

# 癒着性小腸閉塞に対する新たな低侵襲治療の開発



C POT #21-A-16

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## ビジョン

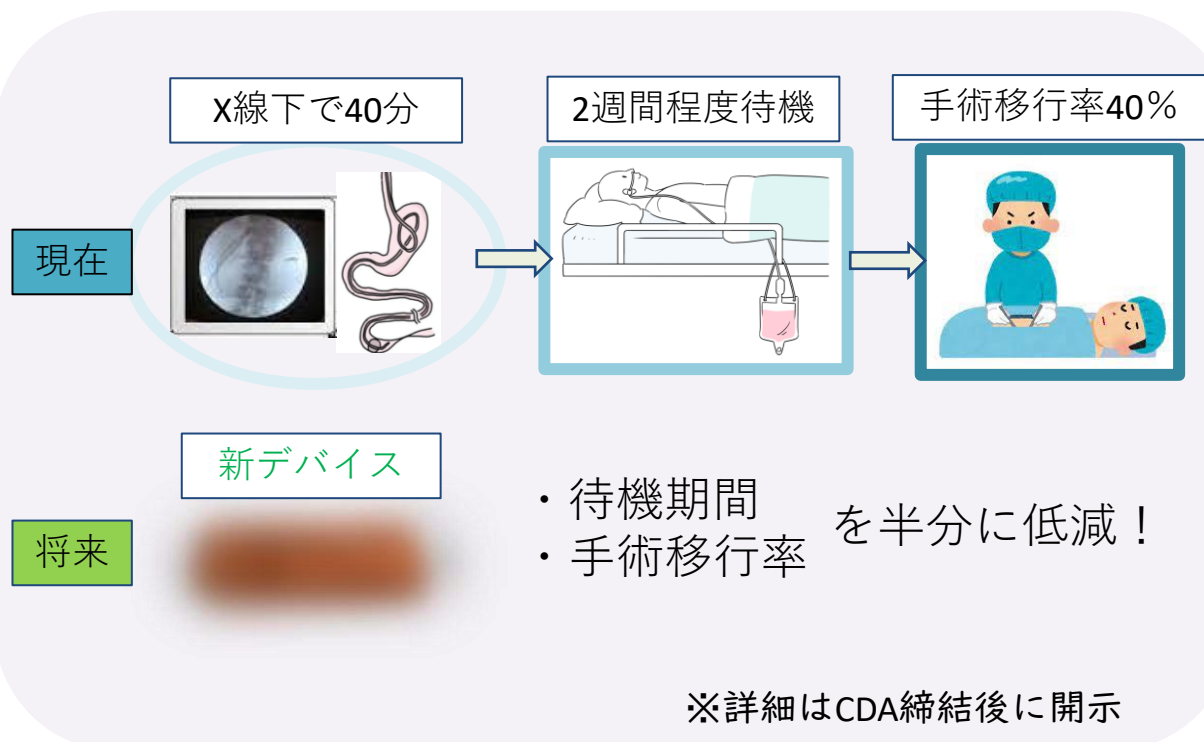
### 目標

癒着性小腸閉塞を有する患者さんに対して、手術移行率を減少するような新たな低侵襲治療機器デバイスの開発。

### 医療ニーズ・解決すべき課題

癒着性小腸閉塞の治療として、イレウスチューブ（長さ3-4m、太さ6mm）の経鼻的挿入術が用いられるが、患者苦痛が大きく入院期間も長い割に、手術移行率は40%程度と高い。外科的手術は癒着を解除できるが、開腹手術は新たな癒着を生む可能性があるため、外科医は避けた。このような課題から、低侵襲かつ治療効果の高い癒着性小腸閉塞の治療が求められる。

## 新規性・優位性



## 連携への関心

### 【連携に関心のある業種】

- 医療/検査（機関）
- 機械/装置
- 医療/診断/分析（機器）
- ベンチャーキャピタル

### 【連携に期待する事】

医療機器開発、臨床試験の実施、スタートアップ支援

## 研究概要

Key Words: #医療機器・器具, #Small bowel obstruction(SBO)

