

[54] ENDOSCOPE GUIDE AND LUBRICATING
MEANS

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[58] Field of Search..... 128/3, 4, 5, 6, 7, 8, 9,
128/1 R, 2 H

[56]

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[57]

ABSTRACT

An endoscope guide comprising a cylindrical spongy member and a cylindrical support fitted to the rear end of said spongy member so as to hold it tightly.

6 Claims, 4 Drawing Figures

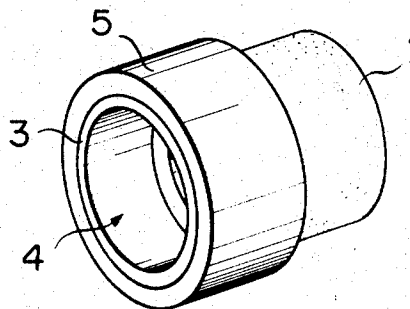


FIG. 1

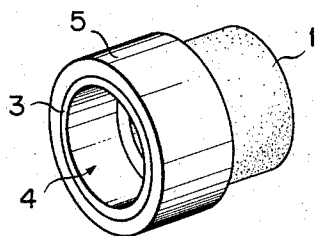


FIG. 2

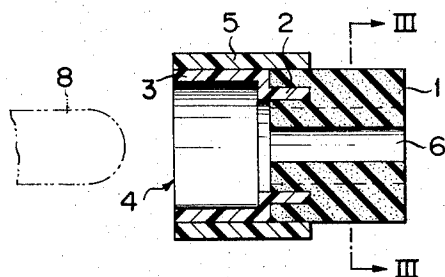


FIG. 3



FIG. 4



ENDOSCOPE GUIDE AND LUBRICATING MEANS

BACKGROUND OF THE INVENTION

This invention relates to an endoscope guide for facilitating the insertion of an endoscope into a body cavity, for example, into the large intestine.

Where observation is made by an endoscope of a body cavity, for example, the interior of the large intestine, it is generally considered necessary to insert the endoscope into the large intestine through the anus. However, insertion of the endoscope into the anus is accompanied with great difficulties due to the contraction of the anus sphincter and friction between the anus and endoscope. Therefore, there have heretofore been made attempts to effect the smooth insertion of an endoscope into the anus by coating a lubricant in advance on the outer peripheral surface of the flexible portion of the endoscope. In this case, however, the endoscope is oppressed by the contracting action of the anus sphincter, causing the lubricant applied on the outside of the endoscope to be almost wiped off with the resultant obstruction of its free insertion. Most of the patients whose large intestine has to be examined have hemorrhoids and other infirmities around the anus and would, therefore, suffer a tremendous pain if an endoscope is forcefully inserted into the anus.

It is accordingly the object of this invention to provide an endoscope guide permitting the smooth insertion of an endoscope into a body cavity without imparting a great stimulus to the inner walls of the body cavity.

SUMMARY OF THE INVENTION

According to an aspect of this invention, there is provided an endoscope guide comprising a soft liquid-absorptive cylindrical member provided inside with a passageway for an endoscope and a cylindrical support connected to the rear end of said cylindrical member so as to support it securely.

BRIEF DESCRIPTION OF THE DRAWING

FIG. 1 is a perspective view of an endoscope guide according to an embodiment of this invention;

FIG. 2 is a longitudinal sectional view of the endoscope guide of FIG. 1;

FIG. 3 is a cross sectional view on line III—III of FIG. 2; and

FIG. 4 is a similar cross sectional view of an endoscope guide according to another embodiment of the invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

There will now be described by reference to the appended drawing an endoscope guide according to an embodiment of this invention. Referring to FIG. 1, the endoscope guide comprises a cylindrical member 1 formed of a soft liquid-absorptive material, for example, spongy rubber, or natural sponge; a cylindrical support 4 made of harder material, for example, synthetic resin and comprising an annular head 2 fixed to the rear end of said cylindrical casing 5 surrounding the support 4 and part of said cylindrical spongy member 1. The cylindrical spongy member 1 has a plurality of integral projections 1a formed on the inner walls of a

passageway 6 for an endoscope 8, each projection 1a extending in the axial direction thereof. The projections 1a of spongy material enable an endoscope to be freely conducted through said passageway 6, whether it may have a large or small diameter.

