

SK≡PTIKO
science & spirituality

#490

COVID
MASK SCIENCE

FEATURING

DR. DAN WILSON



1
00:00:06,950 --> 00:00:03,270
hold what

2
00:00:07,190 --> 00:00:06,960
explain your sneeze i'm sorry do you

3
00:00:09,270 --> 00:00:07,200
have

4
00:00:11,110 --> 00:00:09,280
allergies no is there too much pepper on

5
00:00:13,669 --> 00:00:11,120
your salad i don't put pepper on salads

6
00:00:15,749 --> 00:00:13,679
i've heard enough sit over there

7
00:00:17,109 --> 00:00:15,759
come on i don't want to sit by myself

8
00:00:19,349 --> 00:00:17,119
that's what typhoid mary said and

9
00:00:21,830 --> 00:00:19,359
clearly her friends buckled

10
00:00:24,870 --> 00:00:21,840
i have a really interesting interview

11
00:00:27,670 --> 00:00:24,880
coming up with dr dan wilson

12
00:00:28,550 --> 00:00:27,680
interesting to me because going into

13
00:00:32,630 --> 00:00:28,560

this

14

00:00:36,549 --> 00:00:32,640

i thought it was going to be a hardcore

15

00:00:39,510 --> 00:00:36,559

discussion about covid19

16

00:00:41,910 --> 00:00:39,520

mask science and what it really turned

17

00:00:45,350 --> 00:00:41,920

into maybe is just the discussion of

18

00:00:46,709 --> 00:00:45,360

how far the science cow has left the

19

00:00:48,549 --> 00:00:46,719

barn

20

00:00:50,229 --> 00:00:48,559

i would say that when it comes to mask

21

00:00:53,590 --> 00:00:50,239

use you know there

22

00:00:55,990 --> 00:00:53,600

are general principles that we can pull

23

00:00:57,830 --> 00:00:56,000

from the literature and we know from a

24

00:00:59,510 --> 00:00:57,840

laboratory setting that face masks

25

00:01:00,869 --> 00:00:59,520

reduce the number of infectious viral

26

00:01:02,389 --> 00:01:00,879

particles that escape

27

00:01:04,630 --> 00:01:02,399

from the nose and mouth into the

28

00:01:06,149 --> 00:01:04,640

environment that is perfectly illogical

29

00:01:07,910 --> 00:01:06,159

i have to interject i know you're making

30

00:01:09,750 --> 00:01:07,920

sure there's a remark but i kind of

31

00:01:12,149 --> 00:01:09,760

nailed that i mean who cares

32

00:01:13,670 --> 00:01:12,159

that doesn't just we get and and the

33

00:01:15,749 --> 00:01:13,680

fact that it gets repeated

34

00:01:16,789 --> 00:01:15,759

over and over again like you just did

35

00:01:19,830 --> 00:01:16,799

with some kind of

36

00:01:20,710 --> 00:01:19,840

mantra mesmerizing thing it's science

37

00:01:22,789 --> 00:01:20,720

[h__\h]

38

00:01:24,230 --> 00:01:22,799

it doesn't have anything to do with

39

00:01:27,429 --> 00:01:24,240

answering the question

40

00:01:29,830 --> 00:01:27,439

am i safer wearing a mask it doesn't

41

00:01:32,469 --> 00:01:29,840

answer that because it doesn't relate to

42

00:01:34,630 --> 00:01:32,479

how it works with other humans it's just

43

00:01:35,990 --> 00:01:34,640

it's science [h__\h]

44

00:01:37,830 --> 00:01:36,000

well i would disagree i think it's a

45

00:01:39,670 --> 00:01:37,840

really important part of the puzzle

46

00:01:41,030 --> 00:01:39,680

you know like we said at the beginning

47

00:01:42,630 --> 00:01:41,040

it's important to see

48

00:01:44,069 --> 00:01:42,640

whether or not something works in a lab

49

00:01:44,870 --> 00:01:44,079

setting and that's usually the first

50

00:01:46,550 --> 00:01:44,880

thing that

51
00:01:49,270 --> 00:01:46,560
scientists do before going and testing

52
00:01:51,910 --> 00:01:49,280
it further but no one had any doubt

53
00:01:53,350 --> 00:01:51,920
whether it would work it's home ice no

54
00:01:56,709 --> 00:01:53,360
one had any doubt that

55
00:01:58,550 --> 00:01:56,719
if i put if i do that it it does the

56
00:01:59,270 --> 00:01:58,560
same thing if i cover my mouth when i

57
00:02:01,990 --> 00:01:59,280
cough

58
00:02:03,190 --> 00:02:02,000
stuff doesn't come out to elevate it to

59
00:02:05,990 --> 00:02:03,200
this level of

60
00:02:08,229 --> 00:02:06,000
advanced refined science to say that if

61
00:02:10,070 --> 00:02:08,239
you cover somebody's mouth

62
00:02:12,790 --> 00:02:10,080
the stuff doesn't come out of it when

63
00:02:16,790 --> 00:02:12,800

they sneeze is a total

64

00:02:19,589 --> 00:02:16,800

head fake [h__\h] way of kind of

65

00:02:21,190 --> 00:02:19,599

wrapping all this nonsense in science

66

00:02:24,949 --> 00:02:21,200

the conclusion is

67

00:02:27,350 --> 00:02:24,959

last year's

68

00:02:28,550 --> 00:02:27,360

super bowl when the chiefs won no one

69

00:02:30,550 --> 00:02:28,560

had to wear a mask

70

00:02:32,070 --> 00:02:30,560

because no one was told to wear a mask

71

00:02:32,550 --> 00:02:32,080

because that's what the best science

72

00:02:35,270 --> 00:02:32,560

said

73

00:02:36,070 --> 00:02:35,280

and there hasn't been a wave of science

74

00:02:38,550 --> 00:02:36,080

that would change

75

00:02:40,390 --> 00:02:38,560

that welcome to skeptico where we

76
00:02:41,509 --> 00:02:40,400
explore controversial science and

77
00:02:44,070 --> 00:02:41,519
spirituality

78
00:02:45,750 --> 00:02:44,080
with leading researchers thinkers and

79
00:02:49,830 --> 00:02:45,760
their critics

80
00:02:51,990 --> 00:02:49,840
boy oh boy i have a good one today i've

81
00:02:55,430 --> 00:02:52,000
really been looking forward to this

82
00:02:58,710 --> 00:02:55,440
dr dan wilson debunk the funk

83
00:03:02,309 --> 00:02:58,720
with dr wilson is his youtube channel

84
00:03:05,990 --> 00:03:02,319
he is joining us today to have a covid

85
00:03:09,110 --> 00:03:06,000
19 science throw down

86
00:03:11,990 --> 00:03:09,120
knock down drag out dan

87
00:03:14,149 --> 00:03:12,000
is a phd in molecular biology from

88
00:03:18,070 --> 00:03:14,159

carnegie mellon

89

00:03:20,229 --> 00:03:18,080

translate as he's really really smart

90

00:03:21,910 --> 00:03:20,239

i don't know about that but oh you you

91

00:03:23,910 --> 00:03:21,920

will find that he is really

92

00:03:25,190 --> 00:03:23,920

smart which means i took a particular

93

00:03:28,390 --> 00:03:25,200

path and

94

00:03:30,789 --> 00:03:28,400

spent a lot of time doing it so no

95

00:03:31,990 --> 00:03:30,799

you know i mean let's let's be you know

96

00:03:33,270 --> 00:03:32,000

for real because

97

00:03:35,830 --> 00:03:33,280

it is important we're gonna have a

98

00:03:37,910 --> 00:03:35,840

scientific discussion one of the things

99

00:03:38,949 --> 00:03:37,920

you know you kind of pride yourself on

100

00:03:42,630 --> 00:03:38,959

which is great

101
00:03:44,229 --> 00:03:42,640
is being a science

102
00:03:46,309 --> 00:03:44,239
you know you're a science professional

103
00:03:47,670 --> 00:03:46,319
but you're also a fan of science and

104
00:03:50,550 --> 00:03:47,680
advocate for science

105
00:03:52,149 --> 00:03:50,560
you're interested in debunking to the

106
00:03:54,229 --> 00:03:52,159
extent that you want to get to the

107
00:03:55,110 --> 00:03:54,239
bottom of what's real and what isn't

108
00:03:57,429 --> 00:03:55,120
real and

109
00:03:58,949 --> 00:03:57,439
hey that's where i'm at too and even

110
00:04:00,309 --> 00:03:58,959
though we might come to different

111
00:04:03,750 --> 00:04:00,319
conclusions

112
00:04:07,589 --> 00:04:03,760
we we share that which i think is

113
00:04:11,670 --> 00:04:11,190

so i'm showing here your uh your youtube

114

00:04:14,149 --> 00:04:11,680

channel

115

00:04:15,589 --> 00:04:14,159

and as folks can see you've done a lot

116

00:04:18,870 --> 00:04:15,599

of videos

117

00:04:20,310 --> 00:04:18,880

on covid19 uh

118

00:04:22,150 --> 00:04:20,320

a lot of people on there we're going to

119

00:04:24,870 --> 00:04:22,160

talk about in a minute but

120

00:04:27,510 --> 00:04:24,880

why don't we start by just you know kind

121

00:04:30,469 --> 00:04:27,520

of the basics tell us a little bit more

122

00:04:32,230 --> 00:04:30,479

about your background about share as

123

00:04:33,670 --> 00:04:32,240

much as you want about what you do but

124

00:04:36,070 --> 00:04:33,680

in particular

125

00:04:37,590 --> 00:04:36,080

why you created this youtube channel and

126

00:04:41,670 --> 00:04:37,600

why you felt the need to

127

00:04:45,430 --> 00:04:41,680

publish so many videos on covet 19.

