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## What is coprolalia and what is the cause?

Coprolalia is a complex vocal tic that occurs when a person involuntarily repeats curse words, makes reference to male or female body parts, utters racial epithets or other socially inappropriate vocalizations.

These unfortunate outbursts are by no means an indication of a person's personal beliefs. In the past, coprolalia was considered to be the defining feature of TS. Today, we no longer believe that having this symptom is necessary in order to confirm a TS diagnosis. Indeed, experienced clinicians agree that coprolalia is relatively uncommon among people with TS. This change in viewpoint is a reflection of the gradual broadening of the very definition of TS. Although it is not uniformly the case, coprolalia does tend to occur in those with the more severe forms of TS symptoms.

The cause of coprolalia is not known. However, the tics of TS — even simple tics — may challenge the boundary between what is voluntary and what is involuntary. This challenge is even greater when we try to understand more complex tics such as coprolalia.

Many, in fact most individuals with TS describe a feeling or an urge prior to performing some or all of their tics. Some will go even further and report that the feeling or urge actually drives the need to tic. They tell us that “If I didn't have the urge, I wouldn't have the tics.” Generally, tics appear to be caused by a failure to inhibit signals in motor pathways in the brain. These pathways can be thought of as circuits or loops involving both sensory inputs (perhaps the source of premonitory urges) and motor outputs (movements). The actual physical location of the tic (e.g., facial movement, head jerk, shoulder shrug, throat clearing) may reflect the specific brain circuit where this failure of inhibition occurs. In other words, the reason why some people have facial tics and others have head

jerks or throat clearing may have to do with the specific brain circuit that is not properly regulated. Putting this all together, we can imagine a person with TS feeling tension in the neck, followed very soon thereafter with a head jerking tic. There may be momentary relief from the tension — only to have it return again, and then the cycle repeats. Despite the very brief warning or feeling prior to the tic, we regard the movement as being involuntary because the person cannot stop the tic from occurring. In other words, an awareness that the tic is about to be expressed does not mean that the person can stop it from happening.

This model works pretty well for understanding simple motor and vocal tics. When it comes to complicated ones such as combination tics (e.g., a head jerk followed by an arm jerk and a grunting sound) or coprolalia, it gets — well — complicated. Once again, often people report a feeling or warning prior to executing a verbal outburst. Given that coprolalia involves motor output (muscles used in speech) and the production of a word that has meaning and that is socially inappropriate — it seems likely that more than one brain pathway or circuit is involved.

## Is there a medication strategy that is effective for reducing coprolalia?

Unfortunately, it is unlikely that a medication — even one that has proved effective in reducing tics — will have specific benefits to reduce the symptoms of coprolalia. Indeed, the use of tic suppressing medications to treat any single tic is often unsatisfactory. This is because the currently available effective medications rarely take away all tics. Rather, effective medications tend to turn down the overall severity of tics but may not result in the elimination of specific tics. If the medication does succeed in doing away with a specific tic, still there is no way of knowing at the start of treatment which one will be reduced or eliminated. That said, this does not mean that

medication should not be tried in patients with coprolalia. It just means that expectations should not be unduly optimistic about the impact of medication on any single tic — including coprolalia.

## Can a person substitute something that is more acceptable in place of the curse word or inappropriate expression?

Some individuals discover on their own that they can alter a specific tic in a way that decreases the socially inappropriate quality of coprolalia. For example, a patient may substitute “Ford Focus” for the “F word” or “biscuit” for the “B word.”

To help patients with this strategy, often it is useful to look closely at the specific situations when coprolalia occurs. In some cases, for example, this assessment will show that a person engages in this behavior when angry, or when under some pressure or when excited. When considering any of these patterns, we might ask whether the behavior is a tic or a problem of impulse control during periods of frustration or excitement. For example, I received an urgent call from a school principal about an 11-year-old boy who was running through the playground during recess blurting out curse words. The profanity was directed to several fifth grade girls. After discussions with the family, the child and school personnel, it became clear that indeed this boy had motor and vocal tics and was properly diagnosed with TS. However, among his TS symptoms there had been no other hint of his having coprolalia. Based on the assumption that this behavior was not a TS tic, we developed a plan to deal with this unacceptable behavior and it stopped within days.

Even when careful assessment results in the conclusion that the cursing is a TS tic, it is still likely that the inappropriate vocalizations will occur in some situations more often than others. Pinpointing the situations when the behavior is most likely to



occur can be used to develop more specific strategies than simply saying: “try not to do it” or “whenever you get the urge, go to the Time Out room.” For example, if the behavior occurs primarily at school, school personnel and classmates can be educated to tolerate the behavior — at least within certain limits. If the behavior goes beyond the agreed upon limits, the child can be excused from the classroom to minimize disruption. It may also be possible to develop preventive strategies together with the child. These strategies are based on the explicit understanding that the cursing is a tic and that the child is not to be blamed for the behavior. Nonetheless, clinicians, parents and the child can agree that a plan is needed to reduce the potential negative social impact of the behavior. In some cases, solutions might be relatively obvious. For example, I recall a case of a teenage boy who shouted out racial epithets at his high school basketball games. In the short run, it made sense to stop going to the games. This interim solution did not emerge until it became clear that this was indeed a “high risk” situation. His coprolalia did occur in other low impact settings, but no specific interventions were required for these situations. As with many tics, his coprolalia subsided over time and eventually the boy was able to return to athletic events without incidents. In another case, knowledge of the situation when the unwanted tic is most likely to occur may lead to the strategy of substituting the curse word with a similar sounding — but more socially appropriate word. ■