

1
00:00:04,910 --> 00:00:08,070
[Amit] This is the Mayo Clinic
Talks, a curated

2
00:00:08,070 --> 00:00:09,600
weekly podcast for

3
00:00:09,600 --> 00:00:11,610
physicians, healthcare
providers,

4
00:00:11,610 --> 00:00:13,755
experts in
regenerative medicine,

5
00:00:13,755 --> 00:00:15,014
dermatologists.

6
00:00:15,014 --> 00:00:17,910
I am Amit Ghosh, a
general internist

7
00:00:17,910 --> 00:00:20,115
at the Mayo Clinic in
Rochester, Minnesota.

8
00:00:20,115 --> 00:00:22,350
And today we're
going to discuss

9
00:00:22,350 --> 00:00:25,724
about platelet rich plasma,

10
00:00:25,724 --> 00:00:26,970
which has been found to

11
00:00:26,970 --> 00:00:28,980
be effective in regrowing hair.

12
00:00:28,980 --> 00:00:31,109
This is a big problem.

13
00:00:31,109 --> 00:00:32,880
Today we are going
to concentrate

14
00:00:32,880 --> 00:00:34,829
on alopecia,

15
00:00:34,829 --> 00:00:37,365
also called androgenic alopecia.

16
00:00:37,365 --> 00:00:39,144
And today we are joined

17
00:00:39,144 --> 00:00:41,839
by two world-renowned
experts, Dr.

18
00:00:41,839 --> 00:00:44,014
Alison Bruce, is
a Professor of

19
00:00:44,014 --> 00:00:45,619
Dermatology and

20
00:00:45,619 --> 00:00:48,199
Dermatology Chair, at
the Mayo clinic

21
00:00:48,199 --> 00:00:49,925
Florida campus,

22
00:00:49,925 --> 00:00:53,855
and Dr. Shane Shapiro
who wears several hats.

23
00:00:53,855 --> 00:00:56,179
He's Associate Professor of

24
00:00:56,179 --> 00:00:58,190
Orthopedics and
also Program

25
00:00:58,190 --> 00:00:59,554
Director of the
Mayo Clinic,

26
00:00:59,554 --> 00:01:01,774
Center for
Regenerative Medicine.

27
00:01:01,774 --> 00:01:06,454
So let me welcome Dr.
Bruce and Dr. Shapiro.

28
00:01:06,454 --> 00:01:09,424
[Shane] Thank you.
[Alison] Thank you.

29
00:01:09,424 --> 00:01:11,389
[Amit] It is the most

30
00:01:11,389 --> 00:01:13,160
fascinating thing
about your research,

31
00:01:13,160 --> 00:01:14,329
which caught my attention

32
00:01:14,329 --> 00:01:15,980
was a paper that you

33
00:01:15,980 --> 00:01:18,199
published in the Journal

34
00:01:18,199 --> 00:01:21,569
of Dermatological Surgery

35
00:01:21,569 --> 00:01:24,549
On the 30th of September,
2019. I will draw

36
00:01:24,549 --> 00:01:27,474
the attention of
our listeners.

37
00:01:27,474 --> 00:01:29,244
It's titled, "A Randomized

38
00:01:29,244 --> 00:01:31,569
Controlled Trial Comparing

39
00:01:31,569 --> 00:01:33,820
Platelet-Rich Plasma
to Topical

40
00:01:33,820 --> 00:01:35,500
Minoxidil Foam for

41
00:01:35,500 --> 00:01:37,044
the Treatment
of Androgenic

42
00:01:37,044 --> 00:01:38,709
Alopecia in Women."

43
00:01:38,709 --> 00:01:42,234
Now, this is, this is
quite new territory.

44
00:01:42,234 --> 00:01:43,779
But for many people,

45
00:01:43,779 --> 00:01:45,699
but for internal medicine,

46
00:01:45,699 --> 00:01:47,365
we are the front line.

47
00:01:47,365 --> 00:01:49,060
We get to see

48
00:01:49,060 --> 00:01:50,440
a lot of these patients

49
00:01:50,440 --> 00:01:51,550

and they are helpless.

50
00:01:51,550 --> 00:01:54,640
A lot of women come
with alopecia,

51
00:01:54,640 --> 00:01:56,830
especially the
androgenic alopecia.

52
00:01:56,830 --> 00:01:59,784
And it goes beyond
the loss of hair;

53
00:01:59,784 --> 00:02:02,830
it has completely
transformed

54
00:02:02,830 --> 00:02:04,820
them: the way they
do business,

55
00:02:04,820 --> 00:02:06,890
the way they go about
meeting their friends.

56
00:02:06,890 --> 00:02:08,810
In fact, they avoid
friends; they cut

57
00:02:08,810 --> 00:02:10,549
down, they make excuses

58
00:02:10,549 --> 00:02:12,199
not to go to social events,

59
00:02:12,199 --> 00:02:14,209
they tend to
have a decreased

60
00:02:14,209 --> 00:02:16,249
opinion of themselves.

61
00:02:16,249 --> 00:02:19,070
And that makes
them, some of them

62
00:02:19,070 --> 00:02:22,460
[begin to develop] depression,

63
00:02:22,460 --> 00:02:23,854
to withdraw.

64
00:02:23,854 --> 00:02:27,064
So it is more than just
a medical symptom,

65
00:02:27,064 --> 00:02:29,135
which is extremely
bothersome in women.

66
00:02:29,135 --> 00:02:30,440
But having said that,

67
00:02:30,440 --> 00:02:33,259
I would like to have Dr.

68
00:02:33,259 --> 00:02:35,510
Bruce talk a bit about

69
00:02:35,510 --> 00:02:38,480
what is androgenic alopecia,

70
00:02:38,480 --> 00:02:39,860
she seems to see a lot of

71
00:02:39,860 --> 00:02:42,184
them and how big
is the problem?

72
00:02:42,184 --> 00:02:44,809
[Alison] Well, thank you,
Amit, for that question,

73

00:02:44,809 --> 00:02:47,735
and I think you have
correctly highlighted

74
00:02:47,735 --> 00:02:49,999
the impacts that
this disorder

75
00:02:49,999 --> 00:02:52,264
can have on, on women.

76
00:02:52,264 --> 00:02:54,290
It is particularly
problematic

77
00:02:54,290 --> 00:02:57,139
because it is not
unique to older women.

78
00:02:57,139 --> 00:02:59,809
Although it's
predominantly a disorder

79
00:02:59,809 --> 00:03:02,134
that we will see in
post-menopausal women;

80
00:03:02,134 --> 00:03:03,769
we can see it even starting

81
00:03:03,769 --> 00:03:05,555
as young as teenagers.

82
00:03:05,555 --> 00:03:06,740
We've had patients that are

83
00:03:06,740 --> 00:03:09,260
18/19 years of age
that may have

84
00:03:09,260 --> 00:03:10,760
a strong family history of

85
00:03:10,760 --> 00:03:12,620
androgenic alopecia and

86
00:03:12,620 --> 00:03:13,670
already starting to

87
00:03:13,670 --> 00:03:15,589
notice thinning
of the hair.

88
00:03:15,589 --> 00:03:17,060
So you are right, it has

89
00:03:17,060 --> 00:03:19,804
big psychological
and social impacts

90
00:03:19,804 --> 00:03:21,454
on these patients.

91
00:03:21,454 --> 00:03:23,929
So perhaps just to
answer your question,

92
00:03:23,929 --> 00:03:26,030
what specifically
androgenic or

93
00:03:26,030 --> 00:03:28,549
androgenetic
alopecia is;

94
00:03:28,549 --> 00:03:30,800
alopecia is obviously
a form of

95
00:03:30,800 --> 00:03:31,760
hair loss and this is

96
00:03:31,760 --> 00:03:33,094
a non-scarring hair loss,

97
00:03:33,094 --> 00:03:35,149
meaning that the follicle
is still preserved,

98
00:03:35,149 --> 00:03:36,679
it is not destroyed,

99
00:03:36,679 --> 00:03:38,330
but over time it's become

100
00:03:38,330 --> 00:03:39,680
miniaturized so that

101
00:03:39,680 --> 00:03:41,204
the hair doesn't grow

102
00:03:41,204 --> 00:03:43,190
as actively as it used to.

103
00:03:43,190 --> 00:03:45,470
And that sort of
manifests then as

104
00:03:45,470 --> 00:03:48,409
a progressive
thinning of the hair,

105
00:03:48,409 --> 00:03:49,640
usually over the top of

106
00:03:49,640 --> 00:03:50,720
the scalp in women so

107
00:03:50,720 --> 00:03:53,074
that they start to see
their part widening,

108
00:03:53,074 --> 00:03:54,350
they start to
see the top of

109

00:03:54,350 --> 00:03:56,060
the scalp and they
have to fashion their

110
00:03:56,060 --> 00:03:57,080
hair differently, kind of

111
00:03:57,080 --> 00:03:58,370
sweeping it over to try and

112
00:03:58,370 --> 00:04:01,759
hide that thinning
that's occurring.

113
00:04:01,759 --> 00:04:06,694
[Amit] This is a bit different
from the other causes of baldness

114
00:04:06,694 --> 00:04:09,025
in women. What are the
other causes of alopecia

115
00:04:09,025 --> 00:04:14,465
which are not due to
androgenetic alopecia?

116
00:04:14,465 --> 00:04:16,339
[Alison] That's a good
question because that's

117
00:04:16,339 --> 00:04:17,209
always the first thing

118
00:04:17,209 --> 00:04:17,959
that we have to try and

119
00:04:17,959 --> 00:04:19,519
sort out when we see a

120
00:04:19,519 --> 00:04:21,550
woman coming in
complaining of,

121
00:04:21,550 --> 00:04:23,494
of thinning hair
or hair loss.

122
00:04:23,494 --> 00:04:27,079
Probably one of the
more common disorders

123
00:04:27,079 --> 00:04:28,700
that I would want
to differentiate is

124
00:04:28,700 --> 00:04:31,115
a disorder known as
telogen effluvium.

125
00:04:31,115 --> 00:04:34,309
And telogen refers
to the resting phase

126
00:04:34,309 --> 00:04:35,674
of the hair follicle

127
00:04:35,674 --> 00:04:39,589
and typically only
about 10% of your hair,

128
00:04:39,589 --> 00:04:41,644
will be in that
resting phase.

129
00:04:41,644 --> 00:04:43,730
But with
telogen effluvium,

130
00:04:43,730 --> 00:04:46,204
this is thought to be
a stress response.

131
00:04:46,204 --> 00:04:48,814
So, for example,
after a pregnancy,

132
00:04:48,814 --> 00:04:50,645
after a severe illness,

133
00:04:50,645 --> 00:04:53,974
high fevers, something
of that nature.

134
00:04:53,974 --> 00:04:56,015
The hair cycle will shift

135
00:04:56,015 --> 00:04:57,289
and so more hairs,

136
00:04:57,289 --> 00:04:59,165
will go into that
resting phase

137
00:04:59,165 --> 00:05:00,829
known as the
telogen phase

138
00:05:00,829 --> 00:05:02,780
and that will therefore
manifest as kind

139
00:05:02,780 --> 00:05:06,274
of shedding of the
hair and thinning.

140
00:05:06,274 --> 00:05:08,330
Now the good news
about telogen

141
00:05:08,330 --> 00:05:10,160
effluvium is it's
usually transient.

142
00:05:10,160 --> 00:05:12,769
Once the source of stress
has been removed,

143
00:05:12,769 --> 00:05:15,665

then the hair cycle
will restore itself.

144
00:05:15,665 --> 00:05:17,060
So that's, that's one of

145
00:05:17,060 --> 00:05:19,040
the things we see commonly.

146
00:05:19,040 --> 00:05:21,109
We also have to
differentiate

147
00:05:21,109 --> 00:05:23,209
obviously from a
scarring alopecia when

148
00:05:23,209 --> 00:05:23,689
there's actually been

149
00:05:23,689 --> 00:05:25,190
destruction of
the hair follicle

150
00:05:25,190 --> 00:05:27,605
due to some kind of
inflammatory process,

151
00:05:27,605 --> 00:05:29,644
and as dermatologists,

152
00:05:29,644 --> 00:05:31,549
we will see those
kind of disorders,

153
00:05:31,549 --> 00:05:33,395
things like lupus,

154
00:05:33,395 --> 00:05:35,419
Lichen Planus and some

155
00:05:35,419 --> 00:05:37,835

of the other scarring
hair disorders.

156
00:05:37,835 --> 00:05:40,249
And then just
probably to close

157
00:05:40,249 --> 00:05:42,110
up the, the broad
differential,

158
00:05:42,110 --> 00:05:43,580
there is also
another form of

159
00:05:43,580 --> 00:05:46,534
non-scarring alopecia
called alopecia areata,

160
00:05:46,534 --> 00:05:48,829
which is an autoimmune
disease where you get

161
00:05:48,829 --> 00:05:50,989
lymphocytic inflammation
around the hair

162
00:05:50,989 --> 00:05:53,644
follicle that causes
the hair to fall out.

163
00:05:53,644 --> 00:05:55,370
Now the good
news about that

164
00:05:55,370 --> 00:05:56,840
type of hair
loss that is

165
00:05:56,840 --> 00:05:58,999
also reversible
because there

166

00:05:58,999 --> 00:06:00,139
isn't scarring. If we can

167
00:06:00,139 --> 00:06:01,804
control that inflammation,

168
00:06:01,804 --> 00:06:03,740
just like any other
autoimmune diseases,

169
00:06:03,740 --> 00:06:06,124
and typically the
hair will re-grow.

170
00:06:06,124 --> 00:06:09,019
[Amit] Excellent. So
now that we have

171
00:06:09,019 --> 00:06:11,599
determined that
this patient,

172
00:06:11,599 --> 00:06:13,490
my patient, has androgenetic

173
00:06:13,490 --> 00:06:15,905
alopecia, I send to you.