128

00:04:47,030 --> 00:04:45,440

yeah so um as you said i earned my phd

129

00:04:50,390 --> 00:04:47,040

from carnegie mellon university

130

00:04:53,990 --> 00:04:50,400

um i earned it just last year actually

131

00:04:59,270 --> 00:04:54,000

and uh you know

132

00:05:03,350 --> 00:05:02,390

skeptical topics such as pseudoscience

133

00:05:05,670 --> 00:05:03,360

paranormal

134

00:05:06,950 --> 00:05:05,680

uh conspiracy theories all that kind of

135

00:05:09,510 --> 00:05:06,960

things i've been

136

00:05:10,070 --> 00:05:09,520

interested in it uh from a very young

137

00:05:13,110 --> 00:05:10,080

age

138

00:05:14,469 --> 00:05:13,120

and so uh

139

00:05:16,469 --> 00:05:14,479

it's always been something i would read

140

00:05:19,510 --> 00:05:16,479

about um you know

141

00:05:20,870 --> 00:05:19,520

watch youtube videos about uh and i kind

142

00:05:23,749 --> 00:05:20,880

of had

143

00:05:27,430 --> 00:05:23,759

uh my own little research forays into

144

00:05:32,469 --> 00:05:30,710

and so when i was getting to towards the

145

00:05:34,790 --> 00:05:32,479

end of my phd i thought you know what do

146

00:05:38,150 --> 00:05:34,800

i really want to do with my degree

147

00:05:38,870 --> 00:05:38,160

do i really want to sit at a lab bench

148

00:05:42,230 --> 00:05:38,880

and

149

00:05:44,710 --> 00:05:42,240

try to feel like i'm being try to really

150

00:05:47,749 --> 00:05:44,720

feel like i'm contributing to society

151
00:05:49,350 --> 00:05:47,759
by doing these really niche uh special

152
00:05:50,710 --> 00:05:49,360
projects that it's hard to see the

153
00:05:55,110 --> 00:05:50,720
grander

154
00:05:57,029 --> 00:05:55,120
want to interject a little bit on your

155
00:05:59,029 --> 00:05:57,039
dissertation which i did not understand

156
00:06:01,670 --> 00:05:59,039
at all but we'll give people a sense for

157
00:06:04,550 --> 00:06:01,680
how much we don't know about what you

158
00:06:07,990 --> 00:06:04,560
know and do kind of on it

159
00:06:11,270 --> 00:06:08,000
sure yeah so for my uh phd work i

160
00:06:13,510 --> 00:06:11,280
investigated how uh cells build the

161
00:06:14,710 --> 00:06:13,520
a little nano machine in the uh called

162
00:06:18,070 --> 00:06:14,720
ribosomes

163
00:06:21,110 --> 00:06:18,080

so if you remember from biology class um

164

00:06:23,350 --> 00:06:21,120

proteins get made by ribosomes but

165

00:06:25,590 --> 00:06:23,360

ribosomes themselves are made up of

166

00:06:26,950 --> 00:06:25,600

protein and rna and they're actually

167

00:06:28,870 --> 00:06:26,960

really complicated

168

00:06:31,110 --> 00:06:28,880

structures and the cell has to build

169

00:06:33,270 --> 00:06:31,120

them so

170

00:06:35,029 --> 00:06:33,280

uh it has mechanisms to do that which

171

00:06:39,029 --> 00:06:35,039

are

172

00:06:41,110 --> 00:06:39,039

very you could

173

00:06:42,469 --> 00:06:41,120

spend obviously a whole dissertation on

174

00:06:45,189 --> 00:06:42,479

it and only

175

00:06:45,830 --> 00:06:45,199

really focus on one protein out of

176
00:06:47,830 --> 00:06:45,840
hundreds

177
00:06:49,430 --> 00:06:47,840
involved in the process of making

178
00:06:51,110 --> 00:06:49,440
ribosomes and so that's what i did i

179
00:06:52,870 --> 00:06:51,120
focused on

180
00:06:54,230 --> 00:06:52,880
how the role that two particular

181
00:06:57,909 --> 00:06:54,240
proteins have in

182
00:07:00,150 --> 00:06:57,919
actually building the ribosome

183
00:07:01,510 --> 00:07:00,160
and so you know it's it's basic biology

184
00:07:01,990 --> 00:07:01,520
it's stuff that contributes to our

185
00:07:04,390 --> 00:07:02,000
general

186
00:07:05,430 --> 00:07:04,400
understanding of how the molecular world

187
00:07:07,990 --> 00:07:05,440
works and

188
00:07:10,230 --> 00:07:08,000

the hope is that one day that basic

189

00:07:12,390 --> 00:07:10,240

knowledge can help contribute to

190

00:07:13,430 --> 00:07:12,400

a medication or some kind of

191

00:07:17,110 --> 00:07:13,440

understanding for

192

00:07:20,309 --> 00:07:17,120

a treatment for a disease but

193

00:07:20,870 --> 00:07:20,319

you know when i'm working out to further

194

00:07:23,029 --> 00:07:20,880

the point i

195

00:07:23,909 --> 00:07:23,039

started talking about just a little bit

196

00:07:27,350 --> 00:07:23,919

ago

197

00:07:29,589 --> 00:07:27,360

it's hard to see you know 10 20 years

198

00:07:30,710 --> 00:07:29,599

10 20 or so even more years down the

199

00:07:31,990 --> 00:07:30,720

line and say

200

00:07:34,870 --> 00:07:32,000

the work i'm doing now is definitely

201
00:07:37,350 --> 00:07:34,880
going to have an impact later it's

202
00:07:39,270 --> 00:07:37,360
it's definitely important but it takes a

203
00:07:42,309 --> 00:07:39,280
certain personality to really

204
00:07:43,350 --> 00:07:42,319
um be okay be okay with just that kind

205
00:07:47,430 --> 00:07:43,360
of work you know

206
00:07:49,990 --> 00:07:47,440
uh some not everyone is fulfilled by um

207
00:07:50,790 --> 00:07:50,000
that kind of hope of distant

208
00:07:52,070 --> 00:07:50,800
gratification

209
00:07:54,710 --> 00:07:52,080
even though you know your work is

210
00:07:57,430 --> 00:07:54,720
important it it can still be

211
00:07:59,830 --> 00:07:57,440
um hard to get all the fulfillment you

212
00:08:01,909 --> 00:07:59,840
want out of that if that makes sense

213
00:08:03,749 --> 00:08:01,919

sure so and that's what kind of led you

214

00:08:06,869 --> 00:08:03,759

to do more of kind of a

215

00:08:08,070 --> 00:08:06,879

publicly relatable kind of youtube

216

00:08:09,990 --> 00:08:08,080

channel

217

00:08:11,510 --> 00:08:10,000

yeah so i always was interested in

218

00:08:12,309 --> 00:08:11,520

science communication is something i

219

00:08:15,430 --> 00:08:12,319

explored

220

00:08:18,710 --> 00:08:15,440

during my phd and

221

00:08:21,110 --> 00:08:18,720

that's where i really got fulfillment is

222

00:08:22,150 --> 00:08:21,120

by communicating science to people

223

00:08:25,270 --> 00:08:22,160

whether it's

224

00:08:26,869 --> 00:08:25,280

teaching in a classroom or

225

00:08:28,469 --> 00:08:26,879

you know understanding how people

226

00:08:32,389 --> 00:08:28,479

misunderstand science and

227

00:08:34,389 --> 00:08:32,399

trying to help them understand it um

228

00:08:36,230 --> 00:08:34,399

that was where i got a lot of enjoyment

229

00:08:38,310 --> 00:08:36,240

and so i just decided towards the end of

230

00:08:39,990 --> 00:08:38,320

my phd why don't i just

231

00:08:41,670 --> 00:08:40,000

try putting myself out there why don't i

232

00:08:42,389 --> 00:08:41,680

just do this thing i've always really

233

00:08:44,230 --> 00:08:42,399

wanted to do

234

00:08:45,590 --> 00:08:44,240

and just just start a youtube channel

235

00:08:47,990 --> 00:08:45,600

just for fun

236

00:08:49,269 --> 00:08:48,000

um and see where it goes and so that's

237

00:08:52,550 --> 00:08:49,279

really what motivated

238

00:08:54,310 --> 00:08:52,560

um me to start my youtube channel there

239

00:08:55,990 --> 00:08:54,320

were other circumstances in my life that

240

00:08:57,030 --> 00:08:56,000

made me decide okay now is the time i

241

00:08:59,350 --> 00:08:57,040

want to

242

00:09:00,389 --> 00:08:59,360

actually try to do this thing i've

243

00:09:02,790 --> 00:09:00,399

always thought about

244

00:09:03,750 --> 00:09:02,800

but that was the general reasoning

245

00:09:06,790 --> 00:09:03,760

behind it

246

00:09:10,870 --> 00:09:06,800

um and so it started out

247

00:09:13,670 --> 00:09:10,880

just with anti-vaxxers because that's

248

00:09:13,990 --> 00:09:13,680

kind of where my expertise fit um you

249

00:09:17,670 --> 00:09:14,000

know

250

00:09:20,870 --> 00:09:17,680

in molecular biology uh understanding

251
00:09:23,269 --> 00:09:20,880
vaccines and immunology that's kind of

252
00:09:23,910 --> 00:09:23,279
in the same umbrella as molecular

253
00:09:26,949 --> 00:09:23,920
biology

254
00:09:29,030 --> 00:09:26,959
so that's where i focused it's already

255
00:09:30,470 --> 00:09:29,040
is what i already knew a lot about in

256
00:09:33,030 --> 00:09:30,480
terms of like what

257
00:09:34,550 --> 00:09:33,040
the claims that people make and the

258
00:09:37,910 --> 00:09:34,560
relevant information

259
00:09:38,870 --> 00:09:37,920
um regarding those claims so i started

260
00:09:42,710 --> 00:09:38,880
there and then

261
00:09:44,790 --> 00:09:42,720
the pandemic happened and so

262
00:09:45,750 --> 00:09:44,800
i i kind of started to focus more and

263
00:09:49,350 --> 00:09:45,760

more on

264

00:09:52,550 --> 00:09:49,360

covet things week by week um until

265

00:09:53,910 --> 00:09:52,560

i was just flooded with you know all of

266

00:09:56,630 --> 00:09:53,920

these different

267

00:09:57,110 --> 00:09:56,640

things that people were saying and you

268

00:09:58,710 --> 00:09:57,120

know

269

00:10:00,790 --> 00:09:58,720

the code pandemic has affected all of

270

00:10:04,470 --> 00:10:00,800

our lives in one way or another

271

00:10:08,550 --> 00:10:04,480

um whether the disease has

272

00:10:11,030 --> 00:10:08,560

affected us or someone we know or um

273

00:10:12,949 --> 00:10:11,040

any of the precautions that we now take

274

00:10:13,430 --> 00:10:12,959

have changed our lives in many ways our

275

00:10:15,670 --> 00:10:13,440

jobs

276

00:10:17,190 --> 00:10:15,680

et cetera so it's important to really

277

00:10:19,350 --> 00:10:17,200

understand

278

00:10:20,790 --> 00:10:19,360

what the science is about covert and you

279

00:10:23,509 --> 00:10:20,800

know seeing

280

00:10:25,350 --> 00:10:23,519

all of these things that i was seeing

281

00:10:26,870 --> 00:10:25,360

over the past few months really

282

00:10:28,470 --> 00:10:26,880

made me think that i should focus on

283

00:10:30,790 --> 00:10:28,480

covert related topics on my channel so

284

00:10:34,069 --> 00:10:30,800

that's what i've been doing

285

00:10:38,069 --> 00:10:34,079

right on to that this is perfect just go

286

00:10:41,269 --> 00:10:38,079

right up my alley so

287

00:10:42,949 --> 00:10:41,279

let me uh let me grab control this a

288

00:10:44,630 --> 00:10:42,959

little bit but you take it back whenever

289

00:10:47,030 --> 00:10:44,640

you want i

290

00:10:47,670 --> 00:10:47,040

got one of my favorite high school

291

00:10:49,509 --> 00:10:47,680

students

292

00:10:51,430 --> 00:10:49,519

it's very close to me to put together

293

00:10:52,870 --> 00:10:51,440

some slides for me so we're going to use

294

00:10:56,230 --> 00:10:52,880

those slides

295

00:10:57,670 --> 00:10:56,240

and what we decided to do inside of a

296

00:11:00,230 --> 00:10:57,680

science discussion that we're going to

297

00:11:02,069 --> 00:11:00,240

have very science-based because i think

298

00:11:04,870 --> 00:11:02,079

i like you of a passion for science you

299

00:11:07,190 --> 00:11:04,880

know a little bit of background on me

300

00:11:08,230 --> 00:11:07,200

i was a phd student in artificial

301
00:11:09,829 --> 00:11:08,240
intelligence

302
00:11:11,350 --> 00:11:09,839
at the university of arizona before i

303
00:11:12,389 --> 00:11:11,360
decided hey man i got to follow the

304
00:11:15,269 --> 00:11:12,399
money

305
00:11:16,710 --> 00:11:15,279
i knew aia i was taking off started

306
00:11:18,310 --> 00:11:16,720
company

307
00:11:21,110 --> 00:11:18,320
but i always had this passion for

308
00:11:22,150 --> 00:11:21,120
science and spirituality it led me to

309
00:11:24,790 --> 00:11:22,160
podcasting

310
00:11:25,590 --> 00:11:24,800
it led me to writing a book why science

311
00:11:27,670 --> 00:11:25,600
is wrong about

312
00:11:28,870 --> 00:11:27,680
almost everything kind of a cheeky title

313
00:11:31,350 --> 00:11:28,880

that gets at

314

00:11:34,069 --> 00:11:31,360

science is complete dropping the ball of

315

00:11:36,949 --> 00:11:34,079

consciousness and misunderstanding of

316

00:11:38,150 --> 00:11:36,959

really quantum physics implications for

317

00:11:39,829 --> 00:11:38,160

the observer effect

318

00:11:41,269 --> 00:11:39,839

and what that means for consciousness

319

00:11:42,550 --> 00:11:41,279

and what that means for scientific

320

00:11:45,750 --> 00:11:42,560

materialism

321

00:11:49,430 --> 00:11:45,760

and in the process of interviewing

322

00:11:50,150 --> 00:11:49,440

some pretty misinformed and ill-informed

323

00:11:53,990 --> 00:11:50,160

scientists

324

00:11:56,470 --> 00:11:54,000

i became somewhat of a science

325

00:11:57,829 --> 00:11:56,480

advocate watchdog kind of in the same

326

00:11:59,269 --> 00:11:57,839

way that you are only kind of from a

327

00:12:03,110 --> 00:11:59,279

different perspective

328

00:12:05,269 --> 00:12:03,120

so this is an opportunity today

329

00:12:07,990 --> 00:12:05,279

we decided to kind of focus in on one

330

00:12:11,590 --> 00:12:08,000

thing and this topic of whether or not

331

00:12:13,509 --> 00:12:11,600

do masks work and i have to say

332

00:12:15,829 --> 00:12:13,519

i have to give credit here because i was

333

00:12:18,949 --> 00:12:15,839

really prompted to do this

334

00:12:21,829 --> 00:12:18,959

by my friend rick archer from

335

00:12:23,990 --> 00:12:21,839

buddha at the gas pump there's rick's

336

00:12:26,949 --> 00:12:24,000

picture from when he was on my show

337

00:12:28,470 --> 00:12:26,959

and rick is just a fantastic

338

00:12:30,150 --> 00:12:28,480

communicator and

339

00:12:32,550 --> 00:12:30,160

contributor and you know his buddha at

340

00:12:37,030 --> 00:12:32,560

the gas pump show is phenomenally

341

00:12:39,110 --> 00:12:37,040

important but at the same time rick is

342

00:12:41,190 --> 00:12:39,120

kind of one of these just doesn't

343

00:12:43,990 --> 00:12:41,200

understand science and just kind of

344

00:12:47,269 --> 00:12:44,000

falls for every

345

00:12:49,350 --> 00:12:47,279

new world order science

346

00:12:51,190 --> 00:12:49,360

trap that he can lay his hands on at

347

00:12:52,790 --> 00:12:51,200

least that's my take of it

348

00:12:54,310 --> 00:12:52,800

but here's where i wanted to start

349

00:12:57,670 --> 00:12:54,320

because to me this

350

00:13:00,710 --> 00:12:57,680

is like one of the most important issues

351
00:13:01,110 --> 00:13:00,720
we could possibly talk about related to

352
00:13:05,509 --> 00:13:01,120
this

353
00:13:07,350 --> 00:13:05,519
free speech

354
00:13:09,430 --> 00:13:07,360
you know you were nice enough to fill

355
00:13:12,870 --> 00:13:09,440
out this hokey little uh

356
00:13:14,710 --> 00:13:12,880
questionnaire that i do about uh

357
00:13:15,910 --> 00:13:14,720
you did it you're very nice about doing

358
00:13:17,829 --> 00:13:15,920
that you seem like a very

359
00:13:19,350 --> 00:13:17,839
open guy and i really appreciate that

360
00:13:22,150 --> 00:13:19,360
and you know one of the things one of

361
00:13:24,790 --> 00:13:22,160
the questions on there is

362
00:13:25,990 --> 00:13:24,800
conspiracy theory and are conspiracies

363
00:13:27,670 --> 00:13:26,000

dangerous

364

00:13:29,670 --> 00:13:27,680

and you like most people said yeah i

365

00:13:30,870 --> 00:13:29,680

think sometimes conspiracies are

366

00:13:31,990 --> 00:13:30,880

dangerous

367

00:13:34,629 --> 00:13:32,000

and i was wondering you know i looked

368

00:13:38,949 --> 00:13:34,639

through some of the people that you've

369

00:13:41,430 --> 00:13:38,959

um very rightfully and fairly

370

00:13:43,350 --> 00:13:41,440

challenged in your youtube channel

371

00:13:47,189 --> 00:13:43,360

whether it be james corbett

372

00:13:50,150 --> 00:13:47,199

or dell big tree he's on there

373

00:13:51,269 --> 00:13:50,160

um who else i don't know if you have

374

00:13:54,629 --> 00:13:51,279

robert kennedy

375

00:13:56,389 --> 00:13:54,639

jr on there but i guess mike he's yeah

376

00:13:57,829 --> 00:13:56,399

sorry go ahead i'll say he's probably

377

00:14:00,550 --> 00:13:57,839

coming up right

378

00:14:01,189 --> 00:14:00,560

yeah he's on my list he's on your list

379

00:14:07,110 --> 00:14:01,199

so

380

00:14:09,670 --> 00:14:07,120

be on the other side of your issue

381

00:14:11,030 --> 00:14:09,680

is anything i'm going to say dangerous

382

00:14:13,670 --> 00:14:11,040

should any of these people be

383

00:14:14,230 --> 00:14:13,680

banned i mean dell big trees banned he's

384

00:14:21,030 --> 00:14:14,240

banned

385

00:14:24,310 --> 00:14:21,040

science

386

00:14:27,030 --> 00:14:24,320

oh i mean that's a little bit of a

387

00:14:28,710 --> 00:14:27,040

policy question you know that i don't

388

00:14:31,750 --> 00:14:28,720

think i have a

389

00:14:33,590 --> 00:14:31,760

final answer too um

390

00:14:35,030 --> 00:14:33,600

it's whether or not someone should be

391

00:14:40,069 --> 00:14:35,040

banned for

392

00:14:41,350 --> 00:14:40,079

speaking about um misinformation

393

00:14:43,430 --> 00:14:41,360

you know that's something that i would

394

00:14:44,629 --> 00:14:43,440

consider myself to have uneducated

395

00:14:48,230 --> 00:14:44,639

opinions on i don't

396

00:14:51,910 --> 00:14:48,240

think about that day in and day out

397

00:14:55,990 --> 00:14:54,550

there does come a point where spreading

398

00:14:58,389 --> 00:14:56,000

misinformation becomes

399

00:14:59,269 --> 00:14:58,399

harmful and you have to weigh whether or

400

00:15:02,389 --> 00:14:59,279

not

401
00:15:04,150 --> 00:15:02,399
it's worth it to let people who have

402
00:15:05,269 --> 00:15:04,160
these audiences of hundreds of thousands

403
00:15:08,150 --> 00:15:05,279
of people

404
00:15:10,470 --> 00:15:08,160
say things that their audience is going

405
00:15:13,030 --> 00:15:10,480
to believe but will ultimately

406
00:15:14,069 --> 00:15:13,040
you know end up harming either

407
00:15:17,189 --> 00:15:14,079
themselves or

408
00:15:18,629 --> 00:15:17,199
people around them um so it's an

409
00:15:20,150 --> 00:15:18,639
important question

410
