**Presenter:** Paul Knechtges  

**Title of Abstract:** Increasing Workplace Efficiency by Applying Lean Production Methods to Workstation Layout  

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**Modality:** Multi  

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**Purpose:** Although often overlooked, workplace layout can have a significant impact not only on productivity but also morale. Fortunately, process improvement methods have already been developed in other industries for prospective, rational workstation design. These methods can be readily applied in radiology. While industry utilizes several different models for process improvement, this presentation will focus on Lean production methods. Lean production, developed by Toyota in the 1980's, focuses on maximizing value while minimizing waste. In diagnostic radiology, value is often defined as rendering accurate, timely diagnosis/reports, while waste is any distraction that does not contribute to patient care e.g. unproductive time spent acclimating to different, unstandardized workstations and searching for critical information. One of the workplace organization methods associated with Lean production is known as “5S.” Originally developed by Hiroyuki Hirano in Japan, the 5S are derived from the Japanese words seiri, seiton, seiso, seiketsu, and shitsuke which roughly translate to sorting, straightening, sweeping, standardizing, and sustaining. While any one of these concepts can easily be dismissed as “common sense,” the systematic application of these principles has yielded significant results in the automobile and other industries and can also benefit the daily operations of a radiology practice. Subsequently, the purpose of this poster: 1. To acquaint the reader with the basics of Lean manufacturing methods e.g. value added and waste. 2. To discuss the application of 5S methodology for workstation design. 3. To review the potential safety, productivity/economic, and morale advantages of appropriate workstation design.  

**Content Organization:** 1. Introduction to Lean Production Methods a. Brief history of Lean manufacturing b. Defining value-added c. Defining waste 2. 5S Methodology a. Seiri/Sorting: Eliminating all unnecessary, redundant papers and tools. b. Seiton/Straightening: Maintaining the same physical layout from day to day. c. Seiso/Sweeping: Keeping the workspace uncluttered and organized. d. Seiketsu/Standardizing: The workstations should be consistent and standardized. e. Shitsuke/Sustaining: Maintaining and reviewing the standards of the previous 4S’s. 3. Example Workstation Design 4. Potential Benefits a. Productivity b. Morale c. Joint Commission Compliance d. Safety/security The major teaching points of this exhibit are: 1. Physical workspace design is a part of quality improvement initiatives in other industries and these lessons can be applied in radiology. 2. Thoughtful, appropriate workstation design/layout can provide significant safety, productivity, and morale advantages. 3. An appropriate physical environment compliments an appropriate electronic and ergonomic environment.