

**Health Care Facilities**  
**Instructor's Outline – 2023 NEC**  
*(Prepared by Gaylord Poe)*

1. **517.1 – Scope** – Human beings only, applicability not limited to single-function buildings. Good general installation and construction criteria information can be found in the Informational Notes of 517.1.
2. **517.2 – Definitions** **has** (and in my opinion most unfortunately has) **been deleted for the 2023 code cycle**. All of these important definitions (key to proper installation and code compliance) have been moved to Art. 100
3. **517.10 – Applicability** – Focus on the differences between A & B.
4. **517.12 – Wiring Methods** - Note that the rest of the NEC applies, except as modified. In other words, everything you need to know about wiring a Health Care Facility is not just found in 517.
5. **517.13 – Grounding (general rules) for Patient Care Spaces** –

Note that the *Exception* to 517.3 is for light fixtures 7-½ ft. above the floor and for switches OUTSIDE of the patient care vicinity – not all switches. Most switches in patient care areas ARE IN the patient care vicinity. Also, the *Exception* doesn't “do away” with 517.13(A) requirements – only the insulated ground requirements found in (B). It should also be noted that Patient Care Vicinity (in definitions) only comes into play in this exception.

Using Art. 100 define the category of the Patient Care Space. Note that 517.13(A) is for all branch circuits and that the additional rules in 517.13(B) are for receptacles and other fixed conductive equipment subject to personal contact.

6. **517.14 – Panelboard Bonding** – This applies when there are normal and essential branch circuit panelboards serving the same patient vicinity. It also provides for bonding essential panelboards together when they are supplied off of different transfer switches and supply the same patient vicinity.
7. **517.16 (A) – Isolated Ground Receptacles** – This section prohibits these receptacles within a patient care vicinity.
8. **517.17 – Ground-Fault Protection** – The “why” can be found in 517.17(C).

9. **517.18 – Category 2 Spaces** (see Definitions in Art. 100) – Review but note these rules are only for patient bed locations (see definition of Patient Bed Location) and pediatric locations. They do not apply to all patient care areas.
10. **517.19 – Category 1 Spaces** (see Definitions in Art. 100) – Review but note these rules are only for patient bed locations (see definition of Patient Bed Location). They do not apply to all patient care areas.
11. **517.20 – Wet Procedure Locations** – Special protection rules.
12. **517.21** – GFCI rules (or lack of) for Category 1 and 2 areas.
13. **517.25 – Scope of Essential Electrical Systems** – Note that “essential” is all encompassing in describing “critical”, “life safety”, and “equipment” systems.
14. **517.29 through 517.35 – Type 1 Essential Electrical Systems for Hospitals** – Review but stress that these sections are only for hospitals (see definition of “Hospital”). Carefully review 517.31(C)(3).
15. **517.40 through 517.44 – Type 2 Essential Electrical Systems for Nursing Homes and Limited Care Facilities** – Review but stress that these sections are only for Nursing Homes and Limited Care Facilities (see definitions). Spend some time on 517.40(A) exception and 517.44.
16. **517.45 – Type 2 Essential Electrical Systems for Other Health Care Facilities** – Note the references in 517.45 (B), (C) and (D) to 517.29 through 517.30.
17. **517.60 through 517.64 – Anesthetizing Locations** - Provide brief overview but stress that flammable agents used in ORs is really a thing of the past. Most of these locations fall under 517.61(C). Also note that all anesthetizing locations are Category 1 patient care spaces (critical care). Also key on the word “**Inhalation**” where 517 Part IV begins.
18. **517.70 through 517.78 – Diagnostic Imaging & Treatment Equipment** - Provide brief overview but stress that in reality, the local ESI typically does not inspect the actual equipment, just the line side connection of it. Liability for judging diagnostic equipment (other than proper sizing, grounding and labeling) is tremendous...plus the equipment is frequently “messed with” after inspection.
19. **517.80 Low Voltage Wiring** – For patient care spaces the operative word is “equivalent”. This means metal raceways or metal cables qualifying as equipment grounding conductors may be required. (*517.13(B) – the “redundant ground rule” - is for systems operating at over 100V and subject to personal contact.*) Note that

this rule DOES NOT apply to secondary conductors of transformer-powered communications or signaling systems unless raceways are otherwise specified by Chapter 7. In other than patient care areas the more restrictive rules of 517.80 do not apply (see 517.81).

20. **517.160 – Isolated Systems** – Provide a brief overview and focus what “isolated” really means in 120V power circuits.