00:15:21,910 --> 00:15:20,160
well it's important because it's in our

411
00:15:23,430 --> 00:15:21,920
constitution it's the first amendment

412
00:15:26,310 --> 00:15:23,440
it's freedom of speech i mean

413
00:15:28,230 --> 00:15:26,320

who would decide who would you have

414

00:15:31,269 --> 00:15:28,240

deciding dan

415

00:15:33,430 --> 00:15:31,279

whose talk whose science

416

00:15:36,069 --> 00:15:33,440

should be banned and what science should

417

00:15:37,990 --> 00:15:36,079

not be banned who would decide that

418

00:15:40,389 --> 00:15:38,000

oh well according to the first amendment

419

00:15:43,110 --> 00:15:40,399

not the government

420

00:15:44,389 --> 00:15:43,120

so you know what you just said you just

421

00:15:47,350 --> 00:15:44,399

thought you thought it was okay

422

00:15:48,470 --> 00:15:47,360

if somebody got you know 200 000 300 000

423

00:15:49,870 --> 00:15:48,480

million followers

424

00:15:51,509 --> 00:15:49,880

and they're spreading quote-unquote

425

00:15:54,150 --> 00:15:51,519

misinformation

426

00:15:55,670 --> 00:15:54,160

which like you're spreading i would

427

00:15:57,509 --> 00:15:55,680

maintain at the end of the day that

428

00:15:59,269 --> 00:15:57,519

you're spreading this information

429

00:16:01,269 --> 00:15:59,279

okay rick and you would maintain that

430

00:16:02,949 --> 00:16:01,279

i'm spreading misinformation

431

00:16:05,030 --> 00:16:02,959

we're both reporting on the same science

432

00:16:07,030 --> 00:16:05,040

right you sent me papers i sent you

433

00:16:09,590 --> 00:16:07,040

papers back

434

00:16:11,590 --> 00:16:09,600

who would decide in that whether where's

435

00:16:14,150 --> 00:16:11,600

the misinformation who decide who's

436

00:16:15,749 --> 00:16:14,160

endangering endangering the lives of

437

00:16:17,509 --> 00:16:15,759

thousands of people because

438

00:16:19,110 --> 00:16:17,519

if i'm right then you're endangering the

439

00:16:19,590 --> 00:16:19,120

lives of thousands people if you're

440

00:16:21,110 --> 00:16:19,600

right then

441

00:16:24,069 --> 00:16:21,120

i'm endangering the lives of thousands

442

00:16:26,870 --> 00:16:24,079

of people so who decides

443

00:16:27,509 --> 00:16:26,880

well ultimately if you're asking me who

444

00:16:30,629 --> 00:16:27,519

decides

445

00:16:32,790 --> 00:16:30,639

who gets banned you know again that's a

446

00:16:35,670 --> 00:16:32,800

policy question

447

00:16:37,509 --> 00:16:35,680

but if we're talking about who's right

448

00:16:39,350 --> 00:16:37,519

that's a science question

449

00:16:40,470 --> 00:16:39,360

and i think that's a lot more

450

00:16:42,389 --> 00:16:40,480

straightforward at least for me to

451
00:16:44,230 --> 00:16:42,399
answer

452
00:16:45,590 --> 00:16:44,240
and i don't i don't necessarily believe

453
00:16:47,189 --> 00:16:45,600
that any everybody

454
00:16:49,110 --> 00:16:47,199
should get banned for spreading this

455
00:16:51,030 --> 00:16:49,120
information um

456
00:16:52,550 --> 00:16:51,040
uh i just said that you do have to at

457
00:16:55,430 --> 00:16:52,560
some point weigh

458
00:16:57,749 --> 00:16:55,440
the fact that you know misinformation

459
00:16:59,829 --> 00:16:57,759
can be harmful

460
00:17:02,710 --> 00:16:59,839
in making right and i'm just saying i'm

461
00:17:04,470 --> 00:17:02,720
not gonna belabor this point

462
00:17:06,789 --> 00:17:04,480
but i'm saying that's why the first

463
00:17:09,829 --> 00:17:06,799

amendment is the first amendment

464

00:17:11,350 --> 00:17:09,839

is you you you just don't want to

465

00:17:12,870 --> 00:17:11,360

introduce that and particularly from

466

00:17:14,630 --> 00:17:12,880

science i find it troubling that you

467

00:17:16,390 --> 00:17:14,640

would even go down that path

468

00:17:18,870 --> 00:17:16,400

i mean this is the extraordinary claims

469

00:17:21,590 --> 00:17:18,880

require extraordinary proof nonsense

470

00:17:23,350 --> 00:17:21,600

there's no such thing in science as

471

00:17:26,069 --> 00:17:23,360

extraordinary claims

472

00:17:27,909 --> 00:17:26,079

or extraordinary proof science is about

473

00:17:30,710 --> 00:17:27,919

removing our biases

474

00:17:32,789 --> 00:17:30,720

so that so that we know we are

475

00:17:34,789 --> 00:17:32,799

prejudiced we know we have

476
00:17:36,630 --> 00:17:34,799
bias one way or another we'll remove

477
00:17:39,110 --> 00:17:36,640
those so that no

478
00:17:40,150 --> 00:17:39,120
meta knowledge of what's extraordinary

479
00:17:42,390 --> 00:17:40,160
comes into play

480
00:17:44,150 --> 00:17:42,400
and the same thing here i i mean i i

481
00:17:47,190 --> 00:17:44,160
expected rick to say

482
00:17:49,110 --> 00:17:47,200
yeah bannon bantam bantam but you've

483
00:17:50,070 --> 00:17:49,120
been through the bhd program i didn't

484
00:17:52,310 --> 00:17:50,080
expect you

485
00:17:54,070 --> 00:17:52,320
to to jump on board that anyone who's

486
00:17:56,390 --> 00:17:54,080
having a scientific discussion

487
00:17:58,150 --> 00:17:56,400
they should somehow that their

488
00:17:59,909 --> 00:17:58,160

information should be deemed as quote

489

00:18:00,950 --> 00:17:59,919

unquote misinformation and it should be

490

00:18:03,990 --> 00:18:00,960

removed from

491

00:18:05,270 --> 00:18:04,000

the the public sphere which is what it

492

00:18:06,150 --> 00:18:05,280

is because when it's removed from

493

00:18:08,549 --> 00:18:06,160

youtube

494

00:18:09,270 --> 00:18:08,559

and facebook and twitter all at the same

495

00:18:12,310 --> 00:18:09,280

time

496

00:18:13,990 --> 00:18:12,320

i mean that's like you know in the olden

497

00:18:16,310 --> 00:18:14,000

days removing it from all the newspapers

498

00:18:17,669 --> 00:18:16,320

and all the tv channels

499

00:18:19,350 --> 00:18:17,679

well i want to clarify again i didn't

500

00:18:21,510 --> 00:18:19,360

say that uh

501
00:18:22,630 --> 00:18:21,520
people should be banned for uh

502
00:18:26,150 --> 00:18:22,640
misinformation

503
00:18:29,350 --> 00:18:26,160
uh i i think it's a policy question

504
00:18:30,789 --> 00:18:29,360
and that is not for me to decide and

505
00:18:33,270 --> 00:18:30,799
that's why i think that

506
00:18:35,029 --> 00:18:33,280
i personally have uneducated opinions

507
00:18:36,310 --> 00:18:35,039
i'm not a policy expert i don't know who

508
00:18:37,669 --> 00:18:36,320
would make that decision i don't know

509
00:18:40,070 --> 00:18:37,679
how you would execute

510
00:18:41,270 --> 00:18:40,080
such a policy you know it's right now

511
00:18:42,870 --> 00:18:41,280
it's up to these private

512
00:18:44,470 --> 00:18:42,880
social media companies to make those

513
00:18:45,830 --> 00:18:44,480

decisions and

514

00:18:47,909 --> 00:18:45,840

we can agree or disagree on their

515

00:18:51,270 --> 00:18:47,919

decisions but

516

00:18:52,390 --> 00:18:51,280

um you know i don't think that

517

00:18:54,789 --> 00:18:52,400

i don't necessarily think that people

518

00:18:56,150 --> 00:18:54,799

should be banned for

519

00:18:57,830 --> 00:18:56,160

spreading this information i want to

520

00:19:00,870 --> 00:18:57,840

make that clear

521

00:19:01,430 --> 00:19:00,880

however like as again like i said there

522

00:19:04,549 --> 00:19:01,440

does come

523

00:19:06,710 --> 00:19:04,559

a point where you have to start weighing

524

00:19:08,870 --> 00:19:06,720

each individual decision how

525

00:19:10,230 --> 00:19:08,880

exactly how harmful is this how much

526

00:19:12,710 --> 00:19:10,240

traction is it picking up how much

527

00:19:14,310 --> 00:19:12,720

actual measurable harm is it causing

528

00:19:15,830 --> 00:19:14,320

so i think those are things to consider

529

00:19:18,789 --> 00:19:15,840

but again i

530

00:19:20,070 --> 00:19:18,799

am not one to make final decisions on

531

00:19:24,630 --> 00:19:20,080

that

532

00:19:26,630 --> 00:19:24,640

be for now i

533

00:19:28,150 --> 00:19:26,640

i i would just say the same thing over

534

00:19:29,830 --> 00:19:28,160

and over again but that's not

535

00:19:31,270 --> 00:19:29,840

going to help us any uh you know what

536

00:19:32,150 --> 00:19:31,280

but i would go to kind of this other

537

00:19:34,549 --> 00:19:32,160

issue because

538

00:19:35,909 --> 00:19:34,559

you mentioned a couple times policy in

539

00:19:37,510 --> 00:19:35,919

what you're saying

540

00:19:40,950 --> 00:19:37,520

and one of the things i think is

541

00:19:43,430 --> 00:19:40,960

interesting about this discussion

542

00:19:45,350 --> 00:19:43,440

is the interface between science and

543

00:19:48,230 --> 00:19:45,360

public health policy

544

00:19:49,669 --> 00:19:48,240

you know i mean i don't care dan if you

545

00:19:51,510 --> 00:19:49,679

wear a mask

546

00:19:52,950 --> 00:19:51,520

i don't care if anyone wears a mask if

547

00:19:55,590 --> 00:19:52,960

they feel safe

548

00:19:56,549 --> 00:19:55,600

wearing a mask for psychological reasons

549

00:19:58,310 --> 00:19:56,559

or for

550

00:19:59,909 --> 00:19:58,320

you know very good reasons because

551
00:20:03,350 --> 00:19:59,919
they're around someone who

552
00:20:04,310 --> 00:20:03,360
has covet 19. i don't care what i care

553
00:20:08,230 --> 00:20:04,320
about

554
00:20:10,950 --> 00:20:08,240
is the science policy making interface

555
00:20:11,669 --> 00:20:10,960
how public policy is made and how

556
00:20:14,390 --> 00:20:11,679
science

557
00:20:15,830 --> 00:20:14,400
informs that public health policy so

558
00:20:17,270 --> 00:20:15,840
when we're talking here

559
00:20:19,350 --> 00:20:17,280
and we're going to talk about masks

560
00:20:20,470 --> 00:20:19,360
whether mask masks work

561
00:20:23,510 --> 00:20:20,480
we're not talking about it from a

562
00:20:26,630 --> 00:20:23,520
personal level right we're talking about

563
00:20:29,029 --> 00:20:26,640

from how science should interface

564

00:20:30,549 --> 00:20:29,039

with public health policy and i guess

565

00:20:32,310 --> 00:20:30,559

what that stirred that up for me

566

00:20:33,750 --> 00:20:32,320

is when you said that's a policy issue

567

00:20:35,669 --> 00:20:33,760

that's a policy issue

568

00:20:37,590 --> 00:20:35,679

inc regarding quote unquote

569

00:20:39,029 --> 00:20:37,600

misinformation well i'd say this whole

570

00:20:41,350 --> 00:20:39,039

discussion we're having

571

00:20:42,710 --> 00:20:41,360

is about policy issues because otherwise

572

00:20:44,549 --> 00:20:42,720

i don't care if you want to sit there in

573

00:20:45,110 --> 00:20:44,559

pittsburgh and wear a mask or not wear a

574

00:20:49,190 --> 00:20:45,120

mask

575

00:20:52,870 --> 00:20:49,200

are we in sync on that absolutely yeah

576

00:20:54,470 --> 00:20:52,880

okay and and you know i think uh

577

00:20:55,909 --> 00:20:54,480

i think the the difference right away

578

00:20:57,909 --> 00:20:55,919

that i'll point out with

579

00:20:59,590 --> 00:20:57,919

the policy decision around you know mass

580

00:21:00,310 --> 00:20:59,600

squaring and the policy decision around

581

00:21:03,669 --> 00:21:00,320

who

582

00:21:06,390 --> 00:21:03,679

gets banned from social media you know

583

00:21:08,390 --> 00:21:06,400

in order to decide who gets banned from

584

00:21:10,549 --> 00:21:08,400

social media like i

585

00:21:11,909 --> 00:21:10,559

said earlier when you're weighing these

586

00:21:13,830 --> 00:21:11,919

things you

587

00:21:15,990 --> 00:21:13,840

you know i don't know how policymakers

588

00:21:19,510 --> 00:21:16,000

would do it again it's not my area of

589

00:21:21,110 --> 00:21:19,520

expertise maybe they weigh how harmful

590

00:21:24,230 --> 00:21:21,120

certain misinformation is maybe they

591

00:21:26,630 --> 00:21:24,240

measure it somehow and decide that way

592

00:21:27,350 --> 00:21:26,640

uh what the policy should be you know

593

00:21:28,950 --> 00:21:27,360

that might be

594

00:21:30,710 --> 00:21:28,960

a way to approach it but a way to

595

00:21:32,470 --> 00:21:30,720

approach mask wearing

596

00:21:34,310 --> 00:21:32,480

is what's the science what can we

597

00:21:36,470 --> 00:21:34,320

measure what does mask wearing actually

598

00:21:41,430 --> 00:21:36,480

do or not do for somebody and then

599

00:21:47,430 --> 00:21:44,950

in terms of mask wearing you know

600

00:21:49,029 --> 00:21:47,440

we have a lot of data about that and i'm

601
00:21:51,510 --> 00:21:49,039
sure we'll discuss all of it

602
00:21:52,950 --> 00:21:51,520
but that to me personally is the

603
00:21:56,230 --> 00:21:52,960
difference between

604
00:21:56,789 --> 00:21:56,240
those two topics great and we certainly

605
00:21:58,390 --> 00:21:56,799
should

606
00:22:00,070 --> 00:21:58,400
dive into the data because we can kind

607
00:22:00,549 --> 00:22:00,080
of down dancing around it a little bit

608
00:22:07,190 --> 00:22:00,559
so

609
00:22:09,270 --> 00:22:07,200
the research you sent me is

610
00:22:10,390 --> 00:22:09,280
partially listed here in a way that no

611
00:22:12,549 --> 00:22:10,400
one can read and

612
00:22:14,230 --> 00:22:12,559
i want to let people know that i'm open

613
00:22:16,870 --> 00:22:14,240

to going to any research that you sent

614

00:22:18,630 --> 00:22:16,880

me but we can't really get to

615

00:22:20,310 --> 00:22:18,640

all of it it's just kind of practically

616

00:22:22,470 --> 00:22:20,320

impossible

617

00:22:23,669 --> 00:22:22,480

but the first thing i want to focus on

618

00:22:27,029 --> 00:22:23,679

is this research

619

00:22:30,390 --> 00:22:27,039

on whether masks filter stuff

620

00:22:33,750 --> 00:22:30,400

out you sent me a bunch of research

621

00:22:35,350 --> 00:22:33,760

on this and i get that some people are

622

00:22:36,950 --> 00:22:35,360

hung up on this issue

623

00:22:40,549 --> 00:22:36,960

but i have to say right from the

624

00:22:43,669 --> 00:22:40,559

beginning this just smacks of science

625

00:22:46,870 --> 00:22:43,679

[h__\h] it's the old distraction thing

626

00:22:49,909 --> 00:22:46,880

i mean does anyone really think

627

00:22:51,750 --> 00:22:49,919

that masks don't filter stuff that comes

628

00:22:53,430 --> 00:22:51,760

out of and goes into your mouth

629

00:22:55,270 --> 00:22:53,440

this is like what we learned in

630

00:22:57,990 --> 00:22:55,280

kindergarten when your mom said

631

00:23:00,230 --> 00:22:58,000

cover your face when you cough so the

632

00:23:02,750 --> 00:23:00,240

fact that this has kind of been

633

00:23:04,310 --> 00:23:02,760

front and center of the science for

634

00:23:07,110 --> 00:23:04,320

covid19

635

00:23:07,990 --> 00:23:07,120

is really kind of uh one was first

636

00:23:09,830 --> 00:23:08,000

surprising

637

00:23:11,270 --> 00:23:09,840

to me and then when i really thought

638

00:23:14,230 --> 00:23:11,280

about it i was like no

639

00:23:15,510 --> 00:23:14,240

of course this is bringing the topic

640

00:23:17,750 --> 00:23:15,520

onto

641

00:23:19,190 --> 00:23:17,760

your home ice on your home turf where

642

00:23:21,430 --> 00:23:19,200

you can win the war

643

00:23:23,029 --> 00:23:21,440

because what i think and then i really

644

00:23:26,149 --> 00:23:23,039

want to let you have a chance at this

645

00:23:29,990 --> 00:23:26,159

but what i think is really going on here

646

00:23:33,510 --> 00:23:30,000

is that this science is

647

00:23:36,630 --> 00:23:33,520

kind of asking you to make an incorrect

648

00:23:38,789 --> 00:23:36,640

inference and that is that if in a

649

00:23:42,070 --> 00:23:38,799

laboratory setting

650

00:23:42,549 --> 00:23:42,080

we can show that a mask prevents this

651
00:23:44,070 --> 00:23:42,559
stuff

652
00:23:46,390 --> 00:23:44,080
from coming out of your mouth when you

653
00:23:47,430 --> 00:23:46,400
sneeze or cough and prevent stuff from

654
00:23:49,750 --> 00:23:47,440
coming into your mouth

655
00:23:51,110 --> 00:23:49,760
we want you to make the leap towards

656
00:23:54,390 --> 00:23:51,120
saying well then

657
00:23:58,470 --> 00:23:54,400
therefore mask wearing must help

658
00:24:00,950 --> 00:23:58,480
reduce my risk of contracting covid19

659
00:24:02,070 --> 00:24:00,960
what do you think about me suggesting

660
00:24:04,950 --> 00:24:02,080
that that is an

661
00:24:05,830 --> 00:24:04,960
inference that we really shouldn't make

662
00:24:08,390 --> 00:24:05,840
from

663
00:24:10,470 --> 00:24:08,400

for example this research that we see

664

00:24:13,430 --> 00:24:10,480

right here

665

00:24:14,870 --> 00:24:13,440

yeah so um you mind if i share my screen

666

00:24:17,990 --> 00:24:14,880

for a minute

667

00:24:21,110 --> 00:24:18,000

no please do i guess i'll just

668

00:24:24,390 --> 00:24:21,120

um start going into what you sent me uh

669

00:24:25,190 --> 00:24:24,400

mostly stuff by uh dennis rancourt a guy

670

00:24:28,549 --> 00:24:25,200

who's

671

00:24:32,149 --> 00:24:28,559

kind of well known and um

672

00:24:35,990 --> 00:24:32,159

uh i guess covered denying circles

673

00:24:38,789 --> 00:24:36,000

um but uh you know something he writes

674

00:24:39,909 --> 00:24:38,799

in his page that um supposedly debunks

675

00:24:42,149 --> 00:24:39,919

masks

676
00:24:43,430 --> 00:24:42,159
is kind of summarizing what you're

677
00:24:46,310 --> 00:24:43,440
saying here is that

678
00:24:47,590 --> 00:24:46,320
we shouldn't make the assumption that uh

679
00:24:51,430 --> 00:24:47,600
viruses

680
00:24:54,310 --> 00:24:51,440
are actually stopped uh by masks is that

681
00:24:54,789 --> 00:24:54,320
is that a fair representation of what

682
00:24:58,950 --> 00:24:54,799
you're saying

683
00:25:00,390 --> 00:24:58,960
okay no no that is fine i mean

684
00:25:02,789 --> 00:25:00,400
well i will and then i'll let you

685
00:25:04,470 --> 00:25:02,799
explain this because

686
00:25:06,390 --> 00:25:04,480
i want to point out that this is

687
00:25:08,149 --> 00:25:06,400
completely valid and

688
00:25:10,230 --> 00:25:08,159

important what you're saying here you're

689

00:25:13,350 --> 00:25:10,240

