mediNiK® – An innovative hydrogel for removal of kidney stone fragments following lithotripsy

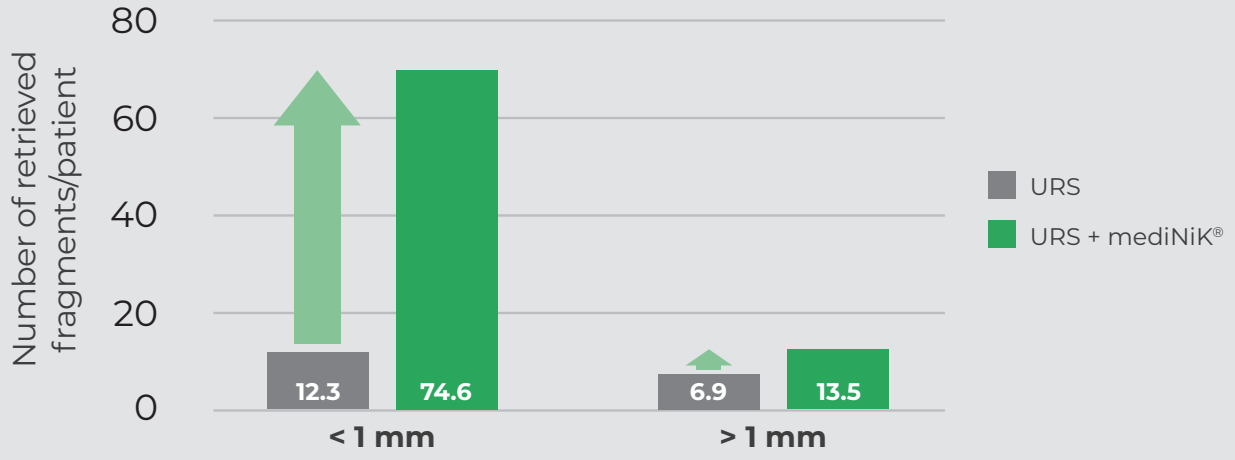
WHY ARE SMALL RESIDUAL FRAGMENTS (RF) AND A STONE-FREE RATE OF 100% RELEVANT?

- **Nearly half** of all stone fragments after lithotripsy are < 1 mm and therefore **cannot be grasped**[1]
- **In 60%** of patients with RFs < 1 mm there was **no complete passage** of the RFs after 2 years and **in 18% an increase in size of the RFs**[2]
- **20**% of patients with RFs < 4 mm require an **intervention** within 20 months and there is **no significant difference in the disease progression rate** between patients with small (< 4mm) and large (> 4 mm) RFs[3]

Small fragments should be removed completely and a stone-free rate of 100% should be reached to reduce the rate of recurrence. To date these have been difficult to grasp.

How does mediNiK® support the goal of stone-free status?

STONE REMOVAL RATES WITH mediNiK®

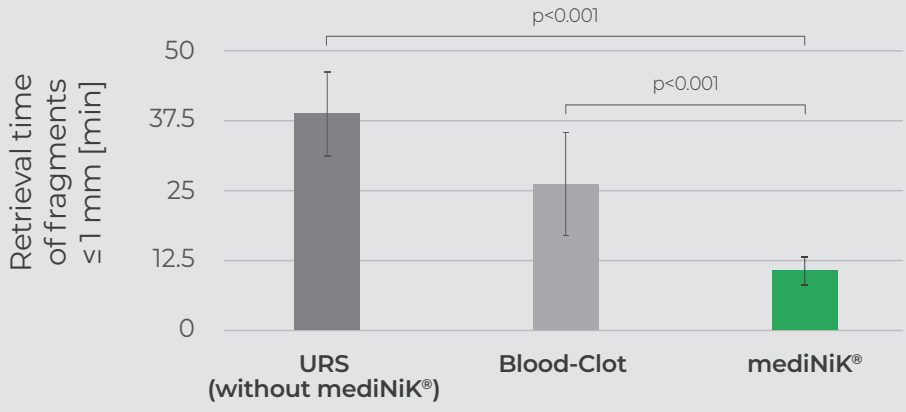


These results are from a non-published clinical investigation study. The study is an open-label, prospective, randomized multicenter study. It was conducted in the period from 09-2021 to 09-2022 in 5 investigation sites in Germany (Asklepios Klinik Barmbek (Hamburg), Universitätsklinikum Münster (Muenster), Krankenhaus der Barmherzigen Brüder (Trier), Klinikum rechts der Isar (Munich), and Marienhaus Klinikum (Ahrweiler)). 59 patients with kidney stones > 5mm were either treated with URS with laser lithotripsy and stone fragmentation (dusting and pop-dusting) alone or additionally with mediNiK®.[4]

With mediNiK® fragments < 1 mm can be grasped and removed more effectively compared with URS alone.[4]

Advantages of mediNiK® compared to blood-clot method

COMPARISON OF RETRIEVAL TIMES OF FRAGMENTS ≤ 1 MM**



** An *ex vivo* pig kidney model was used in which 30 kidney stone fragments ≤ 1 mm were introduced. Not all fragments could be retrieved in 40% of the experiments in the URS alone group and they were stopped after 45 min.[5]

With mediNiK® fragments < 1 mm can be retrieved significantly faster.[5]

COMPARISON OF BLOOD-CLOT METHOD WITH mediNiK®[6]

	Blood-Clot methode	mediNiK®
Effectiveness of retrieval	✓	✓
Rapid clot/gel formation	—	✓
Good vision	—	✓
Removal of residual clot/gel by diuresis	—	✓

mediNiK® is superior to the blood-clot method.

Small fragments (< 1 mm) can be grasped.[4]

Small fragments are retrieved efficiently.[4]

Superior to the blood-clot method.[5,6]

SOURCES —

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