INTAKE AND OUTPUT (I&O)

Intake and output (I&O) is the measurement of the fluids that enter the body (intake) and the fluids that leave the body (output). The two measurements should be equal. (What goes in.... must come out!)

The metric system is used for fluid measurement. The measurements should be recorded in ml. (milliliters).

The average adult intake is 2500-3000mL. per day.

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The average output is 2500-3000mL. per day.

Common metric conversions used for I&O:

1 c.c. = 1 ml 1 ounce = 30 ml. 1L. = 1000 ml.

To convert from ounces to ml., multiply by 30 (Ex. 6 oz. x 30ml. = 180ml.)
To convert from cc/ml to ounces, divide by 30 (Ex. 240cc / 30cc = 8 oz.)

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Sizes of containers vary. Know your facility's container measurement system.

Key Terminology:

Edema: excessive fluid retention in the body tissues
Dehydration: lack of sufficient fluid in the body tissues
Diuresis: excessive urine output
Diaphoresis: excessive perspiration

"Push fluids" or "Force fluids"(FF): used to increase intake

Types of INTAKE:
Oral fluids*
IV fluids
Hyperalimentation / TPN feedings
Tube feedings (N/G tube, gastrostomy tube, etc.)
Medications

Types of OUTPUT:
Urine*
Vomit (emesis)*
Bloody drainage
Loose stool*
N/G tube drainage
Perspiration

*C.N.A. responsible for these measurements. All others to be measured and documented by a nurse. C.N.A. will add totals for each 8 hour shift and 24 hour total when complete. Report findings to the nurse.

INTAKE & OUTPUT: Metric Conversions

Using the basic volume conversions, convert the following equations to the metric system.

Basic conversions:
1 ml. = 1 cc.
1 ounce (oz.) = 30 ml.
1 cup = 8 oz.
1 pint = 2 cups

Hints:
To convert from ml. or cc. to ounces, divide by 30.
To convert from ounces to ml. or cc., multiply by 30.

Conversions:

1) 1 cc. = _____ ml.

2) 2 oz. = _____ ml.

3) ½ oz. = _____ ml.

4) 4 cc. = _____ml.

5) 8 oz. = _____ml.

6) 6 oz. = _____ml.

7) 4 oz. = _____ ml.

8) ½ cup = _____oz. = _____ml.

9) 2 (8 oz.) cups of coffee = _____ ml.

10) 1 (6 oz.) bowl of broth = _____ ml.

11) 3 (8 oz.) glasses of water = _____ ml.

12) 2 (4 oz.) glasses of ice chips = _____ ml.

13) 2 (4 oz.) dishes of gelatin= _____ ml.

14) ½ pint of milk = _____ ml.

Nutrition and Fluid Balance

Convert the following measurements.

1) 30ml. = _____oz.

2) 2 oz. = _____ml.

3) 2 (8oz.) cups of coffee =_____ml.

4) 1 (6 oz.) bowl of soup = _____ml.

5) 3 (8 oz.) glasses of water = _____ml.

6) 2 (4 oz.) glasses of ice chips = _____ml.

7) 2 (4 oz.) cups of gelatin = _____ml.

8) 100% (6 oz.) bowl of soup = _____ml.

9) 75% (8 oz.) cup of coffee = _____ml.

10) 50% (4 oz.) cup of gelatin = _____ml.

11) 10% (6 oz.) bowl of soup = _____ml.

12) ¼ (4 oz.) cup of gelatin = _____ml.

13) ½ (6 oz.) bowl of soup = _____ml.

14) ¾ (8 oz.) cup of water = _____ml.

INTAKE & OUTPUT ASSIGNMENT: "What would you do?"

Describe how a nursing assistant should react to the following situations:

1) Your patient is on I&O and you picked up the lunch tray.

2) You serve a meal tray to a blind person who is able to feed himself.

3) Your patient's chart has an order to force fluids.

4) The patient receiving an IV has 25 ml. of fluid left in the bag.

5) Your patient is on a strict kosher diet and the tray has a shrimp salad as an entrée.

6) Your patient is on I&O and you find a container of milk one-third full when you pick up the trays.

7) Your patient is on I&O and has perspired so much during the night that you had to change the sheets and pillowcase.

INTAKE & OUTPUT ASSIGNMENT

Document the findings on the I&O chart including the 8 hour totals and 24 hour total.
Use these container measurements:

Foam cup= 8oz	Soup bowl= 180ml	Gelatin=120ml
Water carafe=480ml	Coffee mug= 6oz	Juice=120ml
Popsicle=90ml	Sherbet=120ml	Soda=8 oz

0700: Polly had abdominal surgery yesterday and has started a clear liquid diet today. She ate 1 Popsicle, ½ gelatin cup, and ½ of the strained juice. She also had 100ml. in her urine bag that you emptied.

0800: Polly wasn't feeling well and vomited 100ml. of emesis.

1000: Feeling better, she ate ½ of sherbet.

1100: The R.N. discontinued Polly's IV and he documented the 150ml that infused.

1200: For lunch Polly had ½ bowl of low-fat broth, ½ mug of coffee, and 100% serving of gelatin. The urine bag was drained of 300ml. of urine and then the R.N. removed the catheter.

1300: The R.N. emptied Polly's abdominal Hemovac drain of 90ml of bloody drainage.

1400: Polly was assisted to the bathroom where she voided 150ml. of clear, yellow urine.

1700: The diet has been increased to a full liquid diet. Polly is helped to the bathroom where she voids 200ml. and returns to sit in the chair. Polly has ½ can of ginger ale, 1 bowl of soup, and ¾ of her sherbet.

1800: The R.N. gives her 15ml. of liquid medicine and ½ cup of water.

1900: Polly has a small emesis of 50ml. after taking a walk and becoming dizzy.

2100: Polly voids 260ml of clear, yellow urine.

2200: At the end of the shift it is noted that 1/3 of the water carafe has been consumed by the patient. The R.N. empties the abdominal drain of 20ml. of bloody drainage.

0200: Polly turns on the call light and asks to use the bathroom. She voids 200ml. and returns to bed. She is thirsty and drinks 1/3 can of lemon-lime soda.

0600: Polly's drain has minimal drainage. She voids 100ml. She drinks ½ mug of tea while waiting for the breakfast tray to arrive.