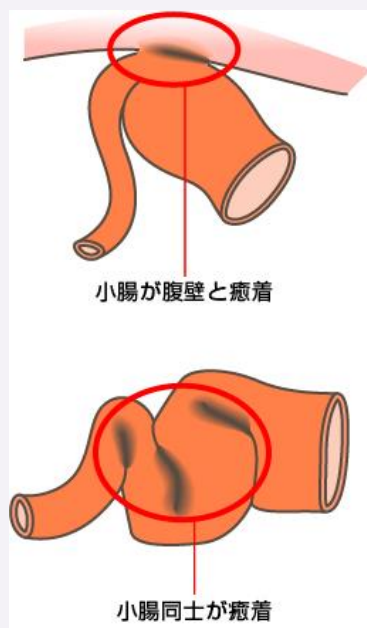
※詳細はCDA締結後に開示

### 小腸閉塞の病因<sup>1~3</sup>

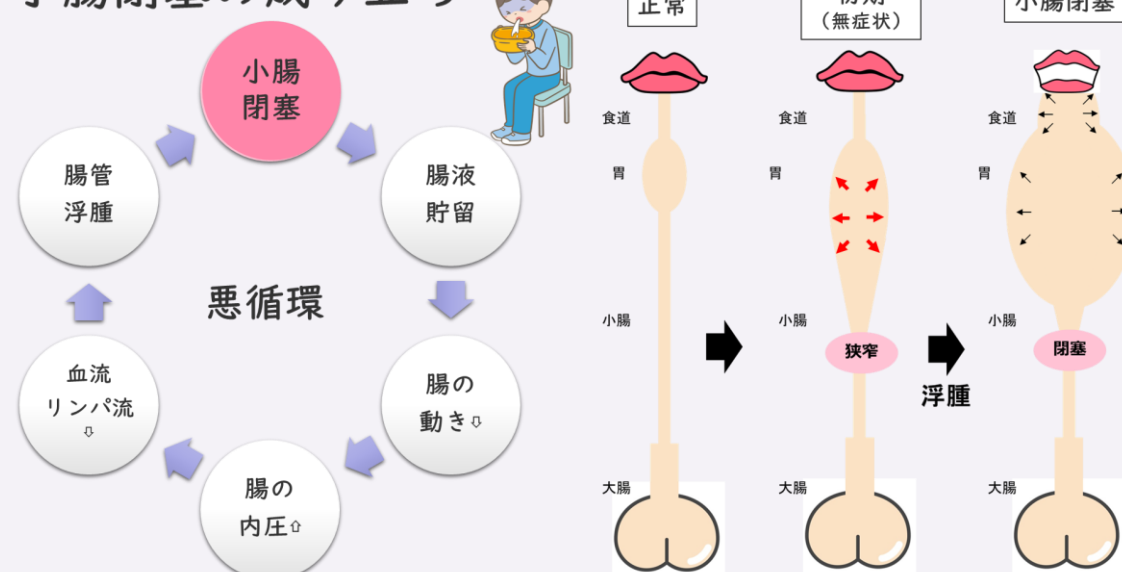
- 癒着 60%
  - がん
  - ヘルニア
  - その他
- クローン病、胆石、軸捻転症、腸重積症