because some people are claiming

690

00:25:14,950 --> 00:25:13,360

that masks don't work in the way that

691

00:25:17,029 --> 00:25:14,960

you're saying that they don't work here

692

00:25:19,669 --> 00:25:17,039

that they don't block certain

693

00:25:20,630 --> 00:25:19,679

viruses or bacteria as well as they

694

00:25:24,230 --> 00:25:20,640

should

695

00:25:26,549 --> 00:25:24,240

i'm making a very different

696

00:25:27,669 --> 00:25:26,559

proposition that i don't think you will

697

00:25:29,269 --> 00:25:27,679

disagree with

698

00:25:30,870 --> 00:25:29,279

but i think is really at the center of

699

00:25:32,549 --> 00:25:30,880

this and i'm surprised that denny kind

700

00:25:36,470 --> 00:25:32,559

of goes down the wrong path

701
00:25:39,029 --> 00:25:36,480
it's that let's say i was to accept

702
00:25:40,789 --> 00:25:39,039
that uh you know just like when mom said

703
00:25:43,510 --> 00:25:40,799
cover your mouth when you're cough

704
00:25:44,549 --> 00:25:43,520
that that that that works essentially to

705
00:25:47,350 --> 00:25:44,559
some degree

706
00:25:47,830 --> 00:25:47,360
in terms of stopping you from spreading

707
00:25:49,510 --> 00:25:47,840
this

708
00:25:51,590 --> 00:25:49,520
bad stuff that can make other people

709
00:25:54,149 --> 00:25:51,600
sick right

710
00:25:56,149 --> 00:25:54,159
what i'm saying is that if you prove

711
00:25:59,669 --> 00:25:56,159
that in a lab

712
00:26:03,750 --> 00:25:59,679
that does not lead to the conclusion

713
00:26:06,070 --> 00:26:03,760

that wearing a mask leads should lead to

714

00:26:08,070 --> 00:26:06,080

a reduction in your chances of

715

00:26:11,430 --> 00:26:08,080

contracting covid19

716

00:26:12,390 --> 00:26:11,440

it may but it may not and that's the

717

00:26:14,630 --> 00:26:12,400

difference between

718

00:26:16,470 --> 00:26:14,640

laboratory work and clinical work

719

00:26:18,390 --> 00:26:16,480

clinical work is with humans

720

00:26:20,230 --> 00:26:18,400

and in clinical work we might we might

721

00:26:21,830 --> 00:26:20,240

ask a whole bunch of different questions

722

00:26:24,149 --> 00:26:21,840

how long are you wearing the mask what

723

00:26:25,750 --> 00:26:24,159

kind of mask are you wearing

724

00:26:27,430 --> 00:26:25,760

how are you operating the mask whether

725

00:26:28,390 --> 00:26:27,440

you're touching or not there's all these

726

00:26:30,149 --> 00:26:28,400

other questions

727

00:26:31,990 --> 00:26:30,159

that come in when we get a human

728

00:26:34,789 --> 00:26:32,000

involved which would

729

00:26:36,789 --> 00:26:34,799

lead us to asking different questions

730

00:26:38,149 --> 00:26:36,799

doing different experiments to determine

731

00:26:41,190 --> 00:26:38,159

whether or not the mask

732

00:26:41,590 --> 00:26:41,200

which worked in the lab works in real

733

00:26:44,310 --> 00:26:41,600

life

734

00:26:46,149 --> 00:26:44,320

that's was my point i see i see so you

735

00:26:49,190 --> 00:26:46,159

you want to see the connection between

736

00:26:51,669 --> 00:26:49,200

the lab and the community or the lab and

737

00:26:56,390 --> 00:26:54,390

well i i'm suggesting yes you want to

738

00:26:58,950 --> 00:26:56,400

see those results carry over to

739

00:27:00,230 --> 00:26:58,960

real world situations absolutely because

740

00:27:02,710 --> 00:27:00,240

i mean as a scientist

741

00:27:04,070 --> 00:27:02,720

particularly as a biologist maybe you

742

00:27:06,230 --> 00:27:04,080

want to speak to this

743

00:27:07,830 --> 00:27:06,240

but you'd be kind of making my point but

744

00:27:08,470 --> 00:27:07,840

we've established a lot of [h__h] in the

745

00:27:10,950 --> 00:27:08,480

lab

746

00:27:12,470 --> 00:27:10,960

that doesn't work in clinical trials it

747

00:27:13,990 --> 00:27:12,480

seems to work in the lab when we're like

748

00:27:15,590 --> 00:27:14,000

wow this should really be great then we

749

00:27:17,269 --> 00:27:15,600

put it in clinical trials with humes and

750

00:27:18,950 --> 00:27:17,279

it doesn't work

751
00:27:20,389 --> 00:27:18,960
yeah yeah so i'm glad you said that so

752
00:27:22,310 --> 00:27:20,399
yeah i mean there is

753
00:27:24,070 --> 00:27:22,320
you're right there is a stepwise process

754
00:27:26,549 --> 00:27:24,080
to this kind of thing

755
00:27:27,590 --> 00:27:26,559
first you want to show that something

756
00:27:29,269 --> 00:27:27,600
works in a lab

757
00:27:32,149 --> 00:27:29,279
because it's easy to work in a lab it

758
00:27:34,630 --> 00:27:32,159
takes not a lot of resources

759
00:27:35,350 --> 00:27:34,640
and you can tightly control and design

760
00:27:37,909 --> 00:27:35,360
an experiment

761
00:27:39,830 --> 00:27:37,919
pretty easily in a lab so you want to

762
00:27:41,750 --> 00:27:39,840
show that it works there first

763
00:27:43,269 --> 00:27:41,760

and you know we can go through the

764

00:27:45,750 --> 00:27:43,279

studies but uh there are

765

00:27:46,549 --> 00:27:45,760

several that show that masks of course

766

00:27:48,549 --> 00:27:46,559

do

767

00:27:49,750 --> 00:27:48,559

work in the lab they stop viral

768

00:27:52,149 --> 00:27:49,760

particles from

769

00:27:53,830 --> 00:27:52,159

going beyond the mask the mass catches

770

00:27:55,350 --> 00:27:53,840

these viral particles that could

771

00:27:58,310 --> 00:27:55,360

otherwise be detected

772

00:27:59,190 --> 00:27:58,320

uh in these experiments um but there are

773

00:28:02,630 --> 00:27:59,200

also

774

00:28:04,230 --> 00:28:02,640

uh you know of course the next step

775

00:28:05,830 --> 00:28:04,240

after you get done with testing

776
00:28:06,630 --> 00:28:05,840
something in the lab is to say does this

777
00:28:09,830 --> 00:28:06,640
work

778
00:28:12,149 --> 00:28:09,840
situations

779
00:28:13,350 --> 00:28:12,159
so yeah that's a fair thing to want and

780
00:28:14,870 --> 00:28:13,360
um

781
00:28:17,430 --> 00:28:14,880
you know there that's people have

782
00:28:19,590 --> 00:28:17,440
studied that and there are some

783
00:28:21,029 --> 00:28:19,600
randomized controlled trials clustered

784
00:28:22,070 --> 00:28:21,039
randomized controlled trials that

785
00:28:24,310 --> 00:28:22,080
demonstrate

786
00:28:25,430 --> 00:28:24,320
that masks do work in community settings

787
00:28:26,710 --> 00:28:25,440
and they look at

788
00:28:29,590 --> 00:28:26,720

variables and you're right it's really

789

00:28:31,510 --> 00:28:29,600

complicated to study masks and it's

790

00:28:33,029 --> 00:28:31,520

part of the reason why sometimes the

791

00:28:36,789 --> 00:28:33,039

literature can be

792

00:28:38,549 --> 00:28:36,799

hard to um traverse but

793

00:28:40,230 --> 00:28:38,559

uh there are several studies that

794

00:28:42,710 --> 00:28:40,240

discuss all these nuances

795

00:28:44,070 --> 00:28:42,720

such as when do when do masks get

796

00:28:46,389 --> 00:28:44,080

implemented

797

00:28:47,909 --> 00:28:46,399

how compliant are people with the masks

798

00:28:50,389 --> 00:28:47,919

were there other things that

799

00:28:51,990 --> 00:28:50,399

were controlled for in the experiment

800

00:28:55,029 --> 00:28:52,000

and

801
00:28:55,669 --> 00:28:55,039
what you end up with is are experiments

802
00:28:57,590 --> 00:28:55,679
that

803
00:28:59,350 --> 00:28:57,600
all of them have some weakness all of

804
00:29:00,710 --> 00:28:59,360
them have some weakness that

805
00:29:02,950 --> 00:29:00,720
the researchers can't control for

806
00:29:03,830 --> 00:29:02,960
because it's tough to test humans humans

807
00:29:07,110 --> 00:29:03,840
are terrible

808
00:29:10,630 --> 00:29:07,120
test subjects to have um but i think

809
00:29:11,990 --> 00:29:10,640
that if we dive into it we'll see that

810
00:29:13,830 --> 00:29:12,000
what the researchers have been able to

811
00:29:17,669 --> 00:29:13,840
find is that

812
00:29:21,510 --> 00:29:17,679
masks do reduce transmission um

813
00:29:23,350 --> 00:29:21,520

when used properly okay so we we will be

814

00:29:25,269 --> 00:29:23,360

we will begin to dive into that and i

815

00:29:28,310 --> 00:29:25,279

think you know let me just say that

816

00:29:29,750 --> 00:29:28,320

in i thought the research that you sent

817

00:29:32,710 --> 00:29:29,760

was very fair

818

00:29:34,310 --> 00:29:32,720

um it it as a matter of fact i was kind

819

00:29:37,430 --> 00:29:34,320

of surprised that you

820

00:29:41,669 --> 00:29:37,440

sent it because it does kind of reveal

821

00:29:44,310 --> 00:29:41,679

how complicated and how uh

822

00:29:46,470 --> 00:29:44,320

really up in the air this topic is it is

823

00:29:47,990 --> 00:29:46,480

not clearly decided one way or another

824

00:29:49,350 --> 00:29:48,000

and the way that i kind of played around

825

00:29:50,950 --> 00:29:49,360

with the idea

826

00:29:53,590 --> 00:29:50,960

was to say to really look at the

827

00:29:55,510 --> 00:29:53,600

question we need a time machine

828

00:29:57,269 --> 00:29:55,520

and the time machine would go back to

829

00:30:00,389 --> 00:29:57,279

2003 when we had

830

00:30:02,470 --> 00:30:00,399

a covet virus that was very dangerous

831

00:30:04,149 --> 00:30:02,480

it's called sars a lot of people were

832

00:30:07,430 --> 00:30:04,159

really worried about it

833

00:30:10,149 --> 00:30:07,440

and we looked at whether mask wearing

834

00:30:10,950 --> 00:30:10,159

would be good because the mask wearing

835

00:30:13,269 --> 00:30:10,960

question

836

00:30:15,110 --> 00:30:13,279

right like you alluded to it's been

837

00:30:16,549 --> 00:30:15,120

around for a long time right and masks

838

00:30:18,310 --> 00:30:16,559

have been around a long time and

839

00:30:19,590 --> 00:30:18,320

the idea that you know masks will

840

00:30:24,630 --> 00:30:19,600

prevent the spread of

841

00:30:26,070 --> 00:30:24,640

influenza or air transmitted diseases

842

00:30:27,750 --> 00:30:26,080

has been around for a long time so

843

00:30:29,510 --> 00:30:27,760

they've looked at it and as a matter of

844

00:30:31,590 --> 00:30:29,520

fact it's kind of surprising

845

00:30:33,430 --> 00:30:31,600

that they keep finding over and over

846

00:30:37,269 --> 00:30:33,440

again that

847

00:30:38,710 --> 00:30:37,279

masks do not work for the most part

848

00:30:41,909 --> 00:30:38,720

you know i mean this is the old

849

00:30:45,430 --> 00:30:41,919

literature 2009 2010

850

00:30:46,470 --> 00:30:45,440

uh 2012. and you of course can cite

851
00:30:49,510 --> 00:30:46,480
different research

852
00:30:50,789 --> 00:30:49,520
but these are good research unless you

853
00:30:51,909 --> 00:30:50,799
want to come in and say some of them

854
00:30:53,510 --> 00:30:51,919
aren't but again

855
00:30:54,710 --> 00:30:53,520
they're applying the same the people are

856
00:30:56,389 --> 00:30:54,720
looking at this are saying the same

857
00:30:56,870 --> 00:30:56,399
thing do we have a randomized controlled

858
00:31:00,950 --> 00:30:56,880
trial

859
00:31:03,110 --> 00:31:00,960
are we really uh properly evaluating

860
00:31:04,630 --> 00:31:03,120
whether or not the end result is what we

861
00:31:06,549 --> 00:31:04,640
thought we'd give laboratory tests of

862
00:31:08,470 --> 00:31:06,559
whether or not there was the virus or is

863
00:31:11,509 --> 00:31:08,480

somebody just self-reporting it so

864

00:31:14,070 --> 00:31:11,519

there's all this research over time

865

00:31:15,669 --> 00:31:14,080

that kept coming back and telling us

866

00:31:17,909 --> 00:31:15,679

that masks

867

00:31:19,029 --> 00:31:17,919

surprisingly don't seem to be

868

00:31:20,870 --> 00:31:19,039

efficacious

869

00:31:23,190 --> 00:31:20,880

and the reason we know that is because

870

00:31:27,110 --> 00:31:23,200

when we go in our time machine

871

00:31:30,070 --> 00:31:27,120

and when we go to sars there was no mask

872

00:31:33,029 --> 00:31:30,080

mandates when we went to the swine flu

873

00:31:35,669 --> 00:31:33,039

in 2008 there were no mask mandates

874

00:31:36,149 --> 00:31:35,679

when we go to the super bowl last year

875

00:31:39,669 --> 00:31:36,159

when

876
00:31:42,070 --> 00:31:39,679
kansas city won and there's all the fans

877
00:31:43,029 --> 00:31:42,080
and it was a big flu season there were

878
00:31:45,590 --> 00:31:43,039
no mask

879
00:31:46,070 --> 00:31:45,600
mandates and the reason it wasn't

880
00:31:49,190 --> 00:31:46,080
because

881
00:31:52,470 --> 00:31:49,200
everyone was asleep at the switch so

882
00:31:55,350 --> 00:31:52,480
plan along with me dan would you agree

883
00:31:58,870 --> 00:31:55,360
with that part that there was science

884
00:32:00,630 --> 00:31:58,880
prior to january 2020

885
00:32:04,789 --> 00:32:00,640
and the conclusion of that science had

886
00:32:07,029 --> 00:32:04,799
been that masks weren't efficacious

887
00:32:08,549 --> 00:32:07,039
uh i wouldn't agree with that actually

888
00:32:11,509 --> 00:32:08,559

uh there were

889

00:32:13,509 --> 00:32:11,519

there was plenty of research to say that

890

00:32:16,870 --> 00:32:13,519

i'd say overall the general message

891

00:32:19,990 --> 00:32:16,880

of the literature especially prior to

892

00:32:21,590 --> 00:32:20,000

2020 when it comes to mask wearing was

893

00:32:24,149 --> 00:32:21,600

that

894

00:32:25,909 --> 00:32:24,159

let's see if i could sum it up i think i

895

00:32:29,190 --> 00:32:25,919

would say

896

00:32:31,029 --> 00:32:29,200

mask wearing helps but we don't know

897

00:32:32,789 --> 00:32:31,039

the full extent of it and it's hard to

898

00:32:34,470 --> 00:32:32,799

study

899

00:32:36,470 --> 00:32:34,480

uh that's not exactly what's generally

900

00:32:38,710 --> 00:32:36,480

that's generally that's not what the cdc

901
00:32:40,470 --> 00:32:38,720
said that wasn't the conclusion i mean

902
00:32:41,990 --> 00:32:40,480
even in the study you sent me the first

903
00:32:43,830 --> 00:32:42,000
study and we'll look at it in a minute

904
00:32:46,070 --> 00:32:43,840
the opening line of the study is hey

905
00:32:47,830 --> 00:32:46,080
there's a lot of controversy about masks

906
00:32:49,509 --> 00:32:47,840
some really good studies say they don't

907
00:32:52,070 --> 00:32:49,519
work some say they do work

908
00:32:54,310 --> 00:32:52,080
so i mean i don't think i'm exaggerating

909
00:32:55,750 --> 00:32:54,320
here even the cdc had come down and said

910
00:32:57,669 --> 00:32:55,760
gee we don't know we don't quite

911
00:32:58,230 --> 00:32:57,679
understand why masks don't work but at

912
00:33:00,470 --> 00:32:58,240
this time

913
00:33:01,990 --> 00:33:00,480

we can't really recommend the widespread

914

00:33:05,669 --> 00:33:02,000

use of masks

915

00:33:07,509 --> 00:33:05,679

in these uh situations i mean that was

916

00:33:09,269 --> 00:33:07,519

that was the situation we were in that's

917

00:33:10,070 --> 00:33:09,279

what we all lived i mean we all lived it

918

00:33:13,990 --> 00:33:10,080

and experienced

919

00:33:17,590 --> 00:33:14,000

it well the okay we'll go into it for

920

00:33:20,789 --> 00:33:17,600

a little bit here um i think that

921

00:33:23,590 --> 00:33:20,799

um let's see uh

922

00:33:24,710 --> 00:33:23,600

you bring up dennis rancourt's list of

923

00:33:28,470 --> 00:33:24,720

studies

924

00:33:31,750 --> 00:33:28,480

on that page you just showed i think um

925

00:33:34,870 --> 00:33:31,760

where he talks about the reasons why

926
00:33:39,430 --> 00:33:34,880
phase max face masks uh don't work

927
00:33:41,590 --> 00:33:39,440
um so let me just go through

928
00:33:43,669 --> 00:33:41,600
let's just pick the first paper in order

929
00:33:47,029 --> 00:33:43,679
that he brings up

930
00:33:50,070 --> 00:33:47,039
um to say that masks

931
00:33:51,350 --> 00:33:50,080
don't work so this is a study he lists

932
00:33:53,750 --> 00:33:51,360
from

933
00:33:57,029 --> 00:33:53,760
japan it's a randomized controlled trial

934
00:33:59,750 --> 00:33:57,039
of mask wearing in healthcare workers

935
00:34:00,470 --> 00:33:59,760
and so they had one group they had two

936
00:34:03,350 --> 00:34:00,480
groups one

937
00:34:04,830 --> 00:34:03,360
one group wore face masks one did not

938
00:34:07,750 --> 00:34:04,840

they had

939

00:34:11,030 --> 00:34:07,760

um uh you know

940

00:34:13,589 --> 00:34:11,040

decent number of people uh two thousand

941

00:34:14,310 --> 00:34:13,599

about two and a half thousand subjects

942

00:34:17,190 --> 00:34:14,320

uh but

943

00:34:19,030 --> 00:34:17,200

out of all of these subjects uh there

944

00:34:21,909 --> 00:34:19,040

were only two colds

945

00:34:23,430 --> 00:34:21,919

that occurred one in each group and so

946

00:34:24,550 --> 00:34:23,440

the conclusion was basically a larger

947

00:34:26,950 --> 00:34:24,560

study as needed

948

00:34:28,869 --> 00:34:26,960

now this to me doesn't really say that

949

00:34:31,109 --> 00:34:28,879

masks don't work i'm not sure why dennis

950

00:34:34,470 --> 00:34:31,119

would include it in his list

951
00:34:36,389 --> 00:34:34,480
um but moving on to you know his

952
00:34:37,909 --> 00:34:36,399
his second study which i think is has a

953
00:34:39,909 --> 00:34:37,919
little bit more substance because it's a

954
00:34:43,030 --> 00:34:39,919
systematic review

955
00:34:44,389 --> 00:34:43,040
um looking at mask wearing uh

956
00:34:46,629 --> 00:34:44,399
right in the summary it says you know

957
00:34:48,069 --> 00:34:46,639
there and this is from 2010 says there

958
00:34:49,909 --> 00:34:48,079
is some evidence to support

959
00:34:51,349 --> 00:34:49,919
the wearing of face mask respirators

960
00:34:53,270 --> 00:34:51,359
during illness to protect

961
00:34:55,270 --> 00:34:53,280
others and public health emphasis on

962
00:34:59,109 --> 00:34:55,280
mask wearing during illness may help

963
00:35:00,630 --> 00:34:59,119

to reduce influenza virus transmission

964

00:35:02,710 --> 00:35:00,640

there are fewer data to support use of

965

00:35:03,750 --> 00:35:02,720

masks or respirators to prevent becoming

