

# Neutropenic Precautions- Do You Wear The Mask?

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Hi, Billy Mays here...



# Introduction

- Definition of Neutropenia...
  - Absolute Granulocyte Count (AGC) < 1500/ml
- Prevalence of Neutropenia in Unselected Patients (National Health and Nutrition Examination Survey, Hsieh MM et al. *Ann. Intern. Med.*;146(7): 486-92; 2007)
  - Black participants 4.5%
  - White participants 0.79%
  - Mexican-American participants 0.38%



# Introduction

- Patients with an AGC  $<500/\text{ml}$  due to chemotherapy, marrow failure, or marrow exhaustion are at high risk for overwhelming bacterial infection



# Definition of “reverse isolation”

*Mosby's Medical Dictionary 2009*

- Isolation procedures designed to protect a patient from infectious organisms that might be carried by the staff, other patients, or visitors or on droplets in the air or on equipment or materials



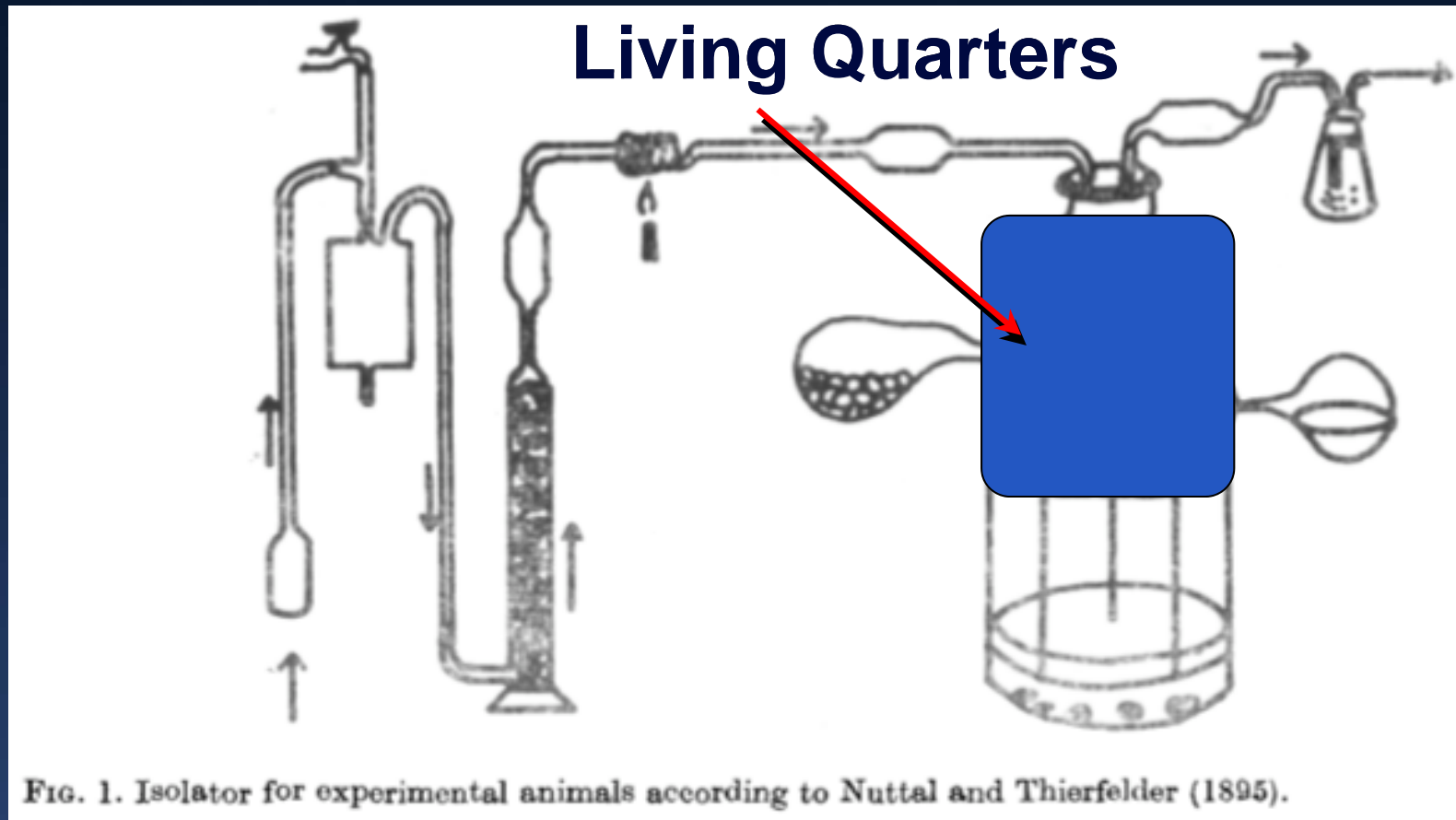
# Definition of “reverse isolation”

*Mosby’s Medical Dictionary 2009*

- Gowning, gloving, sterilization, or disinfection of materials brought into the area and other details of housekeeping vary with the reason for the isolation and the usual practices of the hospital



