

1

00:00:00,000 --> 00:00:09,160

On this episode of MythBusters, our ally bombers wrecking your dreams of world domination.

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00:00:09,160 --> 00:00:14,720

Adam and Jamie make alternate history as they go back in time to recreate an attempt to

3

00:00:14,720 --> 00:00:15,720

assassinate Hitler.

4

00:00:15,720 --> 00:00:17,720

I wouldn't want to be in that room.

5

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

No, I wouldn't want to be in that room.

6

00:00:18,720 --> 00:00:24,360

Was a room change the reason this bomb in a briefcase failed first time around?

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00:00:24,360 --> 00:00:25,360

Peter's aim.

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00:00:26,360 --> 00:00:27,360

Meantime.

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

Sorry, Carrie.

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00:00:28,360 --> 00:00:30,360

Carrie, Tori and Grant.

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00:00:30,360 --> 00:00:31,360

Here we go.

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00:00:31,360 --> 00:00:33,360

All take one for the team.

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00:00:33,360 --> 00:00:34,360

How do you feel?

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00:00:34,360 --> 00:00:35,360

A little more alert?

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00:00:35,360 --> 00:00:40,360

As they test out the myth that you really can slap sense into someone.

16

00:00:40,360 --> 00:00:43,360

This myth sucks.

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00:00:46,360 --> 00:00:47,360

Who are the MythBusters?

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

Carrie.

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00:00:48,360 --> 00:00:49,360

Adam Savage.

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

70% chance of science.

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00:00:51,360 --> 00:00:53,360

And Jamie Heinemann.

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00:00:54,360 --> 00:01:01,360

Between them more than 30 years of special effects experience, joining them, Tori Bellachy.

23

00:01:01,360 --> 00:01:03,360

Oh, they're going to fry my brain.

24

00:01:03,360 --> 00:01:04,360

Grant Imahara.

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00:01:04,360 --> 00:01:06,360

And Carrie Byron.

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00:01:06,360 --> 00:01:09,360

Science gets more fun when I get a bigger gun.

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00:01:09,360 --> 00:01:11,360

They don't just tell the myths.

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00:01:11,360 --> 00:01:14,360

They put them to the test.

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00:01:24,360 --> 00:01:28,360

In 1944, a plot was hatched to kill Hitler.

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00:01:28,360 --> 00:01:36,360

And the operation was successful enough to actually get a briefcase full of explosives into a room with Hitler and detonate it while Hitler was in the room.

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00:01:36,360 --> 00:01:37,360

Okay.

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00:01:37,360 --> 00:01:41,360

But the operation was a failure because Hitler did not die in that blast.

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00:01:41,360 --> 00:01:43,360

So what went wrong?

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

Here's the wrinkle.

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00:01:44,360 --> 00:01:48,360

The meeting was originally supposed to happen in a closed underground bunker.

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00:01:48,360 --> 00:01:58,360

But at the last minute, the meeting place was switched to an above ground room with open windows and conventional wisdom holds that that same blast would have killed Hitler if it had happened in the closed bunker room.

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00:01:58,360 --> 00:01:59,360

Nice.

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00:01:59,360 --> 00:02:02,360

A little blast from the past, so to speak.

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00:02:18,360 --> 00:02:22,360

In the conference room, above ground, with conventional doors and windows.

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00:02:22,360 --> 00:02:28,360

Four people were killed in the blast, but Hitler survived with just minor injuries.

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00:02:28,360 --> 00:02:37,360

There are dozens of theories about what went wrong, but the biggest is that it was the change of venue that turned the bomb from lethal to survivable.

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00:02:37,360 --> 00:02:41,360

So this myth is a tale of two rooms.

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00:02:41,360 --> 00:02:49,360

The question here boils down to whether or not an explosion going off in an enclosed space is inherently more deadly than one going off in an open space, right?

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00:02:49,360 --> 00:02:50,360

Exactly.

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00:02:50,360 --> 00:02:52,360

Where do you think we should begin?

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00:02:52,360 --> 00:02:55,360

Well, let's do some research and then start small and work our way up.

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00:02:55,360 --> 00:02:56,360

Perfect.

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00:02:56,360 --> 00:03:08,360

History books are helpful, but Jamie's gone the extra mile and sourced actual Nazi photos of the damage incurred in the blast of July 20, 1944.

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00:03:08,360 --> 00:03:13,360

What all these photos of the situation room tell me is that the blast was actually quite severe.

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00:03:13,360 --> 00:03:24,360

And given the fact that Hitler was standing here when the bomb was right nearby and four people actually did die from the blast, Hitler really narrowly escaped death.

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00:03:24,360 --> 00:03:29,360

While Jamie pours over the details, Adam pours paint in a tub full of water.

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00:03:29,360 --> 00:03:36,360

It's a simple experiment that should show what happens when shock waves are contained or released.

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00:03:36,360 --> 00:03:39,360

All he needs now is to model rooms.

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00:03:39,360 --> 00:03:46,360

Now, why is the conventional wisdom that the explosion that did not kill Hitler in the room with windows would have killed him in the bunker?

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00:03:46,360 --> 00:03:54,360

I'm hoping to tease out the reasons for that thinking with this visualization before me, the four walls of the bunker.

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00:03:54,360 --> 00:03:57,360

I'm going to drop this little weight into the center.

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00:03:57,360 --> 00:03:58,360

Let's see what happens.

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00:03:58,360 --> 00:04:03,360

Let's look at the high speed.

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00:04:03,360 --> 00:04:10,360

The idea is that the ripples or waves of water behave much like a percussive blast through air.

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00:04:10,360 --> 00:04:11,360

Awesome.

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00:04:11,360 --> 00:04:15,360

My visualization of waves in a closed room worked just the way I hoped.

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00:04:15,360 --> 00:04:20,360

You can see the waves traveling out from the way that I dropped, hitting the walls and then bouncing back.

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00:04:20,360 --> 00:04:22,360

They've got nowhere to go.

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00:04:22,360 --> 00:04:27,360

Now, to see if throwing open a few windows really makes much of a difference.

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00:04:27,360 --> 00:04:29,360

Alright, so this is my situation room.

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00:04:29,360 --> 00:04:32,360

Each of these spaces is an open window.

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00:04:32,360 --> 00:04:34,360

Here is my bomb.

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00:04:34,360 --> 00:04:37,360

Let's see what happens.

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00:04:39,360 --> 00:04:41,360

Perfect.

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00:04:41,360 --> 00:04:44,360

The high speed confirms what Adam suspected.

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00:04:44,360 --> 00:04:45,360

That is so cool.

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00:04:45,360 --> 00:04:48,360

Give a wave half a chance to escape and it takes it.

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00:04:48,360 --> 00:04:50,360

So what can we surmise from this?

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00:04:50,360 --> 00:04:53,360

We can clearly see in the closed room the waves are contained.

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00:04:53,360 --> 00:04:58,360

They do not escape and we can see in the open room with windows that the waves totally get out.

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00:04:58,360 --> 00:05:01,360

So it looks like there's some science to back up the myth.

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00:05:01,360 --> 00:05:08,360

Back at Allied headquarters, Jamie's now gotten his hands on the official Gestapo report of the bombing.

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00:05:08,360 --> 00:05:16,360

Upper pressure wave destroyed the situation room to a large extent and exited through windows and doors as well as through partition walls.

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00:05:16,360 --> 00:05:22,360

Points of impact of metal fragments not detectable, but splinters of wood and leather fragments are embedded into the wood.

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00:05:22,360 --> 00:05:29,360

The furor suffered only slight injuries although in the immediate vicinity of the center of the explosion.

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00:05:29,360 --> 00:05:34,360

So the facts and the photos are all duly noted for future comparison.

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00:05:34,360 --> 00:05:38,360

Now you'd have to agree that it's high time they blew something up.

83

00:05:44,360 --> 00:05:47,360

Okay, this is going to hurt me more than it hurts you.

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00:05:47,360 --> 00:05:49,360

Ow, you're right, that did hurt.

85

00:05:49,360 --> 00:05:51,360

Ow, what was that for?

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00:05:51,360 --> 00:05:55,360

I'm repairing you for the next myth, which is that you can slap sense into someone.

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00:05:55,360 --> 00:05:56,360

Oh no.

