69493294

00:52:59.090 --> 00:53:01.928 they may require formula transport kilogram.

NOTE Confidence: 0.69493294

00:53:01.930 --> 00:53:03.518 When they become adult,

NOTE Confidence: 0.69493294

00:53:03.518 --> 00:53:06.340 one to two milligrams and laugh in

NOTE Confidence: 0.69493294
00:53:06.340 --> 00:53:08.548 Parola patient .5 to 1 milligram
NOTE Confidence: 0.69493294
00:53:08.548 --> 00:53:10.879 per kilogram is commonly enough,
NOTE Confidence: 0.69493294
00:53:10.880 --> 00:53:14.156 but you need to maintain normal
NOTE Confidence: 0.69493294
00:53:14.156 --> 00:53:16.910 bicarbonate in children to grow.
NOTE Confidence: 0.69493294
00:53:16.910 --> 00:53:19.166 Proximal is very difficult to treat.
NOTE Confidence: 0.69493294
00:53:19.170 --> 00:53:21.155 Treat online disease and high
NOTE Confidence: 0.69493294
00:53:21.155 --> 00:53:23.140 level of alkali commonly waste
NOTE Confidence: 0.69493294
00:53:23.212 --> 00:53:25.198 law by calling they give them.
NOTE Confidence: 0.69493294
00:53:25.200 --> 00:53:28.455 Then you need to replace the potassium.
NOTE Confidence: 0.69493294
00:53:28.460 --> 00:53:31.393 It has been commented on other potential
NOTE Confidence: 0.69493294
00:53:31.393 --> 00:53:34.399 treatment void will treat them given Karzai.
NOTE Confidence: 0.69493294
00:53:34.400 --> 00:53:36.906 All his tricks that you can use
NOTE Confidence: 0.69493294
00:53:36.906 --> 00:53:38.719 occasional vitamin D's use all
NOTE Confidence: 0.69493294
00:53:38.719 --> 00:53:41.043 of those to increase team or by
NOTE Confidence: 0.69493294
00:53:41.043 --> 00:53:42.640 coordinate impossible trivia.
NOTE Confidence: 0.69493294

00:53:42.640 --> 00:53:44.140 Very briefly, type a lot.
NOTE Confidence: 0.69493294

00:53:44.140 --> 00:53:47.866 Here is the most common that you will see.
NOTE Confidence: 0.69493294

00:53:47.870 --> 00:53:49.485 Name it doesn't with patient
NOTE Confidence: 0.69493294

00:53:49.485 --> 00:53:50.777 with chronic kidney disease.
NOTE Confidence: 0.69493294

00:53:50.780 --> 00:53:53.102 Remember they have a low back
NOTE Confidence: 0.69493294

00:53:53.102 --> 00:53:54.650 ammonia in the urine.
NOTE Confidence: 0.69493294

00:53:54.650 --> 00:53:57.961 They and they have a high serum
NOTE Confidence: 0.69493294

00:53:57.961 --> 00:54:01.163 potassium that is the market forecast
NOTE Confidence: 0.69493294

00:54:01.163 --> 00:54:05.083 for the commonly have decrease in GFR.
NOTE Confidence: 0.69493294

00:54:05.090 --> 00:54:08.464 And this patient is a very older
NOTE Confidence: 0.69493294

00:54:08.464 --> 00:54:11.401 study actually done a deal where
NOTE Confidence: 0.69493294

00:54:11.401 --> 00:54:14.649 they found that hypo Aldo was present
NOTE Confidence: 0.69493294

00:54:14.742 --> 00:54:18.334 80% hyper any 80% but 20% had no
NOTE Confidence: 0.69493294

00:54:18.334 --> 00:54:20.694 more running normal although unable.
NOTE Confidence: 0.7736128

00:54:23.570 --> 00:54:26.194 So the first large of this station have
NOTE Confidence: 0.7736128

00:54:26.194 --> 00:54:28.799 a problem in running although circuit.