174
00:06:15,905 --> 00:06:17,540
But a common question

175
00:06:17,540 --> 00:06:18,860
which I hear the patient

176
00:06:18,860 --> 00:06:20,149
talk [about] sometimes,
that's brought

177
00:06:20,149 --> 00:06:22,054
to us in internal medicine

178
00:06:22,054 --> 00:06:23,719

is, "the doctor told me

179
00:06:23,719 --> 00:06:26,299
that I don't have
a normal cycle."

180
00:06:26,299 --> 00:06:27,560
So would you tell us what

181
00:06:27,560 --> 00:06:29,759
this normal hair cycle is?

182
00:06:30,120 --> 00:06:33,939
[Alison] Sure. I guess
understanding the hair cycle

183
00:06:33,939 --> 00:06:34,990
is important as we look

184
00:06:34,990 --> 00:06:36,880
to therapeutic
interventions.

185
00:06:36,880 --> 00:06:38,380
But think of the hair cycle

186
00:06:38,380 --> 00:06:39,460
in sort of three parts.

187
00:06:39,460 --> 00:06:41,590
This kind of, the
active growing part

188
00:06:41,590 --> 00:06:43,119
of the hair
cycle, called the

189
00:06:43,119 --> 00:06:44,814
anagen phase when
the hair follicle is

190
00:06:44,814 --> 00:06:47,424

actually growing and
extending in length.

191
00:06:47,424 --> 00:06:48,999
And that's a
fairly long cycle;

192
00:06:48,999 --> 00:06:50,844
it's usually three
to five years.

193
00:06:50,844 --> 00:06:52,269
Each particular person will

194
00:06:52,269 --> 00:06:53,469
have their own set,

195
00:06:53,469 --> 00:06:56,155
sort of, length
of anagen phase.

196
00:06:56,155 --> 00:06:57,490
And obviously if you're

197
00:06:57,490 --> 00:06:58,360
one of those people who has

198
00:06:58,360 --> 00:06:59,289
really long hair that

199
00:06:59,289 --> 00:07:00,520
grows down to your bottom,

200
00:07:00,520 --> 00:07:01,899
that usually means
that you've got

201
00:07:01,899 --> 00:07:03,340
a very long anagen phase,

202
00:07:03,340 --> 00:07:04,930
may be five to seven years;

203
00:07:04,930 --> 00:07:06,459
longer than the average.

204
00:07:06,459 --> 00:07:08,140
And then once the hair

205
00:07:08,140 --> 00:07:09,699
is finished in
that growth phase,

206
00:07:09,699 --> 00:07:11,079
it will enter into a very

207
00:07:11,079 --> 00:07:13,910
brief one- to
two-week period of,

208
00:07:13,910 --> 00:07:17,539
of sort, of senescence,
so to speak,

209
00:07:17,539 --> 00:07:19,234
and that's called
the catagen phase.

210
00:07:19,234 --> 00:07:21,290
And then it goes into
that telogen phase,

211
00:07:21,290 --> 00:07:22,804
which is that
resting phase,

212
00:07:22,804 --> 00:07:24,574
and that's when the hair
shaft will actually

213
00:07:24,574 --> 00:07:27,050
then fall out while
the papilla is then

214

00:07:27,050 --> 00:07:28,339
regrowing and getting ready

215
00:07:28,339 --> 00:07:30,140
for another growth cycle.

216
00:07:30,140 --> 00:07:31,490
And that telogen
phase should

217
00:07:31,490 --> 00:07:33,695
usually only be
about three months.

218
00:07:33,695 --> 00:07:35,510
And at any given time,

219
00:07:35,510 --> 00:07:37,219
only about 10% of your hair,

220
00:07:37,219 --> 00:07:38,419
should be in a
resting phase,

221
00:07:38,419 --> 00:07:40,309
so you would have
about 10% of

222
00:07:40,309 --> 00:07:41,974
your hairs in the
telogen phase,

223
00:07:41,974 --> 00:07:44,089
whereas 90% of your
hair will be in

224
00:07:44,089 --> 00:07:47,280
that active growing
anagen phase.

225
00:07:47,830 --> 00:07:50,179
[Amit] That's great. So
when they're talking

226
00:07:50,179 --> 00:07:51,469
about the hair cycle,

227
00:07:51,469 --> 00:07:54,470
some patients tell me that,
"whenever I comb my hair,

228
00:07:54,470 --> 00:07:59,929
50 hairs come out or 100 hairs
come out"
or, "when I wash my hair

229
00:07:59,929 --> 00:08:03,559
I can see there's
a lot hair in the

230
00:08:03,559 --> 00:08:05,210
bathroom and is that

231
00:08:05,210 --> 00:08:07,309
abnormal or is
that just part

232
00:08:07,309 --> 00:08:09,125
of normal hair cycle?"

233
00:08:09,125 --> 00:08:10,819
[Alison] That's another
good question

234
00:08:10,819 --> 00:08:11,869
because it is
actually normal

235
00:08:11,869 --> 00:08:13,100
to lose quite a substantial

236
00:08:13,100 --> 00:08:14,809
number of hairs per day.

237
00:08:14,809 --> 00:08:16,804

Working from the
premise that we've just

238
00:08:16,804 --> 00:08:18,560
outlined, that 10% of our

239
00:08:18,560 --> 00:08:20,539
hair would be in that
telogen or resting phase

240
00:08:20,539 --> 00:08:21,890
and therefore, falling out.

241
00:08:21,890 --> 00:08:23,179
That actually translates to

242
00:08:23,179 --> 00:08:24,469
about 100 hairs a day,

243
00:08:24,469 --> 00:08:25,820
80 to a 100 hairs a day

244
00:08:25,820 --> 00:08:27,635
would normally
be falling out.

245
00:08:27,635 --> 00:08:30,140
So sometimes when people
see a lot of hair,

246
00:08:30,140 --> 00:08:32,465
they may panic
unnecessarily

247
00:08:32,465 --> 00:08:34,400
because that is fairly normal

248
00:08:34,400 --> 00:08:36,590
to have several hairs
falling out a day.

249
00:08:36,590 --> 00:08:40,400

Now, just to circle
back to the issue of

250
00:08:40,400 --> 00:08:42,680
androgenetic alopecia, is what

251
00:08:42,680 --> 00:08:44,960
happens there is
that growth cycle,

252
00:08:44,960 --> 00:08:46,999
that active
anagen phase, gets

253
00:08:46,999 --> 00:08:48,169
shorter and shorter, so

254
00:08:48,169 --> 00:08:49,610
that instead of
growing for that,

255
00:08:49,610 --> 00:08:51,274
sort of three to five years,

256
00:08:51,274 --> 00:08:53,510
it ends up only growing,
the hair only grows

257
00:08:53,510 --> 00:08:56,449
for weeks to months,

258
00:08:56,449 --> 00:08:59,030
and then moves into
that telogen phase.

259
00:08:59,030 --> 00:09:00,200
So, you get sort
of what we call

260
00:09:00,200 --> 00:09:01,460
miniaturization where

261

00:09:01,460 --> 00:09:02,839
hairs are just not growing

262
00:09:02,839 --> 00:09:04,520
out and they are becoming
smaller and smaller

263
00:09:04,520 --> 00:09:06,709
until they eventually
disappear and look

264
00:09:06,709 --> 00:09:09,634
a little bit like your...
your scalp, I guess.

265
00:09:09,634 --> 00:09:12,740
[Amit] [laughing]
Yeah, that's right.

266
00:09:12,740 --> 00:09:15,274
I think I've been in telogenic
for a long, long time.

267
00:09:15,274 --> 00:09:18,634
What of the current
treatment now?

268
00:09:18,634 --> 00:09:20,374
You've been...before
your study,

269
00:09:20,374 --> 00:09:21,830
before you want
to do the study,

270
00:09:21,830 --> 00:09:25,070
what are the hair
restoration treatments

271
00:09:25,070 --> 00:09:26,630
for androgenetic alopecia,

272
00:09:26,630 --> 00:09:29,090

which is available now, to
273

00:09:29,090 --> 00:09:30,020
all the dermatologists,

274
00:09:30,020 --> 00:09:31,829
what are they doing now?

275
00:09:31,960 --> 00:09:34,129
[Alison] You know, there are

276
00:09:34,129 --> 00:09:35,689
several treatments
that we use.

277
00:09:35,689 --> 00:09:37,100
The problem is that none of

278
00:09:37,100 --> 00:09:39,395
them are highly effective

279
00:09:39,395 --> 00:09:41,870
and we often have to
adjust expectations of

280
00:09:41,870 --> 00:09:43,070
our patients. Because this

281
00:09:43,070 --> 00:09:45,244
is a progressive problem,

282
00:09:45,244 --> 00:09:46,579
that one of the
first things we

283
00:09:46,579 --> 00:09:47,810
want to remind
patients is that

284
00:09:47,810 --> 00:09:48,979
if we can either slow or

285
00:09:48,979 --> 00:09:50,300
stop this getting worse,

286
00:09:50,300 --> 00:09:51,979
that's already a good
goal in therapy;

287
00:09:51,979 --> 00:09:54,049
we don't always...we're

288
00:09:54,049 --> 00:09:56,819
not always able to
necessarily regrow hair.

289
00:09:56,819 --> 00:09:58,930
So some of the things
that we'll look at,

290
00:09:58,930 --> 00:10:00,099
the most common
treatment, is

291
00:10:00,099 --> 00:10:02,049
Rogaine, or otherwise
known as minoxidil,

292
00:10:02,049 --> 00:10:04,450
is the active ingredient,

293
00:10:04,450 --> 00:10:06,115
the drug therapy,
in Rogaine,

294
00:10:06,115 --> 00:10:07,450
and that you can
buy over the

295
00:10:07,450 --> 00:10:08,709
counter and that's probably

296
00:10:08,709 --> 00:10:11,439
used most commonly

by, by patients.

297
00:10:11,439 --> 00:10:13,180
And then you
can use some of

298
00:10:13,180 --> 00:10:15,519
the systemic therapies
that kind of work

299
00:10:15,519 --> 00:10:17,349
more at a hormonal
level blocking

300
00:10:17,349 --> 00:10:19,839
the effects of
androgens and so on.

301
00:10:19,839 --> 00:10:21,400
Those treatments tend to be

302
00:10:21,400 --> 00:10:23,709
off-label medications.

303
00:10:23,709 --> 00:10:25,359
One that would come to mind

304
00:10:25,359 --> 00:10:26,560
would be spironolactone,

305
00:10:26,560 --> 00:10:27,520
which used to be used

306
00:10:27,520 --> 00:10:28,539
to treat blood pressure,

307
00:10:28,539 --> 00:10:30,880
but it has some
antiandrogenic activity

308
00:10:30,880 --> 00:10:32,199
and so we will

sometimes use

309

00:10:32,199 --> 00:10:35,320
that, in an off-label
indication.

310

00:10:35,320 --> 00:10:37,210
And then you probably

311

00:10:37,210 --> 00:10:38,319
are well aware
that there is

312

00:10:38,319 --> 00:10:40,879
a male pill that

313

00:10:40,879 --> 00:10:43,340
we use for balding
called finasteride.

314

00:10:43,340 --> 00:10:45,859
And there's some
mixed data on that,

315

00:10:45,859 --> 00:10:47,809
but it's possible
that that can help.

316

00:10:47,809 --> 00:10:50,539
in women too.
Although the dosing

317

00:10:50,539 --> 00:10:51,649
may be a little
different than

318

00:10:51,649 --> 00:10:53,390
what we have to use in men.

319

00:10:53,390 --> 00:10:55,519
And of course, those
systemic medications

320

00:10:55,519 --> 00:10:56,809
have potential
side effects.

321

00:10:56,809 --> 00:10:57,979
There's issues if people get

322

00:10:57,979 --> 00:10:59,645
pregnant on these
medications.

323

00:10:59,645 --> 00:11:00,950
So sometimes the systemic

324

00:11:00,950 --> 00:11:02,179
treatments can
be challenging,

325

00:11:02,179 --> 00:11:03,319
which is why we were

326

00:11:03,319 --> 00:11:05,720
particularly
interested and excited

327

00:11:05,720 --> 00:11:07,129
about the idea of using

328

00:11:07,129 --> 00:11:09,109
possibly a biologic
therapy like

329

00:11:09,109 --> 00:11:11,059
platelet-rich
plasma to see if we

330

00:11:11,059 --> 00:11:12,800
could either slow down or

331

00:11:12,800 --> 00:11:14,570
even reverse
this process of

332
00:11:14,570 --> 00:11:17,000
hair loss and hair
miniaturization.

333
00:11:17,000 --> 00:11:20,420
[Amit] Well this question
is directed to you,

334
00:11:20,420 --> 00:11:23,720
Dr. Bruce or Dr. Shapiro

335
00:11:23,720 --> 00:11:25,519
because Dr. Shapiro is

336
00:11:25,519 --> 00:11:28,115
also co-principal
investigator.

337
00:11:28,115 --> 00:11:30,244
What made you come
up with the study?

338
00:11:30,244 --> 00:11:32,449
I know Dr. Shapiro
being in orthopedics

339
00:11:32,449 --> 00:11:35,599
and being in
regenerative medicine,

340
00:11:35,599 --> 00:11:38,510
probably has been
called more than once

341
00:11:38,510 --> 00:11:41,300
to apply the whole scope of

342
00:11:41,300 --> 00:11:43,624
regenerative medicine
in treating various,

343

00:11:43,624 --> 00:11:46,850
various different issues.

344
00:11:46,850 --> 00:11:48,469
Spurring from
joint diseases,

345
00:11:48,469 --> 00:11:49,924
osteoarthritis.

346
00:11:49,924 --> 00:11:51,574
I know there's,
there's a huge,

347
00:11:51,574 --> 00:11:54,259
huge number of
studies coming up.

348
00:11:54,259 --> 00:11:55,729
But what made you come up

349
00:11:55,729 --> 00:11:56,839
with the study? Was

350
00:11:56,839 --> 00:11:58,130
there some pilot studies,

351
00:11:58,130 --> 00:11:59,300
some...something which has

352
00:11:59,300 --> 00:12:00,875
been done in the past?

353
00:12:00,875 --> 00:12:03,585
What was the
science behind it?

354
00:12:03,585 --> 00:12:06,310
[Shane] Well, you're exactly
right.

