

Safety and Patient Assessment

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28 year old Elan

A chronically ill person can:

✓ shop for groceries

✓ cook a meal

Just not on the same day.

Inactivity related to chronic disease in adults with disabilities



1 in 2 

Nearly half of adults with disabilities get no aerobic physical activity.

50% 

And they are 50 percent more likely to report at least one chronic disease than active adults with disabilities.

Adults with disabilities ages 18-64

Chronic diseases include cancer, diabetes, stroke, and heart disease.

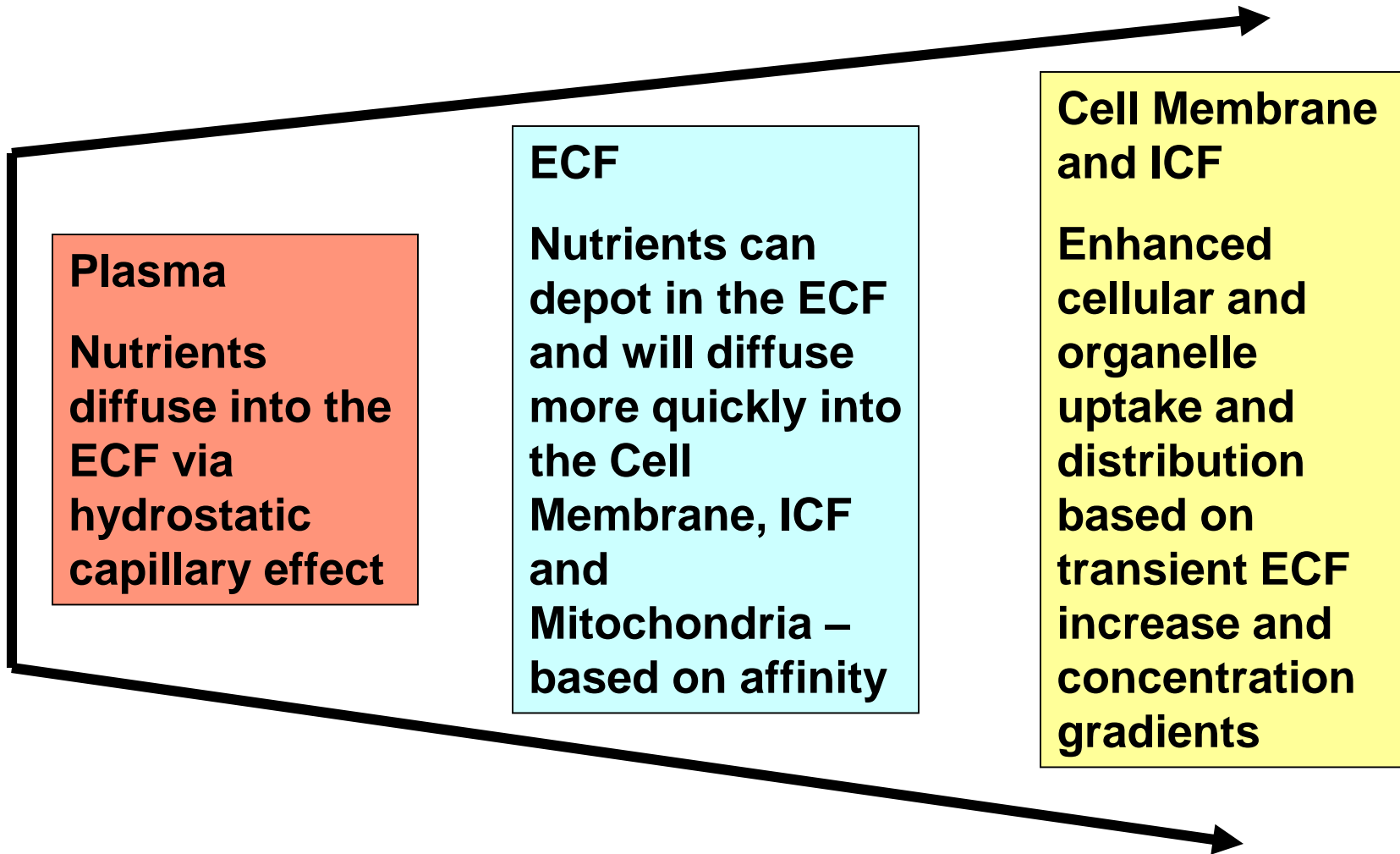
SOURCE: CDC Vital Signs. May, 2014. www.cdc.gov/vitalsigns
CDC National Center for Health Statistics, National Health Interview Survey, 2009-2012.



