

1

00:00:00,000 --> 00:00:06,240

Do not try any of the experiments you are about to see at home.

2

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

You heard him.

3

00:00:07,240 --> 00:00:10,560

Don't do it.

4

00:00:10,560 --> 00:00:20,320

On this episode of Mythbusters, Adam and Jamie take on two common cold conundrums.

5

00:00:20,320 --> 00:00:27,440

First they test their limits, finding out if you sneeze at 100 miles per hour and over

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

30 feet.

7

00:00:28,440 --> 00:00:30,560

Oh, it's happening.

8

00:00:30,560 --> 00:00:38,040

Then they investigate if someone else's runny nose will eventually catch up to you.

9

00:00:38,040 --> 00:00:49,240

Meanwhile Carrie, Grant and Tori put their necks on the line to find out if a tornado

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00:00:49,240 --> 00:00:51,520

can turn glass into a guillotine.

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00:00:51,520 --> 00:00:57,320

All right, here we go in three, two, one, tornado!

12

00:00:57,320 --> 00:00:59,320

Tornado!

13

00:01:02,320 --> 00:01:05,040

Who are the Mythbusters?

14

00:01:05,040 --> 00:01:06,920

Adam Savage.

15

00:01:06,920 --> 00:01:08,880

Explosives of funny creatures.

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00:01:08,880 --> 00:01:09,880

And Jamie Heineman.

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00:01:09,880 --> 00:01:11,440

Well, there's your problem.

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00:01:11,440 --> 00:01:16,200

Between them more than 30 years of special effects experience.

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00:01:16,200 --> 00:01:19,520

Joining them, Carrie Byron.

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00:01:19,520 --> 00:01:20,840

Right to over the job.

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00:01:21,840 --> 00:01:23,760

We only have one shot at this.

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00:01:23,760 --> 00:01:24,760

Grant Imahara.

23

00:01:24,760 --> 00:01:26,840

That was a great result.

24

00:01:26,840 --> 00:01:43,360

They don't just tell the Myths, they put them to the test.

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00:01:43,360 --> 00:01:44,360

So what do you think?

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00:01:44,360 --> 00:01:45,840

Are we ever going to run out of Myths?

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00:01:45,840 --> 00:01:46,840

No way, dude.

28

00:01:46,840 --> 00:01:50,640

We are still finding great material from the most common sources imaginable.

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00:01:50,640 --> 00:01:51,440

Like what?

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00:01:51,440 --> 00:01:52,440

The common cold.

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00:01:52,440 --> 00:01:57,280

Specifically, the sneeze, which supposedly leaves your mouth at 100 miles an hour and

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00:01:57,280 --> 00:01:59,920

can travel up to 30 feet spreading your germs.

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00:01:59,920 --> 00:02:02,880

I think both of those are claims we could put to the test.

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00:02:02,880 --> 00:02:04,880

And sneezing is not the only thing you have to worry about.

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00:02:04,880 --> 00:02:08,520

I mean, if you've got a cold, you touch your face, then you touch something else, and before

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00:02:08,520 --> 00:02:11,800

you know it, you got nasal secretions all over the place.

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00:02:11,800 --> 00:02:15,880

Meaning you could supposedly catch a cold from someone without having any physical contact

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00:02:15,880 --> 00:02:17,240

with them whatsoever.

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00:02:17,240 --> 00:02:18,720

Common cold Myths, let's do it.

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00:02:18,720 --> 00:02:19,720

Okay.

41

00:02:19,840 --> 00:02:21,840

Hatch you.

42

00:02:21,840 --> 00:02:25,000

That's two feverish fables to tackle.

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00:02:25,000 --> 00:02:30,520

First up, the physics of a sneeze does not really rocket at speeds of 100 miles per

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00:02:30,520 --> 00:02:35,040

hour and spread disease over 30 feet.

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00:02:35,040 --> 00:02:36,360

Let's start with the sneeze.

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00:02:36,360 --> 00:02:37,800

How do you want to tackle it?

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00:02:37,800 --> 00:02:39,160

That one's pretty straightforward to me.

48

00:02:39,160 --> 00:02:41,880

I mean, a sneeze is supposed to travel at 100 miles an hour.

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00:02:41,880 --> 00:02:45,800

Let's test it by firing up the high-speed camera and using a little math.

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00:02:45,800 --> 00:02:47,520

What about distance?

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00:02:47,520 --> 00:02:48,520

Distance is a little tougher.

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00:02:48,520 --> 00:02:52,640

I mean, we're going to have to be tracking what have to be freaking tiny droplets of

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00:02:52,640 --> 00:02:54,600

liquid up to 30 feet away.

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00:02:54,600 --> 00:02:56,080

I've got some ideas about that.

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00:02:56,080 --> 00:02:59,600

You worry about inducing a sneeze, and I'll worry about measuring it.

56

00:02:59,600 --> 00:03:00,600

Fair enough.

57

00:03:00,600 --> 00:03:01,600

All right.

58

00:03:01,600 --> 00:03:08,800

According to public safety announcements through the ages, the power of the sneeze is potent.

59

00:03:08,800 --> 00:03:17,200

Remember, sneezes can travel at over 100 miles per hour and spread contagion over 30 feet.

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00:03:17,200 --> 00:03:21,480

But are those formidable figures really true?

61

00:03:21,480 --> 00:03:26,680

To find out, first they'll clock the speed of a sneeze on a high-speed camera and then

62

00:03:26,680 --> 00:03:28,000

track its distance.

63

00:03:28,000 --> 00:03:31,320

So for that, Adam creates a sneeze shooting range.

64

00:03:31,320 --> 00:03:32,800

Oh, hey, check it out.

65

00:03:32,800 --> 00:03:33,800

Wow.

66

00:03:33,800 --> 00:03:36,280

I think that's the biggest and fanciest gauge we've made.

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00:03:36,280 --> 00:03:37,280

Yep.

68

00:03:37,280 --> 00:03:41,400

Well, 30 feet, suppose at the distance that the sneeze can travel.

69

00:03:41,400 --> 00:03:45,800

Looks like it ought to be up to snuff.

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00:03:45,800 --> 00:03:49,600

Speaking of snuff, Adam's got just the stuff.

71

00:03:49,600 --> 00:03:50,600

How are we going to sneeze?

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00:03:50,600 --> 00:03:55,640

Well, if you remember the sneezing with your eyes open episode, it's actually caused us

73

00:03:55,640 --> 00:03:56,920

some real difficulty.

74

00:03:56,920 --> 00:04:03,240

However, we have found a foolproof method for this episode, and that is tobacco snuff.

75

00:04:03,240 --> 00:04:08,280

The snuff will work to irritate the mucosa at the back of Adam's nose, which will bring

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00:04:08,280 --> 00:04:13,240

on a semi-autonomous, convulsive expulsion of air from the lungs through the nose and

77

00:04:13,240 --> 00:04:14,240

mouth.

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00:04:14,240 --> 00:04:16,240

That's for a sneeze.

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00:04:16,240 --> 00:04:18,240

There we are.

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00:04:18,240 --> 00:04:21,240

A little snuff for science.

81

00:04:21,240 --> 00:04:24,240

There we go.

82

00:04:24,240 --> 00:04:27,240

And another one.

83

00:04:27,240 --> 00:04:30,240

Oh, for good measure.

84

00:04:30,240 --> 00:04:31,240

Whoa.

85

00:04:31,240 --> 00:04:32,240

That's true.

86

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

Whoa, that is nasty.

87

00:04:33,240 --> 00:04:34,240

Nasty.

88

00:04:34,240 --> 00:04:50,240

And captured by the high-speed camera at a stomach churning 3,000 frames per second.

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00:04:50,240 --> 00:04:52,240

And that stuff's made to snark, huh?

90

00:04:52,240 --> 00:04:53,240

It is.

91

00:04:53,240 --> 00:04:55,240

I have no idea why anyone would do it recreationally.

92

00:04:55,240 --> 00:04:57,240

Now let's see how fast it went.

93

00:04:57,240 --> 00:04:58,240

Okay.

94

00:04:58,240 --> 00:05:03,880

By counting the number of frames it takes a snot droplet to travel one foot, they work

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00:05:03,880 --> 00:05:06,240

out the speed of Adam's sneeze.

96

00:05:06,240 --> 00:05:07,240

Oh, wow.