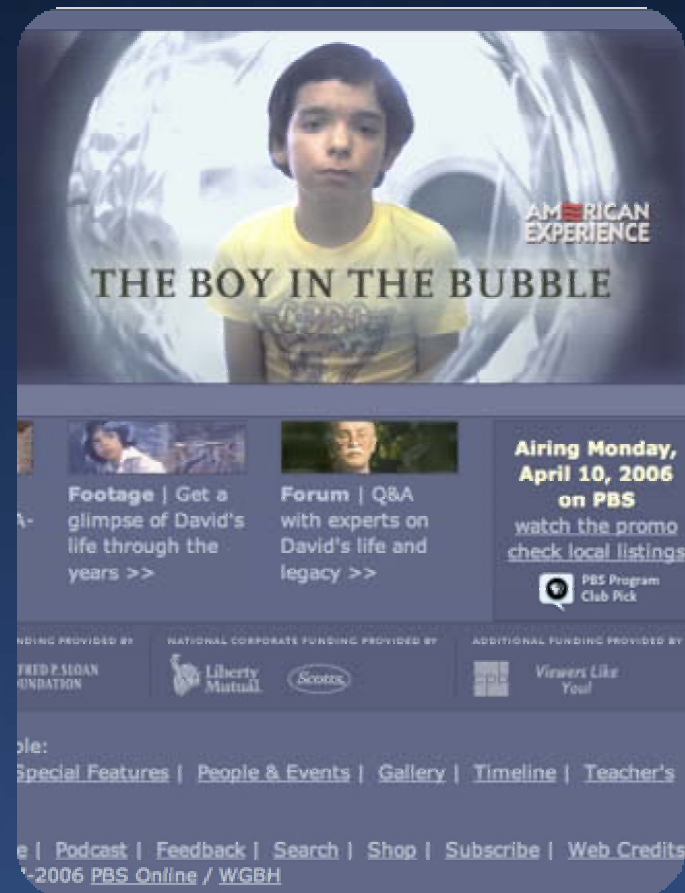
# Reverse Isolation



1895 publication from Nuttall and Thierfelder detailing use of device to isolate laboratory animals

# The Boy in the Bubble

- David Phillip Vetter (September 21, 1971–February 22, 1984)
- Severe combined immune deficiency syndrome (SCIDS)
- Forced to live in a sterile environment, he became popular with the media as the boy in the plastic bubble



The screenshot shows the PBS website interface for the documentary "The Boy in the Bubble". At the top, a large image of a young boy in a yellow shirt is framed by a circular, bubble-like effect. The text "AMERICAN EXPERIENCE" is in the top right, and "THE BOY IN THE BUBBLE" is centered below the image. Below the main image, there are three columns of content: "Footage | Get a glimpse of David's life through the years >>", "Forum | Q&A with experts on David's life and legacy >>", and "Airing Monday, April 10, 2006 on PBS watch the promo check local listings" with a "PBS Program Club Pick" icon. The bottom section features logos for funding partners: "FUNDING PROVIDED BY FRED P. SLOAN FOUNDATION", "NATIONAL CORPORATE FUNDING PROVIDED BY Liberty Mutual and Scotiabank", and "ADDITIONAL FUNDING PROVIDED BY Viewers Like You!". A navigation bar at the bottom includes links for "Special Features", "People & Events", "Gallery", "Timeline", "Teacher's", "Podcast", "Feedback", "Search", "Shop", "Subscribe", and "Web Credits". The footer text reads "© 2006 PBS Online / WGBH".

# The Boy in the Bubble

- Psychiatrist's notes 1980: A psychiatric report indicates that David suffers from severe mood swings, has reverted to thumb sucking and obsessive rocking, and will probably encounter difficulties in his impending adolescence. Furthermore, discussions with leading immunologists worldwide suggest that a cure will not be available for another ten years



# The Boy in the Bubble

- David Phillip Vetter (September 21, 1971–February 22, 1984)
  - 1981—discharged to his parents' full-time care. He died of cancer shortly after a hematopoietic stem cell transplantation, at the age of 12
  - Cause of death: non-Hodgkin's lymphoma as a result of Epstein-Barr virus in marrow donated by his sister



# Why The Mask?

Case Study (after Seshadri et. al., *Comm. Oncol.* 2008)

- 64 y/o male on chemotherapy for SCLC presents with fever and malaise
- WBC 600, AGC 100
- Pt. placed in “neutropenic precautions” per order of admitting physician
- Sign titled “Neutropenic Precautions” posted on door

# Why The Mask?

Case Study (after Seshadri et. al., *Comm. Oncol.* 2008)

- Sign indicates all visitors should wash hands and that any visitors with symptoms of respiratory infection should wear a mask
- Gowns, gloves, and masks are placed on table outside room
- Despite signage, nursing staff routinely don gowns, masks, and gloves when entering the room and require all visitors

# Why The Mask?

Case Study (after Seshadri et. al., *Comm. Oncol.* 2008)

- Respiratory therapists and other ancillary staff also routinely don gowns, masks, and gloves
- Oncologist enters room without gowning, masking, or gloving, but stops at sink to wash hands
- Patient's wife complains to administration that oncologist demonstrated disregard for patient's safety and fires oncologist

# Why The Mask?

- Iconic symbol of medicine
- Strong symbol of caring
- Recognition of physician as “powerful”, “competent”, “good looking” (according to recent study)







# Masks, Gowns, and Gloves



To Protect, and To Serve...



Do YOU Care?