NOTE Confidence: 0.7736128
00:54:28.800 --> 00:54:32.196 Either no more running low Aldo.
NOTE Confidence: 0.7736128
00:54:32.200 --> 00:54:34.265 Lauren in Palo Alto or a small
NOTE Confidence: 0.7736128
00:54:34.265 --> 00:54:36.408 group and or a normal although
NOTE Confidence: 0.7736128
00:54:36.408 --> 00:54:38.784 and lack of response in attribute.
NOTE Confidence: 0.7736128
00:54:38.790 --> 00:54:41.931 This has to do what you guys know very
NOTE Confidence: 0.7736128
00:54:41.931 --> 00:54:45.033 well that you need to make rain in JG.
NOTE Confidence: 0.7736128
00:54:45.040 --> 00:54:47.220 Operators has to go through
NOTE Confidence: 0.7736128
00:54:47.220 --> 00:54:49.400 this whole series of events.
NOTE Confidence: 0.7736128
00:54:49.400 --> 00:54:51.878 Including a little gland this morning
NOTE Confidence: 0.7736128
00:54:51.878 --> 00:54:54.288 to either potassium or to run in,
NOTE Confidence: 0.7736128
00:54:54.290 --> 00:54:56.915 and a fairly response in the tubular,
NOTE Confidence: 0.7736128
00:54:56.920 --> 00:54:58.795 you can interrupt the cement
NOTE Confidence: 0.7736128
00:54:58.795 --> 00:55:00.295 at many different places.
NOTE Confidence: 0.7736128
00:55:00.300 --> 00:55:02.939 I'm not going to go through that.
NOTE Confidence: 0.7736128
00:55:02.940 --> 00:55:05.274 You basically have drugs to block
NOTE Confidence: 0.7736128

00:55:05.274 --> 00:55:08.502 at every step in this one to cause

NOTE Confidence: 0.7736128

00:55:08.502 --> 00:55:10.884 arterial due to medication from a

NOTE Confidence: 0.7736128

00:55:10.966 --> 00:55:13.454 step one all the way to the end.

NOTE Confidence: 0.7736128

00:55:13.460 --> 00:55:16.148 Their medication right now that would

NOTE Confidence: 0.7736128

00:55:16.148 --> 00:55:18.980 do that. Easier to make a diagnosis.

NOTE Confidence: 0.7736128

00:55:18.980 --> 00:55:21.650 These are the lesser medication.

NOTE Confidence: 0.7736128

00:55:21.650 --> 00:55:24.518 Available to you on this slide.

NOTE Confidence: 0.7736128

00:55:24.520 --> 00:55:27.526 Here the treatment should be initially.

NOTE Confidence: 0.7736128

00:55:27.530 --> 00:55:29.494 Discontinue all the medication

NOTE Confidence: 0.7736128

00:55:29.494 --> 00:55:31.458 that impacts on potassium.

NOTE Confidence: 0.7736128

00:55:31.460 --> 00:55:33.365 Restrict dietary potassium.

NOTE Confidence: 0.7736128

00:55:33.365 --> 00:55:35.270 It doesn't enough.

NOTE Confidence: 0.7736128

00:55:35.270 --> 00:55:38.035 Diabetes is very common in this patient.

NOTE Confidence: 0.7736128

00:55:38.040 --> 00:55:41.568 Make sure they are well controlled diabetics.

NOTE Confidence: 0.7736128

00:55:41.570 --> 00:55:43.626 Then treat Metallica Sidosis.

NOTE Confidence: 0.7736128

00:55:43.626 --> 00:55:46.710 With my card or some alkali.

NOTE Confidence: 0.7736128
00:55:46.710 --> 00:55:47.902 One depletion.

NOTE Confidence: 0.7736128
00:55:47.902 --> 00:55:50.286 Worsens hyperkalemia versus Rick

NOTE Confidence: 0.7736128
00:55:50.286 --> 00:55:53.020 acid or salts trigger it.

NOTE Confidence: 0.7736128
00:55:53.020 --> 00:55:57.996 Now those work use loop diuretic use the

NOTE Confidence: 0.7736128
00:55:57.996 --> 00:56:02.959 side effect of diuretic hyper hypokalemia.