Rational For IV Therapy

- By the time most complex illnesses manifest it is often too late for oral vitamins and minerals.
 - It takes years with oral therapies before change is seen if seen at all.
- Most of our patients have terrible gastrointestinal function due to poor food choices, infections and toxicity.
- Direct venous access allows direct access to bathing the cells in nutrients. Setting up a concentration gradient of nutrients outside the cells.
- Ultimate goal is IV's are a tool to rebuild health then transition patient to maintenance protocol which is oral supplements and less frequent infusions (if at all).

Direct effect after infusion; Exclusive of specific channel or transport activity:



Risk For IV Therapy

- Risk needs to be minimized, but cannot be eliminated
- Most common:
 - Bruising
 - Infiltration
 - Pain
 - Nutrient Reactions
- Least common:
 - Anaphylaxis
 - Death
 - Infections

IV Related Lawsuits

- Nerve Injury due to catheter placement
 - Patient always wins
- Long Dwelling Access
- Ambulatory Infusion Devices
- Explanation of treatment and if off label or experimental

Standards of Care / Practice

- Standards:
 - Apply in all settings to afford the best care possible.
- Guidelines:
 - Typically from CDC / OSHA, to help focus standards of practice
- Origin:
 - CDC / OSHA Guidelines
 - I.N.S. (Infusion Nurses Society)
 - Bottom line for legal standard of care
 - State Law (Practice Act)
 - AMA / AANP
- Standards in court will be judged with the above hierarchy
 - State Board Issues (Administrative law)
 - May be referred to criminal law status (Manslaughter etc.)
 - Malpractice –vs- Negligence (Tort / Civil law)

Risk Management

- Nothing protects you 100%
- Protection increases with:
 - Adherence to standards of care
 - Reduction of hazards
 - Attention to charting
 - Proper work up
 - Each visit charted to show standards were followed
 - Treatment plan including follow up and monitoring
 - Documented medical procedure policies
 - Certification / Education
 - Informed consent every time!
 - Malpractice insurance

Infection Control

- Site preparation: ***(The last thing prior to needle insertion)***
 - CDC Standard:
 - **IV In place > 30 min?**
 - Chlorhexadine + IPA
 - *Chloraprep*; 45 second application
 - *Hibicleans*; paint on and let dry
 - **IV in place < 30 min?**
 - IPA Prep, or IPA / Iodine
 - Chlorhexadine Allergic: Alcohol **then** Povidone Iodine
 - Iodine is ineffective in the presence of organic matter
 - Alcohol removes the organic matter
- ***Allergy to all above?***
 - ***3% Hydrogen Peroxide***
 - ***Topical silver***

Infection Control Variables:



Shelf life of materials (Exp. Date on vial)



Once opening:

Single Dose Vial (SDV)

- No preservative
- 2 punctures or within 6 hours under ISO5 hood
- 1 puncture or within 1 hour without hood

Multiple Dose Vial (MDV)

- Preservative benzyl alcohol or paraben
- Few punctures as possible <2 ideal
- 28 days from puncturing vial



Safety / Standard practice:

Patients get their own equipment/material

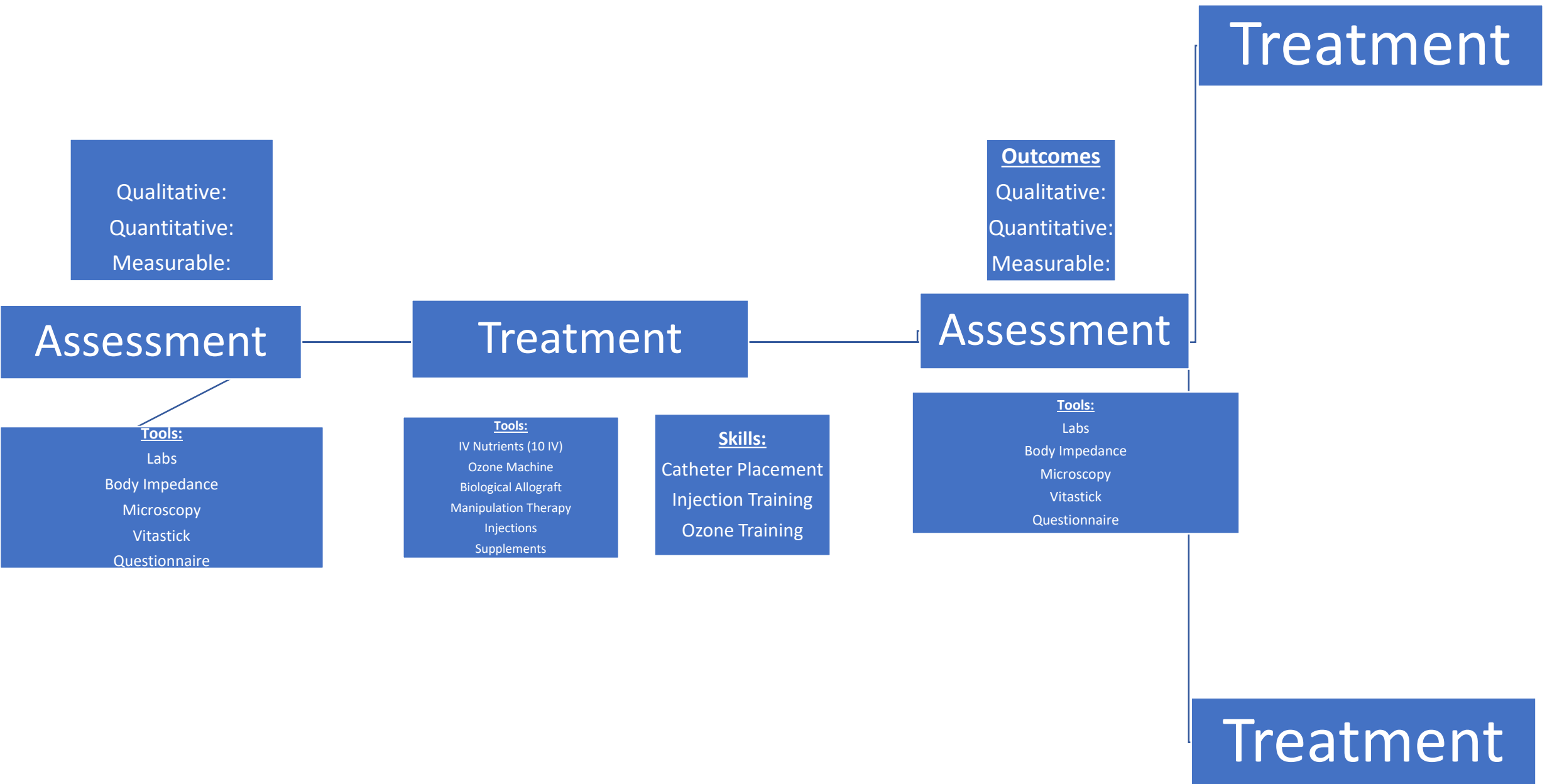
- IV Tubing, bags, catheters/needles
- One time use NO SHARING

Master Formula

Treatment

$$\mathbf{M / (T + S) = R(QQM)}$$

Method / Tools + Skills = Results (Qualitative, Quantitative, Measurable)



Laboratory Testing

- Baseline Complete Blood Count (CBC), Comprehensive Metabolic Profile (CMP), UA. (rule to consider for covering patient is no more than 2 months in healthier individual).
- If you suspect illness or something in history consider every 1-2 weeks.
- When weekly or every other week infusions are initiated keep CBC, CMP updated every 4-6 weeks.
- Oxidative therapies **MUST** have G6PD Quant before infusions initiated:
 - >10 grams Vitamin C
 - Over 5 mcg/ml Ozone dosing
 - H2O2

G6PD Testing

1. Qualitative (“Normal / Abnormal”)
2. RBC-G6PD or Total-G6PD
3. Quantitative G6PD
 1. A calculated value using both Total and RBC G6PD – considered most sensitive at assessing borderline cases.
 2. $G6PD\ QUANT = \{G6PD\ Blood / RBC\ G6PD\}$
 3. Value given in Units per Trillion RBC (U/Tril RBC)

**Ultimately, all are appropriate for screening prior to HDIVC treatment.

** A Quantitative result is most sensitive.

Assessment of Renal, Hepatic and Cardiovascular systems.

Renal findings

- Adjustments in total volume
- Adjustments in total ingredients and electrolytes

Liver findings

- Adjustments in total ingredients
- Adjustments in oxidative vs. anti-oxidant therapies

Cardiovascular

- Congestive heart failure.....reduction in fluid volume and time
- Electrolytes (Calcium, Magnesium, Potassium)