966

00:35:07,190 --> 00:35:03,760

infected and this is

967

00:35:09,109 --> 00:35:07,200

again in reference to influenza

968

00:35:10,630 --> 00:35:09,119

we go through the papers that the

969

00:35:13,910 --> 00:35:10,640

systematic review

970

00:35:16,710 --> 00:35:13,920

looked at and

971

00:35:18,310 --> 00:35:16,720

we start to see that you know the

972

00:35:21,109 --> 00:35:18,320

evidence although

973

00:35:21,990 --> 00:35:21,119

although they don't specifically say

974

00:35:25,829 --> 00:35:22,000

that

975

00:35:28,950 --> 00:35:25,839

uh mask wearing is significantly

976
00:35:29,270 --> 00:35:28,960
is this really significant uh measure

977
00:35:30,870 --> 00:35:29,280
that

978
00:35:34,790 --> 00:35:30,880
everybody should take all the time in

979
00:35:36,310 --> 00:35:34,800
every in every disease situation

980
00:35:37,910 --> 00:35:36,320
my point is that the evidence is

981
00:35:41,990 --> 00:35:37,920
definitely leaning towards

982
00:35:44,069 --> 00:35:42,000
um the effectiveness of of masks

983
00:35:45,829 --> 00:35:44,079
and so yeah you can go through these

984
00:35:49,270 --> 00:35:45,839
studies here that

985
00:35:52,150 --> 00:35:49,280
this uh meta-analysis goes over they

986
00:35:53,990 --> 00:35:52,160
find randomized controlled trials that

987
00:35:56,470 --> 00:35:54,000
find um

988
00:35:58,230 --> 00:35:56,480

that find effectiveness in mask wearing

989

00:36:00,630 --> 00:35:58,240

among healthcare workers they've

990

00:36:01,670 --> 00:36:00,640

mentioned the japan study and also

991

00:36:04,390 --> 00:36:01,680

mentioned that

992

00:36:05,990 --> 00:36:04,400

it's underpowered to detect any

993

00:36:08,310 --> 00:36:06,000

significance because only two people got

994

00:36:11,829 --> 00:36:10,550

and they also talk about a study that

995

00:36:14,950 --> 00:36:11,839

was generally

996

00:36:20,550 --> 00:36:14,960

inconclusive while also talking about

997

00:36:26,870 --> 00:36:23,750

observational studies from the 1918

998

00:36:27,270 --> 00:36:26,880

influenza in boston that suggests that

999

00:36:29,589 --> 00:36:27,280

max

1000

00:36:30,390 --> 00:36:29,599

masks do work so you go through these

1001

00:36:33,030 --> 00:36:30,400

papers and

1002

00:36:33,910 --> 00:36:33,040

you start to read what they're actually

1003

00:36:36,470 --> 00:36:33,920

saying

1004

00:36:37,990 --> 00:36:36,480

instead of you know just dennis's kind

1005

00:36:41,190 --> 00:36:38,000

of

1006

00:36:41,990 --> 00:36:41,200

picked out quotes and you start to get

1007

00:36:45,670 --> 00:36:42,000

this picture that

1008

00:36:48,790 --> 00:36:45,680

mask wearing had a lot of precedence

1009

00:36:50,630 --> 00:36:48,800

uh even before the coca-19 pandemic uh

1010

00:36:53,990 --> 00:36:50,640

this one specifically

1011

00:36:57,430 --> 00:36:54,000

uh a study in a community setting

1012

00:37:03,270 --> 00:37:00,470

although they didn't really uh

1013

00:37:04,069 --> 00:37:03,280

observe much significance significant

1014

00:37:05,990 --> 00:37:04,079

reduction of

1015

00:37:07,430 --> 00:37:06,000

illness associated with mask wearing

1016

00:37:12,310 --> 00:37:07,440

when they

1017

00:37:14,230 --> 00:37:12,320

for

1018

00:37:16,230 --> 00:37:14,240

the timing of the intervention so within

1019

00:37:17,510 --> 00:37:16,240

36 hours of symptom onset and again this

1020

00:37:19,829 --> 00:37:17,520

is dealing with influenza not

1021

00:37:21,510 --> 00:37:19,839

coronavirus

1022

00:37:23,990 --> 00:37:21,520

they did see a statistically significant

1023

00:37:27,270 --> 00:37:24,000

reduction in laboratory confirmed

1024

00:37:28,630 --> 00:37:27,280

influenza so they kind of start to bring

1025

00:37:30,069 --> 00:37:28,640

in this nuance that you mentioned in the

1026

00:37:32,390 --> 00:37:30,079

beginning like

1027

00:37:33,270 --> 00:37:32,400

like when are people using it how are

1028

00:37:36,150 --> 00:37:33,280

they

1029

00:37:37,349 --> 00:37:36,160

uh handling it you know this doesn't

1030

00:37:39,030 --> 00:37:37,359

measure how many times people touch

1031

00:37:41,349 --> 00:37:39,040

their face with the mask of course but

1032

00:37:42,550 --> 00:37:41,359

it starts to bring that nuance in and it

1033

00:37:45,910 --> 00:37:42,560

finds support

1034

00:37:49,670 --> 00:37:45,920

for uh mask wearing and you can

1035

00:37:53,190 --> 00:37:49,680

continue to go through and find that

1036

00:37:56,069 --> 00:37:53,200

it's pretty much false what

1037

00:37:56,550 --> 00:37:56,079

uh rant court is saying um that none of

1038

00:37:58,310 --> 00:37:56,560

this

1039

00:37:59,750 --> 00:37:58,320

studies showed a benefit in either

1040

00:38:00,790 --> 00:37:59,760

healthcare workers or community members

1041

00:38:04,150 --> 00:38:00,800

that is false if you

1042

00:38:06,870 --> 00:38:04,160

actually read these meta-analyses

1043

00:38:07,430 --> 00:38:06,880

um it's it's not it's not accurate it's

1044

00:38:09,109 --> 00:38:07,440

not a

1045

00:38:11,349 --> 00:38:09,119

good representation of what the science

1046

00:38:13,910 --> 00:38:11,359

actually said

1047

00:38:16,470 --> 00:38:13,920

okay i'll do your not a good

1048

00:38:18,790 --> 00:38:16,480

representation of what the science says

1049

00:38:19,829 --> 00:38:18,800

one better so here's the first one that

1050

00:38:23,190 --> 00:38:19,839

you sent me

1051
00:38:24,310 --> 00:38:23,200
after the mask one and uh anyone can

1052
00:38:27,430 --> 00:38:24,320
read it they're

1053
00:38:28,069 --> 00:38:27,440
peer-reviewed and it is a systematic

1054
00:38:30,470 --> 00:38:28,079
review

1055
00:38:32,550 --> 00:38:30,480
again it's a meta-analysis right so

1056
00:38:36,069 --> 00:38:32,560
maybe you want to explain to people

1057
00:38:38,950 --> 00:38:36,079
what a meta-analysis is so um

1058
00:38:40,390 --> 00:38:38,960
a meta-analysis is just when researchers

1059
00:38:43,190 --> 00:38:40,400
basically look at

1060
00:38:44,390 --> 00:38:43,200
a body of literature and try to come up

1061
00:38:47,430 --> 00:38:44,400
with

1062
00:38:49,990 --> 00:38:47,440
a summary based on the data that

1063
00:38:51,349 --> 00:38:50,000

has been collected over many years by

1064

00:38:53,270 --> 00:38:51,359

several researchers and published in

1065

00:38:55,750 --> 00:38:53,280

several different papers

1066

00:38:56,550 --> 00:38:55,760

uh kind of a summary of lots of years of

1067

00:38:59,589 --> 00:38:56,560

research

1068

00:39:00,310 --> 00:38:59,599

is what a meta-analysis is so here we

1069

00:39:03,030 --> 00:39:00,320

have

1070

00:39:04,390 --> 00:39:03,040

the results of that meta-analysis and it

1071

00:39:07,589 --> 00:39:04,400

says they started with

1072

00:39:08,870 --> 00:39:07,599

all these potential relevant citations

1073

00:39:10,550 --> 00:39:08,880

which again speaks to

1074

00:39:12,310 --> 00:39:10,560

the point we're making about you know

1075

00:39:14,790 --> 00:39:12,320

it's hard to do this kind of science

1076
00:39:16,550 --> 00:39:14,800
they do this complete breakdown of all

1077
00:39:18,870 --> 00:39:16,560
these studies that they looked at

1078
00:39:20,550 --> 00:39:18,880
and they looked at the effectiveness of

1079
00:39:23,430 --> 00:39:20,560
disinfecting and hygiene

1080
00:39:24,150 --> 00:39:23,440
of creating barriers of combined of all

1081
00:39:25,990 --> 00:39:24,160
this stuff

1082
00:39:27,589 --> 00:39:26,000
and what they come to again and again

1083
00:39:28,310 --> 00:39:27,599
and this isn't the study that you sent

1084
00:39:30,390 --> 00:39:28,320
me

1085
00:39:31,349 --> 00:39:30,400
statistical significance was not

1086
00:39:34,470 --> 00:39:31,359
attained

1087
00:39:36,310 --> 00:39:34,480
and they'll say that again did not the

1088
00:39:37,270 --> 00:39:36,320

group did not reach statistical

1089

00:39:39,990 --> 00:39:37,280

significance

1090

00:39:41,109 --> 00:39:40,000

so over and over again there is no

1091

00:39:44,870 --> 00:39:41,119

conclusive

1092

00:39:47,990 --> 00:39:44,880

evidence so i sent you the rancor stuff

1093

00:39:49,430 --> 00:39:48,000

denny is i think fantastic but i don't

1094

00:39:51,910 --> 00:39:49,440

like follow him

1095

00:39:53,910 --> 00:39:51,920

i go and read the research like one of

1096

00:39:56,630 --> 00:39:53,920

the research studies that you sent me is

1097

00:39:58,230 --> 00:39:56,640

this hong kong research in the

1098

00:40:00,630 --> 00:39:58,240

households involved in laboratory

1099

00:40:03,349 --> 00:40:00,640

confirmed cases

1100

00:40:05,109 --> 00:40:03,359

actually the one you sent me was a phone

1101
00:40:08,470 --> 00:40:05,119
interview

1102
00:40:10,710 --> 00:40:08,480
of people in hong kong i mean

1103
00:40:12,630 --> 00:40:10,720
it where there was never even a

1104
00:40:14,550 --> 00:40:12,640
laboratory confirmed cases

1105
00:40:16,550 --> 00:40:14,560
they just said at the end well did you

1106
00:40:16,950 --> 00:40:16,560
get really sick it sounds like you had

1107
00:40:20,069 --> 00:40:16,960
it

1108
00:40:22,550 --> 00:40:20,079
on

1109
00:40:24,390 --> 00:40:22,560
that side of it so over and over again

1110
00:40:27,430 --> 00:40:24,400
my read of this data

1111
00:40:29,589 --> 00:40:27,440
is it does not reach statistical

1112
00:40:30,710 --> 00:40:29,599
significance and again you know like

1113
00:40:32,950 --> 00:40:30,720

you're putting down

1114

00:40:34,950 --> 00:40:32,960

or you were just making your point that

1115

00:40:36,950 --> 00:40:34,960

rancor had sent

1116

00:40:38,550 --> 00:40:36,960

links to studies that didn't really

1117

00:40:40,150 --> 00:40:38,560

support what he was saying

1118

00:40:42,550 --> 00:40:40,160

i would say you've done the same thing

1119

00:40:45,030 --> 00:40:42,560

here in saying here it is alex

1120

00:40:46,309 --> 00:40:45,040

here my number one is that masks really

1121

00:40:48,390 --> 00:40:46,319

work and i say well

1122

00:40:50,470 --> 00:40:48,400

who cares we already knew that masks

1123

00:40:52,309 --> 00:40:50,480

work it's whether or not they're

1124

00:40:53,910 --> 00:40:52,319

effective in helping reduce it because

1125

00:40:56,390 --> 00:40:53,920

what we really care about is

1126
00:40:57,990 --> 00:40:56,400
is wearing a mask going to help me not

1127
00:40:59,589 --> 00:40:58,000
get the covet disease

1128
00:41:01,109 --> 00:40:59,599
so the only way we can do that is move

1129
00:41:02,710 --> 00:41:01,119
the clinical trials and we'll move to

1130
00:41:03,030 --> 00:41:02,720
the clinical trials and again again they

1131
00:41:05,349 --> 00:41:03,040
say

1132
00:41:07,270 --> 00:41:05,359
there's no statistically significant

1133
00:41:08,150 --> 00:41:07,280
result that suggests that you should

1134
00:41:09,990 --> 00:41:08,160
wear a mask

1135
00:41:11,829 --> 00:41:10,000
and the reason that we know that is just

1136
00:41:13,589 --> 00:41:11,839
observable right

1137
00:41:15,270 --> 00:41:13,599
no one requires masks they didn't

1138
00:41:17,109 --> 00:41:15,280

require masks in the hospital

1139

00:41:19,270 --> 00:41:17,119

they didn't require masks in public

1140

00:41:23,190 --> 00:41:19,280

places all these things mask

1141

00:41:26,950 --> 00:41:23,200

mandates didn't happen until

1142

00:41:27,829 --> 00:41:26,960

the uh 2020 in in april so the question

1143

00:41:30,390 --> 00:41:27,839

that i think

1144

00:41:32,550 --> 00:41:30,400

is just i don't even know that it should

1145

00:41:33,270 --> 00:41:32,560

be controversial between us but it might

1146

00:41:37,430 --> 00:41:33,280

be

1147

00:41:38,069 --> 00:41:37,440

is what is the science that propelled us

1148

00:41:41,109 --> 00:41:38,079

to

1149

00:41:44,069 --> 00:41:41,119

this new level of policy

1150

00:41:45,990 --> 00:41:44,079

so i wouldn't say that it was new

1151

00:41:49,990 --> 00:41:46,000

science that propelled us to

1152

00:41:52,550 --> 00:41:50,000

uh adopt the policy or

1153

00:41:53,510 --> 00:41:52,560

you know encourage policies of mass

1154

00:41:56,150 --> 00:41:53,520

mandates

1155

00:41:58,069 --> 00:41:56,160

it was just a changing situation uh

1156

00:42:00,470 --> 00:41:58,079

because

1157

00:42:02,390 --> 00:42:00,480

like i said before you know the general

1158

00:42:05,510 --> 00:42:02,400

consensus in science before

1159

00:42:09,589 --> 00:42:05,520

the pandemic was that mask wearing

1160

00:42:12,870 --> 00:42:09,599

helps and it shouldn't be

1161

00:42:14,550 --> 00:42:12,880

the first thing we do you know

1162

00:42:16,150 --> 00:42:14,560

consistently in these papers they will

1163

00:42:18,230 --> 00:42:16,160

say things like

1164

00:42:19,829 --> 00:42:18,240

you might see things like uh mass

1165

00:42:22,950 --> 00:42:19,839

mandate should be

1166

00:42:23,190 --> 00:42:22,960

um a last resort uh where does it show

1167

00:42:27,030 --> 00:42:23,200

me

1168

00:42:32,390 --> 00:42:27,040

let's see uh

1169

00:42:35,910 --> 00:42:34,230

because my read of it says that it's

1170

00:42:37,510 --> 00:42:35,920

inconclusive it's just

1171

00:42:39,030 --> 00:42:37,520

inconclusive we don't know it as a

1172

00:42:40,550 --> 00:42:39,040

matter of fact they kind of say this

1173

00:42:42,230 --> 00:42:40,560

seems to be kind of a mystery because we

1174

00:42:44,230 --> 00:42:42,240

would expect masks

1175

00:42:46,630 --> 00:42:44,240

to work better than they do but every

1176

00:42:49,270 --> 00:42:46,640

time we put them in clinical trials

1177

00:42:51,190 --> 00:42:49,280

there's the the effect is not

1178

00:42:53,670 --> 00:42:51,200

statistically significant and some of

1179

00:42:57,109 --> 00:42:53,680

the studies even show an adverse effect

1180

00:43:02,470 --> 00:43:00,710

i'll have to circle back to the um

1181

00:43:03,990 --> 00:43:02,480

study that says that math should be a

1182

00:43:08,230 --> 00:43:04,000

last resort um

1183

00:43:11,910 --> 00:43:08,240

but just for now uh trying to

1184

00:43:14,230 --> 00:43:11,920

address what i can uh this study um

1185

00:43:16,550 --> 00:43:14,240

which you brought up uh

1186

00:43:17,589 --> 00:43:16,560

is yeah a study i sent to you and it's

1187

00:43:19,270 --> 00:43:17,599

what i included in this little

1188

00:43:21,349 --> 00:43:19,280

powerpoint presentation but

1189

00:43:22,790 --> 00:43:21,359

the reason i send it to you is uh if you

1190

00:43:24,069 --> 00:43:22,800

see what i highlighted

1191

00:43:26,790 --> 00:43:24,079

is because i thought this was a good

1192

00:43:29,910 --> 00:43:26,800

example of how complicated the

1193

00:43:31,430 --> 00:43:29,920

literature can be so this is looking at

1194

00:43:33,349 --> 00:43:31,440

the use of non-pharmaceutical

1195

00:43:35,510 --> 00:43:33,359

intervention in reducing the

1196

00:43:38,550 --> 00:43:35,520

transmission of influenza

1197

00:43:39,829 --> 00:43:38,560

and they say that common issues

1198

00:43:42,150 --> 00:43:39,839

in all these studies where that

1199

00:43:43,829 --> 00:43:42,160

protective effects of each individual

1200

00:43:46,309 --> 00:43:43,839

intervention were difficult to discern

1201
00:43:48,710 --> 00:43:46,319
including hand washing including

1202
00:43:50,150 --> 00:43:48,720
um you know the other uh

1203
00:43:51,349 --> 00:43:50,160
non-pharmaceutical interventions that

1204
00:43:55,190 --> 00:43:51,359
were studied

1205
00:43:59,190 --> 00:43:55,200
in this analysis in this meta-analysis

1206
00:44:02,150 --> 00:43:59,200
uh or systematic review rather um

1207
00:44:03,990 --> 00:44:02,160
they're saying that uh adherence to face

1208
00:44:07,030 --> 00:44:04,000
mask use in particular

1209
00:44:08,069 --> 00:44:07,040
is poorly described as an indicating

1210
00:44:10,470 --> 00:44:08,079
ability to demonstrate

1211
00:44:12,550 --> 00:44:10,480
significant change through small numbers

1212
00:44:14,150 --> 00:44:12,560
so they're saying adherence to face mask

1213
00:44:15,190 --> 00:44:14,160

use is a problem in a lot of these

1214

00:44:17,270 --> 00:44:15,200

studies it's hard to

1215

00:44:18,470 --> 00:44:17,280

control for that as we have already

1216

00:44:19,829 --> 00:44:18,480

talked about so i thought that was a

1217

00:44:24,150 --> 00:44:19,839

good example

1218

00:44:26,390 --> 00:44:24,160

of uh of that but if you

1219

00:44:27,990 --> 00:44:26,400

you know a good example of what dan

1220

00:44:28,710 --> 00:44:28,000

because i read that differently than you

1221

00:44:31,430 --> 00:44:28,720

do

1222

00:44:32,790 --> 00:44:31,440

oh it's a it's a good example of how

1223

00:44:35,270 --> 00:44:32,800

hard it is to study

1224

00:44:36,790 --> 00:44:35,280

in the community setting and why you

1225

00:44:40,710 --> 00:44:36,800

know

1226

00:44:44,069 --> 00:44:40,720

literature

1227

00:44:45,750 --> 00:44:44,079

might give the wrong impression

1228

00:44:48,230 --> 00:44:45,760

right and i guess i take that one step

1229

00:44:49,030 --> 00:44:48,240

further and say there's two ways to read

1230

00:44:52,069 --> 00:44:49,040

that

1231

00:44:54,150 --> 00:44:52,079

one is way to read it is to say gee if

1232

00:44:55,589 --> 00:44:54,160

people would just wear their masks we

1233

00:44:56,470 --> 00:44:55,599

probably would have gotten better

1234

00:44:58,630 --> 00:44:56,480

results

1235

00:45:01,349 --> 00:44:58,640

and i would say that study doesn't say

1236

00:45:03,750 --> 00:45:01,359

that that study just says what it says

1237

00:45:04,950 --> 00:45:03,760

it says it's difficult to control for it

1238

00:45:07,190 --> 00:45:04,960

like you said

1239

00:45:08,710 --> 00:45:07,200

and the point that i would again bring

1240

00:45:09,270 --> 00:45:08,720

up and maybe you want to comment it

1241

00:45:11,990 --> 00:45:09,280

maybe

1242

00:45:13,270 --> 00:45:12,000

you don't is that if this science had

1243

00:45:15,750 --> 00:45:13,280

reached the point

1244

00:45:16,950 --> 00:45:15,760

where there seemed to be a significant