NOTE Confidence: 0.7736128
00:56:02.960 --> 00:56:05.165 Test to tree Topper chillemi

NOTE Confidence: 0.7736128
00:56:05.165 --> 00:56:06.488 a metabolic acidosis.

NOTE Confidence: 0.7736128
00:56:06.490 --> 00:56:08.690 If all of those fail,

NOTE Confidence: 0.7736128
00:56:08.690 --> 00:56:11.222 then think about using floor enough

NOTE Confidence: 0.7736128
00:56:11.222 --> 00:56:14.241 in the crossed some now takes like

NOTE Confidence: 0.7736128
00:56:14.241 --> 00:56:16.731 can be used to newer polymers

NOTE Confidence: 0.7736128
00:56:16.731 --> 00:56:18.839 available to control potassium,

NOTE Confidence: 0.7736128
00:56:18.840 --> 00:56:21.920 but you really need to use that.

NOTE Confidence: 0.7736128
00:56:21.920 --> 00:56:25.808 Really. Go back to very basic.

NOTE Confidence: 0.7736128
00:56:25.810 --> 00:56:26.893 Trade my streetable.

NOTE Confidence: 0.7736128

00:56:26.893 --> 00:56:29.420 An easy for the patient to manage
NOTE Confidence: 0.7736128

00:56:29.487 --> 00:56:31.557 excellent is not very pleasant.
NOTE Confidence: 0.7736128

00:56:31.560 --> 00:56:34.938 New parliament are quite expensive tools.
NOTE Confidence: 0.7736128

00:56:34.940 --> 00:56:36.170 Let me finish my summer.
NOTE Confidence: 0.7736128

00:56:36.170 --> 00:56:38.010 I do all the time.
NOTE Confidence: 0.7736128

00:56:38.010 --> 00:56:40.824 Everything that we know in acid base
NOTE Confidence: 0.7736128

00:56:40.824 --> 00:56:43.956 or the work of individual sub work
NOTE Confidence: 0.7736128

00:56:43.956 --> 00:56:46.716 for last two centuries trying to
NOTE Confidence: 0.7736128

00:56:46.809 --> 00:56:49.448 figure out what the hell is going
NOTE Confidence: 0.7736128

00:56:49.448 --> 00:56:52.224 on about to remember 2 individuals.
NOTE Confidence: 0.7736128

00:56:52.224 --> 00:56:53.868 One is Alright.
NOTE Confidence: 0.7736128

00:56:53.870 --> 00:56:56.864 An article that thing every not
NOTE Confidence: 0.7736128

00:56:56.864 --> 00:56:59.681 follow should read published in 1946
NOTE Confidence: 0.7736128

00:56:59.681 --> 00:57:02.609 in the article is only 80 pages long
NOTE Confidence: 0.7736128

00:57:02.696 --> 00:57:06.107 and want to read it available on the web.
NOTE Confidence: 0.7736128

00:57:06.110 --> 00:57:09.212 With beautiful drawing done by or

NOTE Confidence: 0.7736128
00:57:09.212 --> 00:57:12.741 bright and he described for the first
NOTE Confidence: 0.7736128
00:57:12.741 --> 00:57:15.919 time a group of patient with tubular
NOTE Confidence: 0.7736128
00:57:16.013 --> 00:57:20.009 insufficiency without polymer insufficiency.
NOTE Confidence: 0.7736128
00:57:20.010 --> 00:57:22.380 Who had had to commit,
NOTE Confidence: 0.7736128
00:57:22.380 --> 00:57:25.260 or Castillo says some had never
NOTE Confidence: 0.7736128
00:57:25.260 --> 00:57:27.720 calcinosis under for the Tarsis
NOTE Confidence: 0.7736128
00:57:27.720 --> 00:57:30.438 they had under uses the water.
NOTE Confidence: 0.7736128
00:57:30.440 --> 00:57:32.468 Spectacular response to alkali
NOTE Confidence: 0.7736128
00:57:32.468 --> 00:57:35.003 will disruption of natural casino
NOTE Confidence: 0.7736128
00:57:35.003 --> 00:57:36.883 says triple nephrolithiasis and
NOTE Confidence: 0.7736128
00:57:36.883 --> 00:57:39.914 he said this is not the norlite.
NOTE Confidence: 0.7736128
00:57:39.920 --> 00:57:43.238 Richard is not due to renal failure.
NOTE Confidence: 0.7736128
00:57:43.240 --> 00:57:45.610 This is a traveler disease
NOTE Confidence: 0.7736128
00:57:45.610 --> 00:57:47.980 not available of these days.
NOTE Confidence: 0.7736128
00:57:47.980 --> 00:57:50.630 Alright There's a beautiful table.
NOTE Confidence: 0.7736128