癒着の主な原因  
お腹の手術

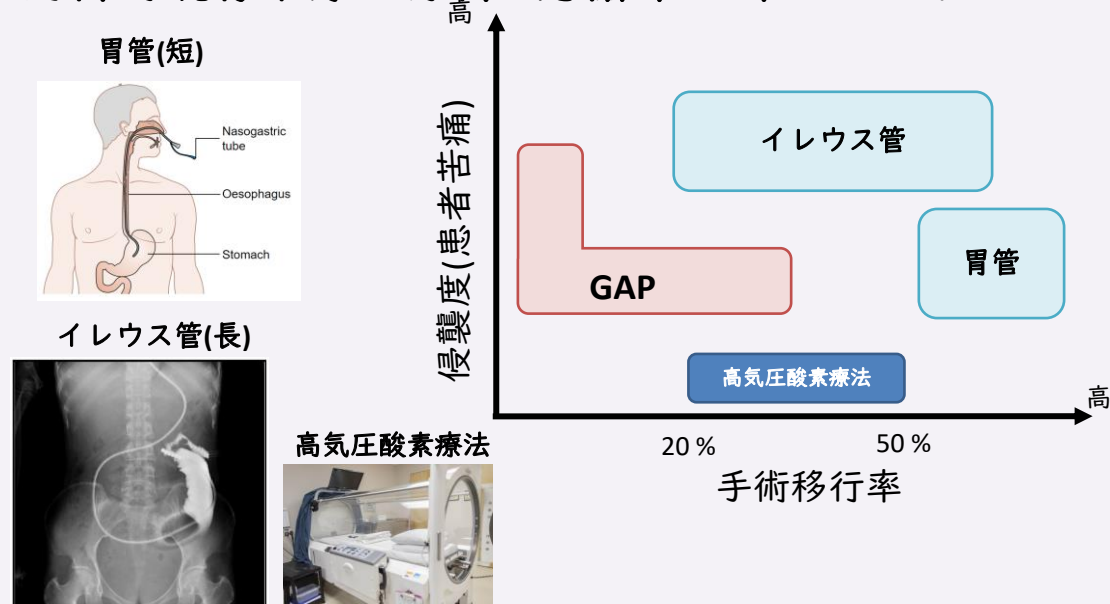
1. Miller G, et al. Gordon PH. Am J Surg 2000; 180:33.  
2. Bizer LS, et al. Surgery 1981; 89:407.  
3. Lawal OO, et al. S Afr J Surg 2005; 43:34, 36.