355
00:12:06,310 --> 00:12:08,544

There really
are two factors

356

00:12:08,544 --> 00:12:10,780
driving the
partnerships that we're

357

00:12:10,780 --> 00:12:12,489
pursuing in our Center for

358

00:12:12,489 --> 00:12:14,079
Regenerative
Medicine when we

359

00:12:14,079 --> 00:12:16,000
partner with specialty
departments.

360

00:12:16,000 --> 00:12:18,610
And the first is we
want to take what we've

361

00:12:18,610 --> 00:12:22,900
learned in our
practice thusfar,

362

00:12:22,900 --> 00:12:24,130
meaning that we have

363

00:12:24,130 --> 00:12:26,934
learned from working
with cells and

364

00:12:26,934 --> 00:12:28,540
cell-derived products like

365

00:12:28,540 --> 00:12:30,100
platelets in

366

00:12:30,100 --> 00:12:32,665
orthopedics and
orthopedic surgery.

367

00:12:32,665 --> 00:12:33,850
And we want to take what

368

00:12:33,850 --> 00:12:34,989
we've learned and translate

369

00:12:34,989 --> 00:12:37,405
them into other
medical specialties.

370

00:12:37,405 --> 00:12:39,459
That sometimes
will take the form

371

00:12:39,459 --> 00:12:43,780
of a specialist like
Dr. Bruce telling us

372

00:12:43,780 --> 00:12:45,010
what their most
difficult-to-

373

00:12:45,010 --> 00:12:46,790
treat problem is and

374

00:12:46,790 --> 00:12:48,035
how we might use

375

00:12:48,035 --> 00:12:50,764
cells to solve
such a problem.

376

00:12:50,764 --> 00:12:52,714
But in other cases,

377

00:12:52,714 --> 00:12:54,965
it's taking a
look at what's

378

00:12:54,965 --> 00:12:57,589
already going on in
medical practice,

379
00:12:57,589 --> 00:12:59,629
but maybe without
enough evidence

380
00:12:59,629 --> 00:13:02,510
and see if we can help
provide that evidence.

381
00:13:02,510 --> 00:13:03,709
And so in this case,

382
00:13:03,709 --> 00:13:05,060
Dr. Bruce had an interest

383
00:13:05,060 --> 00:13:07,565
in treating
androgenetic alopecia,

384
00:13:07,565 --> 00:13:09,875
and it had been used

385
00:13:09,875 --> 00:13:13,099
somewhat off-label
for a year or so

386
00:13:13,099 --> 00:13:14,689
prior to when we designed

387
00:13:14,689 --> 00:13:17,420
this trial and our
goal was to test

388
00:13:17,420 --> 00:13:20,269
the procedure for this
particular indication

389
00:13:20,269 --> 00:13:22,609
in a more rigorous
manner to determine

390
00:13:22,609 --> 00:13:24,844

if it really works and if

391
00:13:24,844 --> 00:13:26,839
it's appropriate
treatment to

392
00:13:26,839 --> 00:13:28,680
offer to our patients.

393
00:13:28,680 --> 00:13:31,314
[Amit] Dr. Shapiro, the
question is to you.

394
00:13:31,314 --> 00:13:33,850
What is in the
platelet which makes

395
00:13:33,850 --> 00:13:35,260
it such an effective

396
00:13:35,260 --> 00:13:37,374
regenerating device?

397
00:13:37,374 --> 00:13:39,519
I mean, you said that
it's been used in

398
00:13:39,519 --> 00:13:41,784
many other studies
that you've done.

399
00:13:41,784 --> 00:13:43,855
How come it took
so many years

400
00:13:43,855 --> 00:13:46,150
to finally figure out
the platelet which

401
00:13:46,150 --> 00:13:48,699
is involved in coagulation

402

00:13:48,699 --> 00:13:51,819
and all the clotting,
and not clotting.

403
00:13:51,819 --> 00:13:53,859
What made us study

404
00:13:53,859 --> 00:13:56,110
this platelet for
regeneration?

405
00:13:56,110 --> 00:13:57,670
[Shane] Well, we've been using

406
00:13:57,670 --> 00:14:00,159
platelets in
medical practice,

407
00:14:00,159 --> 00:14:02,800
or I should say
platelet-rich plasma,

408
00:14:02,800 --> 00:14:04,719
since the late nineties,

409
00:14:04,719 --> 00:14:06,009
you can even
find some early,

410
00:14:06,009 --> 00:14:08,679
early references before that.

411
00:14:08,679 --> 00:14:11,580
And those applications have

412
00:14:11,580 --> 00:14:14,314
predominantly
tried to harness

413
00:14:14,314 --> 00:14:17,870
the platelets' ability to

414

00:14:17,870 --> 00:14:21,515
jumpstart and
regulate all phases

415
00:14:21,515 --> 00:14:23,209
of the healing cycle.

416
00:14:23,209 --> 00:14:25,759
If you look at our
early start with

417
00:14:25,759 --> 00:14:27,394
platelets in

418
00:14:27,394 --> 00:14:29,029
orthopedics and
orthopedic surgery,

419
00:14:29,029 --> 00:14:30,080
we're thinking about things

420
00:14:30,080 --> 00:14:32,270
like chronically
torn tendons or

421
00:14:32,270 --> 00:14:33,919
ligaments that just
aren't healing

422
00:14:33,919 --> 00:14:36,115
the way we want
them to heal.

423
00:14:36,115 --> 00:14:38,674
Or even something
like osteoarthritis,

424
00:14:38,674 --> 00:14:40,189
degenerative joint disease,

425
00:14:40,189 --> 00:14:42,410
where cartilage
can't regenerate.

426
00:14:42,410 --> 00:14:44,824
And if a platelet
has the ability,

427
00:14:44,824 --> 00:14:47,630
whether through many
different mechanisms

428
00:14:47,630 --> 00:14:49,835
to help with that
healing process,

429
00:14:49,835 --> 00:14:51,365
that's what we
were after.

430
00:14:51,365 --> 00:14:53,760
And the actual
therapeutic mechanism

431
00:14:53,760 --> 00:14:55,390
for different diseases is

432
00:14:55,390 --> 00:14:56,919
really still
being elucidated,

433
00:14:56,919 --> 00:14:59,710
but the common thread
underpinning all

434
00:14:59,710 --> 00:15:01,209
of them is that platelets

435
00:15:01,209 --> 00:15:02,589
release alpha-granules,

436
00:15:02,589 --> 00:15:04,270
and alpha-granules come

437
00:15:04,270 --> 00:15:06,879

in the billions
with platelets.

438
00:15:06,879 --> 00:15:08,199
These are
biologically-active

439
00:15:08,199 --> 00:15:10,059
molecules that
are sometimes

440
00:15:10,059 --> 00:15:13,419
cytokines, chemokines,
growth factors,

441
00:15:13,419 --> 00:15:17,815
and promote those
different phases of

442
00:15:17,815 --> 00:15:19,629
the healing cycle, from

443
00:15:19,629 --> 00:15:22,240
initiation all the
way to maturation.

444
00:15:22,240 --> 00:15:24,280
And so when you
look at whether

445
00:15:24,280 --> 00:15:26,605
it's orthopedic
surgery or in

446
00:15:26,605 --> 00:15:28,150
dermatology or a number of

447
00:15:28,150 --> 00:15:30,399
other applications
for treatments

448
00:15:30,399 --> 00:15:31,974
like platelet-rich plasma.

449
00:15:31,974 --> 00:15:33,969
That's really what we're
trying to harness is

450
00:15:33,969 --> 00:15:36,255
the body's ability
to heal itself

451
00:15:36,255 --> 00:15:37,970
by modulating

452
00:15:37,970 --> 00:15:41,465
the healing cascade
in all phases.

453
00:15:41,465 --> 00:15:43,369
[Amit] This question is
to both of you,

454
00:15:43,369 --> 00:15:45,950
Dr. Bruce, Dr. Shapiro,

455
00:15:45,950 --> 00:15:48,890
can you just describe
the study which was

456
00:15:48,890 --> 00:15:51,184
reported in the
Dermatologic Surgery

457
00:15:51,184 --> 00:15:53,224
September 30th issue.

458
00:15:53,224 --> 00:15:56,210
Briefly describing
what you did

459
00:15:56,210 --> 00:15:57,320
and what were
the results that

460

00:15:57,320 --> 00:15:58,999
you found. [Alison]
Sure, I'll let

461
00:15:58,999 --> 00:16:01,369
Shane speak to some of
the details as well,

462
00:16:01,369 --> 00:16:03,499
but I just kind of
want to highlight

463
00:16:03,499 --> 00:16:05,269
the good
partnership that we

464
00:16:05,269 --> 00:16:07,190
have when we work
across specialty

465
00:16:07,190 --> 00:16:08,299
because as I've already

466
00:16:08,299 --> 00:16:09,890
mentioned as a
dermatologist,

467
00:16:09,890 --> 00:16:11,720
we see a clinical
problem of women who

468
00:16:11,720 --> 00:16:13,745
are really distressed
by this condition.

469
00:16:13,745 --> 00:16:15,499
Shane in his
world has a lot

470
00:16:15,499 --> 00:16:17,120
of expertise in
understanding

471

00:16:17,120 --> 00:16:18,980
how things like
PRP can help

472
00:16:18,980 --> 00:16:22,265
to stimulate hair
growth, potentially.

473
00:16:22,265 --> 00:16:25,280
And so there was a
study that sort of came

474
00:16:25,280 --> 00:16:28,745
across my attention
looking at PRP in men.

475
00:16:28,745 --> 00:16:30,109
So, Shane and I kinda got

476
00:16:30,109 --> 00:16:31,460
together and said, "wow,

477
00:16:31,460 --> 00:16:32,209
there seems to be

478
00:16:32,209 --> 00:16:33,410
a reasonable
amount of data in

479
00:16:33,410 --> 00:16:35,659
the literature on this
being helpful for men.

480
00:16:35,659 --> 00:16:37,249
But let's take a
look and see if

481
00:16:37,249 --> 00:16:38,974
it works in women."

482
00:16:38,974 --> 00:16:40,369
Because I think
it's even a bigger

483
00:16:40,369 --> 00:16:41,480
problem for women who are

484
00:16:41,480 --> 00:16:42,904
generally more
self-conscious

485
00:16:42,904 --> 00:16:44,209
than men might be.

486
00:16:44,209 --> 00:16:45,620
And then Shane
actually said, "well,

487
00:16:45,620 --> 00:16:47,270
why don't we take it
one step further and

488
00:16:47,270 --> 00:16:49,430
instead of just
thinking 'does it work,'

489
00:16:49,430 --> 00:16:51,470
let's compare it
to what people

490
00:16:51,470 --> 00:16:53,420
are typically
using to treat

491
00:16:53,420 --> 00:16:54,769
the condition currently and

492
00:16:54,769 --> 00:16:55,580
see if we can draw

493
00:16:55,580 --> 00:16:57,110
further conclusions
about how

494
00:16:57,110 --> 00:16:58,924

it might compare
to things,

495

00:16:58,924 --> 00:17:00,409
for example, like
minoxidil,"

496

00:17:00,409 --> 00:17:01,759
which I mentioned earlier,

497

00:17:01,759 --> 00:17:03,559
was sort of the
starting point

498

00:17:03,559 --> 00:17:05,464
of where we would
typically treat hair loss.

499

00:17:05,464 --> 00:17:07,130
So I will let
Shane to speak,

500

00:17:07,130 --> 00:17:09,470
let him speak a little
bit as to how we set

501

00:17:09,470 --> 00:17:10,699
that study up, and I'm happy

502

00:17:10,699 --> 00:17:12,065
to chime in as needed.

503

00:17:12,065 --> 00:17:14,269
[Shane] Yeah. Certainly, please
do,

504

00:17:14,269 --> 00:17:15,529
because there were a lot of

505

00:17:15,529 --> 00:17:17,330
moving parts in this study.

506

00:17:17,330 --> 00:17:19,580
Like a lot of things in
regenerative medicine,

507

00:17:19,580 --> 00:17:22,219
especially when we're
trying to figure out,

508

00:17:22,219 --> 00:17:23,330
"does the treatment work"

509

00:17:23,330 --> 00:17:24,499
and "not only does it work,

510

00:17:24,499 --> 00:17:28,460
does it do as well
as standard-of-care,"

511

00:17:28,460 --> 00:17:30,860
And then if it does work,

512

00:17:30,860 --> 00:17:33,019
at least as well as
standard-of-care,

513

00:17:33,019 --> 00:17:34,369
then "how does it work?"

514

00:17:34,369 --> 00:17:36,110
So we try and initially set up

515

00:17:36,110 --> 00:17:37,970
these trials as phase

516

00:17:37,970 --> 00:17:40,129
one safety and efficacy,

517

00:17:40,129 --> 00:17:42,095
sorry, suitability trials.

518

00:17:42,095 --> 00:17:44,885
Of course, what everyone

wants to know is,
519
00:17:44,885 --> 00:17:47,420
"does the treatment
work" and "can I have it?"
520
00:17:47,420 --> 00:17:49,370
And so we designed and
521
00:17:49,370 --> 00:17:52,339
conducted the clinical
trial to try and
522
00:17:52,339 --> 00:17:54,350
validate platelet-
rich plasma
523
00:17:54,350 --> 00:17:57,575
as regenerative
treatment to
524
00:17:57,575 --> 00:17:59,000
treat hair loss in women.
525
00:17:59,000 --> 00:18:02,449
And in addition, we
wanted to compare
526
00:18:02,449 --> 00:18:04,744
the potential success of
527
00:18:04,744 --> 00:18:08,420
PRP regrowing hair to
that standard-of-care,
528
00:18:08,420 --> 00:18:11,449
as Alison mentioned,
minoxidil or Rogaine.
529
00:18:11,449 --> 00:18:13,849
And the way that
we designed it, as

530
00:18:13,849 --> 00:18:16,385
a crossover design, where
531
00:18:16,385 --> 00:18:18,844
all patients were to get
532
00:18:18,844 --> 00:18:22,310
both arms of, of
the intervention.
533
00:18:22,310 --> 00:18:25,310
And so platelet-rich
plasma injections into
534
00:18:25,310 --> 00:18:29,060
the scalp was one
arm and shampooing
535
00:18:29,060 --> 00:18:30,800
daily with minoxidil,
536
00:18:30,800 --> 00:18:32,854
was the other arm.
537
00:18:32,854 --> 00:18:35,180
They were split
into two groups.
538
00:18:35,180 --> 00:18:36,604
And one group got
539
00:18:36,604 --> 00:18:38,990
the platelet-rich
plasma injections,
540
00:18:38,990 --> 00:18:41,299
injected with a very
fine needle into
541
00:18:41,299 --> 00:18:44,405
the scalp in the
region of concern.