00:57:50.630 --> 00:57:53.282 In which she tries to separate

NOTE Confidence: 0.7736128

00:57:53.282 --> 00:57:54.608 proximal from distal,

NOTE Confidence: 0.7736128

00:57:54.610 --> 00:57:57.262 he makes a major mistake in

NOTE Confidence: 0.7736128

00:57:57.262 --> 00:57:58.588 the final outcome.

NOTE Confidence: 0.7736128

00:57:58.590 --> 00:58:00.606 Taking the approximal were

NOTE Confidence: 0.7736128

00:58:00.606 --> 00:58:03.126 due to increase in organic.

NOTE Confidence: 0.7736128

00:58:03.130 --> 00:58:05.320 I said production because these

NOTE Confidence: 0.7736128

00:58:05.320 --> 00:58:07.510 patients had a specific disease

NOTE Confidence: 0.7736128

00:58:07.579 --> 00:58:09.664 fanconi syndrome and they were

NOTE Confidence: 0.7736128

00:58:09.664 --> 00:58:11.749 wasting organic acid as well.

NOTE Confidence: 0.84352225

00:58:11.750 --> 00:58:15.838 We know that that's not really true.

NOTE Confidence: 0.84352225

00:58:15.840 --> 00:58:17.780 Albritton came with this pathway,

NOTE Confidence: 0.84352225

00:58:17.780 --> 00:58:21.280 exactly what I'm trying to teach today.

NOTE Confidence: 0.84352225

00:58:21.280 --> 00:58:23.728 That the problem is in decrease

NOTE Confidence: 0.84352225

00:58:23.728 --> 00:58:25.360 your among your expression.

NOTE Confidence: 0.84352225

00:58:25.360 --> 00:58:27.736 This causes custom results in from

NOTE Confidence: 0.84352225
00:58:27.736 --> 00:58:30.278 the bowling cause a simulation
NOTE Confidence: 0.84352225
00:58:30.278 --> 00:58:32.040 hypercalciuria discourse.
NOTE Confidence: 0.84352225
00:58:32.040 --> 00:58:35.622 Significant snow says not realizes this
NOTE Confidence: 0.84352225
00:58:35.622 --> 00:58:39.769 may cause a pickle simuel increase.
NOTE Confidence: 0.84352225
00:58:39.770 --> 00:58:42.562 Increase phosphate and becausw
NOTE Confidence: 0.84352225
00:58:42.562 --> 00:58:45.354 of calories is hyperkalemia.
NOTE Confidence: 0.84352225
00:58:45.360 --> 00:58:51.624 This is in 1947, that's what he said.
NOTE Confidence: 0.84352225
00:58:51.630 --> 00:58:55.638 Second page personal to remember Oliver
NOTE Confidence: 0.84352225
00:58:55.638 --> 00:58:59.189 wrong major article published in 1959.
NOTE Confidence: 0.84352225
00:58:59.190 --> 00:59:01.955 I've had a number of pages here.
NOTE Confidence: 0.84352225
00:59:01.960 --> 00:59:06.268 This is about 54 pages article.
NOTE Confidence: 0.84352225
00:59:06.270 --> 00:59:10.600 He is the one who created on a chloride test.
NOTE Confidence: 0.84352225
00:59:10.600 --> 00:59:12.770 It's a large number location.
NOTE Confidence: 0.84352225
00:59:12.770 --> 00:59:17.098 11 of those had RTA introduced owner protest
NOTE Confidence: 0.84352225
00:59:17.098 --> 00:59:19.937 separating proximate from this last year.
NOTE Confidence: 0.84352225