1245

00:45:19,670 --> 00:45:16,960

health benefit

1246

00:45:20,950 --> 00:45:19,680

from mask wearing and we were seriously

1247

00:45:24,470 --> 00:45:20,960

contemplating

1248

00:45:26,230 --> 00:45:24,480

in a kind of public health policy way

1249

00:45:28,790 --> 00:45:26,240

whether or not mask wearing was a good

1250

00:45:31,510 --> 00:45:28,800

idea the first thing we do

1251
00:45:32,309 --> 00:45:31,520
is look at the adverse potential adverse

1252
00:45:34,150 --> 00:45:32,319
effects

1253
00:45:36,150 --> 00:45:34,160
of mask wearing we don't have any

1254
00:45:38,309 --> 00:45:36,160
science on that and the reason we don't

1255
00:45:40,550 --> 00:45:38,319
have any science on that we do now

1256
00:45:42,630 --> 00:45:40,560
people are saying there's reduced oxygen

1257
00:45:45,190 --> 00:45:42,640
flow they're saying that in some cases

1258
00:45:48,150 --> 00:45:45,200
maybe even the masks contribute to

1259
00:45:49,349 --> 00:45:48,160
contracting various respiratory diseases

1260
00:45:51,990 --> 00:45:49,359
because bacteria

1261
00:45:52,790 --> 00:45:52,000
and viruses can concentrate in the masks

1262
00:45:54,550 --> 00:45:52,800
none of that

1263
00:45:56,710 --> 00:45:54,560

science is studied and there still needs

1264

00:45:58,790 --> 00:45:56,720

to be a lot more done

1265

00:46:00,150 --> 00:45:58,800

but all the science that we're reviewing

1266

00:46:03,030 --> 00:46:00,160

here is really on

1267

00:46:04,870 --> 00:46:03,040

one side of the equation and that is can

1268

00:46:07,349 --> 00:46:04,880

we show that masks work

1269

00:46:09,670 --> 00:46:07,359

if we were really going to be fair from

1270

00:46:12,150 --> 00:46:09,680

a policy making standpoint we'd balance

1271

00:46:14,309 --> 00:46:12,160

that with a whole bunch of science on

1272

00:46:15,829 --> 00:46:14,319

whether or not whether or not masks

1273

00:46:19,270 --> 00:46:15,839

might be harmful

1274

00:46:21,030 --> 00:46:19,280

would you agree with that or no

1275

00:46:23,750 --> 00:46:21,040

sure yeah and i think the research is

1276

00:46:29,430 --> 00:46:23,760

there um for that but just to

1277

00:46:31,990 --> 00:46:29,440

um just to you know continue on uh

1278

00:46:32,870 --> 00:46:32,000

extend from that uh review that we just

1279

00:46:35,990 --> 00:46:32,880

talked about

1280

00:46:38,230 --> 00:46:36,000

um you know liter

1281

00:46:39,430 --> 00:46:38,240

one important thing to do uh in science

1282

00:46:41,349 --> 00:46:39,440

is to look at

1283

00:46:43,430 --> 00:46:41,359

the literature as a whole you know one

1284

00:46:46,069 --> 00:46:43,440

paper even if it's a review

1285

00:46:49,109 --> 00:46:46,079

doesn't necessarily represent the entire

1286

00:46:52,550 --> 00:46:49,119

body of literature so you have to

1287

00:46:54,390 --> 00:46:52,560

uh go from study to study and see if

1288

00:46:56,950 --> 00:46:54,400

their conclusions are consistent right

1289

00:47:00,470 --> 00:46:56,960

reproducibility is important in science

1290

00:47:04,950 --> 00:47:00,480

and so here's just uh one

1291

00:47:07,270 --> 00:47:04,960

meta-analysis uh that ends up concluding

1292

00:47:08,550 --> 00:47:07,280

that face mask use demonstrated mixed

1293

00:47:10,950 --> 00:47:08,560

results as we

1294

00:47:11,829 --> 00:47:10,960

explain as we just went over for various

1295

00:47:14,069 --> 00:47:11,839

reasons

1296

00:47:15,750 --> 00:47:14,079

but a randomized controlled trial

1297

00:47:17,349 --> 00:47:15,760

suggests that it is effective

1298

00:47:20,150 --> 00:47:17,359

and that randomized controlled trial is

1299

00:47:22,950 --> 00:47:20,160

referenced in in this paper

1300

00:47:25,030 --> 00:47:22,960

and there are a couple other randomized

1301

00:47:27,670 --> 00:47:25,040

control trials that

1302

00:47:29,349 --> 00:47:27,680

i've sent to you and pulled up here

1303

00:47:30,870 --> 00:47:29,359

where

1304

00:47:33,030 --> 00:47:30,880

again it's looking at influenza not

1305

00:47:35,829 --> 00:47:33,040

necessarily coronaviruses

1306

00:47:36,549 --> 00:47:35,839

but face masks were found in these

1307

00:47:38,230 --> 00:47:36,559

clustered

1308

00:47:40,549 --> 00:47:38,240

randomized controlled trials to be

1309

00:47:43,910 --> 00:47:40,559

effective in reducing

1310

00:47:46,549 --> 00:47:43,920

the uh illness especially again you know

1311

00:47:47,829 --> 00:47:46,559

we see this 36 hour after symptom onset

1312

00:47:51,109 --> 00:47:47,839

number come up

1313

00:47:52,309 --> 00:47:51,119

timing is important when you implement

1314

00:47:55,510 --> 00:47:52,319

mask learning

1315

00:47:57,910 --> 00:47:55,520

uh so there are data to show that

1316

00:47:58,870 --> 00:47:57,920

um mask wearing is effective in

1317

00:48:01,750 --> 00:47:58,880

controlled

1318

00:48:02,870 --> 00:48:01,760

community settings uh here's another one

1319

00:48:06,950 --> 00:48:02,880

and

1320

00:48:08,309 --> 00:48:06,960

um i included this one just to say that

1321

00:48:09,990 --> 00:48:08,319

the litter one other point in the

1322

00:48:13,270 --> 00:48:10,000

literature is that not

1323

00:48:14,710 --> 00:48:13,280

mask wearing but um other

1324

00:48:16,390 --> 00:48:14,720

interventions in addition to mask

1325

00:48:17,589 --> 00:48:16,400

learning is even better than mask

1326

00:48:21,190 --> 00:48:17,599

squaring alone

1327

00:48:22,870 --> 00:48:21,200

you know we we we say that mask wearing

1328

00:48:24,790 --> 00:48:22,880

is not 100 effective you know if that

1329

00:48:25,190 --> 00:48:24,800

were true then we could just wear masks

1330

00:48:26,790 --> 00:48:25,200

and

1331

00:48:28,309 --> 00:48:26,800

that would be the only thing we change

1332

00:48:30,230 --> 00:48:28,319

in our lives but

1333

00:48:31,589 --> 00:48:30,240

that's not what's been happening you

1334

00:48:33,430 --> 00:48:31,599

know we have

1335

00:48:34,630 --> 00:48:33,440

we we get recommended mask wearing and

1336

00:48:38,069 --> 00:48:34,640

social distancing

1337

00:48:40,230 --> 00:48:38,079

and hand washing and you know we get

1338

00:48:42,470 --> 00:48:40,240

we hear about proper ventilation and etc

1339

00:48:42,950 --> 00:48:42,480

etc it's because all combining all of

1340

00:48:45,190 --> 00:48:42,960

these

1341

00:48:46,470 --> 00:48:45,200

tactics together will give us a better

1342

00:48:49,190 --> 00:48:46,480

chance at

1343

00:48:49,990 --> 00:48:49,200

uh eliminating or just reducing we don't

1344

00:48:53,349 --> 00:48:50,000

we don't

1345

00:48:55,349 --> 00:48:53,359

dan

1346

00:48:56,630 --> 00:48:55,359

how we're just looking at we're reading

1347

00:48:59,109 --> 00:48:56,640

the same study here

1348

00:49:00,549 --> 00:48:59,119

overall direct evidence of the effect

1349

00:49:03,589 --> 00:49:00,559

efficacy of mass

1350

00:49:06,069 --> 00:49:03,599

use is supportive but inconclusive well

1351
00:49:07,510 --> 00:49:06,079
again i don't i don't know

1352
00:49:09,670 --> 00:49:07,520
it's supportive in the sense of

1353
00:49:10,710 --> 00:49:09,680
laboratory work and it's supportive in

1354
00:49:12,950 --> 00:49:10,720
the sense of

1355
00:49:14,309 --> 00:49:12,960
some randomized controlled trials that

1356
00:49:17,030 --> 00:49:14,319
you can show

1357
00:49:18,790 --> 00:49:17,040
but it is inconclusive which is

1358
00:49:20,230 --> 00:49:18,800
ultimately the answer

1359
00:49:22,950 --> 00:49:20,240
just to follow that point a little bit i

1360
00:49:25,990 --> 00:49:22,960
think it's unfair to say that

1361
00:49:28,950 --> 00:49:26,000
inconclusive means we have no idea

1362
00:49:30,230 --> 00:49:28,960
you know inconclusive means we need

1363
00:49:32,470 --> 00:49:30,240

better data and

1364

00:49:33,510 --> 00:49:32,480

we should get better data but the data

1365

00:49:36,390 --> 00:49:33,520

that we have

1366

00:49:38,309 --> 00:49:36,400

is supported so when we're dealing with

1367

00:49:41,430 --> 00:49:38,319

a pandemic that is rapidly

1368

00:49:43,109 --> 00:49:41,440

spinning out of control we want to use

1369

00:49:45,910 --> 00:49:43,119

the tools that we have available to us

1370

00:49:46,630 --> 00:49:45,920

and evidence is supportive of mask

1371

00:49:49,829 --> 00:49:46,640

wearing

1372

00:49:52,950 --> 00:49:49,839

so why should we not use those tools and

1373

00:49:56,230 --> 00:49:52,960

you know you bring up adverse effects

1374

00:49:59,109 --> 00:49:56,240

due to masks we can talk about that but

1375

00:50:00,069 --> 00:49:59,119

you can um bring up what you were going

1376
00:50:01,750 --> 00:50:00,079
to bring up

1377
00:50:03,589 --> 00:50:01,760
i i don't want to just keep spinning on

1378
00:50:04,470 --> 00:50:03,599
the same points we might do that a

1379
00:50:07,910 --> 00:50:04,480
little bit

1380
00:50:10,069 --> 00:50:07,920
but we're getting to

1381
00:50:12,069 --> 00:50:10,079
the point that we kind of started at is

1382
00:50:15,109 --> 00:50:12,079
the interface

1383
00:50:17,109 --> 00:50:15,119
between science and policy making

1384
00:50:18,710 --> 00:50:17,119
and the first thing that i'd say is that

1385
00:50:20,150 --> 00:50:18,720
interface should be incredibly

1386
00:50:23,270 --> 00:50:20,160
transparent

1387
00:50:26,549 --> 00:50:23,280
and the means by which

1388
00:50:29,910 --> 00:50:26,559

mandates of this type unprecedented

1389

00:50:32,950 --> 00:50:29,920

mandates are instituted

1390

00:50:34,950 --> 00:50:32,960

should be clear in terms of why

1391

00:50:35,990 --> 00:50:34,960

how and for how long they're being

1392

00:50:39,349 --> 00:50:36,000

implemented

1393

00:50:40,549 --> 00:50:39,359

none of that was done the science in my

1394

00:50:43,990 --> 00:50:40,559

opinion

1395

00:50:48,150 --> 00:50:44,000

in no in no way would support

1396

00:50:50,510 --> 00:50:48,160

mandatory uh mandates with masks

1397

00:50:51,829 --> 00:50:50,520

this could easily be done with

1398

00:50:55,750 --> 00:50:51,839

recommendations

1399

00:50:59,030 --> 00:50:55,760

baloney board of

1400

00:50:59,829 --> 00:50:59,040

you know white collab coded guys up

1401

00:51:01,990 --> 00:50:59,839

there and have

1402

00:51:03,750 --> 00:51:02,000

one say one thing and one say another

1403

00:51:05,829 --> 00:51:03,760

and let people decide

1404

00:51:07,349 --> 00:51:05,839

uh there's all sorts of ways to do this

1405

00:51:08,870 --> 00:51:07,359

and then

1406

00:51:10,790 --> 00:51:08,880

the other thing is we have to hear all

1407

00:51:13,270 --> 00:51:10,800

the voices like we started

1408

00:51:14,230 --> 00:51:13,280

we're panning people we're banning

1409

00:51:16,630 --> 00:51:14,240

scientists

1410

00:51:18,390 --> 00:51:16,640

from this discussion and there's no

1411

00:51:19,349 --> 00:51:18,400

arguing about that you can just go and

1412

00:51:23,910 --> 00:51:19,359

find him

1413

00:51:25,349 --> 00:51:23,920

that is unprecedented and it's all done

1414

00:51:26,950 --> 00:51:25,359

under and that's the point i wanted to

1415

00:51:31,270 --> 00:51:26,960

make it's all done

1416

00:51:34,470 --> 00:51:31,280

under a very very shaky scientific idea

1417

00:51:35,349 --> 00:51:34,480

and that is well the severity of the

1418

00:51:38,470 --> 00:51:35,359

health crisis

1419

00:51:41,910 --> 00:51:38,480

demanded it it doesn't work like that

1420

00:51:44,069 --> 00:51:41,920

you can't amplify inconclusive and get

1421

00:51:44,950 --> 00:51:44,079

conclusive out of it because it's really

1422

00:51:47,670 --> 00:51:44,960

dangerous

1423

00:51:50,069 --> 00:51:47,680

it doesn't work that way either you have

1424

00:51:52,230 --> 00:51:50,079

statistically significant results and

1425

00:51:54,790 --> 00:51:52,240

you can roll them out and get more

1426

00:51:55,349 --> 00:51:54,800

or you don't and you have to sit back

1427

00:51:58,870 --> 00:51:55,359

and do

1428

00:52:00,790 --> 00:51:58,880

more of the hard legwork in research

1429

00:52:02,790 --> 00:52:00,800

and come up with a solution i guess i

1430

00:52:06,230 --> 00:52:02,800

would just say you know

1431

00:52:06,950 --> 00:52:06,240

we might be in a semantics battle but

1432

00:52:09,510 --> 00:52:06,960

you know

1433

00:52:10,790 --> 00:52:09,520

one thing that i think a lot of people

1434

00:52:12,630 --> 00:52:10,800

have a problem with

1435

00:52:14,470 --> 00:52:12,640

um when it comes to information during

1436

00:52:17,510 --> 00:52:14,480

this pandemic is

1437

00:52:18,069 --> 00:52:17,520

that the science might seem shaky and

1438

00:52:21,190 --> 00:52:18,079

that they

1439

00:52:24,150 --> 00:52:21,200

use language like may or

1440

00:52:24,790 --> 00:52:24,160

you know inconclusive but if you look at

1441

00:52:32,790 --> 00:52:24,800

the

1442

00:52:34,950 --> 00:52:32,800

that masks are effective and

1443

00:52:36,309 --> 00:52:34,960

the inconclusive and the may that

1444

00:52:38,390 --> 00:52:36,319

language comes from

1445

00:52:39,829 --> 00:52:38,400

this desire of scientists to say like

1446

00:52:42,150 --> 00:52:39,839

you know this evidence

1447

00:52:43,109 --> 00:52:42,160

could be stronger we could do stronger

1448

00:52:44,390 --> 00:52:43,119

tests because

1449

00:52:46,230 --> 00:52:44,400

the ultimate test to do in this

1450

00:52:47,109 --> 00:52:46,240

situation is a randomized controlled

1451
00:52:49,910 --> 00:52:47,119
trial and there

1452
00:52:51,589 --> 00:52:49,920
aren't a lot of randomized controlled

1453
00:52:52,549 --> 00:52:51,599
trials when it comes to mask wearing

1454
00:52:54,630 --> 00:52:52,559
because

1455
00:52:56,150 --> 00:52:54,640
we haven't had any opportunities to do

1456
00:52:59,990 --> 00:52:56,160
to do a kind of study like that

1457
00:53:02,630 --> 00:53:00,000
and it's uh difficult to

1458
00:53:03,910 --> 00:53:02,640
do you know um there's also the ethical

1459
00:53:07,190 --> 00:53:03,920
question of

1460
00:53:10,950 --> 00:53:07,200
do you in the pandemic uh

1461
00:53:12,470 --> 00:53:10,960
do you assign people to a group where

1462
00:53:14,790 --> 00:53:12,480
they don't wear masks and possibly put

1463
00:53:19,589 --> 00:53:14,800

them at more risk

1464

00:53:23,030 --> 00:53:19,599

um but i guess yeah my point is just

1465

00:53:26,309 --> 00:53:23,040

it's it's not as uncertain as

1466

00:53:26,790 --> 00:53:26,319

um you know the language might make it

1467

00:53:30,150 --> 00:53:26,800

seem

1468

00:53:31,109 --> 00:53:30,160

to be because i just completely disagree

1469

00:53:34,309 --> 00:53:31,119

with that because

1470

00:53:36,470 --> 00:53:34,319

okay the language of science is numbers

1471

00:53:37,750 --> 00:53:36,480

and particularly these kind of it's

1472

00:53:42,790 --> 00:53:37,760

statistics

1473

00:53:46,309 --> 00:53:42,800

of statistical significance

1474

00:53:48,390 --> 00:53:46,319

or they can't there's no it comes close

1475

00:53:50,069 --> 00:53:48,400

it comes close in this study it doesn't

1476

00:53:52,309 --> 00:53:50,079

come close in this study

1477

00:53:53,750 --> 00:53:52,319

i mean and that's the the reason that we

1478

00:53:55,750 --> 00:53:53,760

do meta-analysis

1479

00:53:56,790 --> 00:53:55,760

if i could just point out you know we do

1480

00:53:59,829 --> 00:53:56,800

have

1481

00:54:01,750 --> 00:53:59,839

um statistically significant results

1482

00:54:02,470 --> 00:54:01,760

saying that masks are effective you know

1483

00:54:06,309 --> 00:54:02,480

we

1484

00:54:06,319 --> 00:54:09,349

let's see

1485

00:54:09,359 --> 00:54:12,710

analyzing households

1486

00:54:19,910 --> 00:54:16,870

uh significantly lower so

1487

00:54:23,190 --> 00:54:19,920

comparing the mast only group

1488

00:54:26,470 --> 00:54:23,200

to basque and hygiene group

1489

00:54:29,270 --> 00:54:26,480

uh the secondary infection was

1490

00:54:30,150 --> 00:54:29,280

significantly lower compared to the

1491

00:54:32,309 --> 00:54:30,160

control group

1492

00:54:33,670 --> 00:54:32,319

in both the mask and mass hand washing

1493

00:54:36,829 --> 00:54:33,680

group i mean that's

1494

00:54:38,230 --> 00:54:36,839

there's statistical significance there

1495

00:54:39,829 --> 00:54:38,240

um

1496

00:54:41,670 --> 00:54:39,839

you know you can find statistically

1497

00:54:44,150 --> 00:54:41,680

significant results in several studies

1498

00:54:45,589 --> 00:54:44,160

it's not just we're totally uncertain

1499

00:54:46,950 --> 00:54:45,599

and we're pulling this out of nowhere

1500

00:54:48,630 --> 00:54:46,960

and now

1501
00:54:50,069 --> 00:54:48,640
now we just hope it works you know

1502
00:54:52,789 --> 00:54:50,079
there's a lot of reason

1503
00:54:54,470 --> 00:54:52,799
behind this um including all the way

1504
00:54:57,270 --> 00:54:54,480
from laboratory studies all

1505
00:54:58,470 --> 00:54:57,280
to community settings all that all those

1506
00:55:01,109 --> 00:54:58,480
experiments

1507
00:55:02,470 --> 00:55:01,119
there are data in every category there

1508
00:55:05,750 --> 00:55:02,480
it's not perfect data

1509
00:55:06,470 --> 00:55:05,760
we could have more data but the data

1510
00:55:09,829 --> 00:55:06,480
that we have

1511
00:55:11,589 --> 00:55:09,839
suggests that it works well okay so we

1512
00:55:13,109 --> 00:55:11,599
can just kind of disagree on that the

1513
00:55:15,270 --> 00:55:13,119

study you were just pulling up

1514

00:55:16,950 --> 00:55:15,280

actually had uh 80 participants in that

1515

00:55:17,829 --> 00:55:16,960

study that wouldn't be like a super

1516

00:55:20,069 --> 00:55:17,839

strong

1517

00:55:21,030 --> 00:55:20,079

study and you acknowledged that and i

1518

00:55:22,470 --> 00:55:21,040

guess

1519

00:55:24,230 --> 00:55:22,480

i would go back you know i mean we've

1520

00:55:27,270 --> 00:55:24,240

got to just be kind of

1521

00:55:28,390 --> 00:55:27,280

share it all out there and here's here's

1522

00:55:31,829 --> 00:55:28,400

denny again

1523

00:55:34,549 --> 00:55:31,839