97

00:05:07,240 --> 00:05:08,240

You know what?

98

00:05:08,240 --> 00:05:10,240

Once you get going backwards, it's really pretty sickening.

99

00:05:10,240 --> 00:05:11,240

Okay.

100

00:05:11,240 --> 00:05:14,240

51 feet per second times .68.

101

00:05:14,240 --> 00:05:17,240

And it goes 35 miles per hour.

102

00:05:17,240 --> 00:05:19,240

That's not 100 miles an hour.

103

00:05:19,240 --> 00:05:21,240

That's nowhere close to 100 miles an hour.

104

00:05:21,240 --> 00:05:22,240

I should have a go.

105

00:05:22,240 --> 00:05:24,240

All right.

106

00:05:24,240 --> 00:05:26,240

Watch for the stash.

107

00:05:26,240 --> 00:05:30,240

35 miles per hour is certainly not the mythical 100.

108

00:05:30,240 --> 00:05:34,240

So, Jamie steps up.

109

00:05:34,240 --> 00:05:42,240

Once again, the snot squeezes a sneeze, but will it be faster?

110

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

Oh, look at that stash.

111

00:05:44,240 --> 00:05:47,240

Like Indiana farmland in the breeze, isn't it?

112

00:05:47,240 --> 00:05:50,240

Getting quite poetic here, I can't.

113

00:05:50,240 --> 00:05:52,240

Well, the subject matter.

114

00:05:52,240 --> 00:05:57,240

57 feet per second.

115

00:05:57,240 --> 00:06:02,240

.68 equals 39 miles per hour.

116

00:06:02,240 --> 00:06:05,240

Still nowhere near 100, huh?

117

00:06:05,240 --> 00:06:06,240

No.

118

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

You busted out.

119

00:06:07,240 --> 00:06:10,240

You beat me in the speed department, but it's nowhere close to the myth.

120

00:06:10,240 --> 00:06:16,240

Well, apparently I sneeze at 35 miles per hour and the Heinemann sneezes at 39 miles per

121

00:06:16,240 --> 00:06:17,240

hour.

122

00:06:17,240 --> 00:06:20,240

Neither of those is remotely close to 100 miles an hour.

123

00:06:20,240 --> 00:06:22,240

I think it's pretty busted.

124

00:06:22,240 --> 00:06:24,240

Now we're on to distance.

125

00:06:24,240 --> 00:06:26,240

Does a sneeze really travel 30 feet?

126

00:06:26,240 --> 00:06:30,240

And I think Mr. Heinemann already has some ideas about how to track that.

127

00:06:30,240 --> 00:06:35,240

When Adam sneezes, we need to see how far the stuff that comes out of his nose travels.

128

00:06:35,240 --> 00:06:42,240

And so to do that, I'm going to add this cherry flavored red kids drink mix to the snuff that

129

00:06:42,240 --> 00:06:43,240

he inhales.

130

00:06:43,240 --> 00:06:49,240

And when he sneezes, hopefully we'll see little red dots on this lovely strip of white paper.

131

00:06:49,240 --> 00:06:56,240

In the meantime, Adam sneeze should leave a telltale trail of cherry colored tracks.

132

00:06:56,240 --> 00:07:05,240

Oh, it's irritating and sweet and fruity.

133

00:07:05,240 --> 00:07:10,240

Oh, it's happening.

134

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

Gazoon tight.

135

00:07:12,240 --> 00:07:16,240

And now to check the distance.

136

00:07:16,240 --> 00:07:23,240

Unfortunately, Adam's fruity sneeze hasn't left a mark.

137

00:07:23,240 --> 00:07:25,240

But as always, there's a solution.

138

00:07:25,240 --> 00:07:27,240

We have a new plan.

139

00:07:27,240 --> 00:07:31,240

The new plan is rather than snort anymore colored things.

140

00:07:31,240 --> 00:07:33,240

I'm going to go back to the snuff.

141

00:07:33,240 --> 00:07:39,240

But just before I sneeze, I'm going to spray some uncut food dye into my mouth.

142

00:07:39,240 --> 00:07:42,240

Yeah, that ought to show up.

143

00:07:43,240 --> 00:07:48,240

Adam takes a snort of snuff and a swig of food coloring.

144

00:07:48,240 --> 00:08:08,240

Oh, it looks like a murder scene here.

145

00:08:08,240 --> 00:08:19,240

That time around, the sneeze went quite literally with flying colors.

146

00:08:19,240 --> 00:08:23,240

We got one out here at 17 feet.

147

00:08:23,240 --> 00:08:24,240

It's not bad.

148

00:08:24,240 --> 00:08:28,240

No, you're halfway there, over halfway.

149

00:08:28,240 --> 00:08:30,240

But I think that's about it.

150

00:08:30,240 --> 00:08:31,240

You think that's about it?

151

00:08:31,240 --> 00:08:32,240

Yeah.

152

00:08:32,240 --> 00:08:33,240

I think I need to try again.

153

00:08:33,240 --> 00:08:38,240

We're making modern art as well as some science.

154

00:08:38,240 --> 00:08:41,240

Adam can't leave it at 17 feet.

155

00:08:41,240 --> 00:08:46,240

He's going for a second distance attempt, but this time in a less gory blue.

156

00:08:46,240 --> 00:08:49,240

Nice.

157

00:08:49,240 --> 00:08:51,240

You're getting a good spread.

158

00:08:51,240 --> 00:08:54,240

You need to work on your distance.

159

00:08:54,240 --> 00:08:56,240

Okay, coach.

160

00:08:59,240 --> 00:09:02,240

Well, I'm clearly hitting a hard line at 17 feet.

161

00:09:02,240 --> 00:09:04,240

You want to see if you can do better?

162

00:09:04,240 --> 00:09:08,240

With Adam not even reaching 60% of the mythical distance,

163

00:09:08,240 --> 00:09:13,240

Jamie's next up for the sneeze gallery, and he'll be sneezing in green.

164

00:09:18,240 --> 00:09:20,240

I think that's all I got.

165

00:09:20,240 --> 00:09:23,240

All right, let me go get cleaned up.

166

00:09:26,240 --> 00:09:31,240

Unfortunately, Captain Greenbeard's sneeze also didn't go the distance,

167

00:09:31,240 --> 00:09:36,240

so he can't help thinking it has something to do with his mustache.

168

00:09:36,240 --> 00:09:40,240

Nope, looks like Jamie maxed out right here at 13 feet.

169

00:09:40,240 --> 00:09:45,240

I got 13 feet of travel out of my sneeze, and Adam got 17 feet.

170

00:09:45,240 --> 00:09:49,240

It's not 30, but it's an awful long ways.

171

00:09:49,240 --> 00:09:52,240

So where does that leave the mythical sneeze?

172

00:09:52,240 --> 00:09:55,240

The myth says that the sneeze could travel up to 30 feet,

173

00:09:55,240 --> 00:09:58,240

and our sneezes didn't get anywhere close to that.

174

00:09:58,240 --> 00:10:00,240

They got to 17 feet and stopped.

175

00:10:00,240 --> 00:10:02,240

It's still pretty far, but I guess that means...

176

00:10:02,240 --> 00:10:03,240

It's busted.

177

00:10:03,240 --> 00:10:04,240

Yeah.

178

00:10:09,240 --> 00:10:10,240

Next up.

179

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

I guess you can't have a worse shot.

180

00:10:12,240 --> 00:10:16,240

Carrie Granventory get a head start on their decapitation myth.

181

00:10:21,240 --> 00:10:25,240

Next up, a myth that could be a storm in a teacup.

182

00:10:26,240 --> 00:10:30,240

Our next myth is about tornadoes, and it comes directly from the fan site.

183

00:10:30,240 --> 00:10:31,240

What do we got?

184

00:10:31,240 --> 00:10:34,240

All right, so the myth is that during a tornado,

185

00:10:34,240 --> 00:10:37,240

glass can get sucked out of a window and travel so fast

186

00:10:37,240 --> 00:10:40,240

that if you're in the wrong place at the wrong time,

187

00:10:40,240 --> 00:10:43,240

you get your head cut clean off.

188

00:10:43,240 --> 00:10:44,240

Like a flying guillotine?

189

00:10:44,240 --> 00:10:45,240

Exactly.

190

00:10:45,240 --> 00:10:46,240

This is perfect.