88

00:05:56,360 --> 00:06:06,360

Oh yes, the idea is that if someone's in a state of confusion or shock, by slapping them, you can get them to focus, hone in their senses and perform better.

89

00:06:08,360 --> 00:06:11,360

It's a familiar scene from old school Hollywood.

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00:06:11,360 --> 00:06:16,360

Someone flips out, good sharp slap brings them right back around.

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00:06:16,360 --> 00:06:20,360

It kind of makes sense, what with the shock and the sting.

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00:06:20,360 --> 00:06:22,360

But, does it work?

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00:06:22,360 --> 00:06:27,360

When I think about this saying, I think about someone who's hysterical, who's on the edge of panic.

94

00:06:27,360 --> 00:06:29,360

How are we going to induce panic in each other?

95

00:06:29,360 --> 00:06:37,360

I'm not sure we have to. I mean, I'd like to talk to a trauma expert and find out if there's a way to inhibit the brain, something similar to panic, but a lot easier to achieve.

96

00:06:37,360 --> 00:06:43,360

Alright, as far as the testing goes, the pre-slap and the post-slap tests, they have to be a decision-making test.

97

00:06:43,360 --> 00:06:47,360

Because we're not testing IQ here, we're testing how you make decisions under pressure.

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00:06:47,360 --> 00:06:49,360

Exactly, totally agree.

99

00:06:49,360 --> 00:06:55,360

First up, Carrie takes counsel to learn how the body responds to a smack in the chops.

100

00:06:55,360 --> 00:06:58,360

So what do you think of the myth that you can slap sense into someone?

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00:06:58,360 --> 00:07:03,360

Well, a multiple things happen simultaneously with Carrie with the intense stimulation.

102

00:07:03,360 --> 00:07:11,360

You have a signal going from your face to the brain, which then sends a signal to the adrenal gland, which secretes epinephrine.

103

00:07:11,360 --> 00:07:14,360

This triggers the fight or flight reflex.

104

00:07:14,360 --> 00:07:18,360

You get an immediate blood flow increase to those vital organs.

105

00:07:18,360 --> 00:07:22,360

Your eyes widely dilate so you get clear and increased vision.

106

00:07:22,360 --> 00:07:27,360

So you're ready to make a decision, you can think clearer, and you can fight or you can flee.

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00:07:27,360 --> 00:07:33,360

The only fight or flight response isn't exactly unknown here at Mythbusters.

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00:07:33,360 --> 00:07:36,360

When in peril, I will use one of my coworkers as a human shield.

109

00:07:36,360 --> 00:07:42,360

But how can the guys induce something akin to a sense of panic in order to test out the myth?

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00:07:42,360 --> 00:07:45,360

Well, you know, there could be a variety of tests.

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00:07:45,360 --> 00:07:52,360

So if someone is compromised in some way and people can be compromised from hypothermia or hypothermia, a variety of sources.

112

00:07:52,360 --> 00:07:57,360

But to test that, you'd want to find some fine psychomotor skill.

113

00:07:57,360 --> 00:08:01,360

Back at the shop, Grant and Tory are welding up a storm.

114

00:08:01,360 --> 00:08:07,360

They're determined to take the human factor out of the equation by scratch building a face-slapping robot.

115

00:08:07,360 --> 00:08:10,360

We have a bungee cord that's attached here. It'll wrap around this rod.

116

00:08:10,360 --> 00:08:12,360

Now we'll wind up the arm and then release it.

117

00:08:12,360 --> 00:08:15,360

You don't want to use motors or pistons because let's face it.

118

00:08:15,360 --> 00:08:18,360

We're going to be putting our faces in the way of this slapping hand.

119

00:08:18,360 --> 00:08:20,360

We want slaps, not broken jaws.

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00:08:20,360 --> 00:08:24,360

All this mechanical marvel is missing is a hand to hit with.

121

00:08:24,360 --> 00:08:28,360

So they'll fashion a surrogate forearm from carries.

122

00:08:28,360 --> 00:08:30,360

Deceivingly hairy arms.

123

00:08:30,360 --> 00:08:33,360

They're not hairy. It's like baby down.

124

00:08:33,360 --> 00:08:36,360

It's a process Tory's almost perfected.

125

00:08:36,360 --> 00:08:46,360

The limb gets shaved, greased, and plastered with dental alginate, which eventually sets to make a mold.

126

00:08:46,360 --> 00:08:54,360

In this case, the mold is filled with silicone and when that sets, they can arm the robot.

127

00:08:54,360 --> 00:08:58,360

Oh, goodness. Here, Tory.

128

00:08:58,360 --> 00:09:02,360

But before we do that, we need to find out how hard we slap.

129

00:09:02,360 --> 00:09:03,360

And that's where this guy comes in.

130

00:09:03,360 --> 00:09:09,360

We're going to slap the force plate, record the data, and use that information to calibrate our machine.

131

00:09:09,360 --> 00:09:11,360

Grant strikes first.

132

00:09:11,360 --> 00:09:14,360

It's going to hurt you more than it hurts me.

133

00:09:14,360 --> 00:09:16,360

Then Tory.

134

00:09:16,360 --> 00:09:18,360

All right, ready when you are.

135

00:09:18,360 --> 00:09:20,360

They look more like a spank.

136

00:09:20,360 --> 00:09:22,360

And then Carrie steps up to the plate.

137

00:09:22,360 --> 00:09:26,360

Now remember, however hard you slap that thing is how hard you're going to get slapped.

138

00:09:26,360 --> 00:09:29,360

This myth sucks. All right.

139

00:09:29,360 --> 00:09:32,360

Oh, maybe that was too hard. Maybe that was too hard.

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00:09:32,360 --> 00:09:36,360

Maybe it was, but Grant's in no mood for a do-over.

141

00:09:36,360 --> 00:09:38,360

Okay, so Carrie, you hit with 94.

142

00:09:38,360 --> 00:09:42,360

I hit with 114 and Tory, you hit with 116.

143

00:09:42,360 --> 00:09:47,360

So our average is 108 pounds. That's our target.

144

00:09:47,360 --> 00:09:52,360

It's no comfort to Carrie to know that the hand set to strike is more or less hers.

145

00:09:52,360 --> 00:09:56,360

It's like I picked my own switch off the tree to get spanked with.

146

00:09:56,360 --> 00:09:58,360

All right, Carrie, you ready?

147

00:09:58,360 --> 00:10:01,360

I take no pleasure in this whatsoever.

148

00:10:01,360 --> 00:10:02,360

Oh my God.

149

00:10:02,360 --> 00:10:05,360

In three, two, one.

150

00:10:07,360 --> 00:10:09,360

Hit a little high.

151

00:10:09,360 --> 00:10:11,360

It was the comeback that I think...

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00:10:11,360 --> 00:10:13,360

They get you out.

153

00:10:13,360 --> 00:10:19,360

The aim was a ride, but so far the mechanical slap looks right on the money.

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00:10:20,360 --> 00:10:22,360

Carrie's followed by Grant.

155

00:10:22,360 --> 00:10:23,360

One.

156

00:10:27,360 --> 00:10:28,360

And then Tory.

157

00:10:30,360 --> 00:10:32,360

That is really good.

158

00:10:32,360 --> 00:10:36,360

So what do you think? Is that... I think it's perfect because it gives you just enough shock.

159

00:10:36,360 --> 00:10:38,360

It doesn't like knock you out.

160

00:10:38,360 --> 00:10:40,360

And that's just what they wanted.

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00:10:40,360 --> 00:10:44,360

The next step is impairing their brains before slapping.

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00:10:44,360 --> 00:10:48,360

So one thing we know is there's more pain to come.

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00:10:49,360 --> 00:10:54,360

After the break, Adam and Jamie put their theories into practice.

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00:10:54,360 --> 00:10:57,360

Three, two, one.

165

00:11:01,360 --> 00:11:10,360

In Valkyrie Boom, we've seen that a sealed room should contain and enhance an explosion better than a room with windows.

166

00:11:10,360 --> 00:11:13,360

Now they're ready to do it for real in small scale.

167

00:11:13,360 --> 00:11:16,360

Now in order to test this in small scale, I need two rooms.

168

00:11:16,360 --> 00:11:22,360

One that is scaled exactly correctly in all the details to Hitler's underground bunker.

169

00:11:22,360 --> 00:11:27,360

And another one that's scaled exactly to the above ground room where the explosion actually happened.