542
00:18:44,405 --> 00:18:48,979
And the other group got
the minoxidil daily.

543
00:18:48,979 --> 00:18:52,235
And then after a period

544
00:18:52,235 --> 00:18:53,810
of three treatments as

545
00:18:53,810 --> 00:18:55,219
the case was in

546
00:18:55,219 --> 00:18:57,409
platelet-rich plasma over

547
00:18:57,409 --> 00:18:58,925
the course of eight weeks.

548
00:18:58,925 --> 00:19:01,220
Then we did a
wash-out to let

549
00:19:01,220 --> 00:19:03,470
the effect of either
of the interventions,

550
00:19:03,470 --> 00:19:04,550
the platelet-rich plasma

551
00:19:04,550 --> 00:19:06,829
or the Rogaine, subside.

552
00:19:06,829 --> 00:19:10,279
And then all patients
crossed over,

553
00:19:10,279 --> 00:19:11,869
and so the patients in

554

00:19:11,869 --> 00:19:13,489
the platelet-
rich plasma arm

555
00:19:13,489 --> 00:19:14,854
after the wash-out,

556
00:19:14,854 --> 00:19:16,639
they went to
shampooing with

557
00:19:16,639 --> 00:19:19,564
Rogaine, and the
patients that were

558
00:19:19,564 --> 00:19:22,940
in the Rogaine arm
and crossed over to

559
00:19:22,940 --> 00:19:26,045
undergo platelet-rich
plasma injections

560
00:19:26,045 --> 00:19:27,679
on three separate
occasions,

561
00:19:27,679 --> 00:19:31,234
again, delivered into
the skin of the scalp.

562
00:19:31,234 --> 00:19:35,570
We measured their hair
regrowth digitally

563
00:19:35,570 --> 00:19:37,249
and that's one of the
unique portions of

564
00:19:37,249 --> 00:19:39,380
our study that had
not really been

565

00:19:39,380 --> 00:19:41,059
done quite as
rigorously as it

566
00:19:41,059 --> 00:19:43,369
needed to have been
to this point.

567
00:19:43,369 --> 00:19:46,145
So we have a high
resolution camera

568
00:19:46,145 --> 00:19:47,450
and a software that can

569
00:19:47,450 --> 00:19:49,579
digitally count
hairs and can

570
00:19:49,579 --> 00:19:52,039
measure the hair thickness
and the density.

571
00:19:52,039 --> 00:19:54,740
And then we were able
to compare those two.

572
00:19:54,740 --> 00:19:57,035
And we also
tracked patients'

573
00:19:57,035 --> 00:19:58,714
satisfaction with

574
00:19:58,714 --> 00:20:00,545
the two treatments.
Essentially,

575
00:20:00,545 --> 00:20:03,740
did they like one
treatment more so than the

576
00:20:03,740 --> 00:20:06,920

other in the form of
quality-of-life surveys.

577
00:20:06,920 --> 00:20:08,839
So that's the design.

578
00:20:08,839 --> 00:20:11,030
Allison, if I've
left anything out,

579
00:20:11,030 --> 00:20:12,650
please feel free to add it.

580
00:20:12,650 --> 00:20:15,665
[Alison] No, I think that's
a perfect summary.

581
00:20:15,665 --> 00:20:17,060
I may...I may just make

582
00:20:17,060 --> 00:20:19,235
one slight
correction and it's

583
00:20:19,235 --> 00:20:20,719
mainly because I'm
a dermatologist,

584
00:20:20,719 --> 00:20:21,605
these things matter,

585
00:20:21,605 --> 00:20:23,060
but Rogaine, is actually

586
00:20:23,060 --> 00:20:24,830
a foam that's
applied and left on,

587
00:20:24,830 --> 00:20:25,940
it's not a shampooed.

588
00:20:25,940 --> 00:20:27,589

So just...just to

589
00:20:27,589 --> 00:20:30,260
clarify that patients
leave it on overnight.

590
00:20:30,260 --> 00:20:32,059
But the principle,
you're entirely correct.

591
00:20:32,059 --> 00:20:34,309
Twenty patients in a
crossover study,

592
00:20:34,309 --> 00:20:36,500
three-series of
injections versus

593
00:20:36,500 --> 00:20:37,910
minoxidil than a wash-out

594
00:20:37,910 --> 00:20:39,334
period in between.

595
00:20:39,334 --> 00:20:42,169
So what was interesting
about this study is

596
00:20:42,169 --> 00:20:45,170
that we found that both
treatments worked.

597
00:20:45,170 --> 00:20:46,385
Which is good news

598
00:20:46,385 --> 00:20:47,884
in the sense
that, you know,

599
00:20:47,884 --> 00:20:50,344
one certainly wants to
know that minoxidil

600
00:20:50,344 --> 00:20:52,430
is working because it's
been around for many,

601
00:20:52,430 --> 00:20:54,289
many years and people
use it extensively,

602
00:20:54,289 --> 00:20:56,390
and certainty it's been
studied and validated,

603
00:20:56,390 --> 00:20:57,949
so that was no surprise.

604
00:20:57,949 --> 00:21:00,860
We also found that
the PRP was also

605
00:21:00,860 --> 00:21:02,075
effective in that it did

606
00:21:02,075 --> 00:21:03,889
increase the hair count,

607
00:21:03,889 --> 00:21:05,930
in other words, the
number of hairs in

608
00:21:05,930 --> 00:21:09,110
a given area that was
measured, increased.

609
00:21:09,110 --> 00:21:11,285
There was some
interesting differences

610
00:21:11,285 --> 00:21:13,310
in that the
PRP seemed to

611
00:21:13,310 --> 00:21:15,020

increase the number
of what we call

612
00:21:15,020 --> 00:21:17,329
vellus hairs, which
are the small,

613
00:21:17,329 --> 00:21:19,550
relatively immature hairs and

614
00:21:19,550 --> 00:21:20,930
not as much effect on

615
00:21:20,930 --> 00:21:23,120
the terminal hairs,
or the more

616
00:21:23,120 --> 00:21:26,194
mature hairs, as compared
to the minoxidil.

617
00:21:26,194 --> 00:21:28,039
It was sort of an
interesting finding.

618
00:21:28,039 --> 00:21:29,645
And I think to some extent,

619
00:21:29,645 --> 00:21:30,920
we think that what

620
00:21:30,920 --> 00:21:32,780
happens with that
is that vellus hairs

621
00:21:32,780 --> 00:21:34,129
are relatively immature and

622
00:21:34,129 --> 00:21:35,300
they are being pushed

623
00:21:35,300 --> 00:21:38,405

by the PRP to develop
into terminal hairs.

624
00:21:38,405 --> 00:21:41,449
And it probably
takes longer

625
00:21:41,449 --> 00:21:43,864
than 12 weeks to

626
00:21:43,864 --> 00:21:46,235
be able to assess
that accurately.

627
00:21:46,235 --> 00:21:48,934
And that's why in
clinical practice,

628
00:21:48,934 --> 00:21:50,780
what we do is when we

629
00:21:50,780 --> 00:21:52,640
administer PRP
to a patient,

630
00:21:52,640 --> 00:21:53,929
we typically tell
them to wait

631
00:21:53,929 --> 00:21:55,580
least six to eight
months before

632
00:21:55,580 --> 00:21:57,095
determining whether...

633
00:21:57,095 --> 00:21:58,925
whether you think the
treatment is effective

634
00:21:58,925 --> 00:22:00,695
because that's
really where we

635
00:22:00,695 --> 00:22:03,004
start noticing
that difference.

636
00:22:03,004 --> 00:22:03,950
And that kinda makes

637
00:22:03,950 --> 00:22:04,729
sense because I mentioned

638
00:22:04,729 --> 00:22:06,770
earlier on, with
any kind of hair

639
00:22:06,770 --> 00:22:09,079
cycle disorder or
hair growth disorder,

640
00:22:09,079 --> 00:22:10,819
you're looking at
least three months to

641
00:22:10,819 --> 00:22:12,410
switch from one
cycle to another.

642
00:22:12,410 --> 00:22:13,520
So that's only when you

643
00:22:13,520 --> 00:22:15,724
starting to notice
that improvement.

644
00:22:15,724 --> 00:22:17,569
I don't think that that
was too surprising,

645
00:22:17,569 --> 00:22:19,639
but I think we were
glad to be able to

646

00:22:19,639 --> 00:22:22,354
validate that PRP does
seem to be effective,

647
00:22:22,354 --> 00:22:23,660
possibly work slightly

648
00:22:23,660 --> 00:22:25,310
differently to minoxidil,

649
00:22:25,310 --> 00:22:26,840
which again is no
surprise because

650
00:22:26,840 --> 00:22:27,965
probably the mechanism that

651
00:22:27,965 --> 00:22:29,495
actions are
somewhat different,

652
00:22:29,495 --> 00:22:31,789
but they both seem
to be effective.

653
00:22:31,789 --> 00:22:34,339
Which sort of opens
the question to,

654
00:22:34,339 --> 00:22:37,609
"is the value in
combination therapy?"

655
00:22:37,609 --> 00:22:39,319
And I think that
that's something

656
00:22:39,319 --> 00:22:40,684
that most experts will say,

657
00:22:40,684 --> 00:22:42,829
say nowadays is PRP is

658
00:22:42,829 --> 00:22:45,379
definitely a nice adjunct
to have something

659
00:22:45,379 --> 00:22:46,400
additional to be able

660
00:22:46,400 --> 00:22:47,765
to offer our patients in

661
00:22:47,765 --> 00:22:50,645
a difficult-to-
treat disorder.

662
00:22:50,645 --> 00:22:52,310
But that doesn't
necessarily

663
00:22:52,310 --> 00:22:54,455
mean that you stop
other treatments.

664
00:22:54,455 --> 00:22:55,969
You know, if a
patient is willing

665
00:22:55,969 --> 00:22:57,245
to use minoxidil,

666
00:22:57,245 --> 00:23:00,004
you can certainly add
to that treatment.

667
00:23:00,004 --> 00:23:01,429
And then of course,
the other thing

668
00:23:01,429 --> 00:23:02,974
is that PRP and

669
00:23:02,974 --> 00:23:04,865
some extent is sometimes

670
00:23:04,865 --> 00:23:06,319
easier for patients than,

671
00:23:06,319 --> 00:23:07,580
than something
like minoxidil.

672
00:23:07,580 --> 00:23:08,449
A lot of patients will

673
00:23:08,449 --> 00:23:09,620
tell you it's
very difficult

674
00:23:09,620 --> 00:23:11,870
to apply something
every single day.

675
00:23:11,870 --> 00:23:13,549
Particularly in
women, where applying

676
00:23:13,549 --> 00:23:15,289
a topical foam or solution

677
00:23:15,289 --> 00:23:17,090
can kind of affect
the way they

678
00:23:17,090 --> 00:23:19,519
style their hair and
their hair can look wet

679
00:23:19,519 --> 00:23:20,750
or not clean and so on.

680
00:23:20,750 --> 00:23:22,219
So it was nice to see after

681
00:23:22,219 --> 00:23:25,160
the conclusion of the

study that we have

682
00:23:25,160 --> 00:23:26,644
another option to offer our

683
00:23:26,644 --> 00:23:28,819
patients and that
there does seem to

684
00:23:28,819 --> 00:23:30,469
be some good
science to support

685
00:23:30,469 --> 00:23:32,344
that it is effective in

686
00:23:32,344 --> 00:23:34,999
increasing the
number of hairs and

687
00:23:34,999 --> 00:23:36,440
pushing their hairs towards

688
00:23:36,440 --> 00:23:37,820
more terminal hair growth.

689
00:23:37,820 --> 00:23:39,695
[Amit] So if I'm a woman

690
00:23:39,695 --> 00:23:42,409
and I come to
you and I have

691
00:23:42,409 --> 00:23:44,674
androgenetic alopecia
and I would like to

692
00:23:44,674 --> 00:23:46,069
know, how many times are you

693
00:23:46,069 --> 00:23:47,944
going to inject this PRP?

694
00:23:47,944 --> 00:23:50,195
Is it going to be
50 injections? [inaudible]

695
00:23:50,195 --> 00:23:52,144
How many
times are you

696
00:23:52,144 --> 00:23:54,319
injecting PRP? And what are

697
00:23:54,319 --> 00:23:57,770
the side effects, is it
painful? Do the patients like it?

698
00:23:57,770 --> 00:23:59,119
[Alison] Those are very,

699
00:23:59,119 --> 00:24:00,260
very good questions
because that's

700
00:24:00,260 --> 00:24:01,339
exactly the conversation I

701
00:24:01,339 --> 00:24:02,824
will have with my patients.

702
00:24:02,824 --> 00:24:04,429
I think the
biggest downside

703
00:24:04,429 --> 00:24:06,245
of PRP is the discomfort.

704
00:24:06,245 --> 00:24:07,714
From other aspects,

705
00:24:07,714 --> 00:24:09,094
it's a safe treatment.

706
00:24:09,094 --> 00:24:10,519
A lot of people like
it because it's

707
00:24:10,519 --> 00:24:11,840
sort of biologically-
focused

708
00:24:11,840 --> 00:24:13,340
and people kind
of like that

709
00:24:13,340 --> 00:24:15,214
sort of natural
approach to therapy.