191

00:10:46,240 --> 00:10:48,240

Fast flying glass, decapitation.

192

00:10:48,240 --> 00:10:50,240

This sounds right up our alley.

193

00:10:50,240 --> 00:10:53,240

Tornado alley, that is.

194

00:10:56,240 --> 00:10:59,240

Where are these freaking crickets?

195

00:11:02,240 --> 00:11:04,240

When the tornado alert goes out,

196

00:11:04,240 --> 00:11:08,240

the safest place to take shelter is inside a storm cellar.

197

00:11:08,240 --> 00:11:11,240

With winds over 200 miles an hour,

198

00:11:11,240 --> 00:11:16,240

everyday items can be quickly transformed into lethal projectiles.

199

00:11:17,240 --> 00:11:20,240

But could glass, whipped up by these winds,

200

00:11:20,240 --> 00:11:22,240

really turn into a guillotine?

201

00:11:26,240 --> 00:11:28,240

Okay, so what's the plan?

202

00:11:28,240 --> 00:11:30,240

Well, first we have to create a human analog neck.

203

00:11:30,240 --> 00:11:32,240

All right, why don't we get a pig spine,

204

00:11:32,240 --> 00:11:35,240

we'll keep the muscle on it, and then we'll wrap it with its own skin.

205

00:11:35,240 --> 00:11:36,240

It'll be just like a human neck.

206

00:11:36,240 --> 00:11:39,240

And then we just take pieces of glass and start throwing them at it.

207

00:11:39,240 --> 00:11:40,240

I guess we've got to start somewhere.

208

00:11:40,240 --> 00:11:41,240

Cool.

209

00:11:42,240 --> 00:11:43,240

Now, when you think of tornadoes,

210

00:11:43,240 --> 00:11:46,240

you probably think of houses flying through the air,

211

00:11:46,240 --> 00:11:48,240

Kansas farm girls and their dogs blowing away.

212

00:11:48,240 --> 00:11:50,240

Now, that would be like a force-forward tornado,

213

00:11:50,240 --> 00:11:52,240

up to 200 mile an hour winds.

214

00:11:52,240 --> 00:11:56,240

But I think you'd be surprised to know how slow tornado winds can actually be.

215

00:11:56,240 --> 00:12:00,240

A force zero tornado has winds at like 40 miles an hour.

216

00:12:00,240 --> 00:12:03,240

Now, that could be comparable to what we could fling our glass at.

217

00:12:04,240 --> 00:12:06,240

Now, in order to test this myth accurately,

218

00:12:06,240 --> 00:12:08,240

we need a very human-like neck,

219

00:12:08,240 --> 00:12:10,240

because we're not going to be able to use a real human.

220

00:12:10,240 --> 00:12:13,240

What I have here is an MRI of a human neck.

221

00:12:13,240 --> 00:12:16,240

As you can see, there's skin, trachea, vertebrae,

222

00:12:16,240 --> 00:12:19,240

muscle surrounding all of it, and more skin.

223

00:12:19,240 --> 00:12:21,240

Now, normally if we were going to make a human neck,

224

00:12:21,240 --> 00:12:25,240

we would just take a pig spine and cover it in ballistic gel.

225

00:12:25,240 --> 00:12:28,240

This time, we're going to make it way more human-like.

226

00:12:29,240 --> 00:12:31,240

She's going to love this.

227

00:12:31,240 --> 00:12:36,240

Viewers and their pigs of a nervous disposition may want to look away now.

228

00:12:39,240 --> 00:12:40,240

Oh, seriously?

229

00:12:40,240 --> 00:12:41,240

This is perfect.

230

00:12:41,240 --> 00:12:42,240

Look at this.

231

00:12:42,240 --> 00:12:46,240

It's an entire pig's vertebrae with the skin and muscle still intact.

232

00:12:46,240 --> 00:12:48,240

I mean, it's practically a neck already.

233

00:12:48,240 --> 00:12:51,240

True enough, but it does need a little surgery.

234

00:12:52,240 --> 00:12:54,240

Tori first removes the ribs.

235

00:12:54,240 --> 00:12:57,240

You're going to clean the saw when you're done, right?

236

00:12:58,240 --> 00:13:00,240

Then the lumbar vertebrae.

237

00:13:01,240 --> 00:13:03,240

Yeah, that's better.

238

00:13:03,240 --> 00:13:05,240

He next trims away the fat.

239

00:13:05,240 --> 00:13:06,240

That's the juice.

240

00:13:06,240 --> 00:13:07,240

Here, Kari.

241

00:13:07,240 --> 00:13:09,240

Save that piece for you.

242

00:13:09,240 --> 00:13:11,240

But he does keep the length.

243

00:13:11,240 --> 00:13:14,240

After all, a longer neck makes for a bigger target.

244

00:13:14,240 --> 00:13:19,240

Once Kari's all sewn up and an eight-pound human-like head is crowned,

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00:13:19,240 --> 00:13:21,240

neck mat is good to go.

246

00:13:22,240 --> 00:13:24,240

So what's the plan?

247

00:13:24,240 --> 00:13:26,240

So our plan is pretty simple.

248

00:13:26,240 --> 00:13:29,240

We're going to take turns flinging panes of glass at neck man.

249

00:13:29,240 --> 00:13:31,240

And this is the glass.

250

00:13:31,240 --> 00:13:35,240

It measures 12 inches by 12 inches by 1 eighth inch thick.

251

00:13:35,240 --> 00:13:38,240

But most importantly, it conforms to the residential building code

252

00:13:38,240 --> 00:13:40,240

of houses that are actually in tornado alley.

253

00:13:40,240 --> 00:13:42,240

Given how sharp this edge is,

254

00:13:42,240 --> 00:13:47,240

I think there's a very real possibility that we could sever a neck at throwing speed.

255

00:13:49,240 --> 00:13:51,240

Provided, of course, that they hit it.

256

00:13:52,240 --> 00:13:54,240

Starting with Kari.

257

00:13:55,240 --> 00:13:56,240

Here you go.

258

00:13:58,240 --> 00:14:00,240

That was not any close to the neck.

259

00:14:00,240 --> 00:14:02,240

Holy crap.

260

00:14:02,240 --> 00:14:06,240

With Kari's backhand misfiring, she switches stance.

261

00:14:07,240 --> 00:14:09,240

But gets the same result.

262

00:14:09,240 --> 00:14:10,240

How much glass do we have?

263

00:14:10,240 --> 00:14:12,240

Are we going to need to order some more glass?

264

00:14:12,240 --> 00:14:16,240

The problem here is not just accuracy, it's also speed.

265

00:14:17,240 --> 00:14:21,240

Maxing out at a disappointing 30 miles an hour

266

00:14:21,240 --> 00:14:24,240

means Kari's not even going to be able to get a shot.

267

00:14:24,240 --> 00:14:26,240

So we're going to have to get a shot.

268

00:14:27,240 --> 00:14:31,240

Maxing out at a disappointing 30 miles an hour

269

00:14:31,240 --> 00:14:34,240

means Kari's not even reaching a force zero tornado.

270

00:14:36,240 --> 00:14:40,240

Next, to step up to the plate glass, it's Grant.

271

00:14:40,240 --> 00:14:42,240

Alright everybody, take cover.

272

00:14:42,240 --> 00:14:43,240

Grant's throwing.

273

00:14:46,240 --> 00:14:48,240

I guess you can have a worse shot.

274

00:14:52,240 --> 00:14:54,240

You guys okay? Everybody okay?

275

00:14:54,240 --> 00:15:00,240

Although the accuracy was abysmal, the speed at 50 miles an hour was solid.

276

00:15:01,240 --> 00:15:04,240

Now, if he can just get focused.

277

00:15:10,240 --> 00:15:12,240

Whoa, nice shot.

278

00:15:12,240 --> 00:15:13,240

Yeah, nice shot.

279

00:15:13,240 --> 00:15:15,240

Still not enough to cut the head off.

280

00:15:15,240 --> 00:15:18,240

It may indeed have been a giant pain in the neck,

281

00:15:18,240 --> 00:15:22,240

but a decapitation at 50 miles an hour, it wasn't.

282

00:15:22,240 --> 00:15:26,240

So last up to put his neck on the line is Tori.

283

00:15:27,240 --> 00:15:29,240

Now I like Kari and Grant's technique.