170

00:11:27,360 --> 00:11:32,360

I'm going to make them out of half inch steel plate.

171

00:11:32,360 --> 00:11:35,360

They're going to be nice and heavy, and in this way I won't be blowing them up.

172

00:11:35,360 --> 00:11:39,360

I'll just be seeing the difference of the propagation of the shock wave between the two.

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00:11:39,360 --> 00:11:47,360

In search of a definitive yes or no to the myth, the focus is all on the lethal potential of those explosive shock waves.

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00:11:47,360 --> 00:11:54,360

At Adam's in no doubt that both his scale rooms are sturdy enough to survive the ordeal.

175

00:11:54,360 --> 00:11:59,360

I'm going to tell you this is the heaviest scale model I've ever built.

176

00:12:02,360 --> 00:12:04,360

Come on in right here.

177

00:12:04,360 --> 00:12:09,360

Now there's no question that blowing stuff up is best done outdoors.

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00:12:09,360 --> 00:12:18,360

And you know it's a big day on the bomb range when explosives experts Frank Doyle and J.D. Nelson are both there to help out.

179

00:12:21,360 --> 00:12:26,360

When we set off an explosive other than shrapnel, the thing we're worried about is known as a pressure wave.

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00:12:26,360 --> 00:12:30,360

This is a moving wall of pressure that's radiating outward from the explosion.

181

00:12:30,360 --> 00:12:37,360

What kills is an increase in that kind of pressure that somebody experiences when they're near a blast.

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00:12:37,360 --> 00:12:44,360

Now the question we're trying to answer is that if we set off an explosive in an enclosed room like a bunker,

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00:12:44,360 --> 00:12:51,360

will we contain that blast and see an increased amount of pressure and therefore an increased lethality?

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00:12:51,360 --> 00:12:57,360

More so than what we would see in an open room like a conference room where the pressure can escape through windows and doors.

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00:12:57,360 --> 00:13:02,360

The business end of our testing today will be performed by this, a pressure transducer.

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00:13:02,360 --> 00:13:09,360

This will be placed at a precise distance from the center of the blast and it converts the mechanical energy of the blast shock wave

187

00:13:09,360 --> 00:13:15,360

into an electrical impulse which will allow us to carefully measure and compare the two blasts we're doing today.

188

00:13:15,360 --> 00:13:19,360

Providing the boom for both rooms is a blasting cap.

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00:13:19,360 --> 00:13:26,360

For a test on this scale, J.D. and Frank have chosen two robust yet cheeky number 10s.

190

00:13:26,360 --> 00:13:28,360

It's right there for one inch off the ground.

191

00:13:28,360 --> 00:13:31,360

Okay, if that's one inch, let's mark it and tape it.

192

00:13:31,360 --> 00:13:37,360

J.D. and Frank are ensuring the setup's exactly the same when the time comes to prime the bunker.

193

00:13:37,360 --> 00:13:39,360

Jamie, the cap's in place.

194

00:13:39,360 --> 00:13:40,360

Excellent.

195

00:13:40,360 --> 00:13:45,360

Hopefully safe behind the screen, Jamie counts down to the open room blast.

196

00:13:45,360 --> 00:13:49,360

And three, two, one.

197

00:13:49,360 --> 00:13:51,360

Nice.

198

00:13:51,360 --> 00:13:52,360

Let's go look at the data.

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00:13:52,360 --> 00:13:53,360

Okay.

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00:13:53,360 --> 00:13:57,360

Now remember, the rooms are to scale, but the charge isn't.

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00:13:57,360 --> 00:14:02,360

We're not looking for damage, but the measure of pressure induced by the blast.

202

00:14:02,360 --> 00:14:04,360

So what's the data say?

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00:14:04,360 --> 00:14:07,360

In the conference room, we've got a peak pressure of 14 psi.

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00:14:07,360 --> 00:14:09,360

Excellent. Let's do the other one.

205

00:14:09,360 --> 00:14:10,360

Okay.

206

00:14:10,360 --> 00:14:15,360

So it's off to the bunker and just like the first room, this lodge needs a lid.

207

00:14:15,360 --> 00:14:18,360

It sounds like we're seeing a crypt.

208

00:14:18,360 --> 00:14:19,360

Correct.

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00:14:19,360 --> 00:14:21,360

Well, that's kind of the whole idea.

210

00:14:21,360 --> 00:14:25,360

And with the roof welded tight, Jamie screws in the pressure transducer.

211

00:14:25,360 --> 00:14:28,360

This time around, it's a contained explosion.

212

00:14:28,360 --> 00:14:32,360

And if the theory is correct, we should see a higher psi in here.

213

00:14:32,360 --> 00:14:34,360

There we go.

214

00:14:34,360 --> 00:14:39,360

Now, J.D. and Frank ever so carefully insert the explosive.

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00:14:39,360 --> 00:14:42,360

When they're done, we're almost ready to blow.

216

00:14:42,360 --> 00:14:47,360

And three, two, one.

217

00:14:47,360 --> 00:14:49,360

Bunk.

218

00:14:49,360 --> 00:14:57,360

Just like last time, the steel shell muffled the blast, but the drama is all in the data.

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00:14:57,360 --> 00:14:59,360

What happened in the bunker?

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00:14:59,360 --> 00:15:05,360

In the bunker, we got a peak pressure of 55 psi, almost four times the pressure we got in the conference room.

221

00:15:05,360 --> 00:15:07,360

Wow. That's a result.

222

00:15:07,360 --> 00:15:08,360

It is.

223

00:15:08,360 --> 00:15:14,360

As predicted, this potentially lethal pressure wave would do a lot more damage in the bunker,

224

00:15:14,360 --> 00:15:16,360

which is really good news for the myth.

225

00:15:16,360 --> 00:15:20,360

I think there really might be something to this one. Where do you want to go from here?

226

00:15:20,360 --> 00:15:23,360

Let's stop screwing around and ramp things up.

227

00:15:23,360 --> 00:15:28,360

Up next, Grant suffers for science, but not in silence.

228

00:15:28,360 --> 00:15:31,360

On to the tests.

229

00:15:34,360 --> 00:15:41,360

With the robot prime traction, the next step in the slap some sense myth is to run a series of tests.

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00:15:41,360 --> 00:15:48,360

First with the subject as normal, then impaired in some way, then impaired again and slapped.

231

00:15:48,360 --> 00:15:55,360

The man in the hot seat is Grant simply because this face under pressure was far and away the funniest.

232

00:15:55,360 --> 00:15:58,360

And here's what he's going to face.

233

00:15:58,360 --> 00:16:02,360

For a slap sense myth experiment, we have four tasks to challenge Grant.

234

00:16:02,360 --> 00:16:08,360

We're going to test his reflexes, calculation, coordination, and visual and communication skills.

235

00:16:08,360 --> 00:16:14,360

And to make sure that slap effect doesn't wear off, each of these tasks will only be about a minute long.

236

00:16:14,360 --> 00:16:16,360

We'll get to the slap shortly.

237

00:16:16,360 --> 00:16:24,360

First up, Grant attempts all four tasks to give us an unimpaired baseline before we fetter his faculties.

238

00:16:24,360 --> 00:16:27,360

So this is how the reflex challenge is going to work.

239

00:16:27,360 --> 00:16:29,360

Grant will stand here on this grate.

240

00:16:29,360 --> 00:16:30,360

All right, you got it.

241

00:16:30,360 --> 00:16:34,360

Now above him are stars that are held up by electromagnets.

242

00:16:34,360 --> 00:16:36,360

These stars will drop one at a time.

243

00:16:36,360 --> 00:16:41,360

And his challenge is to catch stars before they hit the ground.

244

00:16:41,360 --> 00:16:44,360

Five, six, he's amazing.

245

00:16:44,360 --> 00:16:45,360

Seven, eight.

246

00:16:45,360 --> 00:16:46,360

What do you think?

247

00:16:46,360 --> 00:16:47,360

Well done.

248

00:16:47,360 --> 00:16:48,360

Eight out of eight.

249

00:16:48,360 --> 00:16:50,360

On to the next challenge.

250

00:16:50,360 --> 00:16:54,360

So for the coordination challenge, it'll be a good old fashioned shooting gallery.

