



## Use case

### Primary packaging for rotavirus vaccine

The requirements for the manufacture of pharmaceutical primary packaging for a mono-component vaccine presented ZAHORANSKY with a complex task. Because the medication, which is intended for oral administration in children aged six weeks or older should also make self-medication as easy as possible. A tube application form – similar to a tube of toothpaste – was deliberately chosen for this purpose. Due to the familiar design, the risk of incorrect administration by injection should be ruled out as far as possible in advance.

### Challenging product design with high precision

A cap with a spike sits on the actual tube with the drug – protected by a membrane as a tamper-proof seal. This allows the membrane to be punctured and the contents to be administered orally immediately afterwards. Both the tube body with the membrane and the cap with the spike should be manufactured separately in the injection molding process, firmly assembled and checked for integrity and tightness before filling. The most important thing here was the high-precision production of each individual tube, since the capacity was not allowed to fall below or exceed it and no tolerances were allowed in the sealing system.

ZAHORANSKY provided the customer with a production facility with end-to-end no-human-touch processes. In this, the caps are first produced in a separate injection mold, output as bulk goods and then placed on a tool carrier system. This is then positioned directly in front of the injection molding machine from which the finished tubes come. After both parts have been assembled, the next step is to check for leaks and correct seating. If all parameters are met for each individual tube, the medication is filled. No further steps are necessary. The tubes, which are now ready for use, are then packed directly in cartons and prepared for further processing. The key advantage: Contamination cannot occur at any point during production, as all processes take place via no-human-touch.