00:59:19.940 --> 00:59:24.848 Oliver Ron wrote his last first
NOTE Confidence: 0.84352225

00:59:24.848 --> 00:59:28.700 Article 1959 that's equal #7.
NOTE Confidence: 0.84352225

00:59:28.700 --> 00:59:31.270 He wrote his last article.
NOTE Confidence: 0.84352225

00:59:31.270 --> 00:59:36.506 In 2012 he was working on the
NOTE Confidence: 0.84352225

00:59:36.506 --> 00:59:40.220 same question it in 1959.
NOTE Confidence: 0.84352225

00:59:40.220 --> 00:59:45.924 2012 You talking about 52 years chasing the
NOTE Confidence: 0.84352225

00:59:45.924 --> 00:59:51.106 same question he gave up and he died early.
NOTE Confidence: 0.84352225

00:59:51.110 --> 00:59:53.374 This is what All Blacks say in one
NOTE Confidence: 0.84352225

00:59:53.374 --> 00:59:56.315 of his talks, he said I've told you
NOTE Confidence: 0.84352225

00:59:56.315 --> 00:59:58.200 more about our soup process.
NOTE Confidence: 0.84352225

00:59:58.200 --> 01:00:00.696 Well, I know what I've told you is
NOTE Confidence: 0.84352225

01:00:00.696 --> 01:00:02.920 subject to change without notice.
NOTE Confidence: 0.84352225

01:00:02.920 --> 01:00:05.296 I hope I have raised more
NOTE Confidence: 0.84352225

01:00:05.296 --> 01:00:07.540 questions that give an answer.
NOTE Confidence: 0.84352225

01:00:07.540 --> 01:00:10.480 In any case, as usual.
NOTE Confidence: 0.84352225

01:00:10.480 --> 01:00:12.308 And not working necessary.

NOTE Confidence: 0.84352225

01:00:12.308 --> 01:00:16.329 That's a message to all the Young Fellows.

NOTE Confidence: 0.84352225

01:00:16.330 --> 01:00:17.962 Your many questions not

NOTE Confidence: 0.84352225

01:00:17.962 --> 01:00:19.594 answered by your faculty,

NOTE Confidence: 0.84352225

01:00:19.600 --> 01:00:23.272 or if there's a lot to be excited about.

NOTE Confidence: 0.84352225

01:00:23.280 --> 01:00:24.920 Thank you very much.

NOTE Confidence: 0.84352225

01:00:24.920 --> 01:00:25.740 I'm done.

NOTE Confidence: 0.84352225

01:00:25.740 --> 01:00:27.780 If there's any question would

NOTE Confidence: 0.84352225

01:00:27.780 --> 01:00:29.412 be happy to answer.

NOTE Confidence: 0.7599076

01:00:32.930 --> 01:00:35.900 NASCAR had a quick clinical question.

NOTE Confidence: 0.78131884

01:00:38.190 --> 01:00:44.646 Does a Ki kick in injury of influence?

NOTE Confidence: 0.78131884

01:00:44.650 --> 01:00:49.174 Acid handling. Very good question.

NOTE Confidence: 0.78131884

01:00:49.174 --> 01:00:52.102 There is a recent article published

NOTE Confidence: 0.78131884

01:00:52.102 --> 01:00:54.868 by the group at Northwestern.

NOTE Confidence: 0.78131884

01:00:54.870 --> 01:00:57.350 Where for the first time?