251

00:16:54,360 --> 00:16:58,360

One with these air powered rifles firing corks.

252

00:16:58,360 --> 00:17:01,360

Two of 60 seconds to load the rifle.

253

00:17:01,360 --> 00:17:02,360

Three.

254

00:17:02,360 --> 00:17:05,360

And shoot all six targets.

255

00:17:05,360 --> 00:17:06,360

Four.

256

00:17:06,360 --> 00:17:07,360

All right.

257

00:17:07,360 --> 00:17:12,360

You shot five out of six.

258

00:17:12,360 --> 00:17:13,360

Well done.

259

00:17:13,360 --> 00:17:14,360

Thank you.

260

00:17:14,360 --> 00:17:17,360

Tests three and four are a bit more cerebral.

261

00:17:17,360 --> 00:17:24,360

First, a communication challenge as he and a blindfolded Tory try to replicate a pattern.

262

00:17:24,360 --> 00:17:25,360

Two tips on the triangle stitch.

263

00:17:25,360 --> 00:17:26,360

Okay.

264

00:17:26,360 --> 00:17:27,360

We're done.

265

00:17:27,360 --> 00:17:30,360

And then a quick fire math test.

266

00:17:30,360 --> 00:17:31,360

30 plus two.

267

00:17:31,360 --> 00:17:39,360

For this exercise, there is a time limit, which poses no problem as he nails three from three.

268

00:17:39,360 --> 00:17:44,360

With his brain firing at all cylinders, Grant scored predictably well.

269

00:17:44,360 --> 00:17:47,360

Now it's time to dial down his faculties.

270

00:17:47,360 --> 00:17:53,360

And according to Dr. Sanders, one of the best and simplest ways is to put him on ice.

271

00:17:53,360 --> 00:17:56,360

Oh, what is this?

272

00:17:56,360 --> 00:17:58,360

So we're going to chill you.

273

00:17:58,360 --> 00:17:59,360

Right.

274

00:17:59,360 --> 00:18:02,360

We'll leave you in here for a half hour until the cold takes effect on your body.

275

00:18:02,360 --> 00:18:05,360

And we'll pull you out and have you run the tests.

276

00:18:05,360 --> 00:18:06,360

And that'll be our control.

277

00:18:06,360 --> 00:18:07,360

That's right.

278

00:18:07,360 --> 00:18:09,360

After taking his temperature.

279

00:18:09,360 --> 00:18:10,360

Okay.

280

00:18:10,360 --> 00:18:13,360

We have a starting temperature of 97.1.

281

00:18:13,360 --> 00:18:14,360

Chill out.

282

00:18:14,360 --> 00:18:15,360

All right.

283

00:18:15,360 --> 00:18:16,360

Chill out.

284

00:18:16,360 --> 00:18:17,360

Oh, very funny.

285

00:18:17,360 --> 00:18:20,360

They leave Grant to shiver and speculate.

286

00:18:20,360 --> 00:18:23,360

Now I've been in really cold temperatures.

287

00:18:23,360 --> 00:18:27,360

The first thing that starts to go is your motor skills.

288

00:18:27,360 --> 00:18:30,360

The second thing that goes is your judgment.

289

00:18:30,360 --> 00:18:34,360

When the half hours up, Grant's lost seven degrees of body temperature.

290

00:18:34,360 --> 00:18:37,360

Technically, that's verging on hypothermia.

291

00:18:37,360 --> 00:18:39,360

So let's see if the doctor was right.

292

00:18:39,360 --> 00:18:42,360

If the cold has impaired him as much as a panic attack.

293

00:18:42,360 --> 00:18:43,360

Okay.

294

00:18:43,360 --> 00:18:44,360

Coordination.

295

00:18:44,360 --> 00:18:45,360

Are you ready for this challenge?

296

00:18:45,360 --> 00:18:46,360

I'm ready.

297

00:18:46,360 --> 00:18:47,360

Stay frosty.

298

00:18:47,360 --> 00:18:48,360

All right.

299

00:18:48,360 --> 00:18:49,360

He starts with the targets.

300

00:18:49,360 --> 00:18:54,360

Last time, he was five from six.

301

00:18:54,360 --> 00:18:56,360

This time, it's three.

302

00:18:56,360 --> 00:18:59,360

Now, it's time to move on to the next challenge.

303

00:18:59,360 --> 00:19:01,360

Next up is the math test.

304

00:19:01,360 --> 00:19:04,360

And those numbers aren't tripping off the tongue like last time.

305

00:19:04,360 --> 00:19:08,360

Five plus eight is 33.

306

00:19:08,360 --> 00:19:10,360

It's like he's been drinking.

307

00:19:10,360 --> 00:19:11,360

210.

308

00:19:11,360 --> 00:19:12,360

Wrong.

309

00:19:12,360 --> 00:19:16,360

With time running out, he scored nothing.

310

00:19:16,360 --> 00:19:17,360

Time's up.

311

00:19:17,360 --> 00:19:19,360

Move on to the next challenge.

312

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

Cache coordination now?

313

00:19:21,360 --> 00:19:23,360

Yeah, it almost seems cruel.

314

00:19:23,360 --> 00:19:25,360

That's science for you.

315

00:19:25,360 --> 00:19:26,360

One.

316

00:19:26,360 --> 00:19:27,360

Two.

317

00:19:27,360 --> 00:19:32,360

Two out of eight.

318

00:19:32,360 --> 00:19:34,360

Last time, he got eight out of eight.

319

00:19:34,360 --> 00:19:38,360

So hopes are not high for the last test.

320

00:19:38,360 --> 00:19:39,360

Okay.

321

00:19:39,360 --> 00:19:42,360

The seconds tick by.

322

00:19:42,360 --> 00:19:43,360

To the right.

323

00:19:43,360 --> 00:19:44,360

Oh, okay.

324

00:19:44,360 --> 00:19:45,360

Sorry.

325

00:19:45,360 --> 00:19:47,360

Flip it clockwise.

326

00:19:47,360 --> 00:19:48,360

Clockwise.

327

00:19:48,360 --> 00:19:51,360

And there's more than one pattern emerging.

328

00:19:51,360 --> 00:19:53,360

Retake clockwise and got it.

329

00:19:53,360 --> 00:19:54,360

Time.

330

00:19:54,360 --> 00:19:55,360

All right.

331

00:19:55,360 --> 00:19:59,360

Well, the results of the control test are you're definitely compromised.

332

00:19:59,360 --> 00:20:04,360

In fact, impaired Grant was trounced by non-impaired Grant.

333

00:20:04,360 --> 00:20:06,360

Now for the fun stuff.

334

00:20:06,360 --> 00:20:09,360

Time to stick you back in the freezer for a half hour,

335

00:20:09,360 --> 00:20:12,360

bring you out, slap you and do the test again.

336

00:20:12,360 --> 00:20:15,360

Grant's warmed up during testing.

337

00:20:15,360 --> 00:20:19,360

So it's back to the freezer to inhibit his brain again.

338

00:20:19,360 --> 00:20:23,360

And 30 mind and body numbing minutes later.

339

00:20:23,360 --> 00:20:25,360

You ready for the test?

340

00:20:27,360 --> 00:20:30,360

All right, Grant, have a seat in the slapping machine.

341

00:20:30,360 --> 00:20:31,360

Okay.

342

00:20:31,360 --> 00:20:32,360

Okay.

343

00:20:32,360 --> 00:20:33,360

You are cold.

344

00:20:33,360 --> 00:20:34,360

All right.

345

00:20:34,360 --> 00:20:36,360

You ready to get some sits slapped into you?

346

00:20:36,360 --> 00:20:38,360

Here we go.

347

00:20:42,360 --> 00:20:43,360

All right.

348

00:20:43,360 --> 00:20:44,360

Onto the reflexes test.

349

00:20:44,360 --> 00:20:49,360

There's no time to lose as they don't want the cold or the slap to wear off.

350

00:20:51,360 --> 00:20:58,360

One, two, three, four, five.

351

00:20:58,360 --> 00:20:59,360

Pretty good.

352

00:20:59,360 --> 00:21:00,360

Onto the next test.

353

00:21:00,360 --> 00:21:03,360

But first it's back in the truck for a top up.

354

00:21:03,360 --> 00:21:06,360

It's a method they'll repeat between each test.

