



Oregon

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Building Codes Division Statewide Interpretation

PROGRAM: Electrical Program
SUBJECT: Grounding Branch Circuits Serving Dental Office Patient Care Areas
SOURCE: 2005 Oregon Electrical Specialty Code
REFERENCE: Section 517.13 (B), 2005 National Electrical Code
DATE OF ISSUE: Re-Issue April 1, 2005
PREPARED BY: John Powell
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QUESTION: Are the receptacles serving dental chairs and their rooms required to have a ground path for fault current by installation of an additional equipment grounding conductor?

ANALYSIS:

Section 517.2 of the 2005 Edition of the National Electrical Code (NEC) does include dental offices within the definition of a Health Care Facility and according to the same section, any portion of a health care facility where patients are intended to be examined or treated is defined as a Patient Care Area.

Although dental chairs are not specifically addressed as one of the ordinary appliances within the definition of General Care Area, it is an appliance that a patient contacts. The branch circuit supplying dental chairs shall be grounded according to the provisions of Section 517.13(A) of the NEC and shall be provided with a ground fault path for fault current in accordance to Section 517.13(B).

Also the definition of Patient Vicinity does not mention dental chairs, but it implies there is a concern for surfaces that can be contacted by the patient and for attendants who can touch patients. Receptacles within six feet of dental chairs shall be grounded according to the provisions of Section 517.13(A) of the NEC and shall be provided with a ground fault path for fault current in accordance to Section 517.13(B).

Areas such as business offices, corridors, lounges, waiting rooms, x-ray processing rooms, laboratory areas and other areas where patient treatment or examination is not anticipated are not classified as Patient Care Areas.

DETERMINATION:

Yes, receptacles serving dental chairs and receptacles within six feet of dental chairs shall be provided with a ground path for fault current by installation of an additional equipment grounding conductor. 517.13(A) requires that the wiring method used to be either a metallic raceway or a cable having a metallic armor or sheath assembly. The use of Rigid Non-Metallic Conduit and two equipment grounding conductors is not recognized as meeting the requirement of 517.13(A).