NOTE Confidence: 0.78131884

01:00:57.350 --> 01:00:59.645 They made that comment that

NOTE Confidence: 0.78131884

01:00:59.645 --> 01:01:02.486 shroom bicarbonate is not a good
NOTE Confidence: 0.78131884

01:01:02.486 --> 01:01:05.204 marker for how to Kennisis Asset.
NOTE Confidence: 0.78131884

01:01:05.210 --> 01:01:07.562 Well, that's the last.
NOTE Confidence: 0.78131884

01:01:07.562 --> 01:01:11.090 Attempt at maintaining and or bicarbonate.
NOTE Confidence: 0.78131884

01:01:11.090 --> 01:01:12.110 That you're looking.
NOTE Confidence: 0.78131884

01:01:12.110 --> 01:01:13.810 You're not looking at the
NOTE Confidence: 0.78131884

01:01:13.810 --> 01:01:15.309 events happening in the kidney.
NOTE Confidence: 0.78131884

01:01:15.310 --> 01:01:17.944 And they introduce the concept of
NOTE Confidence: 0.78131884

01:01:17.944 --> 01:01:20.230 urine citrate divided by urine,
NOTE Confidence: 0.78131884

01:01:20.230 --> 01:01:22.465 Creatinine E as a measure
NOTE Confidence: 0.78131884

01:01:22.465 --> 01:01:24.700 of the renal response to.
NOTE Confidence: 0.78131884

01:01:24.700 --> 01:01:28.450 I said like that's normal.
NOTE Confidence: 0.78131884

01:01:28.450 --> 01:01:30.574 Despite normal bicarbonate.
NOTE Confidence: 0.78131884

01:01:30.574 --> 01:01:33.406 That's the normal response.
NOTE Confidence: 0.78131884

01:01:33.410 --> 01:01:36.038 If that's abnormal and North Run
NOTE Confidence: 0.78131884

01:01:36.038 --> 01:01:38.310 by companies normal's still the

NOTE Confidence: 0.78131884
01:01:38.310 --> 01:01:40.980 kidney is facing a severe intercel
NOTE Confidence: 0.78131884
01:01:40.980 --> 01:01:43.593 acidosis by responding normally. Not.
NOTE Confidence: 0.78131884
01:01:43.593 --> 01:01:47.937 This study has not been done in HCl.
NOTE Confidence: 0.78131884
01:01:47.940 --> 01:01:50.880 So we do see definitely.
NOTE Confidence: 0.78131884
01:01:50.880 --> 01:01:52.760 Academia Inukai if you look
NOTE Confidence: 0.78131884
01:01:52.760 --> 01:01:53.888 at bicarbonate application,
NOTE Confidence: 0.78131884
01:01:53.890 --> 01:01:55.574 blood pressure is normal.
NOTE Confidence: 0.78131884
01:01:55.574 --> 01:01:58.981 Is it drop about 2 to 3 milligrams
NOTE Confidence: 0.78131884
01:01:58.981 --> 01:02:01.739 per day if their GF far is
NOTE Confidence: 0.78131884
01:02:01.739 --> 01:02:03.927 less than 10 ML per day?
NOTE Confidence: 0.78131884
01:02:03.930 --> 01:02:07.434 So that would mean that they're not making.
NOTE Confidence: 0.78131884
01:02:07.440 --> 01:02:09.974 Enough ammonia in your end to replace
NOTE Confidence: 0.78131884
01:02:09.974 --> 01:02:12.418 about cotton being loss at that time
NOTE Confidence: 0.78131884
01:02:12.418 --> 01:02:14.356 was the actual mechanism in HCl.
NOTE Confidence: 0.78131884
01:02:14.360 --> 01:02:17.168 I suspect it has to do again with ammonia
NOTE Confidence: 0.78131884

01:02:17.168 --> 01:02:18.860 production and attract ourselves.
NOTE Confidence: 0.78131884

01:02:18.860 --> 01:02:19.898 Tubulars are undamaged,
NOTE Confidence: 0.78131884

01:02:19.898 --> 01:02:21.628 be well to do that,
NOTE Confidence: 0.78131884

01:02:21.630 --> 01:02:26.470 but that is study has not been done any API.
NOTE Confidence: 0.78131884

01:02:26.470 --> 01:02:28.852 It's also difficult to do because
NOTE Confidence: 0.78131884

01:02:28.852 --> 01:02:30.969 everything is scheduled day by day,
NOTE Confidence: 0.78131884

01:02:30.970 --> 01:02:33.357 so they studied by more and his
NOTE Confidence: 0.78131884