284

00:15:29,240 --> 00:15:32,240

However, my approach, I'm going to throw out accuracy.

285

00:15:34,240 --> 00:15:36,240

And I'm going to focus on speed.

286

00:15:36,240 --> 00:15:39,240

I'm going to throw this piece of glass as fast as I can throw it.

287

00:15:39,240 --> 00:15:41,240

And if it hits the neck, it hits the neck.

288

00:15:41,240 --> 00:15:44,240

Hopefully, if I get it going fast enough and I do hit that neck,

289

00:15:44,240 --> 00:15:46,240

we'll see a decapitation.

290

00:15:46,240 --> 00:15:50,240

Forgoing accuracy for speed may seem foolhardy,

291

00:15:50,240 --> 00:15:52,240

but on take one.

292

00:15:52,240 --> 00:15:53,240

Here we go.

293

00:15:56,240 --> 00:15:58,240

Oh, nice.

294

00:15:58,240 --> 00:15:59,240

Great shot.

295

00:15:59,240 --> 00:16:00,240

Great shot.

296

00:16:00,240 --> 00:16:01,240

That's it.

297

00:16:01,240 --> 00:16:03,240

Tori nails the perfect shot,

298

00:16:03,240 --> 00:16:07,240

but the high speed reveals a very imperfect result.

299

00:16:09,240 --> 00:16:10,240

Look at that.

300

00:16:10,240 --> 00:16:12,240

You got 68 miles an hour.

301

00:16:12,240 --> 00:16:14,240

And it hit right on the neck.

302

00:16:14,240 --> 00:16:15,240

But look at it.

303

00:16:15,240 --> 00:16:16,240

The glass just completely shatters.

304

00:16:16,240 --> 00:16:19,240

I mean, it was going fast and we hit it,

305

00:16:19,240 --> 00:16:21,240

but it didn't cut the head off.

306

00:16:21,240 --> 00:16:24,240

The Force One Tornado Pain hits dead center,

307

00:16:24,240 --> 00:16:27,240

but it's the glass that gives way and not the neck.

308

00:16:27,240 --> 00:16:32,240

Meaning with this glass, decapitation is impossible.

309

00:16:32,240 --> 00:16:35,240

As you can see from all the carnage around me,

310

00:16:35,240 --> 00:16:37,240

we threw a lot of glass at this creepy dude here,

311

00:16:37,240 --> 00:16:41,240

but we did not achieve a decapitation.

312

00:16:41,240 --> 00:16:43,240

Now, I think this is for a few reasons.

313

00:16:43,240 --> 00:16:45,240

First of all, after looking at the high speed,

314

00:16:45,240 --> 00:16:46,240

doing a couple of calculations,

315

00:16:46,240 --> 00:16:48,240

it looks like we were throwing the glass

316

00:16:48,240 --> 00:16:51,240

at the bottom of the tornado scale, just not fast enough.

317

00:16:51,240 --> 00:16:53,240

Secondly, when the glass actually was hitting the guy,

318

00:16:53,240 --> 00:16:55,240

it was shattering too easily.

319

00:16:55,240 --> 00:16:58,240

So we're going to need thicker, stronger glass,

320

00:16:58,240 --> 00:17:01,240

and we're going to need to throw it a lot faster,

321

00:17:01,240 --> 00:17:03,240

which means we got to build a machine.

322

00:17:03,240 --> 00:17:05,240

Coming up next...

323

00:17:05,240 --> 00:17:06,240

That's disgusting.

324

00:17:06,240 --> 00:17:11,240

Adam and Jamie are on the nose with a snot-spreading saga.

325

00:17:18,240 --> 00:17:22,240

Stand back, because it's time for some mucus mayhem.

326

00:17:22,240 --> 00:17:24,240

Nasal secretions.

327

00:17:24,240 --> 00:17:26,240

The myth that someone who's got a cold

328

00:17:26,240 --> 00:17:29,240

is spreading their secretions everywhere, far and wide,

329

00:17:29,240 --> 00:17:31,240

and that they're impossible to avoid.

330

00:17:31,240 --> 00:17:33,240

Well, the first thing we need to do is to figure out

331

00:17:33,240 --> 00:17:35,240

how to make nasal secretions we can track.

332

00:17:35,240 --> 00:17:38,240

And we need a situation we can track them in.

333

00:17:38,240 --> 00:17:41,240

Okay, well, I guess I need to go talk to an expert

334

00:17:41,240 --> 00:17:43,240

about nasal secretions.

335

00:17:43,240 --> 00:17:45,240

I guess you do.

336

00:17:46,240 --> 00:17:48,240

According to the myth,

337

00:17:48,240 --> 00:17:51,240

just by being near someone with a runny nose,

338

00:17:51,240 --> 00:17:54,240

you'll end up contaminated by their snotty secretions.

339

00:17:54,240 --> 00:17:57,240

But can a running nose really scatter snot

340

00:17:57,240 --> 00:17:59,240

on more than just its owner?

341

00:17:59,240 --> 00:18:03,240

To test that, they'll need a group of party people,

342

00:18:03,240 --> 00:18:07,240

a nose-running rig, and a nasal secretion substitute.

343

00:18:07,240 --> 00:18:11,240

But before they start spreading the snot,

344

00:18:11,240 --> 00:18:14,240

Jamie needs to know just how much a running nose really runs.

345

00:18:15,240 --> 00:18:17,240

Come in.

346

00:18:17,240 --> 00:18:18,240

Hello, doctor.

347

00:18:18,240 --> 00:18:20,240

Hi, nice to meet you.

348

00:18:20,240 --> 00:18:21,240

You too.

349

00:18:21,240 --> 00:18:25,240

Luckily, Dr. Andrea Young is just the person to ask.

350

00:18:25,240 --> 00:18:27,240

So what would you consider a normal rate of flow

351

00:18:27,240 --> 00:18:28,240

when you have a cold?

352

00:18:28,240 --> 00:18:30,240

If you think about your sinuses just in general,

353

00:18:30,240 --> 00:18:33,240

in terms of the amount of fluid that you could potentially hold,

354

00:18:33,240 --> 00:18:36,240

we would expect that that volume would be somewhere in the river

355

00:18:36,240 --> 00:18:40,240

about 60 cc's or 60 milliliters to come out in about an hour.

356

00:18:40,240 --> 00:18:43,240

And how exactly does that 60 milliliters

357

00:18:43,240 --> 00:18:46,240

transfer its viral payload?

358

00:18:46,240 --> 00:18:48,240

Secretions kind of get passed to the hand.

359

00:18:48,240 --> 00:18:51,240

That hand then goes into your mouth, into your nose,

360

00:18:51,240 --> 00:18:54,240

or into your condom type, or sort of the lining of the eyes,

361

00:18:54,240 --> 00:18:57,240

and then again gets brought into your system.

362

00:18:57,240 --> 00:19:01,240

It's exactly that spread that the mythbusters will test.

363

00:19:01,240 --> 00:19:04,240

And now Jamie knows how a nose runs.

364

00:19:04,240 --> 00:19:06,240

Now that I have my flow rate,

365

00:19:06,240 --> 00:19:09,240

I can build a nasal drip rig to simulate a running nose.

366

00:19:09,240 --> 00:19:11,240

It has to be compact.

367

00:19:11,240 --> 00:19:15,240

It has to be very accurate, and I have to be able to conceal it.

368

00:19:15,240 --> 00:19:18,240

And there we are. It's doing it by itself.

369

00:19:18,240 --> 00:19:20,240

Just a syringe and some tubing later,

370

00:19:20,240 --> 00:19:23,240

and Jamie has a dribbling drip rig.

371

00:19:23,240 --> 00:19:27,240

Now all he needs is a willing volunteer to give it a dry run.

372

00:19:27,240 --> 00:19:31,240

You look totally like you've got a cold just from your mannerisms.

373

00:19:31,240 --> 00:19:34,240

You know, like, I don't feel good.

374

00:19:34,240 --> 00:19:37,240

It feels like I've got a cold. It's just as annoying.

375

00:19:37,240 --> 00:19:40,240

It makes me feel like I want to stand apart from you so I don't catch it.

376

00:19:40,240 --> 00:19:44,240

You don't want to catch the red dye. That's what you don't want.

377

00:19:44,240 --> 00:19:47,240

That's funny.

