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# Long-term Outcome of Incisional Hernia Repairs Using the Erlangen Inlay Onlay Mesh (EIOM) Technique



Nizameddin Ayik, MD,<sup>a,b</sup> Peter Klein, MD,<sup>b</sup> Robert Grützmann, MD,<sup>b</sup> and Resit Demir, MD<sup>a,b,\*</sup>

<sup>a</sup> Medical Care Center; MVZ PD Dr. Demir & Colleagues, Nürnberg

<sup>b</sup> Department of Surgery, Friedrich-Alexander University Hospital Erlangen-Nürnberg, Erlangen, Germany

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## ABSTRACT

**Background:** The objective of this study was to investigate the long-term outcome of incisional hernias treated with the Erlangen Inlay Onlay Mesh (EIOM) repair technique, taking into account recurrence, complications, and patient satisfaction.

**Methods:** A total of 163 patients treated in the surgical department of Erlangen university hospital with the EIOM repair between the years 1996 and 2009 were evaluated retrospectively.

**Results:** The collected data revealed a mean follow-up period of 70 (18–190) months. Incisional hernia recurrence after EIOM repair was observed in 6 (3.7%) patients after a mean observation period of 70 mo (18–190) postoperatively. The recurrence rate increased significantly when the body mass index (BMI) was higher than 32 kg/m<sup>2</sup>. Here, a recurrence rate of 10.5% for BMI > 32 versus 1.7% with BMI ≤ 32 was reported. There were no significant differences in hernia recurrence if haven been operated by an assistant under supervision or by a consultant. In regard to patient satisfaction, 91% of patients included in this study were satisfied with the surgical outcome.

**Conclusions:** The EIOM procedure is a safe surgical technique that can be used for the treatment of all, also for giant incisional abdominal wall hernias regardless of the size, BMI, or position of the incisional hernia.

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## Introduction

The development of an incisional hernia after an abdominal surgery remains an unsolved problem worldwide. An incidence of up to 20% has been reported.<sup>1</sup> Several surgical techniques to repair incisional hernias have been described in the literature. Suture repair of incisional hernia reported recurrence rates of 24%–46% after an observation period of 8.5–12 years.<sup>2</sup> On the other hand, mesh repair results in

recurrence rates of 3 to 24%.<sup>3</sup> The open mesh repair using the sublay technique is considered the gold standard for incisional hernias.<sup>4</sup> Here, a mesh is placed in the posterior rectus sheath after dissecting the subcutaneous tissues and approximating the fascial margins. With this technique, the greater the overlapping of the defect walls, the lower the recurrence rate. For example, a 2 cm overlap reported 24% recurrence rate<sup>5</sup>; whereas 6 cm overlap resulted in a recurrence rate of 2.6%.<sup>6</sup> However, the extended preparation of the

\* Corresponding author. Medical Care Center; MVZ PD Dr. Demir & Colleagues, Nürnberg, Erlangen, Germany. Tel.: +49 911966170; fax: +49 9119661735.

E-mail address: [demir@mvz-demir.de](mailto:demir@mvz-demir.de) (R. Demir).  
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