01:02:33.357 --> 01:02:35.544 group Sequoia and the group just
NOTE Confidence: 0.78131884

01:02:35.544 --> 01:02:37.354 published is really in chronic
NOTE Confidence: 0.78131884

01:02:37.354 --> 01:02:39.968 in the disease that they propose.
NOTE Confidence: 0.78131884

01:02:39.970 --> 01:02:41.470 Urine, citrate, urine, creatinine,
NOTE Confidence: 0.78131884

01:02:41.470 --> 01:02:42.970 at least from creatinine,
NOTE Confidence: 0.78131884

01:02:42.970 --> 01:02:45.490 may be a good way of looking at
NOTE Confidence: 0.78131884

01:02:45.490 --> 01:02:47.848 the kidney response class anemia.
NOTE Confidence: 0.68925756

01:02:51.660 --> 01:02:56.418 NASCAR, yes. That there's that there
NOTE Confidence: 0.68925756

01:02:56.418 --> 01:02:58.440 should be a distinction between renal

NOTE Confidence: 0.68925756

01:02:58.499 --> 01:03:00.489 acidosis and renal tubular acidosis.

NOTE Confidence: 0.68925756

01:03:00.490 --> 01:03:04.100 In the there's no such thing as the go Mary,

NOTE Confidence: 0.68925756

01:03:04.100 --> 01:03:07.240 or that's it those.

NOTE Confidence: 0.68925756

01:03:07.240 --> 01:03:09.898 That's a very good question, I think.

NOTE Confidence: 0.68925756

01:03:09.898 --> 01:03:13.076 If the bottom line and patients will

NOTE Confidence: 0.68925756

01:03:13.076 --> 01:03:16.540 have any on gap between gas and or

NOTE Confidence: 0.68925756

01:03:16.540 --> 01:03:19.812 says because the fact that we love

NOTE Confidence: 0.68925756

01:03:19.812 --> 01:03:22.698 failure and you're unable to handle

NOTE Confidence: 0.68925756

01:03:22.700 --> 01:03:25.310 for Spain and sulfate organic assets,

NOTE Confidence: 0.68925756

01:03:25.310 --> 01:03:29.666 they also have a lower ammonia.

NOTE Confidence: 0.68925756

01:03:29.670 --> 01:03:32.486 RTA so in some way the bottom line

NOTE Confidence: 0.68925756

01:03:32.486 --> 01:03:35.721 is either you have a problem in the

NOTE Confidence: 0.68925756

01:03:35.721 --> 01:03:38.189 tribute because you have a problem

NOTE Confidence: 0.68925756

01:03:38.189 --> 01:03:40.821 in the function or you have a

NOTE Confidence: 0.68925756

01:03:40.821 --> 01:03:43.025 problem with keyboard while you have

NOTE Confidence: 0.68925756

01:03:43.025 --> 01:03:45.556 a normal renal function GF are but

NOTE Confidence: 0.68925756

01:03:45.556 --> 01:03:47.775 the trouble is not respond to that.

NOTE Confidence: 0.68925756

01:03:47.780 --> 01:03:50.156 Find the separation is helpful in

NOTE Confidence: 0.68925756

01:03:50.156 --> 01:03:52.649 terms of thinking about the patient.

NOTE Confidence: 0.68925756

01:03:52.650 --> 01:03:55.443 That you do see Fisher with perfectly

NOTE Confidence: 0.68925756

01:03:55.443 --> 01:03:57.746 normal creatinine level GF are or

NOTE Confidence: 0.68925756

01:03:57.746 --> 01:03:59.822 significant acid anemic and the question

NOTE Confidence: 0.68925756

01:03:59.822 --> 01:04:02.163 is that why is that they're looking

NOTE Confidence: 0.68925756

01:04:02.163 --> 01:04:05.355 at the onion gap is helpful as you do

NOTE Confidence: 0.68925756

01:04:05.355 --> 01:04:07.260 to increase production organic asset

NOTE Confidence: 0.68925756

01:04:07.335 --> 01:04:09.738 or is it a problem in the kidney in

NOTE Confidence: 0.68925756

01:04:09.738 --> 01:04:12.089 term of redirection back hardening?