378

00:19:47,240 --> 00:19:52,240

We're about to investigate how far and wide my nasal secretions may travel if I had a cold.

379

00:19:52,240 --> 00:19:58,240

Now I don't have a cold. We're going to achieve my cold by Jamie giving me a mechanical cold,

380

00:19:58,240 --> 00:20:04,240

which is a drip rig that will be strapped to my face and slowly dripping a fluorescent fluid.

381

00:20:04,240 --> 00:20:08,240

Jamie has carefully selected a non-toxic fluorescent dye

382

00:20:08,240 --> 00:20:12,240

that's invisible to the naked eye but will glow orange under a black light.

383

00:20:12,240 --> 00:20:17,240

To ensure there is no cross-contamination, he first checks the table.

384

00:20:17,240 --> 00:20:24,240

Okay, the space is clean and I don't see any marks on you. I think we're good to go.

385

00:20:24,240 --> 00:20:28,240

Then Jamie starts the nasal drip and leaves Adam to some modeling.

386

00:20:28,240 --> 00:20:32,240

I'm ready to start constructing. I'll start the timer now.

387

00:20:32,240 --> 00:20:33,240

Good luck.

388

00:20:33,240 --> 00:20:35,240

Thanks.

389

00:20:35,240 --> 00:20:41,240

Remember, they're testing to see if Adam's pseudo snot will spread far and wide.

390

00:20:41,240 --> 00:20:49,240

And after an hour of building, gluing and wiping, 60 milliliters of fluid has dripped through the nose rig.

391

00:20:49,240 --> 00:20:54,240

Okay, so time's up. We get to see how far your nasal secretions went.

392

00:20:54,240 --> 00:20:57,240

Excellent. All right, let's do it.

393

00:20:57,240 --> 00:20:59,240

Da-da-da!

394

00:21:00,240 --> 00:21:07,240

Oh my gosh, look at that. That is...wait, look at my face.

395

00:21:07,240 --> 00:21:13,240

That's disgusting! Am I like, just covered with it?

396

00:21:13,240 --> 00:21:14,240

You are.

397

00:21:14,240 --> 00:21:23,240

The table, the plane and Adam are lit up like a dance party with a trail of snot or neon dye on everything Adam has touched.

398

00:21:23,240 --> 00:21:28,240

Well, we set out to construct an experiment whereby we can track my nasal secretions and I have to say,

399

00:21:28,240 --> 00:21:33,240

I think we've done stunningly. They seem to have gotten absolutely everywhere.

400

00:21:33,240 --> 00:21:36,240

Everything on this table has a little touch of orange on it.

401

00:21:36,240 --> 00:21:41,240

That's the name of my cover band. Touch of Orange.

402

00:21:41,240 --> 00:21:48,240

Obviously, Adam's pseudo snot got everywhere, which is amazing given that it was coming out a tiny droplet at a time.

403

00:21:48,240 --> 00:21:53,240

But what does this mean as far as transmitting a cold virus or a flu?

404

00:21:53,240 --> 00:21:58,240

Well, to find that out, we've got to introduce people and so that's what we're going to do next.

405

00:21:58,240 --> 00:22:05,240

Yep, next, the Mythbusters will track the spread of snot by partying in the name of science.

406

00:22:09,240 --> 00:22:11,240

Don't try anything you see on the show at home.

407

00:22:11,240 --> 00:22:14,240

Wear what you call experts.

408

00:22:15,240 --> 00:22:22,240

In a perfect storm of circumstance, could a tornado turn glass into a guillotine?

409

00:22:22,240 --> 00:22:25,240

Well, not so far.

410

00:22:25,240 --> 00:22:28,240

Okay, so we're struggling with decapitation big time.

411

00:22:28,240 --> 00:22:35,240

Yeah, I mean, throwing a piece of glass accurately even at low speeds is very difficult and the pieces of glass keep shattering.

412

00:22:35,240 --> 00:22:41,240

And it's only going to get harder as we ramp up the speed, something we actually have to do.

413

00:22:41,240 --> 00:22:52,240

Alright, well what if we try this? What if we take our head and neck, put it on the runway, and then we attach a sheet of glass to a vehicle horizontally, drive it the neck, and then release the glass before it hits the neck?

414

00:22:52,240 --> 00:23:03,240

Yes, and if we drive as fast as we can, like 80 miles per hour, and get a bigger sheet of glass, that extra mass plus that speed should equal an impact at over 300 miles an hour.

415

00:23:03,240 --> 00:23:05,240

I love it, let's do it!

416

00:23:06,240 --> 00:23:12,240

So at the Alameda runway, the teams foregoing the throwing to tackle this myth head on.

417

00:23:12,240 --> 00:23:17,240

You guys ready to see if we can make a tornado? Let's do it!

418

00:23:18,240 --> 00:23:24,240

But how will a car going at 80 miles per hour represent a 300 mile an hour tornado?

419

00:23:24,240 --> 00:23:36,240

Now the name of this game is Kinetic Energy. We can't possibly drive at extreme tornado speed, but what we can do is simulate the kinetic energy of a smaller piece of glass flying at those speeds.

420

00:23:36,240 --> 00:23:49,240

Using this giant piece of glass, this has a lot more mass. Now this piece, traveling at only 80 miles per hour, has the same kinetic energy as our smaller piece, traveling at over 300 miles per hour.

421

00:23:49,240 --> 00:23:51,240

I call that extreme tornado speed.

422

00:23:52,240 --> 00:23:56,240

Grant's right, and it's over to Carrie to explain why.

423

00:23:56,240 --> 00:24:03,240

Tori's 450 gram pane of glass, flying at 70 miles an hour, had a kinetic energy of around 220 joules.

424

00:24:03,240 --> 00:24:12,240

If that glass had been traveling at an F5 tornado speed of 300 miles an hour, it would have had the energy of over 4000 joules.

425

00:24:12,240 --> 00:24:18,240

Now because the truck can only drive 80 miles an hour, to get a 4000 joule hit, you need a heavier piece of glass.

426

00:24:18,240 --> 00:24:23,240

So how heavy? 6.5 kilograms. But will that cause a decapitation?

427

00:24:23,240 --> 00:24:33,240

That's one big piece of tornado alley code glass, and to put it to work, Tori's built a rig that looks just as lethal as it is.

428

00:24:33,240 --> 00:24:41,240

So this is the super tornado decapitation rig. So I built this steel structure that we've attached to the truck.

429

00:24:42,240 --> 00:24:47,240

On the end of it is a piece of glass being held oh so gently by these foam blocks.

430

00:24:47,240 --> 00:24:52,240

When we hit the neck, the styrofoam will break and the glass will act as if it's flying through the air.

431

00:24:54,240 --> 00:25:05,240

Now what I need to do is drive towards our neckman as fast as I can and hit that neck, so that when we hit that neck, this piece of glass will break away from the truck, hopefully decapitating our man in confirming this myth.

432

00:25:05,240 --> 00:25:08,240

With neckman's neck on the line.

433

00:25:08,240 --> 00:25:11,240

Holy mackerel, look at that tornado!

434

00:25:13,240 --> 00:25:15,240

It's all systems go.

435

00:25:15,240 --> 00:25:18,240

Okay Tori, belated. Are you ready?

436

00:25:18,240 --> 00:25:22,240

I am in position and ready to go.

437

00:25:22,240 --> 00:25:24,240

You ready? Ready.

438

00:25:24,240 --> 00:25:32,240

Okay, this is neckman versus the large piece of glass in 3, 2, 1.

439

00:25:32,240 --> 00:25:38,240

Not wanting the glass to slip loose, Tori gently accelerates up to 80 miles an hour.

440

00:25:39,240 --> 00:25:41,240

Okay.

441

00:25:41,240 --> 00:25:44,240

That's what I was going to say.

442

00:25:44,240 --> 00:25:48,240

Now is the time I feel compelled to yell duck.

443

00:25:50,240 --> 00:25:55,240

Whoa, that was almost no hesitation whatsoever.

444

00:25:55,240 --> 00:26:00,240

That was gruesome. I mean there was no resistance. The hedge came off.

445

00:26:00,240 --> 00:26:02,240

Alright, let's check it out.

446

00:26:04,240 --> 00:26:10,240

That was incredible. All I heard was a foot and I looked back and I saw his head on the ground.

447

00:26:10,240 --> 00:26:12,240

But he the rig worked.