355

00:21:06,360 --> 00:21:09,360

First the reach ill, then the slap.

356

00:21:11,360 --> 00:21:12,360

All right.

357

00:21:12,360 --> 00:21:14,360

All right, quick to the next challenge.

358

00:21:14,360 --> 00:21:15,360

Onto math.

359

00:21:15,360 --> 00:21:19,360

On the math quiz, well, it's hard to be sure,

360

00:21:19,360 --> 00:21:22,360

but he does seem more focused than last time.

361

00:21:22,360 --> 00:21:25,360

Minus 10 is 70 divided by two is 35.

362

00:21:25,360 --> 00:21:27,360

And that's time.

363

00:21:27,360 --> 00:21:30,360

Not as good as the practice, but better than the control.

364

00:21:30,360 --> 00:21:31,360

You got one out of three.

365

00:21:31,360 --> 00:21:33,360

Off to the chill on the slapping.

366

00:21:33,360 --> 00:21:38,360

It's fun to watch, but let's spare a thought for the man with his face on the line.

367

00:21:38,360 --> 00:21:39,360

I'm starting to feel bad for him.

368

00:21:39,360 --> 00:21:40,360

Me too.

369

00:21:40,360 --> 00:21:41,360

Just a little.

370

00:21:43,360 --> 00:21:46,360

On to the test.

371

00:21:46,360 --> 00:21:47,360

Let's go.

372

00:21:47,360 --> 00:21:52,360

Right about now, Carrie and Tori are thankful that the gun only shoots corks.

373

00:21:52,360 --> 00:22:00,360

Our expert said that the physiological response to getting slapped is the fight or flight adrenaline rush that you get.

374

00:22:00,360 --> 00:22:07,360

I'm pretty sure that's what I had because when I got slapped, I was ready to like jump up and hit something.

375

00:22:07,360 --> 00:22:15,360

So with one last long shiver and a hopefully restorative slap, Grant once again consorts with the enemy.

376

00:22:15,360 --> 00:22:18,360

You're sounding a lot more focused. It's good. I like where you're going.

377

00:22:18,360 --> 00:22:20,360

Rotate back counterclockwise.

378

00:22:20,360 --> 00:22:26,360

But is he on track to beat the last time trial? Only Carrie knows for sure.

379

00:22:26,360 --> 00:22:31,360

Okay, there we have it. Not as good as the practice, but better than the control.

380

00:22:32,360 --> 00:22:39,360

The results are as clear as ice. When Grant was part crippled by cold, his performance fell off across the board.

381

00:22:39,360 --> 00:22:45,360

After the slap, he bouts back, but not far enough to match his unimpaired baseline.

382

00:22:45,360 --> 00:22:52,360

I have to say that I'm starting to believe that there's something to being able to slap sense into someone.

383

00:22:52,360 --> 00:22:56,360

The myth looks plausible, but have we gone far enough to prove the point?

384

00:22:56,360 --> 00:23:02,360

They have still room to ramp this one up, and the bonus for Grant is he'll get his revenge.

385

00:23:02,360 --> 00:23:09,360

Coming up, Adam and Jamie find that building a bunker might be more dangerous than blowing it up.

386

00:23:14,360 --> 00:23:18,360

Well, so far so good. Our small scale task seems to be supporting the theory.

387

00:23:18,360 --> 00:23:21,360

I think it's time to go full scale. Ramp things up.

388

00:23:21,360 --> 00:23:23,360

I totally agree. I've got an idea about that.

389

00:23:23,360 --> 00:23:31,360

Since the conventional wisdom is basically that all things being equal, the enclosed explosion is deadlier, let's make all things equal.

390

00:23:31,360 --> 00:23:36,360

Let's get two identically sized shipping containers and dress them both precisely the same.

391

00:23:36,360 --> 00:23:44,360

Same amount of explosives, same briefcase, same conference table that Hitler was standing at in each container, except in one, we cut windows in it,

392

00:23:44,360 --> 00:23:50,360

and in the other, we bury it underground. Then, we detonate the same amount of explosives in each and see what we get.

393

00:23:50,360 --> 00:23:51,360

I love it.

394

00:23:51,360 --> 00:23:52,360

Great.

395

00:23:52,360 --> 00:23:59,360

So it's back to the bomb range to put this myth of the two rooms at Wolf's Lair to the ultimate test.

396

00:23:59,360 --> 00:24:05,360

For this test, the role of our underground bunker and our above-ground conference room will be played by a pair of truck containers.

397

00:24:05,360 --> 00:24:11,360

These truck containers, now, if you'll excuse me, I'm going to take one, put it into position, and cut some windows out of it.

398

00:24:11,360 --> 00:24:17,360

It's a point of pride here on the show that when the going gets tough, we don't send out for the contractors.

399

00:24:17,360 --> 00:24:26,360

It's agreed that the best way to make a shipping container more like an underground bunker is to slip it tight inside a 12-foot deep dirt trench.

400

00:24:26,360 --> 00:24:28,360

And Jamie's the man for the job.

401

00:24:28,360 --> 00:24:33,360

Now that we've covered care and feeding of the Heinemann, it's important to talk about stimulation.

402

00:24:33,360 --> 00:24:38,360

Heinemann is never happier than when the Heinemann is simply digging a big hole.

403

00:24:38,360 --> 00:24:43,360

So give your Heinemann the opportunity to dig a large hole preferably with farm equipment.

404

00:24:43,360 --> 00:24:45,360

Oh, yeah.

405

00:24:45,360 --> 00:24:48,360

That's what I call a Heinemann in its element.

406

00:24:48,360 --> 00:24:57,360

Now let's see a savage in his, hauling the soon-to-be situation room to its last resting place as a delicate operation.

407

00:24:57,360 --> 00:25:03,360

That container weighs two and a half tons, but Adam drops it pretty much on a dime.

408

00:25:03,360 --> 00:25:05,360

That doesn't look bad.

409

00:25:05,360 --> 00:25:10,360

I mean, it's not gorgeous, but not bad. It's pretty good.

410

00:25:10,360 --> 00:25:13,360

Well, there's still time enough to spruce up the old place.

411

00:25:13,360 --> 00:25:19,360

Item number one on the job sheet is to mark up and carve out some windows.

412

00:25:19,360 --> 00:25:22,360

Oh, that's nice.

413

00:25:22,360 --> 00:25:24,360

There's a whole place out there.

414

00:25:24,360 --> 00:25:28,360

Okay, so we can all give thanks that this man never became a dentist.

415

00:25:28,360 --> 00:25:31,360

But you have to admit, he gets the job done.

416

00:25:31,360 --> 00:25:33,360

Ah!

417

00:25:35,360 --> 00:25:38,360

You can never tell whether those things open in or out.

418

00:25:38,360 --> 00:25:43,360

Back in the trenches, Jamie measures the depth and the breadth of his bunker burial plot.

419

00:25:43,360 --> 00:25:45,360

Perfect.

420

00:25:45,360 --> 00:25:49,360

Next on the schedule is blazing the windows.

421

00:25:49,360 --> 00:25:57,360

I know what you're saying. You're saying, Adam, I'm pretty sure the Germans had more sophisticated window technology than duct tape.

422

00:25:57,360 --> 00:26:01,360

And I agree. That's not what this test is about, though.

423

00:26:01,360 --> 00:26:08,360

This is a purely relative test, testing an explosion in an enclosed space versus an open space.

424

00:26:08,360 --> 00:26:12,360

This is literally window dressing.

425

00:26:12,360 --> 00:26:17,360

Over at Heinemann's Hall, Jamie's been weaving his own kind of magic.

426

00:26:17,360 --> 00:26:20,360

The building's been slotted as neat as you please into the trench.

427

00:26:20,360 --> 00:26:22,360

What's good now?

428

00:26:22,360 --> 00:26:27,360

It's packed in and covered with earth to simulate Hitler's bunker in the woods.

429

00:26:27,360 --> 00:26:34,360

With preparations going so well, you can help feeling that something, somewhere, is going to crack.

430

00:26:34,360 --> 00:26:39,360

Surprisingly, it's not Adam's windows, but Jamie's container.

431

00:26:39,360 --> 00:26:41,360

Oh!

432

00:26:41,360 --> 00:26:45,360

It's just what you don't want to hear at the end of a long day's labor.

433

00:26:45,360 --> 00:26:47,360

I just heard it. Crunch.