### 小腸閉塞の成り立ち



### 内科的既存治療の分析：悪循環を断ち切る！

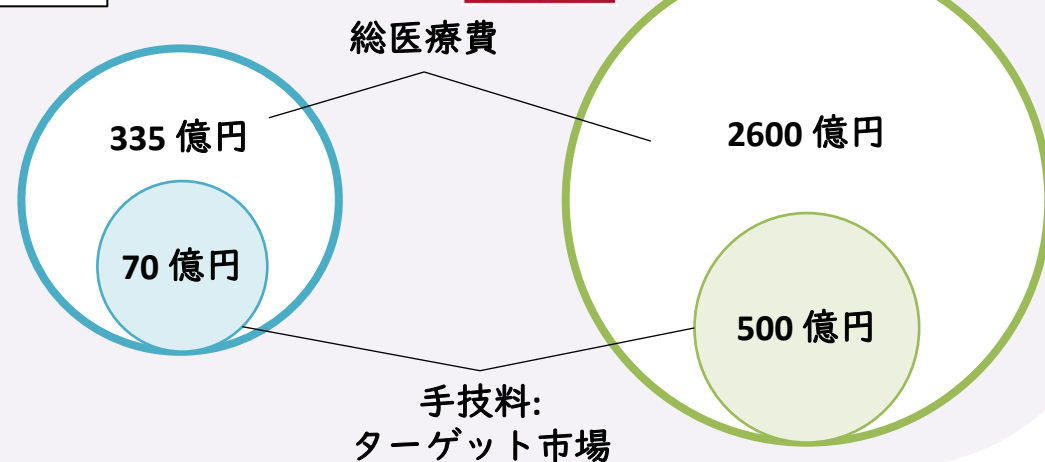


### 市場分析

癒着性小腸閉塞患者

日本 78,000人

アメリカ 300,000人以上



# Development of a Minimally Invasive Treatment for Adhesive Small Bowel Obstruction



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CPOT #21-A-16

## Vision

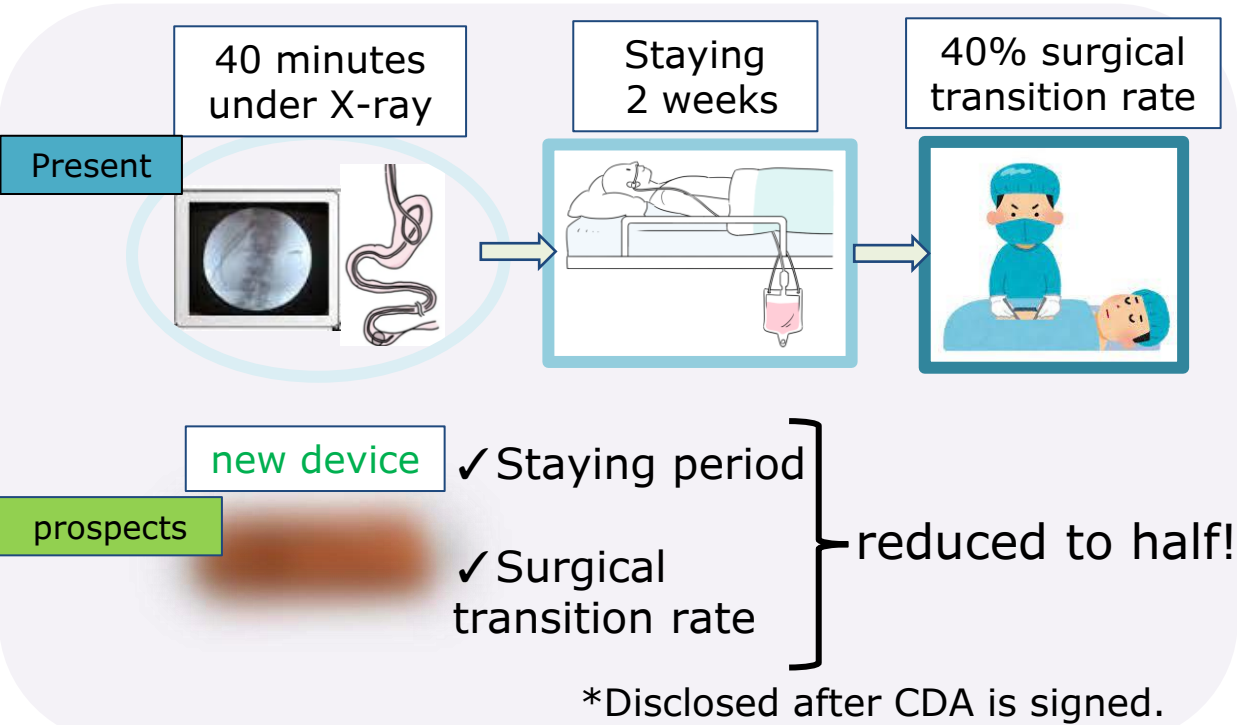
### OBJECTIVES

To develop a new minimally invasive therapeutic device that will decrease the rate of surgical conversion for patients with adhesive small bowel obstruction (SBO).

### Medical Needs/Problems to be Solved

Insertions of an ileus tube (3-4 m long, 6 mm width) are used to treat SBO. Despite the significant patient pain and long hospital stay, the surgical conversion rate is as high as 40%. Surgical procedures can release adhesions, but surgeons prefer to avoid open surgery because of the possibility of creating new adhesions. These challenges call for minimally invasive and highly effective treatment of SBO.

## Innovation



## Partnering

### [Industries interested in collaboration]

- Medical/Institutional
- Machinery/Equipment
- Medical/Diagnostic/Analytical (Equipment)/Venture Capitals

### [Expectations for collaboration]

Medical device development, conducting clinical trials, and start-up support

## Research Outline

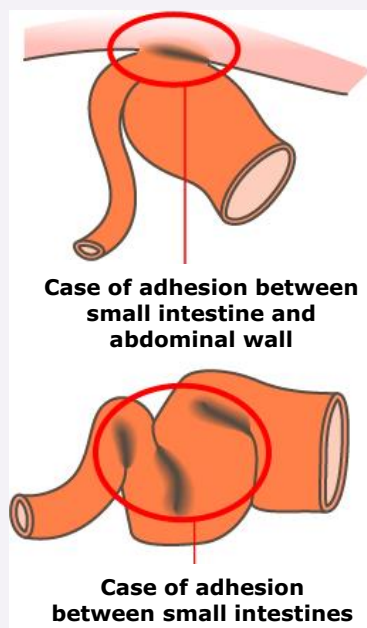
Key Words: #Medical devices and equipment, #Small bowel obstruction (SBO)