and you pulled apart one of his research

1524

00:55:35,589 --> 00:55:34,559

studies that he cited but really over

1525

00:55:39,190 --> 00:55:35,599

and over again

1526
00:55:39,670 --> 00:55:39,200
there's there's case study after case

1527
00:55:41,829 --> 00:55:39,680
study

1528
00:55:43,349 --> 00:55:41,839
and he actually has the quotes none of

1529
00:55:45,190 --> 00:55:43,359
these studies reviewed show a benefit of

1530
00:55:46,309 --> 00:55:45,200
wearing a mask in community members

1531
00:55:48,390 --> 00:55:46,319
households tables

1532
00:55:49,750 --> 00:55:48,400
one and two therein and i've looked at

1533
00:55:51,589 --> 00:55:49,760
those uh

1534
00:55:53,030 --> 00:55:51,599
there are 17 eligible studies none of

1535
00:55:53,910 --> 00:55:53,040
the studies establish a conclusive

1536
00:55:56,870 --> 00:55:53,920
relationship

1537
00:55:57,750 --> 00:55:56,880
between mask respirator use protect uh

1538
00:56:01,589 --> 00:55:57,760

and protection

1539

00:56:04,710 --> 00:56:01,599

influence and influence infection so

1540

00:56:07,510 --> 00:56:04,720

it's not like uh this guy in here with

1541

00:56:08,069 --> 00:56:07,520

smith in 2016 we identified six clinical

1542

00:56:10,470 --> 00:56:08,079

studies

1543

00:56:11,829 --> 00:56:10,480

in the meta-analysis of them we found no

1544

00:56:15,270 --> 00:56:11,839

significant difference

1545

00:56:17,349 --> 00:56:15,280

between uh masks and the risk of

1546

00:56:20,789 --> 00:56:17,359

laboratory confirmed infection

1547

00:56:22,390 --> 00:56:20,799

so you know it's not like the people on

1548

00:56:25,430 --> 00:56:22,400

the other side of this

1549

00:56:28,150 --> 00:56:25,440

are making this stuff up they're citing

1550

00:56:28,549 --> 00:56:28,160

science the same way that you're citing

1551
00:56:32,549 --> 00:56:28,559
it

1552
00:56:35,750 --> 00:56:32,559
and the conclusion that that you come to

1553
00:56:36,870 --> 00:56:35,760
is not supported by the conclusion that

1554
00:56:39,270 --> 00:56:36,880
the cdc

1555
00:56:41,030 --> 00:56:39,280
eventually came to well so like i say in

1556
00:56:41,829 --> 00:56:41,040
last year's super bowl when the chiefs

1557
00:56:44,789 --> 00:56:41,839
won

1558
00:56:46,309 --> 00:56:44,799
no one was wearing masks so all this

1559
00:56:47,270 --> 00:56:46,319
research that we're talking about was

1560
00:56:50,069 --> 00:56:47,280
available

1561
00:56:51,349 --> 00:56:50,079
and they could have implemented or

1562
00:56:53,270 --> 00:56:51,359
strongly recommended

1563
00:56:55,670 --> 00:56:53,280

it's not even a mandate they could have

1564

00:56:57,990 --> 00:56:55,680

strongly recommended at that point

1565

00:56:59,910 --> 00:56:58,000

that during flu season everyone wear a

1566

00:57:01,910 --> 00:56:59,920

mask they could have recommended at the

1567

00:57:04,150 --> 00:57:01,920

super bowl that if you're in the at-risk

1568

00:57:05,589 --> 00:57:04,160

group you should wear a mask none of

1569

00:57:08,950 --> 00:57:05,599

that was done

1570

00:57:11,190 --> 00:57:08,960

that speaks to where the cdc

1571

00:57:12,390 --> 00:57:11,200

and not like the cdc or the world health

1572

00:57:15,829 --> 00:57:12,400

organization is the be

1573

00:57:16,789 --> 00:57:15,839

all end-all but that speaks to the state

1574

00:57:20,069 --> 00:57:16,799

of the science

1575

00:57:21,670 --> 00:57:20,079

i don't know why we can't find agreement

1576

00:57:24,069 --> 00:57:21,680

on that because i think

1577

00:57:25,910 --> 00:57:24,079

that's we all lived through it there was

1578

00:57:27,750 --> 00:57:25,920

no recommendation from ask wearing at

1579

00:57:29,349 --> 00:57:27,760

that time

1580

00:57:30,950 --> 00:57:29,359

yeah i would think that's more of a

1581

00:57:32,870 --> 00:57:30,960

cultural thing than

1582

00:57:34,470 --> 00:57:32,880

a science thing honestly there are

1583

00:57:36,470 --> 00:57:34,480

different well then

1584

00:57:38,870 --> 00:57:36,480

then great then great then you're saying

1585

00:57:41,270 --> 00:57:38,880

that the change that we've had

1586

00:57:43,190 --> 00:57:41,280

is a cultural thing and i would agree it

1587

00:57:44,390 --> 00:57:43,200

should be a science thing and it's not

1588

00:57:47,349 --> 00:57:44,400

it's a cultural thing

1589

00:57:49,190 --> 00:57:47,359

there's no big massive wave of science

1590

00:57:51,510 --> 00:57:49,200

that came out in 2020

1591

00:57:52,710 --> 00:57:51,520

that turned things the other way it's a

1592

00:57:55,990 --> 00:57:52,720

cultural thing

1593

00:57:58,390 --> 00:57:56,000

it's a political thing it's a scion

1594

00:57:59,670 --> 00:57:58,400

no i'm saying that i think the reason

1595

00:58:02,870 --> 00:57:59,680

masks weren't pushed

1596

00:58:03,190 --> 00:58:02,880

hardly recommended uh is a cultural

1597

00:58:05,030 --> 00:58:03,200

thing

1598

00:58:06,549 --> 00:58:05,040

you know there are other nations that

1599

00:58:08,069 --> 00:58:06,559

have always worn masks

1600

00:58:09,589 --> 00:58:08,079

that a masquerade has always been a

1601
00:58:11,430 --> 00:58:09,599
strong part of their culture

1602
00:58:12,789 --> 00:58:11,440
and in america it just hasn't and that's

1603
00:58:14,150 --> 00:58:12,799
not necessarily a reflection of the

1604
00:58:17,270 --> 00:58:14,160
science in my opinion

1605
00:58:21,109 --> 00:58:17,280
but i'd like to just go

1606
00:58:25,750 --> 00:58:21,119
hop over to uh back to uh dennis's

1607
00:58:27,270 --> 00:58:25,760
list here um i have

1608
00:58:29,750 --> 00:58:27,280
some of his papers pulled up we already

1609
00:58:33,349 --> 00:58:29,760
went over that one but uh

1610
00:58:34,870 --> 00:58:33,359
yeah so the use of face masks uh

1611
00:58:37,190 --> 00:58:34,880
respirators to prevent transmission of

1612
00:58:39,589 --> 00:58:37,200
influenza he had this on his list and he

1613
00:58:40,950 --> 00:58:39,599

had this to say about it that

1614

00:58:42,710 --> 00:58:40,960

he picked out that there were 17

1615

00:58:44,150 --> 00:58:42,720

eligible studies none of the studies

1616

00:58:45,829 --> 00:58:44,160

established a conclusive relationship

1617

00:58:48,230 --> 00:58:45,839

with the massage respiratory use and

1618

00:58:50,230 --> 00:58:48,240

protection against influenza infection

1619

00:58:51,430 --> 00:58:50,240

but in the study if you read it it says

1620

00:58:54,549 --> 00:58:51,440

that none of the studies can

1621

00:58:55,510 --> 00:58:54,559

establish a conclusive link but some

1622

00:58:57,270 --> 00:58:55,520

evidence does

1623

00:58:59,190 --> 00:58:57,280

suggest that masked use is best

1624

00:59:02,630 --> 00:58:59,200

undertaken as part of a package

1625

00:59:06,230 --> 00:59:02,640

of personal protection and that

1626
00:59:08,710 --> 00:59:06,240
mask use is the success of mass use is

1627
00:59:10,870 --> 00:59:08,720
likely linked to its early and

1628
00:59:11,910 --> 00:59:10,880
consistent and correct usage because in

1629
00:59:13,990 --> 00:59:11,920
this study

1630
00:59:15,270 --> 00:59:14,000
they did control for factors such as

1631
00:59:17,030 --> 00:59:15,280
like did

1632
00:59:19,190 --> 00:59:17,040
health care workers wear their masks

1633
00:59:20,950 --> 00:59:19,200
their entire shift or did they not

1634
00:59:22,470 --> 00:59:20,960
and when they found that when they

1635
00:59:23,829 --> 00:59:22,480
looked at that and saw that mass

1636
00:59:25,910 --> 00:59:23,839
uh healthcare workers who were their

1637
00:59:27,750 --> 00:59:25,920
master and tireshare did have a

1638
00:59:31,109 --> 00:59:27,760

statistically significant

1639

00:59:32,069 --> 00:59:31,119

uh lower uh outcome lower disease

1640

00:59:34,549 --> 00:59:32,079

outcome

1641

00:59:35,349 --> 00:59:34,559

uh that is what they're reporting here

1642

00:59:36,870 --> 00:59:35,359

they're saying that

1643

00:59:38,950 --> 00:59:36,880

it's likely linked to consistent and

1644

00:59:42,309 --> 00:59:38,960

correct usage but

1645

00:59:45,910 --> 00:59:42,319

um moving on to his other studies

1646

00:59:47,829 --> 00:59:45,920

can i reject something there your point

1647

00:59:50,549 --> 00:59:47,839

is well taken to a certain extent

1648

00:59:52,950 --> 00:59:50,559

but if this science part of this

1649

00:59:54,870 --> 00:59:52,960

discussion can be useful to anyone

1650

00:59:56,069 --> 00:59:54,880

one of the things that i know about

1651
00:59:59,349 --> 00:59:56,079
these kind of studies

1652
01:00:00,230 --> 00:59:59,359
is a lot of times they feel it necessary

1653
01:00:03,589 --> 01:00:00,240
to report

1654
01:00:05,109 --> 01:00:03,599
on their speculation about what their

1655
01:00:08,150 --> 01:00:05,119
study might be

1656
01:00:09,910 --> 01:00:08,160
but it really isn't within the game to

1657
01:00:12,309 --> 01:00:09,920
kind of change the goal post

1658
01:00:12,950 --> 01:00:12,319
during it right so if you don't go into

1659
01:00:15,030 --> 01:00:12,960
the study

1660
01:00:17,670 --> 01:00:15,040
initially and say okay we're going to

1661
01:00:20,230 --> 01:00:17,680
control for how long they use it

1662
01:00:21,030 --> 01:00:20,240
and wear it during the study then you

1663
01:00:23,030 --> 01:00:21,040

can't really

1664

01:00:24,950 --> 01:00:23,040

at the end of the day say hey we did

1665

01:00:26,710 --> 01:00:24,960

notice this little statistical

1666

01:00:28,630 --> 01:00:26,720

difference and we should pursue it

1667

01:00:31,829 --> 01:00:28,640

further i'm not saying that that

1668

01:00:34,069 --> 01:00:31,839

isn't a potentially important uh

1669

01:00:35,510 --> 01:00:34,079

conclusion or an important point that

1670

01:00:36,549 --> 01:00:35,520

needs to be studied further and

1671

01:00:38,789 --> 01:00:36,559

controlled further

1672

01:00:39,990 --> 01:00:38,799

but i i don't think denny on the other

1673

01:00:41,670 --> 01:00:40,000

hand is really

1674

01:00:44,069 --> 01:00:41,680

misrepresenting the science when the

1675

01:00:45,750 --> 01:00:44,079

scientists say hey we have a speculation

1676

01:00:46,950 --> 01:00:45,760

that it might fall this way or that way

1677

01:00:50,309 --> 01:00:46,960

but what we found

1678

01:00:53,109 --> 01:00:50,319

was not statistically significant

1679

01:00:54,549 --> 01:00:53,119

well again there are statistically

1680

01:00:55,829 --> 01:00:54,559

significant findings but

1681

01:00:57,750 --> 01:00:55,839

yeah yeah but we're talking about this

1682

01:00:59,910 --> 01:00:57,760

study i mean yes so you

1683

01:01:01,990 --> 01:00:59,920

but we're talking about this study right

1684

01:01:02,549 --> 01:01:02,000

sure and inconclusive findings does not

1685

01:01:04,710 --> 01:01:02,559

mean

1686

01:01:06,710 --> 01:01:04,720

statistically insignificant it's just

1687

01:01:08,710 --> 01:01:06,720

right but it doesn't mean that it is

1688

01:01:10,309 --> 01:01:08,720

significant and it doesn't mean that if

1689

01:01:11,990 --> 01:01:10,319

you didn't control for it a different

1690

01:01:12,630 --> 01:01:12,000

way or if you didn't look at the adverse

1691

01:01:14,710 --> 01:01:12,640

effects

1692

01:01:16,470 --> 01:01:14,720

it would counterbalance it so this is a

1693

01:01:18,789 --> 01:01:16,480

good discussion because it's how

1694

01:01:21,270 --> 01:01:18,799

where we keep coming back to science is

1695

01:01:21,750 --> 01:01:21,280

complicated and therefore my conclusion

1696

01:01:25,589 --> 01:01:21,760

is

1697

01:01:27,910 --> 01:01:25,599

policy making should be equally complex

1698

01:01:28,870 --> 01:01:27,920

complicated and in particular

1699

01:01:32,870 --> 01:01:28,880

transparent

1700

01:01:35,829 --> 01:01:32,880

and uh that's where i come down sure

1701

01:01:37,589 --> 01:01:35,839

and but so if we look at um you know

1702

01:01:44,710 --> 01:01:37,599

other

1703

01:01:46,789 --> 01:01:44,720

so this study is comparing n95 masks to

1704

01:01:51,430 --> 01:01:46,799

surgical masks

1705

01:01:52,789 --> 01:01:51,440

and what he ends up saying is that

1706

01:01:54,549 --> 01:01:52,799

there's no significant difference

1707

01:01:56,789 --> 01:01:54,559

between them

1708

01:01:58,230 --> 01:01:56,799

uh and he goes on later to say that if

1709

01:02:00,710 --> 01:01:58,240

masks do work

1710

01:02:02,789 --> 01:02:00,720

then you would expect n95s to work

1711

01:02:05,270 --> 01:02:02,799

better than surgical masks

1712

01:02:06,710 --> 01:02:05,280

uh but that's really a misleading claim

1713

01:02:08,630 --> 01:02:06,720

uh i

1714

01:02:10,549 --> 01:02:08,640

it's not necessarily going to be that

1715

01:02:14,390 --> 01:02:10,559

way because

1716

01:02:17,510 --> 01:02:14,400

uh you know if if a mask

1717

01:02:19,270 --> 01:02:17,520

is masks aren't 100 effective

1718

01:02:20,630 --> 01:02:19,280

masks are going to block most of the

1719

01:02:23,750 --> 01:02:20,640

viral particles that come

1720

01:02:26,950 --> 01:02:23,760

out of someone's nose and mouth but

1721

01:02:28,950 --> 01:02:26,960

you aren't necessarily going to see

1722

01:02:30,470 --> 01:02:28,960

a difference between n95 and cervical

1723

01:02:32,390 --> 01:02:30,480

masses in every

1724

01:02:33,990 --> 01:02:32,400

uh situation especially when it comes to

1725

01:02:37,270 --> 01:02:34,000

influenza which spreads

1726

01:02:40,549 --> 01:02:37,280

through aerosols more readily than

1727

01:02:41,510 --> 01:02:40,559

certain other viruses so that is a great

1728

01:02:43,589 --> 01:02:41,520

point but that

1729

01:02:45,109 --> 01:02:43,599

really kind of goes back to my point i'm

1730

01:02:45,430 --> 01:02:45,119

going to ask denny about that i don't

1731

01:02:46,870 --> 01:02:45,440

know

1732

01:02:49,029 --> 01:02:46,880

really well i mean i just had a couple

1733

01:02:50,710 --> 01:02:49,039

email exchanges with him and i read his

1734

01:02:51,670 --> 01:02:50,720

paper but i'm going to ask him about

1735

01:02:53,670 --> 01:02:51,680

that because

1736

01:02:56,390 --> 01:02:53,680

your point in this case is the point i

1737

01:02:59,190 --> 01:02:56,400

keep making is we can't make inferences

1738

01:03:00,230 --> 01:02:59,200

that propel us beyond the known science

1739

01:03:03,589 --> 01:03:00,240

so if you're saying

1740

01:03:04,230 --> 01:03:03,599

if the study is comparing n95 and uh and

1741

01:03:06,470 --> 01:03:04,240

masks

1742

01:03:07,910 --> 01:03:06,480

then you can't extrapolate and say oh

1743

01:03:10,230 --> 01:03:07,920

well then that means this for that

1744

01:03:11,910 --> 01:03:10,240

well i i'm saying the same thing if you

1745

01:03:13,670 --> 01:03:11,920

have a study and it is ultimately

1746

01:03:14,470 --> 01:03:13,680

inconclusive and not statistically

1747

01:03:17,029 --> 01:03:14,480

significant

1748

01:03:19,029 --> 01:03:17,039

you can't say oh gee or it's really

1749

01:03:20,950 --> 01:03:19,039

close or since this virus is

1750

01:03:24,069 --> 01:03:20,960

really really bad we should jump on

1751

01:03:26,870 --> 01:03:24,079

board anyway did you have any kind of

1752

01:03:28,950 --> 01:03:26,880

concluding kind of thoughts or remarks

1753

01:03:30,789 --> 01:03:28,960

on this

1754

01:03:33,829 --> 01:03:30,799

i would say that when it comes to mask

1755

01:03:35,990 --> 01:03:33,839

use you know there are

1756

01:03:37,349 --> 01:03:36,000

general principles that we can pull from

1757

01:03:39,109 --> 01:03:37,359

the literature

1758

01:03:41,029 --> 01:03:39,119

and we know from a laboratory setting

1759

01:03:43,190 --> 01:03:41,039

that face masks reduce the number of

1760

01:03:44,630 --> 01:03:43,200

infectious viral particles that escape

1761

01:03:47,029 --> 01:03:44,640

from the nose and mouth into the

1762

01:03:48,630 --> 01:03:47,039

environment that is perfectly logical we

1763

01:03:54,150 --> 01:03:48,640

can all

1764

01:03:55,990 --> 01:03:54,160

wearing a mask and they sneeze or cough

1765

01:04:00,230 --> 01:03:56,000

that they're not going to

1766

01:04:02,390 --> 01:04:00,240

expel as many snot

1767

01:04:03,829 --> 01:04:02,400

saliva etcetera particles from their

1768

01:04:04,710 --> 01:04:03,839

nose and mouth that could potentially be

1769

01:04:08,630 --> 01:04:04,720

carrying

1770

01:04:11,430 --> 01:04:08,640

viruses that logic holds right so

1771

01:04:12,309 --> 01:04:11,440

in a laboratory setting this is

1772

01:04:15,430 --> 01:04:12,319

demonstrable

1773

01:04:17,029 --> 01:04:15,440

with uh coronaviruses we can see that

1774

01:04:18,950 --> 01:04:17,039

when someone's not wearing a mask they

1775

01:04:22,470 --> 01:04:18,960

expel uh

1776

01:04:25,430 --> 01:04:22,480

plenty of uh viral particles

1777

01:04:26,789 --> 01:04:25,440

and uh included in droplets and aerosols

1778

01:04:30,390 --> 01:04:26,799

but when someone wears a mask

1779

01:04:32,710 --> 01:04:30,400

that number drops to almost zero

1780

01:04:33,670 --> 01:04:32,720

that's repeatable in several studies

1781

01:04:35,829 --> 01:04:33,680

where masks

1782

01:04:38,150 --> 01:04:35,839

block a really really high percentages

1783

01:04:40,710 --> 01:04:38,160

of viral particles from coming out of

1784

01:04:42,309 --> 01:04:40,720

someone's mouth and nose repeatable

1785

01:04:44,390 --> 01:04:42,319

repeatable repeatable

1786

01:04:45,990 --> 01:04:44,400

and then when we carry this over to okay

1787

01:04:47,589 --> 01:04:46,000

but dan i have to interject i know

1788

01:04:49,990 --> 01:04:47,599

you're making sure there's a remark but

1789

01:04:50,710 --> 01:04:50,000

i kind of nailed that i mean who cares

1790

01:04:52,870 --> 01:04:50,720

that doesn't

1791

01:04:55,270 --> 01:04:52,880

just we get and and the fact that it

1792

01:04:57,029 --> 01:04:55,280

gets repeated over and over again like

1793

01:05:00,069 --> 01:04:57,039

you just did with some kind of

1794

01:05:00,950 --> 01:05:00,079

mantra mesmerizing thing it's science

1795

01:05:03,029 --> 01:05:00,960

[h__\h]