448

00:26:12,240 --> 00:26:13,240

Yeah.

449

00:26:13,240 --> 00:26:19,240

It's mission accomplished. A nasty decapitation on the very first run as the glass cuts clean through.

450

00:26:19,240 --> 00:26:24,240

But in a mythbusters first, the next step is to ramp the results down.

451

00:26:25,240 --> 00:26:31,240

Now I can't say that I'm surprised by this because that amount of energy contained in that glass traveling that fast

452

00:26:33,240 --> 00:26:36,240

would be like a super tornado. An incredible tornado.

453

00:26:36,240 --> 00:26:41,240

A 300 mile per hour plus wind speed tornado.

454

00:26:41,240 --> 00:26:45,240

And the thing is, you don't have those kinds of tornadoes every day.

455

00:26:45,240 --> 00:26:50,240

So what we're going to do next is actually go at a slower speed, try the same experiment.

456

00:26:50,240 --> 00:26:55,240

This time simulating a more average tornado and see what we get.

457

00:26:55,240 --> 00:26:59,240

So they're going to rerun this test at 40 miles an hour.

458

00:26:59,240 --> 00:27:08,240

And thanks to the marvel of math, we know that the heavy glass going at 40 has the same energy as its smaller counterpart

459

00:27:08,240 --> 00:27:13,240

traveling at 150 miles an hour. A high force to tornado.

460

00:27:14,240 --> 00:27:22,240

But will that be high enough to find out Neckman's cousin, Collar Boy, gets his moment in the sun?

461

00:27:22,240 --> 00:27:28,240

Okay, this is Neckman versus the big piece of glass at 40 miles per hour. Take it away.

462

00:27:28,240 --> 00:27:32,240

Tornado! Tornado!

463

00:27:33,240 --> 00:27:37,240

Yep, look out Collar Boy. There's a storm coming.

464

00:27:38,240 --> 00:27:42,240

Whoa, what was that?

465

00:27:42,240 --> 00:27:49,240

Wow, look at the trail of destruction. We got decapitation and the glass broke away.

466

00:27:49,240 --> 00:27:55,240

At first glance it seems like we've reached myth confirmed as head and neck part company.

467

00:27:57,240 --> 00:28:00,240

But the high speed tells a different story.

468

00:28:01,240 --> 00:28:06,240

It seems that the hair trigger on the glass didn't work cleanly.

469

00:28:06,240 --> 00:28:11,240

And that means that some of the car's own momentum may have affected the outcome.

470

00:28:11,240 --> 00:28:16,240

For this team of perfectionists, it's just not good enough.

471

00:28:16,240 --> 00:28:20,240

We're really bothered by the fact that the glass is not totally dislodging.

472

00:28:20,240 --> 00:28:28,240

And I'm thinking that maybe we're getting some extra mass, some extra force, some extra momentum from the truck being attached to that glass.

473

00:28:28,240 --> 00:28:34,240

So the next obvious myth bustery step? Well we're gonna go build a robot in the shop.

474

00:28:34,240 --> 00:28:39,240

Yep, they're following that old myth buster's mantra. If in doubt, build a robot.

475

00:28:39,240 --> 00:28:44,240

Tornado!

476

00:28:59,240 --> 00:29:02,240

I'm gonna go get you.

477

00:29:06,240 --> 00:29:13,240

Soon I will have six guests, or as I like to call them, test subjects having a party with me under test conditions.

478

00:29:13,240 --> 00:29:17,240

These conditions are, three of my guests are gonna behave as germaphobes.

479

00:29:17,240 --> 00:29:20,240

Three of my guests have no idea what's happening.

480

00:29:20,240 --> 00:29:26,240

I will be spreading my nasal secretions far and wide while performing a series of normal party-like tasks.

481

00:29:26,240 --> 00:29:36,240

Cake, toasts, games, what have you. At the end of all of this, we're gonna flick out the lights, turn on the ultraviolet lights and see how far I've been able to spread my secretions.

482

00:29:36,240 --> 00:29:39,240

Now if you'll excuse me, I need to get into makeup.

483

00:29:40,240 --> 00:29:47,240

So as not to reveal what's being tested to our guest guinea pigs, special effects artist Danny gives Adam a nose job.

484

00:29:47,240 --> 00:29:51,240

Oh, it's just a little bit restrictive but not that. Hell lot better than a band aid.

485

00:29:51,240 --> 00:29:56,240

With Adam in the chair, Jamie prepares our three germaphobes guests.

486

00:29:56,240 --> 00:29:58,240

Welcome to the party. Thank you.

487

00:29:58,240 --> 00:30:08,240

So this is how this is gonna work. Adam has a cold and your job is not to get that cold. You still have to stay here, you can't just leave, but you don't want to catch his cold.

488

00:30:08,240 --> 00:30:11,240

Alright, sounds good. Gross.

489

00:30:12,240 --> 00:30:18,240

Carrie Grant and Tori will try their germaphobes best not to pick up Adam's nasal secretions.

490

00:30:18,240 --> 00:30:25,240

However, the control group, the remaining three guests, will have no idea Adam is even secreting.

491

00:30:25,240 --> 00:30:27,240

Hello, Pearl, nice to meet you.

492

00:30:27,240 --> 00:30:33,240

Adam just wiped his nose and now he's shaking hands. That stuff's getting everywhere.

493

00:30:33,240 --> 00:30:42,240

While Jamie tracks the contamination, Adam's rig will drip at exactly the rate a human nose runs, 60 milliliters an hour.

494

00:30:42,240 --> 00:30:44,240

Oh, we're gonna have a fun little party here. Are you guys ready?

495

00:30:44,240 --> 00:30:45,240

Yeah.

496

00:30:45,240 --> 00:30:52,240

I'm sorry. Got a little bit of a stuffy nose, but this should all be very cool.

497

00:30:54,240 --> 00:31:02,240

Remember, the goal is to find out if Adam will pass on his pseudo secretions to his guests through the normal activity of a party.

498

00:31:02,240 --> 00:31:03,240

Thank you very much.

499

00:31:03,240 --> 00:31:07,240

Thank you. Thanks for participating in my little science experiment here.

500

00:31:07,240 --> 00:31:08,240

Cheers, Fork.

501

00:31:08,240 --> 00:31:15,240

So we're getting some good contact here. We've got him handling the plates, the forks, those are being passed over.

502

00:31:15,240 --> 00:31:18,240

We're then lucky each one of those has been marked.

503

00:31:18,240 --> 00:31:30,240

Although our trio of germaphobes keep an eye on exactly what Adam's touching, the unprepared guests have no idea what's being passed around.

504

00:31:30,240 --> 00:31:36,240

Okay, it looks like as he's pouring, he's touching them on the shoulder, so each one of those is a mark.

505

00:31:36,240 --> 00:31:39,240

There ain't no party like a Mythbusters party.

506

00:31:39,240 --> 00:31:40,240

That's a good roll.

507

00:31:40,240 --> 00:31:44,240

And although the good times and the dice roll,

508

00:31:44,240 --> 00:31:45,240

I definitely lost.

509

00:31:45,240 --> 00:31:48,240

eventually the fun must come to an end.

510

00:31:48,240 --> 00:31:49,240

Thanks again.

511

00:31:49,240 --> 00:31:51,240

Ha ha ha ha.

512

00:31:51,240 --> 00:31:52,240

Tori.

513

00:31:52,240 --> 00:31:53,240

I'm celebrating you.

514

00:31:53,240 --> 00:31:56,240

Thank you so much for coming here.

515

00:31:56,240 --> 00:32:04,240

But of course our test subjects are still in the dark and the moment has come for the big snotty reveal.

516

00:32:04,240 --> 00:32:08,240

What was going on was that I had a mechanical runny nose.

517

00:32:08,240 --> 00:32:13,240

I had a little tube running down the side of my nose dripping a fluorescing fluid.

518

00:32:13,240 --> 00:32:19,240

The goal was to see how far my nasal secretions might travel if I had a cold and who might get those on them.

519

00:32:19,240 --> 00:32:23,240

To give you an idea about how much it spread on me alone,

520

00:32:23,240 --> 00:32:25,240

normally my skin would not fluoresce under black light.

521

00:32:25,240 --> 00:32:26,240

Are you ready?

522

00:32:26,240 --> 00:32:27,240

Oh.

