

# ON **Flynn** HEALTHCARE

**ARCHITECTS** “I particularly enjoy working with architects at the beginning of a project because, well, that is when the most creative structural solutions are born. We have to really understand the architect’s vision, their goals, to provide world-class structural design for our healthcare projects. For hospitals, that means understanding the relationships between the different departments, the desired design aesthetic, the project goals and challenges, and how best to deliver all of this within an established budget. It’s never a cookie-cutter design! We deliver the most value to the project when we participate in the process early.”

testing to verify performance and further advance the technology.”

**FAST TRACK** “Hospitals are about patient care, but the financial part of the operation is equally important. If you are not successful financially, you can’t deliver the best patient care. Steel pays the dividends on fast track construction, and for hospitals, fast track is always an issue. The shorter the construction, the faster they can treat patients!”

**DESIGN** “Twenty years ago, hospitals were more institutional. They had repetitive grids, boring public areas, and drab décor. Today’s hospitals incorporate amenities you see in five-star hotels, and the framing is moving away from institutional to the longer spans of steel. In one of our recent hospital designs, a portion of the patient-care wing was cantilevered 120 feet. Steel made it possible.”

**BIM** “Our firm has been doing this for quite some time, even though the transition to BIM (Building Information Modeling) is occurring as we speak. We actually use a BIM delivery system for all of our hospital designs, because of the benefits it provides in coordinating structure with the intense MEP systems and Architectural requirements embedded in modern healthcare design. In one hospital where we used a BIM delivery, all the structural steel framing was developed in 3D object-based design. The mechanical routing of the intense duct work and HVAC systems through the interstitial truss work was shown, and a lot of conflict checking and coordination occurred early on in the design phases avoiding downstream coordination issues. BIM is a real time saver, and steel is leading the way.”

**TRANSPARENCY** “Today’s healthcare designs call for openness and controlled transparency. Small, sleek structural members and long spans aid in supporting this concept. Steel systems are an excellent choice to create open and transparent spaces which help to improve the experience of the patient and the patient’s family and friends.”

**STEEL** “Owners saving money, saving time, increasing building performance, and lengthening the hospital’s service life is what steel is all about. You have more ability to dial-in performance with steel.”

*Lanny J. Flynn, P.E., S.E. Principal. Heads up the Healthcare Specialist Group at Magnusson Klemencic Associates. Harmonizes creativity with structural engineering. Appreciates the flexibility of steel shapes to enhance the vision of today’s architects and healthcare facilities.*



**PATIENT CARE** “The primary focus of hospitals is patient care, which demands intense medical, mechanical and electrical systems with very rigid architectural requirements...efficient staff circulation and patient flow, acuity adaptable rooms, patient- and family-friendly spaces, and integration of infrastructure. There are also required levels of transparency, as well as stringent vibration criteria for sensitive equipment and procedures. The structure must support all these demands and be flexible enough to change rapidly. Steel structural systems are great for this type of design. As hospitals bring in new technologies and adjust patient care strategies, steel structures are able to easily morph to make these modifications possible.”

**SEISMIC** “Hospitals need to function after an earthquake, so Codes impose more stringent requirements on their design. Steel is a wise choice, because it is a very ductile and predictable material. One of our recent hospital designs involved a 700,000-square-foot expansion and utilized a unique steel bracing system with a well-defined ductile steel core designed to dissipate the energy imparted by an earthquake. That system actually bettered code requirements and, because of the steel bracing system, actually reduced the structural costs of the foundation system and columns. The hospital not only saved money, but also received a better-performing building.”

**PERFORMANCE-BASED** “MKA has taken a leadership role in the development of performance-based seismic design for new buildings, with over 3 dozen successful projects. A performance-based approach is becoming the trend in seismic design, rather than prescriptive Code-based structural design. Performance-based design involves a very detailed analytical process that identifies anticipated demands on structural elements and sets parameters of acceptable performance for each element. Armed with that knowledge, we proportion and create the structure to support those criteria. In light of the benefits to be gained by the industry, MKA has even sponsored physical

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