Is a Cure for Rett Really Around the Corner?
治愈雷特真的不远了吗？

by Monica Coenraads | January 31, 2018
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I'm a stickler for accuracy. I always have been. So I confess to being a tad uncomfortable when I see posts, videos, or comments saying, **"A cure for Rett is right around the corner"**.
我是一个注重准确性的人。我一直都这样。所以我承认当我看到帖子、视频或评论说"一种治疗雷特方法就在眼前"时，我有点不舒服。

It is my belief, that of our Chief Scientific Officer, Dr. Randy Carpenter, and our scientific advisors that a cure can only be delivered by addressing the root problem of the disorder, which is *MECP2*. While the drugs tested to date in Rett clinical trials may improve some of the symptoms, we do not expect them to deliver anything close to a cure.
我相信，我们的首席科学官员兰迪.卡彭特博士和我们的科学顾问们认为，只有通过解决疾病的根本问题，才能实现治愈，即MECP2。虽然在雷特的临床试验中测试的药物可能会改善一些症状，但我们并不指望它们能提供任何接近治愈的方法。

So where do we stand with approaches that target *MECP2*? As a reminder these include gene therapy, RNA modifications, reactivation of *MECP2*, and protein replacement, which are the four approaches we have prioritized through RSRT's strategic research plan, *Roadmap to a Cure*.
那么，我们在哪里可以使用针对MECP2的方法呢？作为一个提醒，这些包括基因疗法、RNA修饰、MECP2的再激活和蛋白质的替换，这是我们通过RSRT的战略研究计划、治疗路线图优先考虑的四种方法。

The closest to clinical trials is gene therapy. As most of you know, last year the biotechnology company AveXis announced that based on encouraging data generated by RSRT's *Gene Therapy Consortium* they will be pursuing clinical trials. They are in the process of working with expert Rett physicians and Dr. Carpenter to design an initial clinical trial that optimally balances potential risks and benefits. Rest assured that AveXis is leveraging all insights gained from prior meetings with FDA to expedite progress with the Rett gene therapy program.
最接近临床试验的是基因疗法。正如你们大多数人所知，去年生物科技公司AveXis宣布，基于RSRT基因治疗联盟产生的令人鼓舞的数据，他们将进行临床试验。他们正在与专业雷特医生和卡朋特博士合作，设计一个初步的临床试验，以最优平衡潜在的风险和收益。请放心，AveXis正在利用之前与美国食品药物管理局（FDA）的会议获得的所有经验，加速与雷特基因治疗项目的进展。

We are very upbeat about the potential of RNA modifications, which fix mutations at the RNA level rather than the gene level. This biological approach could also be a one-time treatment and will need to be delivered via a vector. So much of what has and will be learned in gene therapy will be relevant for RNA modification approaches. In addition to the progress by RSRT's

currently funded scientists, the last several months have seen exciting breakthroughs by other leading scientists in this rapidly advancing field. Our goal is to invest even more aggressively in approaches targeting RNA and to recruit additional world leaders to focus their research on Rett Syndrome. While this strategy is still novel with no clinical trials to date for any disease, our hope is that Rett Syndrome will pave the way forward.
我们对RNA修饰的潜力非常乐观，它修复了RNA水平的突变而不是基因水平。这种生物学方法也可以是一次性治疗，需要通过一个载体来传递。基因治疗中有很多和将要学习的内容将与RNA修饰方法有关。除了RSRT目前资助的科学家取得的进展外，最近几个月在这一快速发展的领域，其他主要科学家取得了令人兴奋的突破。我们的目标是更积极地投资于针对RNA的方法，并招募更多的世界领导人来聚焦在研究雷特综合症上。虽然这一策略仍是新奇的，没有任何疾病的临床试验，但我们希望雷特综合症将为今后的发展铺平道路。