710
00:24:15,214 --> 00:24:17,510
But you do have to do
several injections,

711
00:24:17,510 --> 00:24:18,830
you know, you want
to kind of cover

712
00:24:18,830 --> 00:24:21,305
the entire sort of
vertex or crown,

713
00:24:21,305 --> 00:24:22,429
top part of the
scalp where

714
00:24:22,429 --> 00:24:24,109
the hair thinning
is occurring.

715
00:24:24,109 --> 00:24:25,490
And so you'll typically do

716
00:24:25,490 --> 00:24:27,019
several injection
points about

717
00:24:27,019 --> 00:24:28,430
a centimeter or two

718
00:24:28,430 --> 00:24:29,869
separate from one another.

719
00:24:29,869 --> 00:24:31,070
So I always tell patients,

720
00:24:31,070 --> 00:24:31,819
I'm not going to tell you

721
00:24:31,819 --> 00:24:33,619
how many injections
I'm giving

722
00:24:33,619 --> 00:24:35,180
you into your scalp because

723
00:24:35,180 --> 00:24:36,350
you probably don't
want to know,

724
00:24:36,350 --> 00:24:38,450
but it is a lot, probably

725
00:24:38,450 --> 00:24:40,474
40 to 50 injection points.

726
00:24:40,474 --> 00:24:42,199
Now the good
news that I will

727
00:24:42,199 --> 00:24:43,669
say is that we have

728
00:24:43,669 --> 00:24:44,960
learnt to provide

729
00:24:44,960 --> 00:24:46,939
better analgesia

to our patients.

730
00:24:46,939 --> 00:24:48,290
What we actually
do is what's

731
00:24:48,290 --> 00:24:49,820
called a scalp
block where we will

732
00:24:49,820 --> 00:24:51,079
use lidocaine to numb up

733
00:24:51,079 --> 00:24:53,465
the nerves that actually
supply the scalp.

734
00:24:53,465 --> 00:24:55,129
And although that's
obviously

735
00:24:55,129 --> 00:24:57,260
painful to do
a nerve block,

736
00:24:57,260 --> 00:25:00,079
it's far fewer injections
then the number

737
00:25:00,079 --> 00:25:01,430
I've alluded to
that we would need

738
00:25:01,430 --> 00:25:03,244
to do across the
top of the scalp.

739
00:25:03,244 --> 00:25:06,184
That being said, our
patients all come back.

740
00:25:06,184 --> 00:25:07,969
I have patients

that are coming on

741
00:25:07,969 --> 00:25:10,099
a regular basis and
they don't like it,

742
00:25:10,099 --> 00:25:12,380
it is uncomfortable,
but they get through it.

743
00:25:12,380 --> 00:25:13,970
Just to circle back

744
00:25:13,970 --> 00:25:15,560
about the number
of injections,

745
00:25:15,560 --> 00:25:16,789
it's usually a series of

746
00:25:16,789 --> 00:25:18,649
three that we will
do as an induction,

747
00:25:18,649 --> 00:25:20,030
and when I say three,

748
00:25:20,030 --> 00:25:22,579
it really means
three sessions.

749
00:25:22,579 --> 00:25:23,990
At each session we'll do

750
00:25:23,990 --> 00:25:26,000
a number of injection
points into

751
00:25:26,000 --> 00:25:28,520
the scalp. And then
we'll usually wait

752

00:25:28,520 --> 00:25:30,019
four to six
months to see if

753
00:25:30,019 --> 00:25:31,670
the patient is a
good responder,

754
00:25:31,670 --> 00:25:33,560
if they are, they
might continue

755
00:25:33,560 --> 00:25:34,099
some kind of

756
00:25:34,099 --> 00:25:36,064
maintenance treatment
down the road.

757
00:25:36,064 --> 00:25:38,210
[Shane] We're working
very hard as

758
00:25:38,210 --> 00:25:41,180
a team to try and
innovate and make

759
00:25:41,180 --> 00:25:43,489
the procedure as painless

760
00:25:43,489 --> 00:25:46,130
and as tolerable
as we possibly can,

761
00:25:46,130 --> 00:25:49,279
and so as the
practice evolves.

762
00:25:49,279 --> 00:25:51,349
And so this is a
relatively new practice,

763
00:25:51,349 --> 00:25:52,670

as we've been discussing,

764
00:25:52,670 --> 00:25:56,089
and I think that in
addition to innovating on

765
00:25:56,089 --> 00:25:58,100
the therapeutic side with

766
00:25:58,100 --> 00:26:01,189
demonstrating safety
and efficacy,

767
00:26:01,189 --> 00:26:02,090
it also gives us

768
00:26:02,090 --> 00:26:03,469
the opportunity
to innovate on

769
00:26:03,469 --> 00:26:05,299
the procedural side and

770
00:26:05,299 --> 00:26:07,549
make this more comfortable

771
00:26:07,549 --> 00:26:09,229
and tolerable
for the patient

772
00:26:09,229 --> 00:26:12,770
as the practice evolves.
[Amit] During launch,

773
00:26:12,770 --> 00:26:14,704
you could be, you
could be using, how

774
00:26:14,704 --> 00:26:16,795
much of plasma are you

775
00:26:16,795 --> 00:26:18,619

injecting during one session?

776

00:26:18,619 --> 00:26:20,450

With the patient has
to come in the morning

777

00:26:20,450 --> 00:26:21,890

and I presume you

778

00:26:21,890 --> 00:26:23,660

take the blood
and take out

779

00:26:23,660 --> 00:26:27,110

the plasma and concentrate
the platelets.

780

00:26:27,110 --> 00:26:28,519

So there's a
process even before

781

00:26:28,519 --> 00:26:30,050

the patient does this,

782

00:26:30,050 --> 00:26:31,924

I guess it's a
whole day process?

783

00:26:31,924 --> 00:26:33,634

[Alison] Actually,
not at all.

784

00:26:33,634 --> 00:26:35,239

We've got it
down to probably

785

00:26:35,239 --> 00:26:36,860

takes about an hour,

786

00:26:36,860 --> 00:26:38,855

not much longer, from
start to finish.

787

00:26:38,855 --> 00:26:40,369

When we did our study

788

00:26:40,369 --> 00:26:41,809

it was a lot longer.

789

00:26:41,809 --> 00:26:44,210

But basically, Shane
can speak to how

790

00:26:44,210 --> 00:26:45,349

the regenerative suites are

791

00:26:45,349 --> 00:26:47,119

set up, but the
patient comes right in.

792

00:26:47,119 --> 00:26:48,830

We spin the
plasma right there

793

00:26:48,830 --> 00:26:50,420

and then at the
point of care,

794

00:26:50,420 --> 00:26:52,489

so while the
plasma is spinning,

795

00:26:52,489 --> 00:26:53,885

we'll do the scalp block,

796

00:26:53,885 --> 00:26:56,510

come right in
and then inject.

797

00:26:56,510 --> 00:26:58,429

Shane raises a good point

798

00:26:58,429 --> 00:27:00,939

about the discomfort of
the procedure because

799
00:27:00,939 --> 00:27:02,539
I'm thinking back
really to when we

800
00:27:02,539 --> 00:27:04,610
started our
study and during

801
00:27:04,610 --> 00:27:06,139
our study we
actually did not use

802
00:27:06,139 --> 00:27:08,450
any analgesia other
than cool air,

803
00:27:08,450 --> 00:27:09,770
we had a cool
air machine that

804
00:27:09,770 --> 00:27:11,255
does help to
cool the scalp.

805
00:27:11,255 --> 00:27:12,559
But we didn't
use any lidocaine

806
00:27:12,559 --> 00:27:13,939
at all because
we wanted to be

807
00:27:13,939 --> 00:27:16,489
sure that we didn't
have any interaction or

808
00:27:16,489 --> 00:27:17,779
adverse effects by mixing

809
00:27:17,779 --> 00:27:20,209
lidocaine with the,
with the platelets.

810
00:27:20,209 --> 00:27:21,469
So those patients who

811
00:27:21,469 --> 00:27:22,400
will got through the study,

812
00:27:22,400 --> 00:27:24,560
it was a little
uncomfortable for them.

813
00:27:24,560 --> 00:27:25,790
But as I said subsequently,

814
00:27:25,790 --> 00:27:26,855
what we've done
is we actually

815
00:27:26,855 --> 00:27:27,889
called in our colleagues in

816
00:27:27,889 --> 00:27:29,449
anesthesia and said,

817
00:27:29,449 --> 00:27:31,039
"teach us how to numb
up the scalp in a,

818
00:27:31,039 --> 00:27:32,719
in a good way," because
we know anesthesia,

819
00:27:32,719 --> 00:27:34,699
they do surgery
with patients

820
00:27:34,699 --> 00:27:37,639
awake and managing to
work on their scalp.

821
00:27:37,639 --> 00:27:38,570
So we figured there's gotta

822
00:27:38,570 --> 00:27:39,710
be a better way to do it.

823
00:27:39,710 --> 00:27:41,660
And that's why we,
as Shane said,

824
00:27:41,660 --> 00:27:43,040
innovated and came up with

825
00:27:43,040 --> 00:27:45,019
the process of
doing a nerve block

826
00:27:45,019 --> 00:27:47,060
which has made a
big difference

827
00:27:47,060 --> 00:27:49,024
to the discomfort
of the procedure.

828
00:27:49,024 --> 00:27:50,600
[Amit] So in one
sitting, how much

829
00:27:50,600 --> 00:27:54,725
plasma are you injecting?
Is it...how much cc or mL?

830
00:27:54,725 --> 00:27:56,029
Do you have a
rough estimate in

831
00:27:56,029 --> 00:27:57,204
the 3...3 sets of

832
00:27:57,204 --> 00:27:58,669
injections that
you're giving?

833

00:27:58,669 --> 00:28:01,160
[Alison] Yes. It's a...
it's about five cc's.

834
00:28:01,160 --> 00:28:02,360
You start off drawing,

835
00:28:02,360 --> 00:28:03,920
I think it's about 50 or 60

836
00:28:03,920 --> 00:28:05,975
cc's of whole blood.

837
00:28:05,975 --> 00:28:07,969
And then by the time
it's all spun down,

838
00:28:07,969 --> 00:28:09,994
you come out
with about five

839
00:28:09,994 --> 00:28:11,974
cc's which are
then injected.

840
00:28:11,974 --> 00:28:13,699
[Amit] So as you said

841
00:28:13,699 --> 00:28:15,109
that you have to

842
00:28:15,109 --> 00:28:17,015
follow these patients
up, down the line.

843
00:28:17,015 --> 00:28:18,350
You really see a change

844
00:28:18,350 --> 00:28:19,940
around six months and beyond.

845
00:28:19,940 --> 00:28:22,264

So how do you
support your patient

846

00:28:22,264 --> 00:28:24,229
and how you show
that progress is

847

00:28:24,229 --> 00:28:25,909
being made during the time

848

00:28:25,909 --> 00:28:28,849
that you are monitoring
the patient?

849

00:28:28,849 --> 00:28:31,100
Yes. Your study, as I
said, your study

850

00:28:31,100 --> 00:28:33,904
went for almost six
months, was that correct?

851

00:28:33,904 --> 00:28:35,464
[Alison] It was a
year in total.

852

00:28:35,464 --> 00:28:36,799
Yeah the study, the actual

853

00:28:36,799 --> 00:28:38,030
active part was six months,

854

00:28:38,030 --> 00:28:39,139
but we continue to follow

855

00:28:39,139 --> 00:28:40,684
beyond the six months.

856

00:28:40,684 --> 00:28:42,814
[Amit] So at the end of the
year, is when you are,

857

00:28:42,814 --> 00:28:44,569
you can tell your
patients, and

858

00:28:44,569 --> 00:28:46,804
really see the benefit.
[Alison] Yeah.

859

00:28:46,804 --> 00:28:50,150
[Amit] What were the
objective numbers

860

00:28:50,150 --> 00:28:51,485
like number-wise,

861

00:28:51,485 --> 00:28:53,300
what are the
effective numbers?

862

00:28:53,300 --> 00:28:54,949
[Alison] There's a lot
of variability

863

00:28:54,949 --> 00:28:56,180
between patients.

864

00:28:56,180 --> 00:28:58,835
And there's really
two ways of...that

865

00:28:58,835 --> 00:29:00,139
we assess their improvement.

866

00:29:00,139 --> 00:29:02,059
We, we take photographs,
before and after

867

00:29:02,059 --> 00:29:03,275
photographs, and try and

868

00:29:03,275 --> 00:29:04,850
take them as similarly
as possible.

869
00:29:04,850 --> 00:29:06,409
We make sure we part
their hair in the middle

870
00:29:06,409 --> 00:29:08,000
and have them positioned

871
00:29:08,000 --> 00:29:09,200
in the same
way and so on

872
00:29:09,200 --> 00:29:10,549
so that you can see,

873
00:29:10,549 --> 00:29:12,260
see if there's been an

874
00:29:12,260 --> 00:29:13,820
observable improvement.

875
00:29:13,820 --> 00:29:15,920
But that's a very
sort of cursory way

876
00:29:15,920 --> 00:29:17,360
of being able
to assess that.

877
00:29:17,360 --> 00:29:19,460
So what we've now done
for our patients is we

878
00:29:19,460 --> 00:29:21,920
actually use the
TrichoScan,

879
00:29:21,920 --> 00:29:25,084
which is that
computerized photography

880
00:29:25,084 --> 00:29:26,599

of the hair
follicles that Shane

881
00:29:26,599 --> 00:29:27,605
alluded to, because we've

882
00:29:27,605 --> 00:29:28,699
got that from our study.

883
00:29:28,699 --> 00:29:30,904
We actually use that
still in our patients to

884
00:29:30,904 --> 00:29:32,150
validate whether
there's been

885
00:29:32,150 --> 00:29:34,159
an increase in the number
of hair follicles.

886
00:29:34,159 --> 00:29:35,659
And just to give
you round figures,

887
00:29:35,659 --> 00:29:37,549
as I said, there is
some variability,

888
00:29:37,549 --> 00:29:38,764
but usually, I tell patients

889
00:29:38,764 --> 00:29:40,189
to anticipate
probably a 10

890
00:29:40,189 --> 00:29:41,719
to 15% increase in

891
00:29:41,719 --> 00:29:43,174
the number of
hair follicles.

