

**Short Communications**

## **A New Technique for Surgeons to Take Digital Photographs in an Operating Field**

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### *ABSTRACT*

**Background:** Techniques of digital photography have been developing rapidly. We describe a new method for surgeons to take digital photographs in a sterile operating field.

**Methods:** This method uses a digital camera inside a clear plastic waterproof case that has been sterilized by being placed in a bag filled with ethylene-oxide gas at low temperature. The object to be photographed can be seen on the camera's liquid crystal display. The surgeon's eye does not need to be brought close to the camera's viewfinder when the photograph is taken. Therefore, the camera case remains sterile.

**Conclusions:** Surgeons can easily take photographs by using a digital camera inside a waterproof case. This technique allows surgical procedures to be documented more accurately.

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**Key words:** digital photography, intraoperation, waterproof

### **INTRODUCTION**

Techniques of digital photography have been developing rapidly<sup>1-5</sup>. The quality of digital photographs allows surgical procedures to be documented in great detail<sup>2</sup>. Previously, when surgeons wanted photographs to be taken with a traditional film camera, a photographer took photographs from the outside the sterile operating field. We report here a new method with which surgeons themselves can take photographs within the sterile field.

a bag containing ethylene-oxide gas at low temperature without the camera (Fig. 1A). The case is then taken out of the bag, and the camera is then placed in the case (Fig. 1B). The outside of the case is sterile, but inside of the case is not sterile and, therefore, should not be touched by the surgeon (Fig. 1C, D). The object to be photographed can be seen on the camera's liquid crystal display (Fig. 1E). Because the surgeon's eye does not need to be brought close to the camera's viewfinder when the photograph is taken (Fig. 1F), the camera case remains sterile.

### **TECHNIQUE**

This method is to take photographs with a digital camera that has been placed in a clear plastic waterproof case. The case is sterilized by being placed in

### **COMMENTS**

Digital cameras are often used in medicine to record rare cases, diseased body parts, and typical cases for medical education. It is important to decide

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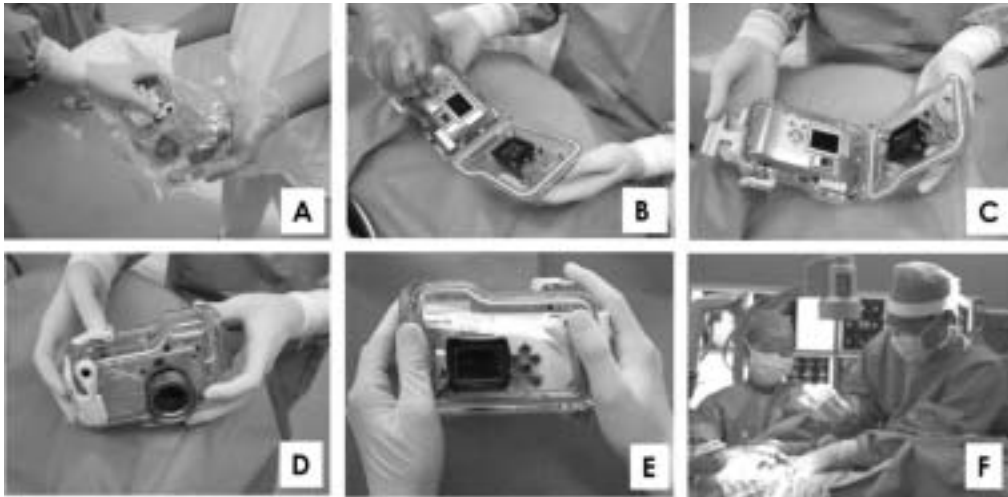


Fig. 1. Steps in putting the camera into the waterproof case.  
 A : Taking out the sterilized camera case. B-E : Putting the camera into the case. F : Using a digital camera in a sterile field.

immediately whether a good photograph can be obtained, especially in rare cases.

When a professional photographer takes a photograph from outside the sterile operating field, the most important point is sometimes not clear on the photograph. Also, the photographer sometimes inadvertently touches the sterile area.

A digital camera within a waterproof case allows surgeons to take a photograph exactly as they like. This technique should improve the quality of photographs taken in an operating field.

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