### Etiology of SBO 1~3

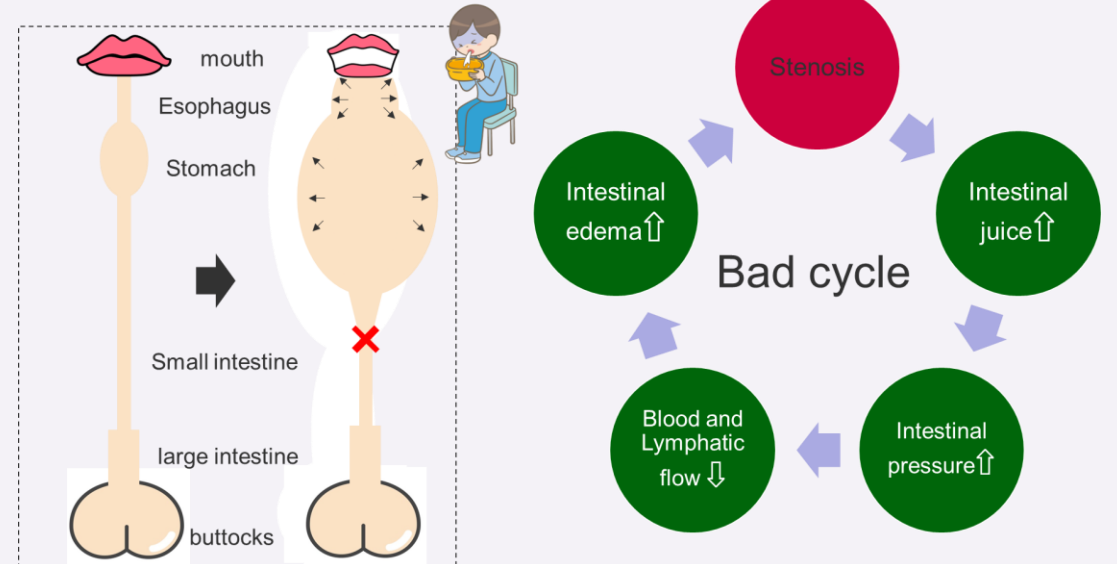
- Adhesion 60%**
- Cancer
- Hernia
- The others

Main causes of adhesions  
**Abdominal surgery**

1. Miller G, et al. Gordon PH. Am J Surg 2000; 180:33.  
2. Bizer LS, et al. Surgery 1981; 89:407.  
3. Lawal OO, et al. S Afr J Surg 2005; 43:34, 36.

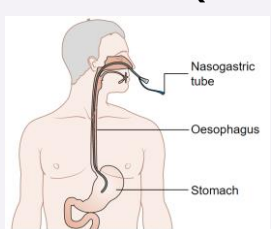


### Disease mechanism



### Existing Internal Medicine Treatments

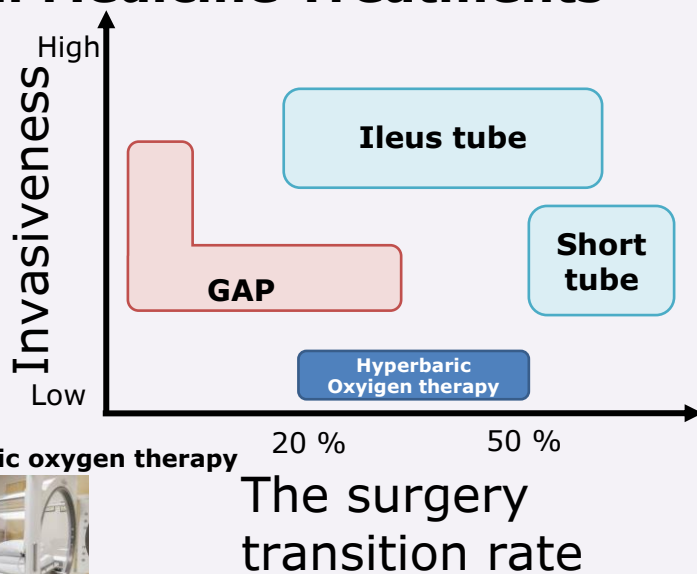
#### Gastric tube (short)



#### Ileus tube (long)



#### hyperbaric oxygen therapy



### Market Analysis

#### Patients



78,000 people



More than 300,000

#### total medical expenses

33.5 billion yen

268.0 Billion Yen

7 billion yen

50 billion yen

Procedure fee: \$3,000  
Target Market

\*Disclosed after CDA is signed.