523

00:32:27,240 --> 00:32:28,240

Oh.

524

00:32:28,240 --> 00:32:29,240

Oh.

525

00:32:29,240 --> 00:32:36,240

Adam may look like a radioactive clown, but has he spread his radioactive red snot?

526

00:32:36,240 --> 00:32:41,240

First off, the unknowing guest guinea pigs.

527

00:32:41,240 --> 00:32:44,240

Leah, let's see those hands hold them up into the light.

528

00:32:44,240 --> 00:32:45,240

Oh yeah.

529

00:32:45,240 --> 00:32:50,240

They all bear the telltale signs of contamination.

530

00:32:50,240 --> 00:32:53,240

But what about our germaphobe trio?

531

00:32:53,240 --> 00:32:58,240

Despite their best efforts, Grant and Tori couldn't escape the neon.

532

00:32:58,240 --> 00:32:59,240

Grant, let's see those hands.

533

00:32:59,240 --> 00:33:01,240

I can't avoid shaking your hand.

534

00:33:01,240 --> 00:33:02,240

Tori?

535

00:33:02,240 --> 00:33:03,240

Oh, Tori.

536

00:33:03,240 --> 00:33:04,240

You got a...

537

00:33:04,240 --> 00:33:06,240

Did we got a new face here?

538

00:33:06,240 --> 00:33:11,240

Tori has even ended up with snot on his face.

539

00:33:11,240 --> 00:33:14,240

Carrie, however, is a different story.

540

00:33:14,240 --> 00:33:19,240

I have to confess I'm actually a germaphobe, so this was not too hard for me.

541

00:33:19,240 --> 00:33:22,240

And I am not surprised I did this well.

542

00:33:22,240 --> 00:33:23,240

Nice.

543

00:33:23,240 --> 00:33:24,240

Wow, incredible.

544

00:33:24,240 --> 00:33:26,240

So how many of us got colds?

545

00:33:26,240 --> 00:33:35,240

I'd say five out of the six of you have been legitimately exposed with only a 30 minute dinner party.

546

00:33:35,240 --> 00:33:37,240

And one typhoid marriage.

547

00:33:37,240 --> 00:33:42,240

So even though I knew Adam had a fake cold, I was still kind of grossed out by the idea.

548

00:33:42,240 --> 00:33:46,240

So I kind of employed all of my usual techniques not to get sick.

549

00:33:46,240 --> 00:33:50,240

I didn't touch anything or anywhere that he touched.

550

00:33:50,240 --> 00:33:54,240

When he handed me something, I wiped it off with my napkin.

551

00:33:54,240 --> 00:34:00,240

Right at the very end of dinner, as we were saying our goodbyes, Adam stuck out his hand and I had to shake it.

552

00:34:00,240 --> 00:34:01,240

And you know what?

553

00:34:01,240 --> 00:34:05,240

If someone sticks out their hand, you can't avoid shaking it.

554

00:34:05,240 --> 00:34:07,240

And that's where he got me.

555

00:34:07,240 --> 00:34:15,240

With five out of six guests infected and a dinner table that's more neon than not, where does this leave the myth?

556

00:34:16,240 --> 00:34:17,240

Look around me.

557

00:34:17,240 --> 00:34:22,240

Look at how far and wide my secretions have spread to everywhere on this table.

558

00:34:22,240 --> 00:34:27,240

Next time you think you've got an innocuous runny nose, think again.

559

00:34:27,240 --> 00:34:29,240

Think again indeed.

560

00:34:29,240 --> 00:34:33,240

But that is in the end of this not spreading saga.

561

00:34:36,240 --> 00:34:41,240

If you want to see more, log on to [discovery.com slash mythbusters](http://discovery.com/slash/mythbusters).

562

00:34:41,240 --> 00:34:42,240

Check it out.

563

00:34:43,240 --> 00:34:51,240

When a tornado hits, chances are it's going to do a lot more than ruffle your nerves.

564

00:34:51,240 --> 00:34:59,240

Now to simulate a tornado, we first started by throwing panes of glass by hand with little success of decapitation.

565

00:34:59,240 --> 00:35:07,240

Then we moved on to a giant piece of glass strapped to the side of a car and drove at high speeds into a neck.

566

00:35:07,240 --> 00:35:14,240

And we got a decapitation, but we think the momentum of the car added too much to the kinetic energy, really loading the deck on this myth.

567

00:35:14,240 --> 00:35:16,240

So now we want some realistic circumstances.

568

00:35:16,240 --> 00:35:23,240

We want a small piece of glass flying at moderate tornado speeds to see if even that will get us a decapitation.

569

00:35:23,240 --> 00:35:28,240

So how exactly are we going to accelerate a piece of glass very quickly?

570

00:35:28,240 --> 00:35:34,240

Well, the first step is to take a bunch of these caster wheels and flip them upside down like this.

571

00:35:34,240 --> 00:35:39,240

So that we have a low friction surface to slide our glass on.

572

00:35:39,240 --> 00:35:43,240

It's like a little conveyor belt, a potentially deadly glass.

573

00:35:43,240 --> 00:35:50,240

At the end of this line, these two tires go on an axle which is connected to an electric motor.

574

00:35:50,240 --> 00:35:52,240

Yeah, that ought to do it.

575

00:35:52,240 --> 00:35:54,240

That's going to spin at really high speed.

576

00:35:54,240 --> 00:36:00,240

Now a second set of wheels is going to go on top and that's going to form a sandwich.

577

00:36:00,240 --> 00:36:09,240

We're going to love this so that when the sheet of glass comes in, the wheels are going to catch it and send it out at tornado speed.

578

00:36:09,240 --> 00:36:14,240

Now we're hoping that this machine is going to actually help us with our speed and accuracy.

579

00:36:14,240 --> 00:36:20,240

But like most of Grant's truly intimidating looking rigs, we don't know what's going to do until we do a few tests.

580

00:36:20,240 --> 00:36:25,240

So we're going to throw some glass in, see exactly how fast it's going and make sure it's all going in the right place.

581

00:36:25,240 --> 00:36:32,240

And that glass is going to be twice as thick and twice as heavy as the glass the guys first threw.

582

00:36:32,240 --> 00:36:34,240

That's awesome!

583

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

Yeah, that's a good one.

584

00:36:40,240 --> 00:36:42,240

Alright, let's see how fast that one went.

585

00:36:42,240 --> 00:36:43,240

Scary!

586

00:36:43,240 --> 00:36:45,240

I know, it test goes well when I'm terrified.

587

00:36:47,240 --> 00:36:53,240

The machine worked like a charm, flinging the window wannabe at 70 miles per hour.

588

00:36:54,240 --> 00:36:58,240

And that means it's Neckman's curtain call.

589

00:36:58,240 --> 00:37:02,240

Chin up buddy, it's very important to keep your chin up for this one.

590

00:37:15,240 --> 00:37:18,240

After several tests with our paint on the neck rig, we think we have it dialed in.

591

00:37:18,240 --> 00:37:21,240

We have 70 miles an hour and a perfectly flat light pattern.

592

00:37:21,240 --> 00:37:24,240

So now we're going to bring in the neck and see if we have it decapitation.

593

00:37:24,240 --> 00:37:28,240

Alright, this is tornado decapitation, quarter inch sheet of glass.

594

00:37:28,240 --> 00:37:30,240

Neckman is in position.

595

00:37:30,240 --> 00:37:34,240

Motor is full of power, we are going for tornado speed.

596

00:37:34,240 --> 00:37:37,240

I'm ready for the next test.

597

00:37:38,240 --> 00:37:42,240

Okay, tornado speed in three, two, one.

598

00:37:42,240 --> 00:37:45,240

Wait, wait, wait, wait, wait.

599

00:37:48,240 --> 00:37:52,240

A direct hit and Neckman's head's gone AWOL.

600

00:37:52,240 --> 00:37:54,240

But it's not all good news.

601

00:37:54,240 --> 00:37:56,240

I know what you're thinking, it worked.

602

00:37:56,240 --> 00:37:59,240

You decapitated him with a piece of glass.

603

00:37:59,240 --> 00:38:05,240

Actually, we looked at the high speed and what really happened was the glass hit him right here in the mouth.

604

00:38:05,240 --> 00:38:07,240

And it just ripped his head off the neck.

605

00:38:07,240 --> 00:38:11,240

There was no cutting through skin, no cutting through muscle, no cutting through bone.

