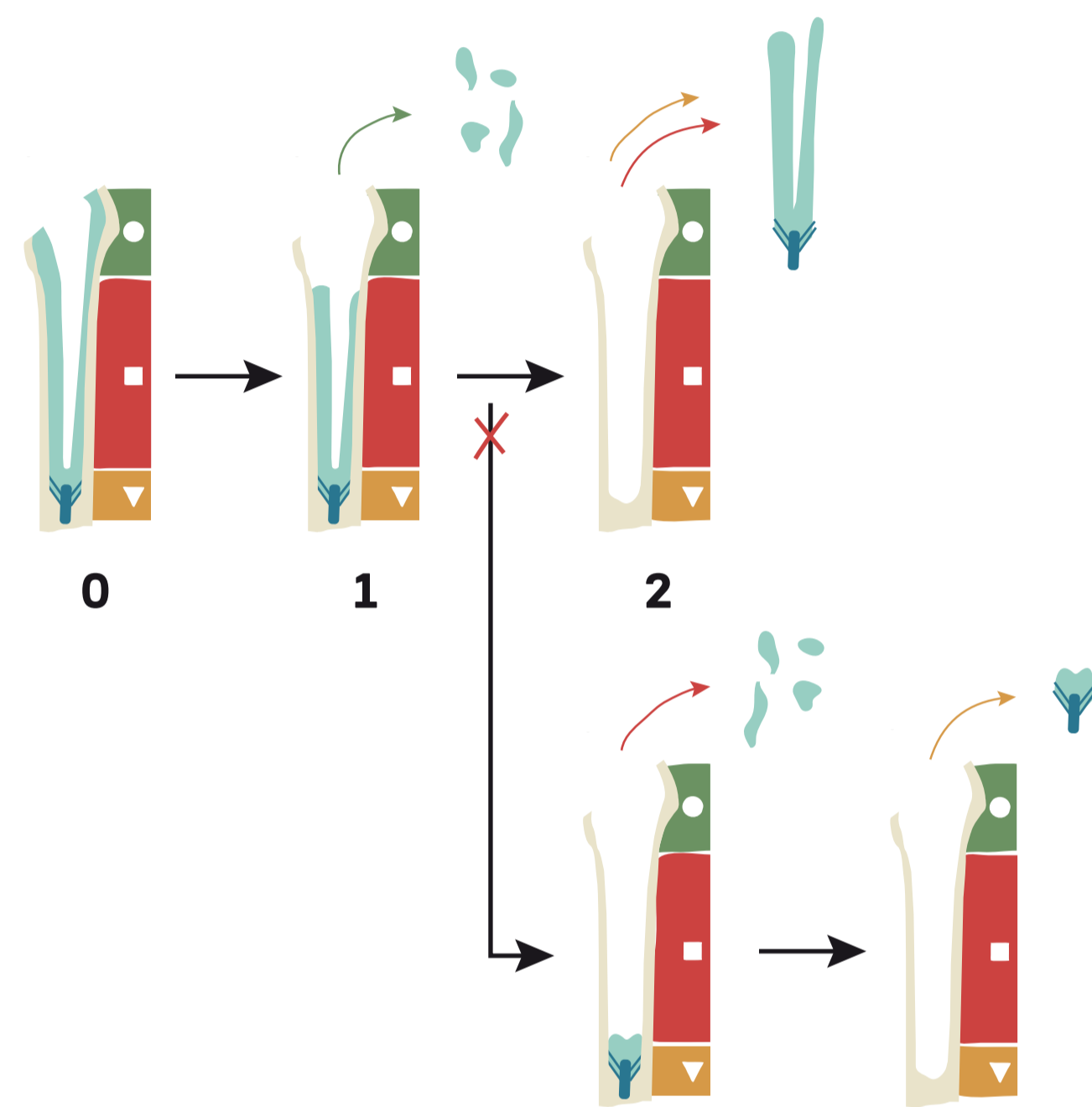


# IMPROVING HIP REVISION SURGERY

by integrating a procedure, instrument set and instrument for bone cement removal

When people experience pain in their hip joint it is a possibility to replace it with an implant. After ten to fifteen years this implant needs revision for several reasons. Hip revision is a time consuming and invasive surgery. Sometimes it is too invasive for elderly, so they have to live with the pain of a outdated implant. By observing and interviewing operation room staff it became clear that the hardest part of the revision surgery is cement removal. To improve this part a new procedure, new instrument set and drill guido instrument are designed.



The observations and interviews showed that there was, in contrast with the rest of the surgery, no procedure for cement removal. This made the surgeons and assistants very insecure about their actions. To improve this a new procedure is designed in co-creation with the surgeons.



The set that is currently used for cement removal exists of 40 different instruments. This big amount of instruments leaves the surgeon and assistant with a lot of possibilities and does not communicate the steps to take. This set fits the new procedure and exists of only 5 instruments. The instruments are ordered in such a way that they lead the surgery.



One of the instruments to make the new procedure possible is a drill guide. This guide helps the surgeon with removing the deepest cement. Normally this is hard to remove because the drill chooses it's own way and perforates the bone of the patient. This guide helps the surgeon with drilling in the right direction.

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