1796

01:05:04,470 --> 01:05:03,039

it doesn't have anything to do with

1797

01:05:07,670 --> 01:05:04,480

answering the question

1798

01:05:08,069 --> 01:05:07,680

am i safer wearing a mask it doesn't

1799

01:05:10,309 --> 01:05:08,079

answer

1800

01:05:12,710 --> 01:05:10,319

that because it doesn't relate to how

1801
01:05:15,990 --> 01:05:12,720
i'm using how it works with other humans

1802
01:05:17,270 --> 01:05:16,000
it's just it's science [h__\h] well i

1803
01:05:18,870 --> 01:05:17,280
would disagree i think it's a really

1804
01:05:20,789 --> 01:05:18,880
important part of the puzzle

1805
01:05:22,069 --> 01:05:20,799
you know like we said at the beginning

1806
01:05:23,670 --> 01:05:22,079
it's important to see

1807
01:05:25,190 --> 01:05:23,680
whether or not something works in a lab

1808
01:05:25,910 --> 01:05:25,200
setting and that's usually the first

1809
01:05:27,670 --> 01:05:25,920
thing that

1810
01:05:30,309 --> 01:05:27,680
scientists do before going and testing

1811
01:05:31,430 --> 01:05:30,319
it further but no one had any doubt

1812
01:05:34,390 --> 01:05:31,440
whether it would work

1813
01:05:35,510 --> 01:05:34,400

it's home ice no one had any doubt that

1814

01:05:38,390 --> 01:05:35,520

if i put

1815

01:05:40,390 --> 01:05:38,400

if i do that it it does the same thing

1816

01:05:43,109 --> 01:05:40,400

if i cover my mouth when i cough

1817

01:05:44,230 --> 01:05:43,119

stuff doesn't come out to elevate it to

1818

01:05:47,109 --> 01:05:44,240

this level of

1819

01:05:49,270 --> 01:05:47,119

advanced refined science to say that if

1820

01:05:51,109 --> 01:05:49,280

you cover somebody's mouth

1821

01:05:52,630 --> 01:05:51,119

the stuff doesn't come out of it when

1822

01:05:55,910 --> 01:05:52,640

they sneeze is a

1823

01:05:58,950 --> 01:05:55,920

total head fake [h__h]

1824

01:06:00,710 --> 01:05:58,960

way of kind of wrapping all this

1825

01:06:03,349 --> 01:06:00,720

nonsense in science

1826

01:06:04,150 --> 01:06:03,359

the conclusion is it was inconclusive

1827

01:06:07,109 --> 01:06:04,160

the conclusion

1828

01:06:07,910 --> 01:06:07,119

is at last year's super bowl when the

1829

01:06:10,150 --> 01:06:07,920

chiefs won

1830

01:06:11,589 --> 01:06:10,160

no one had to wear a mask because no one

1831

01:06:13,190 --> 01:06:11,599

was told to wear a mask

1832

01:06:15,910 --> 01:06:13,200

because that's what the best science

1833

01:06:18,230 --> 01:06:15,920

said and there hasn't been a wave of

1834

01:06:19,589 --> 01:06:18,240

science that would change that i i

1835

01:06:22,710 --> 01:06:19,599

disagree um

1836

01:06:26,309 --> 01:06:22,720

so let's see

1837

01:06:27,829 --> 01:06:26,319

um yeah i mean

1838

01:06:29,510 --> 01:06:27,839

i think it's an important point to still

1839

01:06:31,349 --> 01:06:29,520

make that masks

1840

01:06:32,710 --> 01:06:31,359

actually physically stop viral particles

1841

01:06:34,390 --> 01:06:32,720

from coming out of your nose's mouth

1842

01:06:37,910 --> 01:06:34,400

because part of what we've seen

1843

01:06:39,349 --> 01:06:37,920

you know quote unquote experts say is

1844

01:06:42,150 --> 01:06:39,359

what i've encountered in making my

1845

01:06:44,549 --> 01:06:42,160

videos is this weird analogy that

1846

01:06:46,150 --> 01:06:44,559

wearing a mask is like trying to keep

1847

01:06:48,630 --> 01:06:46,160

mosquitoes out with a fence

1848

01:06:50,230 --> 01:06:48,640

and that's not the case and we can

1849

01:06:51,990 --> 01:06:50,240

demonstrate that in the lab so it's

1850

01:06:55,029 --> 01:06:52,000

important to

1851

01:06:56,950 --> 01:06:55,039

what i want to convey here is that this

1852

01:07:00,390 --> 01:06:56,960

these lab experiments are an important

1853

01:07:02,150 --> 01:07:00,400

step an important piece of the puzzle to

1854

01:07:03,510 --> 01:07:02,160

make a proof of concept a proof of

1855

01:07:05,910 --> 01:07:03,520

principle right

1856

01:07:07,990 --> 01:07:05,920

that viral particles can be blocked from

1857

01:07:09,990 --> 01:07:08,000

your nose and mouth if you put a mask

1858

01:07:11,349 --> 01:07:10,000

over your face therefore it's not really

1859

01:07:13,589 --> 01:07:11,359

much of a leap to say

1860

01:07:14,470 --> 01:07:13,599

okay if we have a community of people

1861

01:07:16,069 --> 01:07:14,480

who are blocking

1862

01:07:18,150 --> 01:07:16,079

bioparticles from coming out of their

1863

01:07:19,670 --> 01:07:18,160

nose and mouth we have a

1864

01:07:21,829 --> 01:07:19,680

you know grocery store full of people

1865

01:07:23,510 --> 01:07:21,839

who instead of sneezing

1866

01:07:25,190 --> 01:07:23,520

into the open air they're sneezing into

1867

01:07:26,789 --> 01:07:25,200

their masks they're talking into their

1868

01:07:29,109 --> 01:07:26,799

masks coughing into their mask

1869

01:07:30,390 --> 01:07:29,119

it's not a leap of logic to say that

1870

01:07:31,190 --> 01:07:30,400

there are going to be fewer viral

1871

01:07:33,029 --> 01:07:31,200

particles

1872

01:07:34,789 --> 01:07:33,039

out in the environment that the rest of

1873

01:07:37,829 --> 01:07:34,799

the community can encounter and thus

1874

01:07:38,789 --> 01:07:37,839

spread the virus so if we test that

1875

01:07:40,710 --> 01:07:38,799

assumption right

1876

01:07:42,390 --> 01:07:40,720

so science is all about continuing the

1877

01:07:44,789 --> 01:07:42,400

test if we test that

1878

01:07:45,990 --> 01:07:44,799

in a community setting with or a

1879

01:07:47,029 --> 01:07:46,000

clinical setting with health care

1880

01:07:49,349 --> 01:07:47,039

workers

1881

01:07:50,630 --> 01:07:49,359

we can consistently find statistically

1882

01:07:54,069 --> 01:07:50,640

significant

1883

01:07:54,630 --> 01:07:54,079

albeit incomplete evidence that face

1884

01:07:55,990 --> 01:07:54,640

masks

1885

01:07:57,990 --> 01:07:56,000

are effective that that principle

1886

01:08:02,150 --> 01:07:58,000

carries over to the community

1887

01:08:04,230 --> 01:08:02,160

and the clinic so we can see that

1888

01:08:06,549 --> 01:08:04,240

throughout the literature we can see

1889

01:08:07,990 --> 01:08:06,559

that throughout

1890

01:08:09,829 --> 01:08:08,000

you know trends that have happened

1891

01:08:10,630 --> 01:08:09,839

throughout the pandemic where

1892

01:08:12,710 --> 01:08:10,640

communities

1893

01:08:15,349 --> 01:08:12,720

or countries that implement mass

1894

01:08:18,309 --> 01:08:15,359

mandates early

1895

01:08:19,110 --> 01:08:18,319

they are associated with better outcomes

1896

01:08:20,789 --> 01:08:19,120

of course

1897

01:08:22,630 --> 01:08:20,799

this doesn't take into account what

1898

01:08:23,590 --> 01:08:22,640

other tech what other tactics the

1899

01:08:26,870 --> 01:08:23,600

countries

1900

01:08:29,990 --> 01:08:26,880

uh implemented but again that's hard to

1901

01:08:32,390 --> 01:08:30,000

study perfectly in a complicated chaotic

1902

01:08:33,829 --> 01:08:32,400

pandemic there's also evidence that

1903

01:08:36,149 --> 01:08:33,839

contradicts that there's

1904

01:08:38,470 --> 01:08:36,159

countries counties and states that

1905

01:08:41,349 --> 01:08:38,480

didn't have mass mandates or had

1906

01:08:43,430 --> 01:08:41,359

less restrictive mask mandates that do

1907

01:08:44,390 --> 01:08:43,440

not show a statistically significant

1908

01:08:48,149 --> 01:08:44,400

difference

1909

01:08:50,630 --> 01:08:48,159

in incidents of covid19 so

1910

01:08:52,070 --> 01:08:50,640

i'm really i was with you just letting

1911

01:08:54,950 --> 01:08:52,080

you kind of do your spiel there at the

1912

01:08:57,349 --> 01:08:54,960

end but this is kind of very deceptive

1913

01:08:58,470 --> 01:08:57,359

talk about cherry picking we just do not

1914

01:09:00,229 --> 01:08:58,480

have a handle

1915

01:09:02,149 --> 01:09:00,239

on what that would mean and maybe in a

1916

01:09:03,269 --> 01:09:02,159

year we will if the data really comes

1917

01:09:06,390 --> 01:09:03,279

out but

1918

01:09:08,789 --> 01:09:06,400

the indications are the indications

1919

01:09:09,910 --> 01:09:08,799

in terms of events too in terms of large

1920

01:09:12,149 --> 01:09:09,920

gatherings you know

1921

01:09:14,149 --> 01:09:12,159

when notre dame wins the big football

1922

01:09:17,430 --> 01:09:14,159

game against clemson and

1923

01:09:19,510 --> 01:09:17,440

30 000 non-mask-wearing kids uh

1924

01:09:21,110 --> 01:09:19,520

storm the field and there's no big

1925

01:09:23,030 --> 01:09:21,120

outbreak afterwards you know we have

1926

01:09:25,269 --> 01:09:23,040

these anecdotal accounts that

1927

01:09:26,470 --> 01:09:25,279

that kind of support a counter

1928

01:09:29,590 --> 01:09:26,480

conclusion so

1929

01:09:31,829 --> 01:09:29,600

i like where we're at before i just

1930

01:09:32,950 --> 01:09:31,839

don't like this if you give me back the

1931

01:09:35,990 --> 01:09:32,960

screen let's

1932

01:09:37,510 --> 01:09:36,000

wrap this up because you've really been

1933

01:09:40,309 --> 01:09:37,520

a tremendous guest

1934

01:09:41,829 --> 01:09:40,319

and i mean that i tell you folks i can't

1935

01:09:45,669 --> 01:09:41,839

tell you the number of times

1936

01:09:48,550 --> 01:09:45,679

i've tried to engage with super smart

1937

01:09:49,749 --> 01:09:48,560

well-qualified people that have a

1938

01:09:52,870 --> 01:09:49,759

different opinion

1939

01:09:55,910 --> 01:09:52,880

than i do on this and they just won't

1940

01:09:59,910 --> 01:09:55,920

engage and with

1941

01:10:03,189 --> 01:09:59,920

dr dan wilson who had full engagement

1942

01:10:04,790 --> 01:10:03,199

full addressing the issues we didn't

1943

01:10:07,430 --> 01:10:04,800

have to agree

1944

01:10:09,590 --> 01:10:07,440

and he didn't seek for seek agreement he

1945

01:10:13,030 --> 01:10:09,600

just kind of laid out his case

1946

01:10:15,270 --> 01:10:13,040

in a very strong compelling way and uh

1947

01:10:16,310 --> 01:10:15,280

i really really honor and respect that

1948

01:10:19,110 --> 01:10:16,320

so

1949

01:10:20,390 --> 01:10:19,120

dan tell folks what you're working on

1950

01:10:24,470 --> 01:10:20,400

because i know your interest

1951

01:10:25,910 --> 01:10:24,480

goes beyond just covet 19 even though

1952

01:10:28,149 --> 01:10:25,920

i could understand how you're sucked

1953

01:10:30,950 --> 01:10:28,159

into that vortex so

1954

01:10:31,750 --> 01:10:30,960

where where do you plan to go with this

1955

01:10:33,910 --> 01:10:31,760

science

1956

01:10:35,910 --> 01:10:33,920

uh education enlightenment kind of

1957

01:10:37,510 --> 01:10:35,920

project of yours

1958

01:10:39,030 --> 01:10:37,520

sure yeah and i just want to thank you

1959

01:10:42,070 --> 01:10:39,040

for having me on as a guest

1960

01:10:44,229 --> 01:10:42,080

uh first and foremost so i appreciate

1961

01:10:47,510 --> 01:10:44,239

the conversation and the willingness to

1962

01:10:48,950 --> 01:10:47,520

uh engage i think that's of course

1963

01:10:52,149 --> 01:10:48,960

really important

1964

01:10:55,990 --> 01:10:52,159

um what i'm working on now i mean well

1965

01:10:58,310 --> 01:10:56,000

um well i earned my phd last year and

1966

01:11:01,189 --> 01:10:58,320

have since started a new job and

1967

01:11:01,910 --> 01:11:01,199

my hobbies i'm continuing to just cover

1968

01:11:03,430 --> 01:11:01,920

what i

1969

01:11:06,229 --> 01:11:03,440

whatever i really feel like with my

1970

01:11:08,950 --> 01:11:06,239

youtube channel um

1971

01:11:10,709 --> 01:11:08,960

honestly the list is still dominated by

1972

01:11:13,510 --> 01:11:10,719

code related topics but

1973

01:11:16,390 --> 01:11:13,520

i'm interested in all sorts of things um

1974

01:11:21,590 --> 01:11:19,510

let's see i have uh

1975

01:11:23,510 --> 01:11:21,600

one of my videos on my channel i uh

1976

01:11:26,470 --> 01:11:23,520

talked about a book by bruce lipton

1977

01:11:27,189 --> 01:11:26,480

spontaneous spontaneous evolution so

1978

01:11:30,950 --> 01:11:27,199

that realm

1979

01:11:35,110 --> 01:11:30,960

of um in my opinion pseudoscience

1980

01:11:39,110 --> 01:11:36,790

things that have to do with uh

1981

01:11:41,830 --> 01:11:39,120

antibacters of course we mentioned

1982

01:11:43,510 --> 01:11:41,840

rfr junior at the beginning of this he's

1983

01:11:45,270 --> 01:11:43,520

on the horizon

1984

01:11:47,270 --> 01:11:45,280

i covered a lot of dell big tree back in

1985

01:11:51,110 --> 01:11:47,280

the early months of my channel

1986

01:11:54,630 --> 01:11:51,120

um and that'll probably come back

1987

01:11:57,990 --> 01:11:54,640

but i'm gonna stay in the realm of

1988

01:12:02,630 --> 01:11:58,000

um you know vaccine science

1989

01:12:04,950 --> 01:12:02,640

um evolution science uh

1990

01:12:07,110 --> 01:12:04,960

let's see cancer cures as part of the

1991

01:12:10,070 --> 01:12:07,120

recepton book i just showed

1992

01:12:10,790 --> 01:12:10,080

um all that content is stuff that

1993

01:12:13,189 --> 01:12:10,800

interests me

1994

01:12:13,990 --> 01:12:13,199

and what i'll probably be covering at

1995

01:12:15,350 --> 01:12:14,000

some point

1996

01:12:17,669 --> 01:12:15,360

in my channel i only make one video a

1997

01:12:19,669 --> 01:12:17,679

week so i can uncover so much

1998

01:12:21,430 --> 01:12:19,679

i hear you i've gotten sucked into doing

1999

01:12:24,229 --> 01:12:21,440

more i used to do one every two weeks

2000

01:12:25,990 --> 01:12:24,239

but anyways uh fantastic would love to

2001

01:12:29,189 --> 01:12:26,000

talk to you again at some point

2002

01:12:31,189 --> 01:12:29,199

sure the bruce lipton stuff is uh

2003

01:12:32,950 --> 01:12:31,199

primarily interesting to me from a

2004

01:12:35,910 --> 01:12:32,960

consciousness perspective

2005

01:12:37,350 --> 01:12:35,920

i believe that most biologists are

2006

01:12:41,590 --> 01:12:37,360

completely

2007

01:12:43,669 --> 01:12:41,600

misinformed about basic science like the

2008

01:12:45,510 --> 01:12:43,679

double slit experiment and its

2009

01:12:47,350 --> 01:12:45,520

implications for

2010

01:12:49,990 --> 01:12:47,360

consciousness and for the observer

2011

01:12:52,550 --> 01:12:50,000

effect which is fundamentally what bruce

2012

01:12:54,470 --> 01:12:52,560

lipton is kind of reaching for and i

2013

01:12:56,950 --> 01:12:54,480

particularly like point out the

2014

01:12:59,590 --> 01:12:56,960

six sigma result that was consistently

2015

01:13:02,630 --> 01:12:59,600

got by dean ray dr dean rayden

2016

01:13:04,390 --> 01:13:02,640

replicated in multiple laboratories uh

2017

01:13:06,070 --> 01:13:04,400

not only replicated in his laboratory

2018

01:13:09,110 --> 01:13:06,080

but laboratories around the world

2019

01:13:12,229 --> 01:13:09,120

it's a science that most people who

2020

01:13:13,430 --> 01:13:12,239

are uninformed about consciousness kind

2021

01:13:15,910 --> 01:13:13,440

of skate around

2022

01:13:17,590 --> 01:13:15,920

completely but if you get there if you

2023

01:13:18,870 --> 01:13:17,600

get to that point and if you want to

2024

01:13:20,390 --> 01:13:18,880

talk about it

2025

01:13:22,870 --> 01:13:20,400

i'd love to because you're really a

2026

01:13:25,910 --> 01:13:22,880

great guest and i really admire your

2027

01:13:27,750 --> 01:13:25,920

your intellectual chops your smart guy

2028

01:13:29,110 --> 01:13:27,760

and it's been great having you on thanks

2029

01:13:31,350 --> 01:13:29,120

again dan

2030

01:13:33,669 --> 01:13:31,360

hey thanks a lot alex appreciate it

2031

01:13:36,070 --> 01:13:33,679

thanks again to dr dan wilson for

2032

01:13:37,510 --> 01:13:36,080

joining me today on skeptico

2033

01:13:39,750 --> 01:13:37,520

i don't know if we're going to have much

2034

01:13:43,910 --> 01:13:39,760

discussion on this or not but

2035

01:13:46,709 --> 01:13:43,920

if we do i guess i'd like to focus on

2036

01:13:47,669 --> 01:13:46,719

why no one seems to care about the

2037

01:13:50,950 --> 01:13:47,679

science by

2038

01:13:51,669 --> 01:13:50,960

edict part of this i mean to me it's the

2039

01:13:54,790 --> 01:13:51,679

worst

2040

01:13:58,149 --> 01:13:54,800

possible outcome of where science could

2041

01:14:01,990 --> 01:13:59,830

see the bright side i know there's a

2042

01:14:03,830 --> 01:14:02,000

bright side in there someplace

2043

01:14:05,669 --> 01:14:03,840

let me know your thoughts skeptical

2044

01:14:07,590 --> 01:14:05,679

forum got some good shows coming up

2045

01:14:14,390 --> 01:14:07,600

stay with me for all of that until next