606

00:38:11,240 --> 00:38:13,240

This was not a decapitation.

607

00:38:13,240 --> 00:38:16,240

So we need to get a new head, reset and try it again.

608

00:38:17,240 --> 00:38:19,240

A new head? How about this one?

609

00:38:22,240 --> 00:38:24,240

Neckman in position. You guys ready? Ready.

610

00:38:24,240 --> 00:38:26,240

Alright, fire it up.

611

00:38:32,240 --> 00:38:35,240

This time, Neckman's painfully down for the count.

612

00:38:35,240 --> 00:38:38,240

But a decapitation, this ain't.

613

00:38:39,240 --> 00:38:42,240

So far, the robot is 0 for 2.

614

00:38:42,240 --> 00:38:46,240

A record that then takes a turn for the worse with near misses.

615

00:38:46,240 --> 00:38:49,240

That was so fast, I have no idea what just happened.

616

00:38:49,240 --> 00:38:50,240

And not so near misses.

617

00:38:50,240 --> 00:38:51,240

Man.

618

00:38:51,240 --> 00:38:54,240

I wonder if it's possible to decapitate a guy with glass.

619

00:38:54,240 --> 00:38:55,240

I don't know.

620

00:38:55,240 --> 00:39:00,240

With the final Neckman in the firing line, it really is now or never.

621

00:39:01,240 --> 00:39:03,240

You ready to get your head cut off?

622

00:39:04,240 --> 00:39:05,240

You ready?

623

00:39:05,240 --> 00:39:06,240

Ready.

624

00:39:06,240 --> 00:39:07,240

Fire it up.

625

00:39:07,240 --> 00:39:08,240

Okay, here we go.

626

00:39:08,240 --> 00:39:09,240

3, 2, 1.

627

00:39:13,240 --> 00:39:15,240

That's because we've got decapitation.

628

00:39:15,240 --> 00:39:17,240

That is unquestionable.

629

00:39:21,240 --> 00:39:27,240

We have a piece of glass flying at a low tornado speed in the air on its own merit

630

00:39:27,240 --> 00:39:31,240

and decapitates our head completely off and cleanly.

631

00:39:31,240 --> 00:39:33,240

That shows us right there.

632

00:39:33,240 --> 00:39:35,240

Confirmed, confirmed, confirmed.

633

00:39:37,240 --> 00:39:44,240

Yep, this all goes to show the danger of flying debris during a tornado.

634

00:39:44,240 --> 00:39:50,240

For safety, taking shelter in a storm cellar really is a no-brainer.

635

00:39:57,240 --> 00:40:01,240

Adam and Jamie have proved our runny nose will eventually catch up to you.

636

00:40:01,240 --> 00:40:03,240

Where does that leave us?

637

00:40:03,240 --> 00:40:09,240

Well, we wondered, suppose the person who's spreading the germs is acting more responsibly.

638

00:40:09,240 --> 00:40:12,240

Suppose they're trying to keep others from being infected.

639

00:40:12,240 --> 00:40:14,240

That's what we're going to test next.

640

00:40:14,240 --> 00:40:16,240

We've set up this whole space again, totally clean.

641

00:40:16,240 --> 00:40:18,240

I haven't touched anything here.

642

00:40:18,240 --> 00:40:22,240

I will have the same drip rig going on, dripping at the same rate,

643

00:40:22,240 --> 00:40:27,240

except I'm going to be trying to keep my germs from spreading to any parts of this table

644

00:40:27,240 --> 00:40:29,240

and any of my guests.

645

00:40:29,240 --> 00:40:30,240

Let's see how I do.

646

00:40:31,240 --> 00:40:34,240

So the Mythbusters will repeat the nasal secretions test.

647

00:40:36,240 --> 00:40:37,240

Hello.

648

00:40:37,240 --> 00:40:38,240

Hello.

649

00:40:38,240 --> 00:40:40,240

Hello, good to see you.

650

00:40:40,240 --> 00:40:46,240

With two vital differences, Adam will do everything he can not to spread his pseudo snot.

651

00:40:46,240 --> 00:40:50,240

And we've got a new set of blissfully unaware test subjects.

652

00:40:50,240 --> 00:40:55,240

But I've got to warn you, I've got a little bit of a cold, so let's do elbow greet.

653

00:40:55,240 --> 00:40:56,240

How are you?

654

00:40:56,240 --> 00:41:01,240

But while modifying his behavior, decrease the chances of contamination.

655

00:41:01,240 --> 00:41:04,240

He's not shaking hands, he's bumping elbows.

656

00:41:04,240 --> 00:41:09,240

Despite the fact that his nose is still dripping at 60 mls per hour,

657

00:41:09,240 --> 00:41:14,240

Adam is doing all he can to limit his hand-to-hand contact with his guests.

658

00:41:14,240 --> 00:41:19,240

And Tori, if you would take this and hand out a sheet to everybody,

659

00:41:19,240 --> 00:41:23,240

Dana, if you would pass these pens to your right,

660

00:41:23,240 --> 00:41:25,240

I'm going to make sure everyone gets a pen.

661

00:41:25,240 --> 00:41:27,240

We're going to play a game called Dictionary.

662

00:41:27,240 --> 00:41:30,240

But as well as avoiding direct contact with his guests,

663

00:41:30,240 --> 00:41:34,240

Adam's also avoiding indirect contact by enlisting their help.

664

00:41:34,240 --> 00:41:36,240

Dana, will you hand out the glasses for me, please?

665

00:41:36,240 --> 00:41:39,240

At this point, it looks like he's doing pretty well,

666

00:41:39,240 --> 00:41:43,240

because the only thing that's actually been passed around person to person

667

00:41:43,240 --> 00:41:45,240

has been the paper notes.

668

00:41:45,240 --> 00:41:49,240

The glasses, the bottle, even meeting everybody in the beginning

669

00:41:49,240 --> 00:41:52,240

didn't involve any kind of contact at all.

670

00:41:53,240 --> 00:41:57,240

And once again, the 30 minutes seems to fly by

671

00:41:57,240 --> 00:42:00,240

until it's time to bring in the bouncer.

672

00:42:00,240 --> 00:42:04,240

Alright then, so everybody's had some cake, some champagne,

673

00:42:04,240 --> 00:42:08,240

you played a couple of games, lovely party, time to call it quits.

674

00:42:08,240 --> 00:42:10,240

Jamie says it's time to go, it's time to go.

675

00:42:10,240 --> 00:42:12,240

Wow, what a...

676

00:42:12,240 --> 00:42:15,240

And with that, the test is over,

677

00:42:15,240 --> 00:42:18,240

but has Adam kept his snot to himself?

678

00:42:18,240 --> 00:42:20,240

Bye-bye.

679

00:42:21,240 --> 00:42:24,240

Okay, let's see your hands. You're clean.

680

00:42:24,240 --> 00:42:26,240

You're clean?

681

00:42:26,240 --> 00:42:30,240

Well, the result is spelled out in no neon light.

682

00:42:30,240 --> 00:42:35,240

Clean, clean, good job, Adam.

683

00:42:35,240 --> 00:42:38,240

In stark contrast to the previous test,

684

00:42:38,240 --> 00:42:42,240

amazingly, Adam has not infected a single guest.

685

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

I gotta say, that was totally amazing.

686

00:42:44,240 --> 00:42:46,240

Just by a simple change of technique,

687

00:42:46,240 --> 00:42:50,240

you can prevent everyone at the party from getting sick.

688

00:42:53,240 --> 00:42:54,240

Let's recap.

689

00:42:54,240 --> 00:42:58,240

The myth that if you're sick, your nasal secretions will go everywhere.

690

00:42:58,240 --> 00:42:59,240

Confirmed.

691

00:42:59,240 --> 00:43:04,240

And the ability as an innocent bystander for one to avoid those secretions.

692

00:43:04,240 --> 00:43:07,240

Not impossible, but very difficult.

693

00:43:07,240 --> 00:43:10,240

So what if we concluded is the best way to prevent the spread?

694

00:43:10,240 --> 00:43:14,240

Well, if you're sick, you need to take some personal responsibility.

695

00:43:14,240 --> 00:43:15,240

Absolutely right.

696

00:43:15,240 --> 00:43:19,240

This has been a public service announcement from Jamie and Adam at MythBusters.