NOTE Confidence: 0.68925756

01:04:12.090 --> 01:04:14.250 So I think Leslie cell floor

NOTE Confidence: 0.68925756

01:04:14.250 --> 01:04:15.690 but different logical level.

NOTE Confidence: 0.68925756

01:04:15.690 --> 01:04:19.778 Is it comes back to the same problem.

NOTE Confidence: 0.68925756

01:04:19.780 --> 01:04:22.062 Hi I have another question about this

NOTE Confidence: 0.68925756
01:04:22.062 --> 01:04:25.543 in a Ki not every once in awhile on
NOTE Confidence: 0.68925756
01:04:25.543 --> 01:04:27.878 consoles someone will notice that a
NOTE Confidence: 0.68925756
01:04:27.878 --> 01:04:30.422 patient with an AK I has no acidosis,
NOTE Confidence: 0.68925756
01:04:30.430 --> 01:04:32.915 that's non gap and a memory nonsense.
NOTE Confidence: 0.68925756
01:04:32.920 --> 01:04:35.296 Urine studies but if someone's not
NOTE Confidence: 0.68925756
01:04:35.296 --> 01:04:38.033 at their study I always kind of
NOTE Confidence: 0.68925756
01:04:38.033 --> 01:04:40.911 think that in the midst of them AKA
NOTE Confidence: 0.68925756
01:04:40.911 --> 01:04:43.566 I would not be the time to kind of
NOTE Confidence: 0.68925756
01:04:43.570 --> 01:04:46.153 evaluate someone for in RTS and that
NOTE Confidence: 0.68925756
01:04:46.153 --> 01:04:49.230 you know it should be should wait for
NOTE Confidence: 0.68925756
01:04:49.230 --> 01:04:51.890 the kidney to return to baseline.
NOTE Confidence: 0.68925756
01:04:51.890 --> 01:04:54.970 Steady state and then see is that correct?
NOTE Confidence: 0.68925756
01:04:54.970 --> 01:04:56.965 That's definitely correct.
NOTE Confidence: 0.68925756
01:04:56.965 --> 01:04:59.625 No question about that.
NOTE Confidence: 0.68925756
01:04:59.630 --> 01:05:01.961 If you have a patient was clearly
NOTE Confidence: 0.68925756

01:05:01.961 --> 01:05:03.320 change day by day.
NOTE Confidence: 0.68925756

01:05:03.320 --> 01:05:05.090 Commonly there are many other
NOTE Confidence: 0.68925756

01:05:05.090 --> 01:05:07.218 things happening and that's why I
NOTE Confidence: 0.68925756

01:05:07.218 --> 01:05:09.006 that's why you're in the hospital.
NOTE Confidence: 0.68925756

01:05:09.010 --> 01:05:11.158 That's going to make a decision
NOTE Confidence: 0.68925756

01:05:11.158 --> 01:05:13.930 about is that I think that really
NOTE Confidence: 0.68925756

01:05:13.930 --> 01:05:16.025 is not the time discussed.
NOTE Confidence: 0.68925756

01:05:16.030 --> 01:05:18.390 Idea time is when the patient is back
NOTE Confidence: 0.68925756

01:05:18.390 --> 01:05:20.747 to normal walking around the streets.
NOTE Confidence: 0.68925756

01:05:20.750 --> 01:05:22.748 Look at how they're handling your
NOTE Confidence: 0.68925756

01:05:22.748 --> 01:05:24.815 normal acid load and then deciding
NOTE Confidence: 0.68925756

01:05:24.815 --> 01:05:26.807 is that normal or not normal.
NOTE Confidence: 0.9048311

01:05:33.450 --> 01:05:34.810 Well, you're out of time.
NOTE Confidence: 0.9048311

01:05:34.810 --> 01:05:35.854 Thank you so much.
NOTE Confidence: 0.9048311

01:05:35.854 --> 01:05:37.790 I will see you guys next week.
NOTE Confidence: 0.9048311

01:05:37.790 --> 01:05:38.600 Thank you, bye.