434

00:26:47,360 --> 00:26:49,360

Oh, no. Have we opened it up yet?

435

00:26:49,360 --> 00:26:50,360

No.

436

00:26:50,360 --> 00:26:54,360

Oh, criminy. That would suck.

437

00:26:54,360 --> 00:26:57,360

And that would be an understatement.

438

00:26:57,360 --> 00:27:00,360

Oh. Did you hear that?

439

00:27:00,360 --> 00:27:01,360

Yeah.

440

00:27:01,360 --> 00:27:02,360

I don't want to go in there.

441

00:27:02,360 --> 00:27:03,360

No.

442

00:27:03,360 --> 00:27:11,360

It seems the problem stems back to supply, as they discover this container is part fiberglass and not nearly as strong as the other one.

443

00:27:11,360 --> 00:27:13,360

Dude, I know.

444

00:27:13,360 --> 00:27:15,360

What do we do?

445

00:27:15,360 --> 00:27:17,360

Get another one.

446

00:27:17,360 --> 00:27:26,360

Set back all right, and with the full-scale testing set for tomorrow morning, someone needs to do something and do it fast.

447

00:27:26,360 --> 00:27:28,360

My suit.

448

00:27:28,360 --> 00:27:33,360

Straight ahead, hungry, tired, cold and slapped.

449

00:27:33,360 --> 00:27:38,360

Harry and Tori face the ultimate challenge.

450

00:27:38,360 --> 00:27:41,360

She had a bad day.

451

00:27:42,360 --> 00:27:46,360

Okay, so Grant's tests showed that slapping made a difference.

452

00:27:46,360 --> 00:27:48,360

Yeah, but you know what? I don't think we were thorough enough.

453

00:27:48,360 --> 00:27:54,360

I mean, yeah, we put them in the cold and that inhibited his brain, but I think we could add a couple more things.

454

00:27:54,360 --> 00:27:57,360

Maybe sleep deprivation or even hunger.

455

00:27:57,360 --> 00:27:58,360

No!

456

00:27:58,360 --> 00:27:59,360

Yeah.

457

00:27:59,360 --> 00:28:01,360

And I think there wasn't enough consequence to his errors.

458

00:28:01,360 --> 00:28:06,360

I think we need to do something like a gun range test, like a police training test where you have to make quick, split-second decisions.

459

00:28:06,360 --> 00:28:08,360

Okay, perfect. But I have one change.

460

00:28:08,360 --> 00:28:11,360

This time, I administer the test and you two get slapped.

461

00:28:11,360 --> 00:28:13,360

No, that's a terrible idea.

462

00:28:13,360 --> 00:28:16,360

Yeah, I think we should take a vote on that one. All in favor of Grant.

463

00:28:16,360 --> 00:28:18,360

All in favor of Tori and Carrie.

464

00:28:19,360 --> 00:28:23,360

Producer voted. She gets the override. You two are getting slapped.

465

00:28:23,360 --> 00:28:30,360

So they'll both go all day without food or sleep and of course spend some time in the deep freeze.

466

00:28:30,360 --> 00:28:37,360

This should inhibit their brain function as much as hysterical panic without actually inducing it.

467

00:28:37,360 --> 00:28:45,360

And taking the test to a shooting range means they'll be forced to make quick fire decisions with potentially serious consequences.

468

00:28:46,360 --> 00:28:54,360

Okay, so this is our two-minute shooting drill course that we're going to be putting our frozen, tired and starving Tori and Carrie through.

469

00:28:54,360 --> 00:28:58,360

When we say go, random targets will flip over, good and bad.

470

00:28:58,360 --> 00:29:02,360

They will have to choose only the bad guy and not shoot the good guy.

471

00:29:02,360 --> 00:29:09,360

They'll each have 30 rounds and on Grant's command, they'll advance twice down the room to complete the test.

472

00:29:09,360 --> 00:29:17,360

These guns are in fact real guns, but they've been specially modified with a different barrel that allows them to fire these rounds,

473

00:29:17,360 --> 00:29:20,360

which are training rounds and markers. They're called SIMS.

474

00:29:20,360 --> 00:29:24,360

They're filled with paint so that you can identify where they hit.

475

00:29:24,360 --> 00:29:27,360

Carrie and Tori are called on to help reassemble the robot.

476

00:29:27,360 --> 00:29:33,360

And after a day of deprivation, they're exhausted and starving, and Grant's not making it easy.

477

00:29:33,360 --> 00:29:36,360

So how many times did I get slapped yesterday?

478

00:29:36,360 --> 00:29:41,360

That looks good. Oh my gosh. Is that a triple?

479

00:29:41,360 --> 00:29:46,360

Then it's into the ice truck for 30 minutes to consolidate their incapacity.

480

00:29:50,360 --> 00:29:56,360

To be scrupulous, Carrie and Tori first ran the course yesterday when they were still hail and hearty.

481

00:29:56,360 --> 00:30:03,360

They both fired 30 rounds and missed just once. So that's our uninhibited baseline.

482

00:30:03,360 --> 00:30:08,360

Now it's time to find out just how impaired they've become, starting with Carrie.

483

00:30:08,360 --> 00:30:12,360

Eyes on. Pick up your firearm.

484

00:30:12,360 --> 00:30:18,360

I am really tired from tensing. I am freezing cold. I am starving.

485

00:30:18,360 --> 00:30:21,360

Ready. And begin.

486

00:30:21,360 --> 00:30:23,360

I think I'm getting a headache.

487

00:30:23,360 --> 00:30:29,360

So she's less than her usual bubbly self, but will it impair her performance?

488

00:30:29,360 --> 00:30:35,360

Going through the course was a lot harder than I thought it was going to be because I was shaking so much that I couldn't hold my gun straight.

489

00:30:35,360 --> 00:30:46,360

And it's like I can't concentrate. It was just, my head is tired. I can't focus.

490

00:30:47,360 --> 00:30:55,360

At the end of the test, Carrie at least hasn't shot any good guys, but the round she got off were really a case of hit and miss.

491

00:30:55,360 --> 00:30:58,360

You fired a total of 19 rounds and eight of them were hits.

492

00:30:58,360 --> 00:30:59,360

It's like an F.

493

00:30:59,360 --> 00:31:04,360

Yeah, but bear in mind, I mean you're tired, hungry and cold. You're supposed to be impaired.

494

00:31:04,360 --> 00:31:06,360

Mission accomplished.

495

00:31:06,360 --> 00:31:08,360

All right, let's go get Tori.

496

00:31:09,360 --> 00:31:14,360

Hungry, tired and chilled, not in a good way. Tori takes up the challenge.

497

00:31:14,360 --> 00:31:20,360

Being inside that freezer truck was miserable. My fingers are getting numb. I'm starting to shiver.

498

00:31:20,360 --> 00:31:30,360

I could feel my muscles tightening up, you know, just to stay warm. And I'm thinking to myself, if I can't even feel my finger, how am I going to feel the gun in order to pull the trigger?

499

00:31:31,360 --> 00:31:32,360

Reloaded.

500

00:31:33,360 --> 00:31:39,360

Well, he does get to grips with the gun, but just how many of those paint filled bullets have hit the targets?

501

00:31:40,360 --> 00:31:42,360

He had a bad day.

502

00:31:42,360 --> 00:31:44,360

Okay, John, so how did Tori do?

503

00:31:44,360 --> 00:31:49,360

He did really well. Not only did we get all of the shots on target, but he grouped him together very well.

504

00:31:49,360 --> 00:31:51,360

Now, on the overall course, how did I do?

505

00:31:51,360 --> 00:31:57,360

Well, we counted him up. He didn't hit any of the good guys. He got off 24 rounds and we had 21 hits.

506

00:31:57,360 --> 00:32:05,360

There's not much in it, but just like Carrie, he did worse when affected by hunger and cold and no sleep for a day.

507

00:32:06,360 --> 00:32:11,360

Now we're ready to find out once and for all if a slap makes a difference.

508

00:32:15,360 --> 00:32:26,360

Yesterday did not end well for Adam and Jamie, but with a new up-to-code container secured and currently being reinstalled, it's all back on track.

509

00:32:26,360 --> 00:32:32,360

That gives Adam a chance to explain his amazing design for the real stars of the show.