There is now described the case where an endoscope fitted with the aforementioned guide is inserted into the large intestine through the anus. Prior to said insertion, the cylindrical spongy member 1 of the endoscope guide is impregnated with a lubricant, for example, Vaseline or petrolatum. Then the cylindrical spongy member 1 and part of the support 4 are inserted into the anus to set the endoscope guide in place. When the endoscope 8 is introduced into the cylindrical spongy member 1 through the inlet opening 3 and annular head 2, the outer periphery of the flexible tube of the endoscope 8 contacts the plural projections 1a of the cylindrical spongy member 1. At this time, there arises the contracting action of the anus sphincter, which oppresses the cylindrical spongy member 1 lying between the anus walls and endoscope 8. Said oppression causes the lubricant impregnated in the cylindrical spongy member 1 to ooze out so as to be coated on the outside of the flexible tube of the endoscope. Accordingly, friction between said flexible tube and the anus walls is reduced to allow for easy insertion of the endoscope into the large intestine.

As is apparent from the foregoing description, the present invention prevents a lubricant applied on the outside of the flexible tube of an endoscope from being wiped off by the contraction of the anus sphincter as is often the case with the prior art endoscope and permits the smooth insertion of an endoscope into the body cavity. Further at the time of said insertion, the soft cylindrical spongy member 1 protects any inflammation around the anus. Since the endoscope can be inserted into the body cavity without directly touching the anus walls, patients afflicted with anus diseases are prominently saved from strong pangs which might otherwise be experienced.

An endoscope guide according to another embodiment of this invention includes a plurality of core rods 7 made of elastic material which is harder than that of the cylindrical spongy member 1, for example, solid rubber. The solid rubber rods 7 are inserted into the cylindrical member 1 in its axial direction, facilitating the setting of the endoscope guide in the anus or other body cavities.

This invention is not limited to the aforementioned embodiments, but encompasses various modifications. Though the foregoing embodiments included a casing 5 for securely fixing the cylindrical spongy member 1 to the support 4 so as to provide the rigid construction of the endoscope guide, yet the endoscope guide carries out its function even in the absence of said casing 5. Further, if there are eliminated the plural projections 1a of the cylindrical spongy member 1 which were provided for the smooth insertion of an endoscope regardless of its diameter, the endoscope guide will still attain the object.

What is claimed is:

1. An endoscope guide and lubricating means comprising:

a soft liquid-absorptive generally cylindrical spongy member having a passageway therethrough in the axial direction thereof for allowing the insertion of an endoscope through said passageway;

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a plurality of projections on the inner walls of said passageway, each of said projections extending in the axial direction of said passageway; and
a generally cylindrical support formed of harder material than that of the cylindrical spongy member and connected to said cylindrical spongy member to securely support same.

2. The endoscope guide according to claim 1 wherein the cylindrical spongy member has a plurality of rods made of harder material than that of said cylindrical spongy member, each of said rods being inserted into said cylindrical spongy member and extending in the axial direction thereof.

3. The endoscope guide according to claim 1 which further comprises a casing surrounding the cylindrical support and at least part of the cylindrical spongy member.

4. The endoscope guide according to claim 1 wherein said cylindrical support comprises a first cylindrical

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portion and a second cylindrical portion of smaller diameter than said first cylindrical portion and connected to said first cylindrical portion, said cylindrical portions being coaxial with each other, said second cylindrical portion extending interior of said cylindrical spongy member.

5. The endoscope guide according to claim 4 further comprising a casing surrounding the cylindrical support and extending over the outer periphery of said cylindrical spongy member in the vicinity of said second cylindrical portion of said cylindrical support, said cylindrical spongy member being interposed between a portion of said casing and said second portion of said cylindrical support.

6. The endoscope guide according to claim 1 wherein said cylindrical spongy member is impregnated with a lubricant.

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