In an attempt to reactivate *MECP2* the scientists in our *Reactivation Consortium* have screened thousands of compounds. Several compounds were found to reactivate the gene to some degree but these compounds are unlikely to be safe enough to advance into clinical trials. Over the last year we have added biologic approaches to our reactivation arsenal. We recently awarded funding to the Jaenisch lab at the Whitehead Institute to work on a *CRISPR approach* and to the Philpot lab at the University of North Carolina to pursue a *zinc finger approach*. These biologic strategies will also require delivery via a vector, so once again, what we learn in gene therapy will have far reaching applications.
为了重新激活MECP2基因，我们重新激活的科学家小组已经筛选了数千种化合物。在某种程度上，人们发现了几种化合物可以使基因重新激活，但这些化合物不太可能安全到可以推进到临床试验阶段。在过去的一年里，我们在我们的重新激活的试验中加入了生物方法。最近，我们向怀特海德研究所的耶尼施实验室提供了资金，用于研究CRISPR方法，以及北卡罗来纳大学的菲尔波特实验室，以寻求一种锌指法。这些生物策略也需要通过一个载体来传递，所以我们在基因治疗中学到的东西将会有很广泛的应用。

The final strategy that targets MECP2 is protein replacement. Delivering enough MeCP2 protein into the brain on an ongoing basis is currently difficult. Numerous scientists and biopharmaceutical companies are focused on improving delivery of proteins to the brain and we are poised to rapidly exploit new scientific breakthroughs.
针对MECP2的最后策略是蛋白质置换。目前，向大脑提供足够的MeCP2蛋白是很困难的。许多科学家和生物制药公司都把重点放在改善大脑的蛋白质传递上，我们将迅速利用新的科学突破。

With the exception of gene therapy, our other approaches are not yet ready for clinical trials. So how close we really are to a cure will depend, in large part, on the outcome of the AveXis gene therapy trial.
除了基因治疗，我们的其他方法还没有准备好进行临床试验。所以我们离治愈有多近，很大程度上取决于AveXis基因治疗试验的结果。

I suspect that the days and weeks after the first child gets dosed with gene therapy will be the most exciting and the most terrifying time in my life. Exciting because for the very first time the Rett community will have the opportunity to pursue an approach that attacks the

root cause of this horrific disease. Terrifying because there are always risks to trying something for the first time and because although we expect dramatic improvements, there are no guarantees.
我猜想，第一个孩子被基因治疗的日子将是我一生中最激动人心、最恐怖的时刻。令人兴奋的是，这是第一次，雷特团体将有机会去探索一种方法来攻克这种可怕疾病的根源。这很可怕，因为第一次尝试某件事总是有风险的，尽管我们期待引人注目的改善，但却无法保证。

One thing I know for sure is that we would not be on the verge of gene therapy clinical trials if not for RSRT and our amazing families and their networks that support us. I'm very proud of that.
有一件事我可以肯定的是，如果不是RSRT，我们的家庭和他们人脉网的支持我们，我们就不会处于基因治疗临床试验的前沿。我为此感到非常自豪。

To everyone in our community who adores, like I do, someone with Rett, I make you three promises:
对于像我一样喜爱我们团体里的每个人，关于雷特，我给你们三个承诺：

First, RSRT will not quit until we have a cure. Whether that cure "is around the corner", meaning the upcoming gene therapy trial delivers the best possible outcome; or we determine that it is possible to modify and improve the gene therapy product; or if one of our other approaches takes the lead….we will not quit!
首先，在我们有治愈方法之前，RSRT不会停止。这种疗法是否"即将到来"，意味着即将到来的基因治疗试验提供了最好的结果;或者我们确定可以修改和改进基因治疗产品;或者，如果我们的其他方法中有一种领先……我们不会放弃!

Second, RSRT will be bold in all of our activities, from fundraising to research. It's the only way to make real progress.
第二，RSRT将在我们所有的活动中勇于开拓，，从筹款到研究。这是取得真正进展的唯一途径。

Third, you will always get the truth from us. No spin. You deserve that.
So, is a cure around the corner? I honestly don't know. But I can't wait to find out.
第三，你们将永远从我们这里得到真相。没有编造。这是你们应得的。
那么，离治愈不远了吗？我真的不知道。但我迫不及待地想要一探究竟。