892
00:29:43,174 --> 00:29:44,840
[Amit] That's great.
[Alison] So I do tell

893
00:29:44,840 --> 00:29:46,340
them you're not going
to turn into Rapunzel.

894
00:29:46,340 --> 00:29:47,930
You're not going to have
so much hair that

895
00:29:47,930 --> 00:29:49,220
you're going to
struggle to cut it,

896
00:29:49,220 --> 00:29:50,719
but we're really hoping

897
00:29:50,719 --> 00:29:52,564
for a visible
improvement.

898
00:29:52,564 --> 00:29:54,199
[Shane] We were
talking about that

899
00:29:54,199 --> 00:29:55,610
just the other
day actually,

900
00:29:55,610 --> 00:29:56,990
and how profound even

901
00:29:56,990 --> 00:29:58,730
that 15% improvement
could be.

902
00:29:58,730 --> 00:30:00,230
And you mentioned
earlier about

903

00:30:00,230 --> 00:30:02,390
the similarities
between our practice

904
00:30:02,390 --> 00:30:04,280
in orthopedics
and dermatology.

905
00:30:04,280 --> 00:30:06,229
This is one area
where they diverge.

906
00:30:06,229 --> 00:30:08,809
We're using
similar products,

907
00:30:08,809 --> 00:30:10,640
but when you're
talking about

908
00:30:10,640 --> 00:30:13,399
pain and tendon
regeneration of

909
00:30:13,399 --> 00:30:16,909
15% improvement
for a torn tendon

910
00:30:16,909 --> 00:30:18,710
is not going to be very
good for patients.

911
00:30:18,710 --> 00:30:20,404
But then, on
the other hand,

912
00:30:20,404 --> 00:30:22,999
in the dermatologic
practice

913
00:30:22,999 --> 00:30:25,009
and then a serious
condition like

914
00:30:25,009 --> 00:30:27,170
androgenetic alopecia
where it's

915
00:30:27,170 --> 00:30:28,399
a progressive condition

916
00:30:28,399 --> 00:30:29,180
and patients are going

917
00:30:29,180 --> 00:30:31,525
to continue to lose hair.

918
00:30:31,525 --> 00:30:34,210
Having hair rejuvenation or

919
00:30:34,210 --> 00:30:36,249
regeneration on
the order of

920
00:30:36,249 --> 00:30:38,814
15% is really
quite profound.

921
00:30:38,814 --> 00:30:41,740
And I think that is
one of the reasons why

922
00:30:41,740 --> 00:30:43,120
the patients do
continue to come

923
00:30:43,120 --> 00:30:44,754
back for this treatment
because they,

924
00:30:44,754 --> 00:30:48,204
they recognize how
valuable that can be.

925
00:30:48,204 --> 00:30:50,920
[Amit] You did studies

of the satisfaction rates.

926
00:30:50,920 --> 00:30:52,180
And as you are
following them,

927
00:30:52,180 --> 00:30:54,504
you've found
that with 15%...

928
00:30:54,504 --> 00:30:57,505
I've had patients exactly
like you're saying.

929
00:30:57,505 --> 00:30:59,350
The improvement,
like I will take

930
00:30:59,350 --> 00:31:01,689
the example of pain, to
have just improvement.

931
00:31:01,689 --> 00:31:06,250
And I'll ask them a number,
they say "well, 15%."

932
00:31:06,250 --> 00:31:10,134
Maybe they'll say "on a scale
of 0 to 10, I was a 10,

933
00:31:10,134 --> 00:31:13,089
now I am at 4 or 5."

934
00:31:13,089 --> 00:31:16,300
But when it comes to
percentage, they say, "well,

935
00:31:16,300 --> 00:31:19,524
I am 300 percent better
or 400 percent better,"

936
00:31:19,524 --> 00:31:21,159
because it's made such a

937
00:31:21,159 --> 00:31:23,739
dramatic change
in their life.

938
00:31:23,739 --> 00:31:27,400
So when they see hair growing,
how's their satisfaction?

939
00:31:27,400 --> 00:31:29,320
Do they start feeling
more positive?

940
00:31:29,320 --> 00:31:31,405
I know it's still evolving,

941
00:31:31,405 --> 00:31:33,220
but how are they feeling?

942
00:31:33,220 --> 00:31:35,140
[Alison] I'll give you
a sense of...of

943
00:31:35,140 --> 00:31:37,630
my...my take on
this treatment.

944
00:31:37,630 --> 00:31:40,150
And there's a few
points to be made here.

945
00:31:40,150 --> 00:31:41,620
You remember we
talked right early on

946
00:31:41,620 --> 00:31:43,359
that if we leave
this process alone,

947
00:31:43,359 --> 00:31:45,159
it's progressive and
gets worse over time.

948
00:31:45,159 --> 00:31:46,660
So setting goals of

949
00:31:46,660 --> 00:31:49,030
treatment is important. And

950
00:31:49,030 --> 00:31:51,550
realistically even
stabilizing the process

951
00:31:51,550 --> 00:31:53,349
and preventing further
loss is important.

952
00:31:53,349 --> 00:31:54,729
So...and this is

953
00:31:54,729 --> 00:31:57,410
what's so great about
PRP, is that not only

954
00:31:57,410 --> 00:31:58,460
stabilizes, because a lot

955
00:31:58,460 --> 00:31:59,569
of patients will
come in and say, "if

956
00:31:59,569 --> 00:32:00,620
I can just hold
onto the hair

957
00:32:00,620 --> 00:32:01,849
I've got now,
I'll be happy;

958
00:32:01,849 --> 00:32:02,960
I just don't want
to lose any more.

959
00:32:02,960 --> 00:32:04,729
I don't wanna

get bald?" So if

960
00:32:04,729 --> 00:32:06,650
you can offer them
something that even stops

961
00:32:06,650 --> 00:32:10,925
that, I think that's
already a big plus.

962
00:32:10,925 --> 00:32:12,170
And if you can even then

963
00:32:12,170 --> 00:32:13,759
see an incremental
improvement,

964
00:32:13,759 --> 00:32:15,695
you know, 10, 15, 20%.

965
00:32:15,695 --> 00:32:17,600
That is going
to be huge for

966
00:32:17,600 --> 00:32:18,739
women, because don't forget

967
00:32:18,739 --> 00:32:19,685
the flip side of that.

968
00:32:19,685 --> 00:32:20,869
When a woman loses ten to

969
00:32:20,869 --> 00:32:22,864
15% of her hair
all of a sudden,

970
00:32:22,864 --> 00:32:23,929
you bet she's coming and

971
00:32:23,929 --> 00:32:25,054
banging on your

door saying,

972
00:32:25,054 --> 00:32:26,944
"you gotta help me
here, I'm losing hair."

973
00:32:26,944 --> 00:32:29,330
So, you know, the flip
side is even though

974
00:32:29,330 --> 00:32:30,484
the gains are modest and

975
00:32:30,484 --> 00:32:32,029
we'd like to have
bigger numbers,

976
00:32:32,029 --> 00:32:33,740
I'm sure we'd all like
to double our volume

977
00:32:33,740 --> 00:32:35,300
of hair. Realistically,

978
00:32:35,300 --> 00:32:36,949
that amount
of improvement

979
00:32:36,949 --> 00:32:39,739
has brought a great amount
of joy to our patients.

980
00:32:39,739 --> 00:32:40,969
And I have another

981
00:32:40,969 --> 00:32:42,259
patient who was
actually involved in

982
00:32:42,259 --> 00:32:43,549
the study and sent us a

983

00:32:43,549 --> 00:32:45,125
thank you card
afterwards to say,

984
00:32:45,125 --> 00:32:46,279
you know, "thank you
for allowing me

985
00:32:46,279 --> 00:32:47,449
to participate
in the study."

986
00:32:47,449 --> 00:32:49,429
She said, "you have
truly changed my life."

987
00:32:49,429 --> 00:32:50,629
She said, "I've, I've tried

988
00:32:50,629 --> 00:32:52,160
so many treatments
that really did

989
00:32:52,160 --> 00:32:53,719
nothing and that
were just hard

990
00:32:53,719 --> 00:32:55,369
to use or had side effects."

991
00:32:55,369 --> 00:32:57,094
And she said, "this
has been amazing."

992
00:32:57,094 --> 00:32:59,270
And so she's continued now,

993
00:32:59,270 --> 00:33:01,609
even post the study,
to receive treatment.

994
00:33:01,609 --> 00:33:03,770
So we have a big cohort now

995
00:33:03,770 --> 00:33:04,819
we've only been
doing this for

996
00:33:04,819 --> 00:33:05,869
about two or three years,

997
00:33:05,869 --> 00:33:07,700
but we have a big cohort
of people who come

998
00:33:07,700 --> 00:33:10,145
in regularly for
maintenance PRP,

999
00:33:10,145 --> 00:33:13,985
1...1 to two times a year,
that seem very happy.

1000
00:33:13,985 --> 00:33:16,099
Like anything, it's
not for everybody.

1001
00:33:16,099 --> 00:33:17,450
And some people
are going to say,

1002
00:33:17,450 --> 00:33:18,920
"I'm not going to
spend the money if

1003
00:33:18,920 --> 00:33:20,854
I'm only going to get
a modest improvement."

1004
00:33:20,854 --> 00:33:21,830
Other people are going

1005
00:33:21,830 --> 00:33:22,759
to be thrilled to bits

1006

00:33:22,759 --> 00:33:24,889
that there's even
something that can,

1007
00:33:24,889 --> 00:33:26,600
can provide some
positive relief

1008
00:33:26,600 --> 00:33:28,234
from, from this condition.

1009
00:33:28,234 --> 00:33:30,590
[Amit] I know this is
pretty new in the process.

1010
00:33:30,590 --> 00:33:32,150
So is it something

1011
00:33:32,150 --> 00:33:34,369
that they have to come
year after year

1012
00:33:34,369 --> 00:33:35,990
for five or ten years,

1013
00:33:35,990 --> 00:33:38,329
or do you see that after

1014
00:33:38,329 --> 00:33:40,609
maybe 3, 4, 5 years of

1015
00:33:40,609 --> 00:33:43,460
this kind of intervention,
once or twice a year

1016
00:33:43,460 --> 00:33:44,869
treatment, you will
be able to tell

1017
00:33:44,869 --> 00:33:47,750
them that this is it.

1018

00:33:47,750 --> 00:33:49,624
The hair is going,

1019
00:33:49,624 --> 00:33:51,230
not going to go
any further.

1020
00:33:51,230 --> 00:33:53,449
Or do they just keep
continuing saying, well,

1021
00:33:53,449 --> 00:33:56,074
I'm seeing progress
and we don't stop.

1022
00:33:56,074 --> 00:33:58,399
Do you have just
an estimate what

1023
00:33:58,399 --> 00:34:00,125
the future would look like?

1024
00:34:00,125 --> 00:34:02,000
[Alison] I don't know
for sure that we

1025
00:34:02,000 --> 00:34:03,619
can have a crystal ball

1026
00:34:03,619 --> 00:34:04,849
as to what we're going to

1027
00:34:04,849 --> 00:34:07,294
see 5-10 years
down the road.

1028
00:34:07,294 --> 00:34:09,469
My sense, and I'd
be interested to

1029
00:34:09,469 --> 00:34:12,020
know what Shane's
impression on this is.

1030
00:34:12,020 --> 00:34:14,375
We're kind of interfering
with Mother Nature.

1031
00:34:14,375 --> 00:34:16,280
Mother Nature has
pre-programmed you

1032
00:34:16,280 --> 00:34:18,379
for genetic reasons
or whatever to,

1033
00:34:18,379 --> 00:34:19,579
to thin out over time.

1034
00:34:19,579 --> 00:34:21,530
And I think any time we
try to put a stop to

1035
00:34:21,530 --> 00:34:22,519
aging and we try to

1036
00:34:22,519 --> 00:34:24,080
interfere with
Mother Nature.

1037
00:34:24,080 --> 00:34:25,430
It would be great if it was

1038
00:34:25,430 --> 00:34:26,735
a one and done deal.

1039
00:34:26,735 --> 00:34:28,850
But I think the
reality is you

1040
00:34:28,850 --> 00:34:31,835
probably need some sort
of ongoing treatment.

1041
00:34:31,835 --> 00:34:33,079

Now, again, if you

1042
00:34:33,079 --> 00:34:35,420
complement PRP with
other treatments,

1043
00:34:35,420 --> 00:34:36,949
like minoxidil,

1044
00:34:36,949 --> 00:34:39,184
or potentially a
systemic therapy,

1045
00:34:39,184 --> 00:34:42,020
can you get more
sustained benefit,

1046
00:34:42,020 --> 00:34:43,549
can it last longer?

1047
00:34:43,549 --> 00:34:45,289
Those are all interesting
things that I

1048
00:34:45,289 --> 00:34:47,509
think time will tell, Shane,

1049
00:34:47,509 --> 00:34:48,079
I don't if you have

1050
00:34:48,079 --> 00:34:49,640
any comments or
thoughts on that.

1051
00:34:49,640 --> 00:34:52,775
[Shane] Well, I would simply
take the opportunity to

1052
00:34:52,775 --> 00:34:56,540
promote our program
in Mayo Clinic,

1053

00:34:56,540 --> 00:34:58,849
Center for Regenerative
Medicine and some of

1054
00:34:58,849 --> 00:35:01,639
the other initiatives
that we've embarked on.

1055
00:35:01,639 --> 00:35:04,684
And one of them is an
outcomes registry,

1056
00:35:04,684 --> 00:35:06,139
which really needs to be

1057
00:35:06,139 --> 00:35:09,110
done for just about
any novel therapy,

1058
00:35:09,110 --> 00:35:11,029
regenerative medicine
or otherwise.

1059
00:35:11,029 --> 00:35:12,440
And we've seen this

1060
00:35:12,440 --> 00:35:13,790
for years in
orthopedics and

1061
00:35:13,790 --> 00:35:15,500
orthopedic surgery
when you look at

1062
00:35:15,500 --> 00:35:17,419
joint replacement and
things of that nature.

