

## Concept Analysis Diagram – Acid Base Balance

### Nursing Care

- Directed toward what contributes to a normal concept and is thereby related to all factors involved in or with the concept. Not always needed to have a normal outcome.

### Attributes

- Defining characteristics of the concept
- What property, quality, or data must be present for the concept to exist

### Antecedents

- What precedes the concept for it to exist
- Events or incidents that must happen before the concept

### Consequences

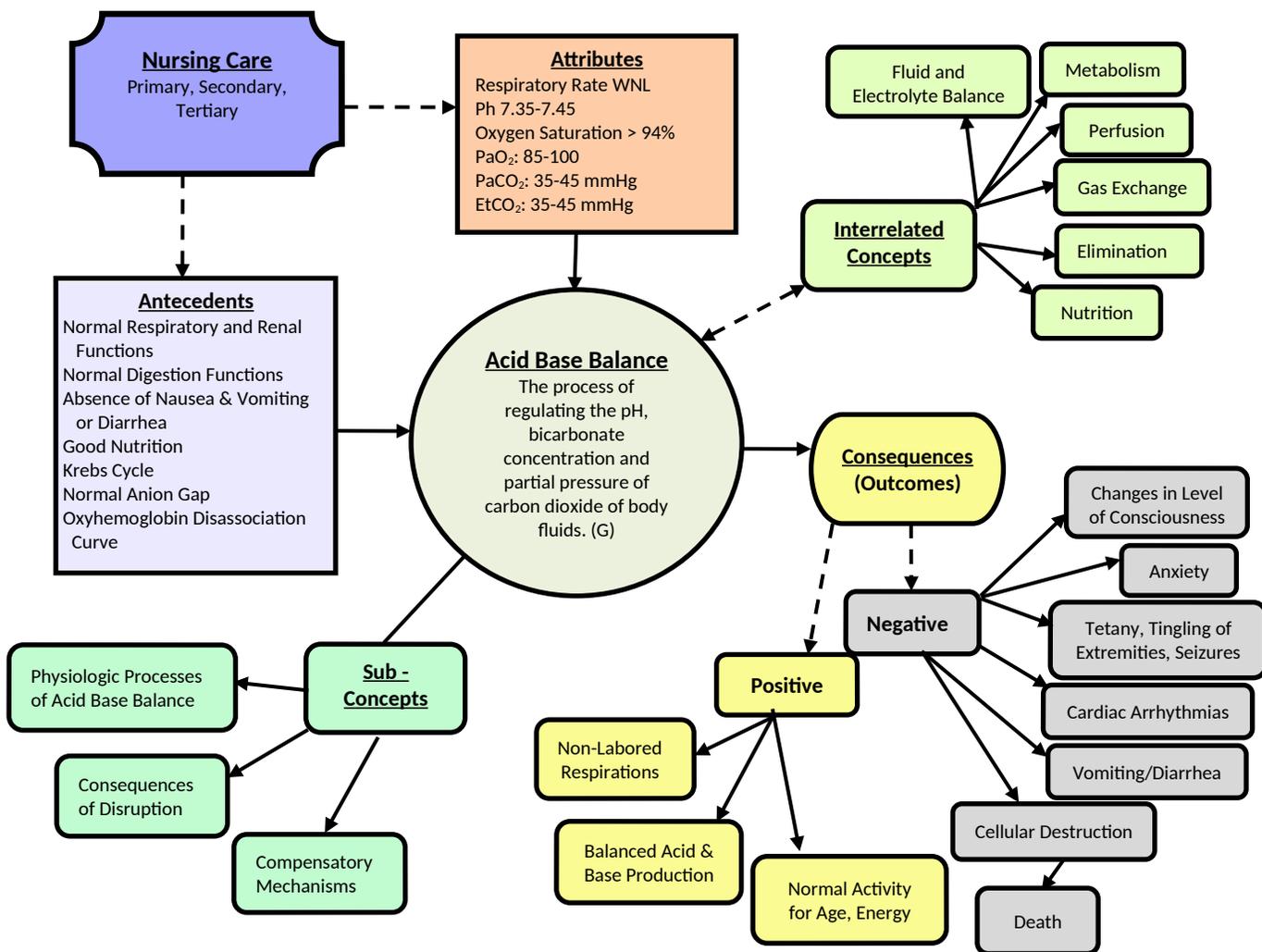
- Untoward events or outcomes that occur due to malfunction within the concept
- Positive events or outcomes that occur due to proper functioning within the concept

### Interrelated Concept

- Concepts which can affect change in the other
- Concepts which work together to ensure a normal process
- Concepts which if depleted or impaired can cause a negative consequence in the other

### Sub-Concept

- Critical components of major concept



Explanation of the Analysis Diagram for **Acid Base Balance** Concept. The definition of the concept is written in the middle (circle) of the diagram.

Nursing Care is printed slightly above the rest of the Concept Diagram because it incorporates all aspects of the diagram prior to determining the care required. There are dotted arrows going out from Nursing Care because nursing interventions are not always needed. Before a concept exists certain entities must exist. These entities are called Antecedents (ante means before). If these do not exist or are malfunctioning then the concept either does not exist or it does not exist at its optimal level. As shown, *the Antecedents* for Acid Base Balance Concept are normal respiratory and renal functions, normal digestion functions, absence of nausea and vomiting or diarrhea, good nutrition, Krebs Cycle, normal anion gap, and oxyhemoglobin disassociation curve.

To determine the level of effectiveness, the nurse assesses patients for certain concept Attributes. The assessment which would support optimum function for this concept would include the *Attributes* of respiratory rate WNL, Ph 7.35-7.45, oxygen saturation > 94%, PaO<sub>2</sub>: 85-100, PaCO<sub>2</sub>: 35-45 mmHg, and EtCO<sub>2</sub>: 35-45 mmHg. Depending on the quality of the Attribute (assessment) findings, the patient may exhibit positive or negative consequences. *Positive Consequences* for Acid Base Balance Concept might include non-labored respirations, balanced acid & base production, and normal activity for age, and energy. *Negative Consequences* might include changes in level of consciousness, anxiety, tetany, tingling of extremities, seizures, cardiac arrhythmias, vomiting/diarrhea, and cellular destruction – death.

Interrelated Concepts are concepts which either affect or are affected by the Concept being defined in the diagram. Therefore the arrow between Interrelated and the defined Concept goes both ways. *The Interrelated Concepts* for the concept of Acid Base Balance might include Fluid and Electrolyte Balance, Metabolism, Perfusion, Gas Exchange, Elimination, and/or Nutrition.

Sub-Concepts are teaching points regarding the Concept being defined thus just a line is printed between the Concept and Sub-Concepts. The need for *Nursing Care* is triggered by: Compromised Antecedent(s), Decreased quality of Attribute(s), Negative Consequence(s), and/or a potentially negative impact from an Interrelated Concept(s).

When a Negative Consequence occurs the nurse will re-evaluate the Antecedents with the intent of identifying which Antecedent was compromised and then direct nursing interventions to strengthen the weakened Antecedent. The intervention would be considered effective when the Attribute(s) reaches optimal measurement and the outcomes are positive. Of course some will always have compromised Antecedents and therefore the nursing care and Attributes would be modified accordingly. Nursing Care would also take in consideration Interrelated Concepts to either strengthen the positive affect or limit the negative.

Nursing interventions are not always needed. However, continual assessment to determine if pro-active or follow-up interventions are required is ongoing.