

Numbers and Operations: Operating Room Nurse

St. Alphonsus Hospital

Problem:

The average person has 2,000 cc of blood in their normal circulation. If they lose more than 20% of their volume they need a transfusion.

During surgery, blood is lost on sponges. Dry sponges weigh 75 gm. Each cc of blood weighs 1 gm.

After a surgery, if there are 10 sponges weighing 1,250 gm, how much blood did the patient lose?

Would the patient need a transfusion?

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Solution:

$2000 \text{ cc} \times 20\% = 400 \text{ cc}$ (blood loss that requires transfusion)

$10 \text{ sponges} \times 75 \text{ gm} = 750 \text{ gm}$ (weight of 10 dry sponges)

1250 gm (sponges after surgery) - 750 gm (dry sponge) = 500 gm of blood in sponges

$500 \text{ gm} = 500 \text{ cc}$ which is greater than 400 cc (20% of volume), so YES, a transfusion is needed.