1063
00:35:17,419 --> 00:35:19,550
And so for a lot
of treatments

1064
00:35:19,550 --> 00:35:21,619

you can only
truly determine

1065
00:35:21,619 --> 00:35:24,874
the long-term
potential after

1066
00:35:24,874 --> 00:35:26,059
following patients for

1067
00:35:26,059 --> 00:35:27,649
a long period
of time. And

1068
00:35:27,649 --> 00:35:29,809
so outcomes registry

1069
00:35:29,809 --> 00:35:34,249
that is supported by
the institution and

1070
00:35:34,249 --> 00:35:37,024
our patients who receive

1071
00:35:37,024 --> 00:35:39,305
treatment with
platelet-rich plasma

1072
00:35:39,305 --> 00:35:40,370
for hair loss,

1073
00:35:40,370 --> 00:35:42,319
both men and women,
we're going to

1074
00:35:42,319 --> 00:35:44,389
track them for long
periods of time

1075
00:35:44,389 --> 00:35:46,535
and add to our
understanding

1076
00:35:46,535 --> 00:35:50,420
of what the natural
history of this condition

1077
00:35:50,420 --> 00:35:53,239
is and how platelet-
rich plasma can

1078
00:35:53,239 --> 00:35:55,580
modify the natural history

1079
00:35:55,580 --> 00:35:57,199
over the course
of many years.

1080
00:35:57,199 --> 00:35:59,210
And so that's going
to be hopefully

1081
00:35:59,210 --> 00:36:01,789
patients that get PRP

1082
00:36:01,789 --> 00:36:04,099
or maybe patients
that get PRP for

1083
00:36:04,099 --> 00:36:05,449
a little while and combine

1084
00:36:05,449 --> 00:36:06,619
that with standard-of-care.

1085
00:36:06,619 --> 00:36:08,120
We really want to be able

1086
00:36:08,120 --> 00:36:11,389
to track every patient
that comes through

1087
00:36:11,389 --> 00:36:13,579
this program to
be able to add

1088
00:36:13,579 --> 00:36:16,700
additional scientific
understanding over and

1089
00:36:16,700 --> 00:36:18,110
above what you
would even normally

1090
00:36:18,110 --> 00:36:20,044
get from a randomized
control trial.

1091
00:36:20,044 --> 00:36:21,590
[Amit] So it looks
like we're

1092
00:36:21,590 --> 00:36:22,910
fortunate to have you,

1093
00:36:22,910 --> 00:36:24,230
it looks like
they needed it,

1094
00:36:24,230 --> 00:36:25,805
as they say, you
need an entire

1095
00:36:25,805 --> 00:36:27,815
village to raise a child.

1096
00:36:27,815 --> 00:36:31,655
You need a huge
army of you, the

1097
00:36:31,655 --> 00:36:33,320
world's best to take care

1098
00:36:33,320 --> 00:36:35,270
of a patient,
which is great.

1099

00:36:35,270 --> 00:36:37,220
But there are so
many more patients

1100
00:36:37,220 --> 00:36:39,605
who cannot come
to Mayo Clinic.

1101
00:36:39,605 --> 00:36:42,214
Are there other
academic centers

1102
00:36:42,214 --> 00:36:45,485
with similar capability
which you foresee,

1103
00:36:45,485 --> 00:36:46,970
or they're already
doing it, or you

1104
00:36:46,970 --> 00:36:48,380
foresee in the
future can do it?

1105
00:36:48,380 --> 00:36:50,869
Because right now there's
a lot more patients

1106
00:36:50,869 --> 00:36:52,340
who probably will benefit

1107
00:36:52,340 --> 00:36:53,825
from it and need help?

1108
00:36:53,825 --> 00:36:55,145
Or are they
coming to you and

1109
00:36:55,145 --> 00:36:57,035
learning this technique
and going back?

1110
00:36:57,035 --> 00:36:58,834

Or on the cautionary side,

1111
00:36:58,834 --> 00:37:00,649
do you want to say, "no,

1112
00:37:00,649 --> 00:37:02,450
you stick with the
major centers to

1113
00:37:02,450 --> 00:37:04,909
get this process down
because as you mentioned,

1114
00:37:04,909 --> 00:37:06,799
you have registry,
are following up,

1115
00:37:06,799 --> 00:37:08,779
you're doing a thorough

1116
00:37:08,779 --> 00:37:10,880
medical assessment,

1117
00:37:10,880 --> 00:37:12,500
post-procedure follow-up.

1118
00:37:12,500 --> 00:37:14,569
What kind of recommendation

1119
00:37:14,569 --> 00:37:17,074
do I need to give
in the front line?

1120
00:37:17,074 --> 00:37:19,129
And if I'm not working
at Mayo Clinic,

1121
00:37:19,129 --> 00:37:20,569
I'm at another
clinic, what kind

1122
00:37:20,569 --> 00:37:21,679

of a recommendation
do I need

1123
00:37:21,679 --> 00:37:23,360
to give my patients?

1124
00:37:23,360 --> 00:37:24,709
[Shane] Well, I think
we can probably

1125
00:37:24,709 --> 00:37:25,925
both answer this one.

1126
00:37:25,925 --> 00:37:28,834
I'll tell you from
my perspective.

1127
00:37:28,834 --> 00:37:30,200
The field,

1128
00:37:30,200 --> 00:37:31,879
the fount of knowledge
is growing with

1129
00:37:31,879 --> 00:37:33,859
respect to platelet-
rich plasma

1130
00:37:33,859 --> 00:37:37,460
and dermatologic and
cosmetic applications.

1131
00:37:37,460 --> 00:37:39,574
We like to think
that we take a very

1132
00:37:39,574 --> 00:37:41,930
scientific and rigorous
approach to it,

1133
00:37:41,930 --> 00:37:43,279
and so in addition
to applying

1134
00:37:43,279 --> 00:37:44,944
it in our practice,
we are studying it,

1135
00:37:44,944 --> 00:37:47,419
we're following
patients, having

1136
00:37:47,419 --> 00:37:50,480
quality standard
operating procedures

1137
00:37:50,480 --> 00:37:53,570
and quality controls
are probably

1138
00:37:53,570 --> 00:37:55,249
the most important thing

1139
00:37:55,249 --> 00:37:57,949
in performing the
procedure safely.

1140
00:37:57,949 --> 00:38:01,849
And then, as I also
mentioned, fortunately,

1141
00:38:01,849 --> 00:38:04,279
it's not that
complicated from

1142
00:38:04,279 --> 00:38:07,370
a time perspective to
perform the procedure

1143
00:38:07,370 --> 00:38:10,580
and so with the
appropriate education,

1144
00:38:10,580 --> 00:38:11,795
the appropriate training,

1145
00:38:11,795 --> 00:38:14,870
you would see more
facilities and

1146
00:38:14,870 --> 00:38:16,130
certainly more practices

1147
00:38:16,130 --> 00:38:17,810
being able to offer
this to the patient.

1148
00:38:17,810 --> 00:38:19,309
That's certainly
what we hope to see.

1149
00:38:19,309 --> 00:38:21,949
I don't think we
really intend for this

1150
00:38:21,949 --> 00:38:23,179
only to be performed

1151
00:38:23,179 --> 00:38:25,099
at major medical centers.

1152
00:38:25,099 --> 00:38:27,065
And Alison has of course,

1153
00:38:27,065 --> 00:38:28,880
involved in
resident education

1154
00:38:28,880 --> 00:38:31,430
and this is an
opportunity for

1155
00:38:31,430 --> 00:38:32,780
our residents and fellows

1156
00:38:32,780 --> 00:38:34,970
who come through
Mayo Clinic to learn

1157
00:38:34,970 --> 00:38:36,290
these procedures
and take them

1158
00:38:36,290 --> 00:38:38,689
with them into
their practice.

1159
00:38:38,689 --> 00:38:40,085
Would you agree, Alison?

1160
00:38:40,085 --> 00:38:43,289
[Alison] Yeah,
absolutely, I would agree.

1161
00:38:43,600 --> 00:38:45,919
I think it would be nice to

1162
00:38:45,919 --> 00:38:47,900
see more standardization in

1163
00:38:47,900 --> 00:38:49,250
the scientific
world because

1164
00:38:49,250 --> 00:38:51,980
PRP is very much
an umbrella term.

1165
00:38:51,980 --> 00:38:53,600
There's many different ways

1166
00:38:53,600 --> 00:38:54,679
in which it's spun and

1167
00:38:54,679 --> 00:38:57,710
prepared and
various additives

1168
00:38:57,710 --> 00:38:59,000
that go into it and so on.

1169
00:38:59,000 --> 00:39:01,070
So I, I think, you know,

1170
00:39:01,070 --> 00:39:03,259
and you can certainly
buy centrifuges,

1171
00:39:03,259 --> 00:39:04,190
many dermatologists

1172
00:39:04,190 --> 00:39:05,180
out in private practice

1173
00:39:05,180 --> 00:39:06,260
will buy a centrifuge and

1174
00:39:06,260 --> 00:39:07,610
spin their PRP and so on.

1175
00:39:07,610 --> 00:39:08,750
And so I think
you just have to

1176
00:39:08,750 --> 00:39:10,969
be a little bit careful of,

1177
00:39:10,969 --> 00:39:13,670
as Shane said, it's
not that we only

1178
00:39:13,670 --> 00:39:15,920
recommend doing it
in academic centers,

1179
00:39:15,920 --> 00:39:17,570
but you do want
to be careful

1180
00:39:17,570 --> 00:39:19,970
about the reputation
of where you're

1181
00:39:19,970 --> 00:39:22,565
receiving the PRP because

1182
00:39:22,565 --> 00:39:24,470
there obviously
is some variability

1183
00:39:24,470 --> 00:39:26,809
and you're probably not

1184
00:39:26,809 --> 00:39:28,219
well set just to go to

1185
00:39:28,219 --> 00:39:29,884
anybody who's got a
centrifuge and saying,

1186
00:39:29,884 --> 00:39:32,705
"oh hey, I spin PRP,
let me inject it."

1187
00:39:32,705 --> 00:39:35,690
That's obviously
important to consider.

1188
00:39:35,690 --> 00:39:36,590
And then it would be nice

1189
00:39:36,590 --> 00:39:37,520
in the scientific world

1190
00:39:37,520 --> 00:39:37,789
to see

1191
00:39:37,789 --> 00:39:39,499
more standardization
in the literature.

1192
00:39:39,499 --> 00:39:40,939
And I think there
are attempts to do

1193
00:39:40,939 --> 00:39:42,499
that now where they, you know,

1194
00:39:42,499 --> 00:39:44,599
looking at more standard
numbers of platelets

1195
00:39:44,599 --> 00:39:45,650
and standard

1196
00:39:45,650 --> 00:39:47,360
preparation
techniques and so on.

1197
00:39:47,360 --> 00:39:49,010
And most of the

1198
00:39:49,010 --> 00:39:50,989
rigorous journals
will kind of really

1199
00:39:50,989 --> 00:39:52,040
look to see how

1200
00:39:52,040 --> 00:39:55,684
the PRP is prepared
and processed.

1201
00:39:55,684 --> 00:39:57,380
[Amit] So one of the questions

1202
00:39:57,380 --> 00:39:59,719
which patients
would like to know,

1203
00:39:59,719 --> 00:40:02,764
is this covered
by insurance?

1204
00:40:02,764 --> 00:40:05,179
Or is it, right

now, considered

1205
00:40:05,179 --> 00:40:08,924
experiment...experimental,
and it's self-pay?

1206
00:40:08,924 --> 00:40:11,035
[Shane] Yeah, commonly right now,

1207
00:40:11,035 --> 00:40:12,819
it's not covered
by insurance,

1208
00:40:12,819 --> 00:40:14,410
which, which means very

1209
00:40:14,410 --> 00:40:17,064
similar to a lot of
cosmetic procedures in,

1210
00:40:17,064 --> 00:40:18,700
in medicine that
the patient is

1211
00:40:18,700 --> 00:40:21,130
responsible to
cover the costs.

1212
00:40:21,130 --> 00:40:23,020
But that's a, that's
another reason

1213
00:40:23,020 --> 00:40:25,945
why we're working really
hard on the science.

1214
00:40:25,945 --> 00:40:28,840
Because the more evidence
you can deliver to

1215
00:40:28,840 --> 00:40:31,509
government payers and
to private insurers,

1216
00:40:31,509 --> 00:40:32,800
the more it becomes part

1217
00:40:32,800 --> 00:40:34,390
of routine medical care.

1218
00:40:34,390 --> 00:40:37,644
And may at some point get

1219
00:40:37,644 --> 00:40:39,490
medical coverage
because this

1220
00:40:39,490 --> 00:40:41,755
is a serious
medical condition.

1221
00:40:41,755 --> 00:40:43,870
An additional note on cost

1222
00:40:43,870 --> 00:40:46,149
is that most PRP is

1223
00:40:46,149 --> 00:40:48,745
manufactured using
disposable kits

1224
00:40:48,745 --> 00:40:51,449
that are supplied
commercially at

1225
00:40:51,449 --> 00:40:52,999
considerable expense.

1226
00:40:52,999 --> 00:40:54,980
And in our program,

1227
00:40:54,980 --> 00:40:56,420
we can manufacture

1228

00:40:56,420 --> 00:40:57,739
the platelet-rich
plasma using

1229
00:40:57,739 --> 00:40:59,719
our own simple
laboratory supplies

1230
00:40:59,719 --> 00:41:01,009
and without having to

1231
00:41:01,009 --> 00:41:02,360
purchase an expensive kit.

1232
00:41:02,360 --> 00:41:03,709
And that helps us control

1233
00:41:03,709 --> 00:41:05,660
the cost considerably.

1234
00:41:05,660 --> 00:41:08,749
And so this is just
another example

1235
00:41:08,749 --> 00:41:11,569
of where the science
and the innovation

1236
00:41:11,569 --> 00:41:13,339
can help bring
these treatments

1237
00:41:13,339 --> 00:41:14,990
to the patient even in

1238
00:41:14,990 --> 00:41:16,519
the absence of

1239
00:41:16,519 --> 00:41:18,800
insurance coverage
for the time being.