510

00:32:32,360 --> 00:32:35,360

A pair of high-tech faux furors.

511

00:32:35,360 --> 00:32:38,360

In any explosion, there's pretty much two things that are going to kill you.

512

00:32:38,360 --> 00:32:46,360

One is the pressure wave and two is the shrapnel, and we'll be measuring both using this big block of urethane foam.

513

00:32:46,360 --> 00:32:53,360

This will, in fact, be our Hitler standing at the conference table, and it will have a pressure transducer placed in the center of the chest, front and back,

514

00:32:53,360 --> 00:32:57,360

to measure the blast pressures coming off the explosion.

515

00:32:57,360 --> 00:33:03,360

And because it's a big block of foam, it is ideal for measuring the shrapnel injuries that might

have been sustained,

516

00:33:03,360 --> 00:33:09,360

because anything, any piece of wood, any splinter that flies off this explosion is going to stick right in this foam

517

00:33:09,360 --> 00:33:13,360

and give us a really good idea of the kind of injuries that Hitler might have sustained.

518

00:33:13,360 --> 00:33:21,360

For Adam's design to work properly, the sensors and the wires need protection, hence the two metal plates.

519

00:33:21,360 --> 00:33:26,360

If all goes to plan, the chest sensor will measure the initial blast wave of the bomb,

520

00:33:26,360 --> 00:33:31,360

and the back sensor will register shock waves that reverberate off the wall.

521

00:33:31,360 --> 00:33:35,360

Right. I think our shrapnel collectors are ready for testing.

522

00:33:35,360 --> 00:33:43,360

It's back to the bomb range to hopefully show if in some alternative universe, the bomb and the bunker would have killed Hitler.

523

00:33:43,360 --> 00:33:51,360

They'll begin by blowing up the situation room and see if the damage matches the actual event in 1944.

524

00:33:51,360 --> 00:33:55,360

In addition to our electronic data point about the blast pressure in this experiment,

525

00:33:55,360 --> 00:34:00,360

we are also going to grab an analog data point with this, one of our handy little burst discs.

526

00:34:00,360 --> 00:34:04,360

This is set at 100 psi, and if this bursts, it equals death.

527

00:34:04,360 --> 00:34:07,360

And it doesn't get much clearer than that.

528

00:34:07,360 --> 00:34:14,360

With all the equipment in place and checked, J.D. and Frank measure out an historically precise chunk of C4.

529

00:34:14,360 --> 00:34:19,360

975 grams. Let's pack it up. Perfect.

530

00:34:19,360 --> 00:34:20,360

It's good to go.

531

00:34:20,360 --> 00:34:28,360

Inside the room, the last act of sedition is to connect the explosive to a firing mechanism in the safety bunker.

532

00:34:28,360 --> 00:34:31,360

There's a lot riding on the result.

533

00:34:31,360 --> 00:34:39,360

To validate the upcoming bunker test, they need this blast to be almost identical to the real one that failed to kill Hitler.

534

00:34:39,360 --> 00:34:45,360

Situation room control explosion. In three, two, one.

535

00:34:50,360 --> 00:34:52,360

Boom.

536

00:34:54,360 --> 00:34:56,360

I wouldn't want to be in that room.

537

00:34:57,360 --> 00:35:02,360

It's hard to imagine anyone surviving this, but that's what they're hoping.

538

00:35:02,360 --> 00:35:04,360

Look, we got a new doorway.

539

00:35:04,360 --> 00:35:06,360

Watch out for some nails.

540

00:35:06,360 --> 00:35:10,360

It did what it said it would do to the floor. There's a hole there.

541

00:35:10,360 --> 00:35:16,360

Wow, look at that. Mr. Hitler's in three rather large chunks.

542

00:35:16,360 --> 00:35:19,360

Now when I see intact burst discs.

543

00:35:19,360 --> 00:35:22,360

Absolutely. Look at that. It's totally intact.

544

00:35:22,360 --> 00:35:29,360

So they know the blast was less than 100 psi, and Hitler's actually a lot healthier than he looks.

545

00:35:29,360 --> 00:35:36,360

Wow, I mean it really is clear that while he might have taken a lot of damage from splinters in his lower half, his head completely untouched.

546

00:35:36,360 --> 00:35:43,360

Yeah, that's what the Gestapo report said, that he had splinters in his legs, but from the waist up, he's pretty well intact.

547

00:35:43,360 --> 00:35:48,360

So that supports the burst disc, that it's a survivable blast we know from history that Hitler survived it.

548

00:35:48,360 --> 00:35:50,360

So kudos on a good control.

549

00:35:50,360 --> 00:35:51,360

Boom.

550

00:35:52,360 --> 00:35:55,360

In fact, it looks like a great control.

551

00:35:55,360 --> 00:35:59,360

But will David's figures confirm the non-kill?

552

00:35:59,360 --> 00:36:01,360

To David, what would we get?

553

00:36:01,360 --> 00:36:06,360

We had an average of 18 psi for just over a millisecond, which is definitely survivable.

554

00:36:06,360 --> 00:36:08,360

I'll be darned.

555

00:36:08,360 --> 00:36:20,360

All of our data shows that our Hitler could have totally survived this blast, despite the fact that when we watched it blow up, we all thought, oh, crap.

556

00:36:20,360 --> 00:36:22,360

This couldn't have gone better.

557

00:36:24,360 --> 00:36:29,360

Now the question is, what will happen in the underground bunker when we contain that blast wave?

558

00:36:29,360 --> 00:36:34,360

Still to come, what would have happened with the bomb in the bunker?

559

00:36:34,360 --> 00:36:37,360

One, oh!

560

00:36:40,360 --> 00:36:45,360

A slap in the face can be painful, surprising, and downright disturbing.

561

00:36:45,360 --> 00:36:48,360

But can it really be used to focus your brain?

562

00:36:48,360 --> 00:36:50,360

I know I'm a much better shot than that.

563

00:36:50,360 --> 00:36:52,360

We're about to find out.

564

00:36:52,360 --> 00:36:54,360

Sorry, Carrie.

565

00:36:57,360 --> 00:36:59,360

All right, good, good.

566

00:36:59,360 --> 00:37:00,360

How you feeling?

567

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

I just got smacked.

568

00:37:02,360 --> 00:37:03,360

Okay.

569

00:37:03,360 --> 00:37:06,360

But will she improve or implode?

570

00:37:06,360 --> 00:37:08,360

Let's begin the testing.

571

00:37:08,360 --> 00:37:10,360

Ready and begin.

572

00:37:10,360 --> 00:37:12,360

And let Carrie handle the commentary.

573

00:37:12,360 --> 00:37:15,360

Getting slapped really refocused me.

574

00:37:15,360 --> 00:37:21,360

And I feel like that slap is a lot harder than when we calibrated it originally.

575

00:37:21,360 --> 00:37:29,360

I don't know if I'm just really cold, extremely irritated, starving, but felt really focused.

576

00:37:29,360 --> 00:37:30,360

She did really well.

577

00:37:30,360 --> 00:37:34,360

She got off a total of 22 rounds and 16 on target.

578

00:37:34,360 --> 00:37:35,360

So a very big improvement.

579

00:37:35,360 --> 00:37:36,360

Nice.

580

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

And no good guys.

581

00:37:37,360 --> 00:37:38,360

Very good.

582

00:37:38,360 --> 00:37:42,360

Carrie scored well enough to well and truly prop up the myth.

583

00:37:42,360 --> 00:37:44,360

Now it's all down to Tori.

584

00:37:44,360 --> 00:37:45,360

Okay, man.

585

00:37:45,360 --> 00:37:47,360

How you feeling?

586

00:37:47,360 --> 00:37:52,360

Cold, disoriented, a little foggy in the head.

587

00:37:52,360 --> 00:37:53,360

Okay.

588

00:38:00,360 --> 00:38:02,360

All right, let's do this.

589

00:38:02,360 --> 00:38:04,360

All right, ready.

590

00:38:04,360 --> 00:38:05,360

Okay.

591

00:38:05,360 --> 00:38:06,360

And begin.

592

00:38:06,360 --> 00:38:10,360

And starts the test that will hopefully settle this once and for all.

593

00:38:10,360 --> 00:38:15,360

I am so surprised at how different I felt before the slap and then after the slap.

594

00:38:15,360 --> 00:38:17,360

We've been in the freezer for a half hour.

