



be affected, possibly requiring lower air temperatures. More importantly, many surgeons require lower room temperatures as a method of controlling patient metabolism. In many cases, a hybrid cath lab may need to operate at temperatures as low as 60 degrees Fahrenheit.

### Design

Most existing cath labs are code compliant, but have insufficient space for hybrid procedures. The bi-plane unit has particularly rigid vertical space requirements. To accommodate that unit, a ceiling height of between 9' 6" and 9' 9" is required. Creating that ceiling height within an existing medical complex can be challenging. Existing plenum spaces (space between the ceiling and structural floor above) may be cramped and usually contain numerous ducts, electrical conduits and other mechanical equipment. Medical centers that were built with an interstitial floor make the insertion of a hybrid cath lab much easier; unfortunately, these are the exception rather than the norm.

Cabling, wiring and hoses — all part of modern medical equipment — should be off the floor to facilitate housekeeping and eliminate tripping hazards. Careful placement of each component is necessary and adequate oversight of vendors who often install that equipment is crucial.

For most projects, the highest Infection Control Risk Assessment (ICRA) controls will be needed during construction. The staff in adjacent spaces must be made aware that renovations can and will be disruptive. Noise, utility shut-down coordination and construction access are only a few of the disruptions during the renovation period.

The hybrid cath lab offers significant advantages in the concurrent diagnosis and treatment of patients requiring cardiac procedures — facilitating a rapid-response approach as never before. The design and construction of the hybrid lab requires extra care and planning, but will result in a more effective facility. To successfully manage the development of these new and innovative rooms, it is clear that communication and coordination among all disciplines — clinical, architectural, engineering, and strategic — is critical.

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