1240

00:41:18,800 --> 00:41:21,814
[Alison] I would just
clarify that, you know,

1241
00:41:21,814 --> 00:41:23,210
I'd I definitely
wouldn't regard

1242
00:41:23,210 --> 00:41:25,025
this treatment
as experimental.

1243
00:41:25,025 --> 00:41:26,359
I think the reason
that it's not

1244
00:41:26,359 --> 00:41:27,649
covered by
insurance is more

1245
00:41:27,649 --> 00:41:28,579
because it falls under

1246
00:41:28,579 --> 00:41:31,070
the category of cosmetic.

1247
00:41:31,070 --> 00:41:32,570
But I think that
there's certainly

1248
00:41:32,570 --> 00:41:34,370
enough data that's come
out in the literature

1249
00:41:34,370 --> 00:41:35,839
over the last several
years showing

1250
00:41:35,839 --> 00:41:37,910
that this is an
effective treatment.

1251
00:41:37,910 --> 00:41:39,545

No doubt about that.

1252
00:41:39,545 --> 00:41:40,129
You know, there may

1253
00:41:40,129 --> 00:41:41,510
be some unanswered
questions.

1254
00:41:41,510 --> 00:41:42,949
Is does it work
for everybody?

1255
00:41:42,949 --> 00:41:45,320
Probably not. I
typically have

1256
00:41:45,320 --> 00:41:46,550
moved away from offering

1257
00:41:46,550 --> 00:41:48,574
the treatment to people
who [are] mostly bald.

1258
00:41:48,574 --> 00:41:50,029
I think you still
have to have

1259
00:41:50,029 --> 00:41:51,680
a decent amount of
hair to try and

1260
00:41:51,680 --> 00:41:52,925
get some growth growing

1261
00:41:52,925 --> 00:41:54,770
in the declining
hair follicles.

1262
00:41:54,770 --> 00:41:55,849
So yeah, there are some

1263

00:41:55,849 --> 00:41:57,259
variabilities that we still

1264
00:41:57,259 --> 00:41:58,564
need to figure out.

1265
00:41:58,564 --> 00:42:01,130
I would say that it's

1266
00:42:01,130 --> 00:42:02,360
definitely not
experimental,

1267
00:42:02,360 --> 00:42:04,220
it's just more in
the cosmetic realm,

1268
00:42:04,220 --> 00:42:06,260
which is probably one of

1269
00:42:06,260 --> 00:42:07,549
the reasons that
the insurers

1270
00:42:07,549 --> 00:42:09,004
push away from
covering it.

1271
00:42:09,004 --> 00:42:10,220
But I agree with, um,

1272
00:42:10,220 --> 00:42:11,329
Shane completely, you know,

1273
00:42:11,329 --> 00:42:12,950
this is a very debilitating

1274
00:42:12,950 --> 00:42:14,344
problem for people.

1275
00:42:14,344 --> 00:42:16,580
As I said, you know,

I've got 18-year-olds,

1276
00:42:16,580 --> 00:42:19,970
21-year-olds in tears over

1277
00:42:19,970 --> 00:42:20,779
this condition and

1278
00:42:20,779 --> 00:42:22,099
it's embarrassing for them.

1279
00:42:22,099 --> 00:42:23,479
So I do think

1280
00:42:23,479 --> 00:42:24,979
that we really
should push now that

1281
00:42:24,979 --> 00:42:26,750
we're starting to
have more data come

1282
00:42:26,750 --> 00:42:27,665
out in the literature

1283
00:42:27,665 --> 00:42:28,700
to support this treatment,

1284
00:42:28,700 --> 00:42:30,020
we really should
push the insurers

1285
00:42:30,020 --> 00:42:31,879
to start covering
this under

1286
00:42:31,879 --> 00:42:33,424
the umbrella of

1287
00:42:33,424 --> 00:42:35,704
a medical necessity
or medical need.

1288
00:42:35,704 --> 00:42:38,690
[Amit] I would completely
agree with both of you

1289
00:42:38,690 --> 00:42:39,530
that this is not

1290
00:42:39,530 --> 00:42:42,409
cosmetic. I have
patients, for example

1291
00:42:42,409 --> 00:42:46,129
hypothyroid patients,
severely hypothyroid,

1292
00:42:46,129 --> 00:42:47,329
where the [inaudible]
is completely gone.

1293
00:42:47,329 --> 00:42:48,199
They look different.

1294
00:42:48,199 --> 00:42:50,659
The hair is falling [out].
The skin is different.

1295
00:42:50,659 --> 00:42:52,730
And then I give the
thyroid medicine

1296
00:42:52,730 --> 00:42:54,049
and everything is better.

1297
00:42:54,049 --> 00:42:55,715
So, it's not
just cosmetic.

1298
00:42:55,715 --> 00:42:58,414
The same thing with
androgenetic alopecia.

1299

00:42:58,414 --> 00:43:00,215
This is one of the
treatments, like

1300
00:43:00,215 --> 00:43:01,760
any other treatments,
in the case

1301
00:43:01,760 --> 00:43:03,679
of high blood
pressure or diabetes,

1302
00:43:03,679 --> 00:43:05,539
there are many
medicines and some

1303
00:43:05,539 --> 00:43:06,620
work better than other for

1304
00:43:06,620 --> 00:43:07,880
a particular patient.

1305
00:43:07,880 --> 00:43:08,989
And so just because

1306
00:43:08,989 --> 00:43:10,219
one works better
than the other

1307
00:43:10,219 --> 00:43:11,359
doesn't mean the

1308
00:43:11,359 --> 00:43:12,830
other medicine
is experimental.

1309
00:43:12,830 --> 00:43:15,049
This is probably
ultimately going to

1310
00:43:15,049 --> 00:43:17,390
be required and essential.

1311
00:43:17,390 --> 00:43:18,950
And I, and I
congratulate both of

1312
00:43:18,950 --> 00:43:20,509
you in your mission

1313
00:43:20,509 --> 00:43:22,175
to push hard for
these patients

1314
00:43:22,175 --> 00:43:25,219
and all. And I am on the
human side of the story.

1315
00:43:25,219 --> 00:43:26,779
You just mentioned
all the kudos

1316
00:43:26,779 --> 00:43:28,160
that you're getting
from the patient.

1317
00:43:28,160 --> 00:43:30,469
And this is just
unbelievable

1318
00:43:30,469 --> 00:43:32,419
how you're
altering lives

1319
00:43:32,419 --> 00:43:33,829
by doing this research.

1320
00:43:33,829 --> 00:43:35,509
So, I thank you very much.

1321
00:43:35,509 --> 00:43:37,640
We are getting to the
end of what we are

1322
00:43:37,640 --> 00:43:39,259

talking [about]
today. What

1323
00:43:39,259 --> 00:43:40,699
we talked [about] today
is the platelet-

1324
00:43:40,699 --> 00:43:42,320
rich plasma and its

1325
00:43:42,320 --> 00:43:43,880
use in androgenetic
alopecia.

1326
00:43:43,880 --> 00:43:45,200
with Dr. Alison Bruce,

1327
00:43:45,200 --> 00:43:47,450
and Dr. Shane Shapiro.

1328
00:43:47,450 --> 00:43:48,710
It just shows that

1329
00:43:48,710 --> 00:43:50,900
when collaboration
happens and

1330
00:43:50,900 --> 00:43:52,340
wonderful things
happen when you have

1331
00:43:52,340 --> 00:43:54,719
wonderful scientists
get up there,

1332
00:43:54,719 --> 00:43:56,870
put their mind
in. From using

1333
00:43:56,870 --> 00:43:59,750
platelets to fix
torn tendons

1334
00:43:59,750 --> 00:44:01,820
to having an orthopedics

1335
00:44:01,820 --> 00:44:02,899
person in

1336
00:44:02,899 --> 00:44:05,324
a dermatology research
trying to grow hair.

1337
00:44:05,324 --> 00:44:08,454
Just an amazing...it's a
mind-blowing thing for me.

1338
00:44:08,454 --> 00:44:11,409
So, what we learned is
this is the new kid on

1339
00:44:11,409 --> 00:44:14,979
the block; platelet-rich
plasma. Much more,

1340
00:44:14,979 --> 00:44:18,084
our team here doing
fantastic job.

1341
00:44:18,084 --> 00:44:19,629
We have some of the
best people who are

1342
00:44:19,629 --> 00:44:22,149
studying this all the time.

1343
00:44:22,149 --> 00:44:23,349
And there is hope for

1344
00:44:23,349 --> 00:44:25,750
our patients with
androgenetic alopecia.

1345
00:44:25,750 --> 00:44:27,129
And that's just, just

1346
00:44:27,129 --> 00:44:28,809
terrific news.
Before I wrap up,

1347
00:44:28,809 --> 00:44:31,974
is there any last
words of wisdom or

1348
00:44:31,974 --> 00:44:33,879
advice you would have

1349
00:44:33,879 --> 00:44:36,700
for providers or
patients on this issue?

1350
00:44:36,700 --> 00:44:38,350
[Alison] This is such
an exciting field

1351
00:44:38,350 --> 00:44:39,790
as a dermatologist.

1352
00:44:39,790 --> 00:44:41,889
You know, the whole concept

1353
00:44:41,889 --> 00:44:44,050
of regenerative
therapy, I think is,

1354
00:44:44,050 --> 00:44:46,089
is something that
it's just super

1355
00:44:46,089 --> 00:44:47,379
exciting whether
it's looking

1356
00:44:47,379 --> 00:44:48,935
at wound healing,

1357
00:44:48,935 --> 00:44:50,180

tissue regeneration,

1358
00:44:50,180 --> 00:44:52,700
hair growth, skin
rejuvenation.

1359
00:44:52,700 --> 00:44:54,860
There's a world of
opportunity and I'm

1360
00:44:54,860 --> 00:44:56,600
just thankful that I've

1361
00:44:56,600 --> 00:44:58,249
been able to intersect
with people like

1362
00:44:58,249 --> 00:45:00,079
Shane who are exploring

1363
00:45:00,079 --> 00:45:01,100
the science and
trying to push

1364
00:45:01,100 --> 00:45:02,990
the frontiers of
what we can do to

1365
00:45:02,990 --> 00:45:05,569
unleash the body's healing

1366
00:45:05,569 --> 00:45:07,775
capacity to, to help us.

1367
00:45:07,775 --> 00:45:10,400
[Shane] And I would probably
echo those sentiments,

1368
00:45:10,400 --> 00:45:11,600
though from the other side.

1369
00:45:11,600 --> 00:45:12,965

As we talk all the time,

1370
00:45:12,965 --> 00:45:14,659
in regenerative
medicine, we really need

1371
00:45:14,659 --> 00:45:17,134
to partner with
physician champions.

1372
00:45:17,134 --> 00:45:19,115
They're the experts

1373
00:45:19,115 --> 00:45:20,705
in their particular field.

1374
00:45:20,705 --> 00:45:22,490
[It's] tongue-in-cheek to say

1375
00:45:22,490 --> 00:45:24,860
that orthopedists
are treating

1376
00:45:24,860 --> 00:45:27,335
dermatologic conditions.
I'm really not.

1377
00:45:27,335 --> 00:45:30,110
Our area of expertise
is just on the,

1378
00:45:30,110 --> 00:45:32,839
the manufacturing
and delivery

1379
00:45:32,839 --> 00:45:35,749
side of novel
regenerative therapies.

1380
00:45:35,749 --> 00:45:37,159
But you have to have

1381

00:45:37,159 --> 00:45:39,065
that expert in

1382

00:45:39,065 --> 00:45:41,000
the clinical
science who really

1383

00:45:41,000 --> 00:45:43,639
understands the
disease condition and

1384

00:45:43,639 --> 00:45:45,560
the way that we're
going to treat

1385

00:45:45,560 --> 00:45:47,464
these conditions
in order to,

1386

00:45:47,464 --> 00:45:50,419
to have an adequate
scientific partnership

1387

00:45:50,419 --> 00:45:51,919
and, and get
these treatments

1388

00:45:51,919 --> 00:45:53,554
to patients in need.

1389

00:45:53,554 --> 00:45:55,100
[Amit] Thank you, Dr. Bruce

1390

00:45:55,100 --> 00:45:56,795
and Dr. Shapiro.

1391

00:45:56,795 --> 00:45:57,440
For us, working

1392

00:45:57,440 --> 00:45:58,759
in the front lines with

1393

00:45:58,759 --> 00:46:00,739
the patients,
you have given,

1394

00:46:00,739 --> 00:46:02,089
not only the patients hope,

1395

00:46:02,089 --> 00:46:03,739
but all of us hope, saying

1396

00:46:03,739 --> 00:46:06,845
that now we have
many other choices

1397

00:46:06,845 --> 00:46:08,899
which we can offer
to the patient.

1398

00:46:08,899 --> 00:46:10,759
They've got fed
up of us telling

1399

00:46:10,759 --> 00:46:13,219
we can't do it anymore.
This is all you can do.

1400

00:46:13,219 --> 00:46:17,210
Now, there's, there's
a real new world

1401

00:46:17,210 --> 00:46:19,549
of PRP opening up.

1402

00:46:19,549 --> 00:46:22,129
So thank you very much
for your time and

1403

00:46:22,129 --> 00:46:24,590
I hope you keep
doing our great work.

1404

00:46:24,590 --> 00:46:26,525
And we'll probably

come back later,

1405

00:46:26,525 --> 00:46:28,040
maybe in a couple of years

1406

00:46:28,040 --> 00:46:29,419
to find out how
your study is

1407

00:46:29,419 --> 00:46:31,850
going and how
wonderfully

1408

00:46:31,850 --> 00:46:34,280
you're able to
help our patients.

1409

00:46:34,280 --> 00:46:36,305
If you have enjoyed
Mayo Clinic [Talks]

1410

00:46:36,305 --> 00:46:38,750
podcast, please subscribe.

1411

00:46:38,750 --> 00:46:41,675
And in the current time,

1412

00:46:41,675 --> 00:46:44,729
stay healthy and
see you next week.