595

00:38:17,360 --> 00:38:21,360

I got slapped and instantly I feel awake and alive.

596

00:38:21,360 --> 00:38:24,360

And I felt like I moved through the course a lot better.

597

00:38:27,360 --> 00:38:28,360

Okay, John.

598

00:38:28,360 --> 00:38:29,360

So what are the results?

599

00:38:29,360 --> 00:38:30,360

Really good.

600

00:38:30,360 --> 00:38:34,360

Tori got off a total of 27 shots, 26 on target.

601

00:38:34,360 --> 00:38:36,360

That right there is a clear cut result.

602

00:38:36,360 --> 00:38:40,360

They never got back to their unimpaired baselines, but that's not the benchmark.

603

00:38:40,360 --> 00:38:45,360

The myth is that slapping revives an impaired mind and body.

604

00:38:45,360 --> 00:38:48,360

Well, if we put your results to my results and his results all together,

605

00:38:48,360 --> 00:38:50,360

I think we can call this myth confirmed.

606

00:38:50,360 --> 00:38:55,360

Yeah, we were all compromised and yet all of us had significant improvement after being slapped.

607

00:38:55,360 --> 00:39:00,360

Who would have thought a simple slap would help you to focus and improve your ability?

608

00:39:00,360 --> 00:39:01,360

Confirmed.

609

00:39:01,360 --> 00:39:02,360

Confirmed.

610

00:39:02,360 --> 00:39:03,360

Confirmed.

611

00:39:08,360 --> 00:39:13,360

As this happened to you, are Allied bombers wrecking your dreams of world domination

612

00:39:13,360 --> 00:39:16,360

with their pesky bombs interrupting your meetings?

613

00:39:16,360 --> 00:39:20,360

Have you considered that the problem might be that you're meeting above ground?

614

00:39:20,360 --> 00:39:23,360

Well, have we got a solution for you?

615

00:39:23,360 --> 00:39:27,360

After making their five easy payments, they've got the container they wanted.

616

00:39:27,360 --> 00:39:30,360

It's been partially buried to behave like a bunker,

617

00:39:30,360 --> 00:39:34,360

but they're careful to make sure the fittings, the props, and the explosives

618

00:39:34,360 --> 00:39:38,360

are precisely the same as they were in the last test.

619

00:39:38,360 --> 00:39:40,360

Thank you, sir.

620

00:39:40,360 --> 00:39:43,360

The only thing that is different is the room.

621

00:39:43,360 --> 00:39:47,360

It's the same size, but it's contained, so when we see a pressure wave,

622

00:39:47,360 --> 00:39:49,360

it doesn't have anywhere to go.

623

00:39:49,360 --> 00:39:51,360

Now, theater's in.

624

00:39:51,360 --> 00:39:53,360

You think we're going to kill Hitler this time?

625

00:39:53,360 --> 00:39:54,360

Yes.

626

00:39:54,360 --> 00:39:55,360

Ah, cool.

627

00:39:55,360 --> 00:39:56,360

Well, let's seal it up.

628

00:39:56,360 --> 00:39:59,360

The closest thing they have to a weak point is the front door.

629

00:39:59,360 --> 00:40:03,360

So, Jamie, perhaps recalling his days building the transcontinental railroad,

630

00:40:03,360 --> 00:40:07,360

decides to buttress the bunker with railroad ties.

631

00:40:07,360 --> 00:40:12,360

Now, to briefly retread the trail of destruction that brought us to this epic moment.

632

00:40:12,360 --> 00:40:16,360

Now, we know from our small-scale testing that a confined explosion will yield

633

00:40:16,360 --> 00:40:19,360

a higher blast pressure than an unconfined explosion.

634

00:40:19,360 --> 00:40:24,360

And in our full-scale baseline, we exactly replicated the actual attempt on Hitler's life

635

00:40:24,360 --> 00:40:26,360

and showed that it was completely survivable.

636

00:40:26,360 --> 00:40:30,360

But would anyone stand a ghost of a chance in an underground bunker

637

00:40:30,360 --> 00:40:33,360

with close to a kilo of high explosive?

638

00:40:33,360 --> 00:40:38,360

To confirm the myth, they need to kill Hitler beyond any shadow of a doubt.

639

00:40:38,360 --> 00:40:42,360

In three, two, one.

640

00:40:42,360 --> 00:40:44,360

Oh!

641

00:40:44,360 --> 00:40:46,360

Oh, oh, oh, oh!

642

00:40:46,360 --> 00:40:47,360

Uh-oh.

643

00:40:47,360 --> 00:40:49,360

I think the doors are open.

644

00:40:49,360 --> 00:40:53,360

We've exposed the creamy center.

645

00:40:54,360 --> 00:40:56,360

Well, the bunker still looks intact, though.

646

00:40:56,360 --> 00:40:59,360

It does. Let's approach it gingerly.

647

00:41:01,360 --> 00:41:05,360

The bomb blew the sleeper's 150 feet,

648

00:41:05,360 --> 00:41:09,360

so it's no surprise that inside, it's a train wreck.

649

00:41:09,360 --> 00:41:12,360

But there's one more shockwave to come.

650

00:41:12,360 --> 00:41:15,360

Dude, the first test.

651

00:41:15,360 --> 00:41:17,360

Totally intact.

652

00:41:17,360 --> 00:41:20,360

I would not have called it. Look at this place.

653

00:41:20,360 --> 00:41:23,360

It does look like the guys have blown their deposit.

654

00:41:23,360 --> 00:41:27,360

Look at the devastation here. There's nothing left in here but splinters.

655

00:41:27,360 --> 00:41:31,360

But the crucial stats on survivability rest with David.

656

00:41:31,360 --> 00:41:32,360

What'd we get?

657

00:41:32,360 --> 00:41:36,360

We got an average of 30 psi for just over one millisecond.

658

00:41:36,360 --> 00:41:38,360

That's it? That's it. It was survivable.

659

00:41:38,360 --> 00:41:40,360

I'll be darned.

660

00:41:40,360 --> 00:41:43,360

It's pretty close to an unbelievable result.

661

00:41:43,360 --> 00:41:47,360

While a pressure wave as low as 15 psi could be lethal,

662

00:41:47,360 --> 00:41:50,360

it would have to last for at least 30 milliseconds,

663

00:41:50,360 --> 00:41:53,360

and this blast didn't come close.

664

00:41:53,360 --> 00:41:57,360

People ask us all the time if we come up with results on the show that surprise us,

665

00:41:57,360 --> 00:42:00,360

and here is actually a fantastic example.

666

00:42:00,360 --> 00:42:04,360

We are gobsmacked. We went into this explosion pretty much feeling guaranteed

667

00:42:04,360 --> 00:42:07,360

that Hitler was going to die, and all of our data shows the opposite,

668

00:42:07,360 --> 00:42:10,360

that this was a survivable blast.

669

00:42:14,360 --> 00:42:16,360

That was surprising, huh?

670

00:42:16,360 --> 00:42:19,360

Totally surprising. I was convinced that Hitler was going to die.

671

00:42:19,360 --> 00:42:21,360

Let's go.

672

00:42:21,360 --> 00:42:23,360

If she would have used more explosives.

673

00:42:23,360 --> 00:42:26,360

That's your answer for everything.

674

00:42:28,360 --> 00:42:30,360

And I love these results.

675

00:42:30,360 --> 00:42:32,360

If you were standing where Hitler was in relation to the blast,

676

00:42:32,360 --> 00:42:37,360

you would have survived whether that blast occurred in the bunker or in the situation room.

677

00:42:37,360 --> 00:42:41,360

Yeah, the myth that Hitler only survived because of the change of venue is totally busted.

678

00:42:41,360 --> 00:42:44,360

Totally, totally and completely busted.

679

00:42:44,360 --> 00:42:47,360

If the bomb had been at his feet, as was the original plan,

680

00:42:47,360 --> 00:42:49,360

we might have a completely different story.

681

00:42:49,360 --> 00:42:52,360

The placement of the bomb, the quantity of the explosives,

682

00:42:52,360 --> 00:42:54,360

much more important than the room.

683

00:42:54,360 --> 00:42:57,360

Yeah, I just love the counterintuitive conclusions.

684

00:42:57,360 --> 00:42:59,360

I do too.