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## Construction to improve air quality at Evans

By Jeff Troth, MEDDAC PAO

Evans Army Community Hospital begins construction next month to improve air quality in the hospital's critical care areas and to be ready for future requirements. Two 30-year old air handlers are being replaced with four new ones that will service the hospital's Operating Rooms, the Post Anesthesia Care Unit (recovery room), Intensive Care Unit and the Mountain Post Birthing Center's two C-section operating rooms and nursery.

"All of our air handlers are building originals and have been in operation since Evans opened its doors 30 years ago," said Aaron Hicks, a facilities engineer at the hospital who is overseeing this construction. "The fact that these air handlers are 30 years old is not what is forcing us to change them. I can still buy parts for them and they are working. "

Although the project is expected to take about 20 months to complete and most of the sections affected will move to new locations in the hospital the impact on patients will be minimal.

The first phase of the project begins in July with the construction of a mechanical penthouse on the roof of the hospital. This penthouse will house three of the new air handlers, while the fourth will be placed in the hospital's basement with the other five.

"We are building the penthouse first and completely furnishing it with the equipment and make sure they are working properly before we start any work within the hospital," said Hicks. "We decided we can't turn off all eight ORs at the same time, so we are going to do it in phases and keep four operating rooms operational at all times."

"During the time that we are transitioning from the old air handlers to the new ones we will still be providing the same quality of care that we always do," said Col. Irene Rosen, Evans' chief medical officer. "For surgeries we

are going to arrange our OR schedules so that we utilize the four rooms to their maximum capacity.”

One old air handler will be shut down at a time and all areas serviced by that machine will be connected to a new system before the second air handler is turned off.

Unlike the operating rooms (that are split between the two air handlers) the other critical care areas are just on one of the old air handlers, so they will move to other areas of the hospital while air is shut off in their department.

“The Intensive Care Unit will be moving from the second floor up to the fourth floor with the family care ward,” said Maj. Elizabeth Tricozzi, the clinic nurse officer in charge of the ICU. “The move should only take us a couple days and during that time we will be in two different areas.

Although their move isn’t scheduled to take place until end of the calendar year Tricozzi and her staff already have plans on what equipment they will have to move up to their new area. And before move day arrives she says they will have several rehearsals for moving their patients upstairs.

“We will try to pick a week to move where we are a little slower on operations so that we don’t have as many patients to move,” Tricozzi said. “But we are not going to shut down or decrease our capacity during the move.”

One of the factors that is driving the replacement of the two of the hospital’s seven air handlers is the fact that when they were installed in 1980s they came with 1980s technology and were only equipped with a heating coil, not a cooling coil.

“If the room is at 60 degrees and a doctor wants it at 70, it would take a fraction of an hour to change the temperature because the system has a reheat coil,” said Hicks. “But if it was the reverse and the doctor wanted the temperature lowered from 70 to 60 – it could take 4 or 5 hours.”

Besides better temperature control, the new air handlers will allow the hospital to increase the number of air changes per hour (ACH), the number of times the air in a room is replaced each hour. Air changes help to maintain air quality.

According to Hicks, when the hospital opened its doors in 1986 there was no regulation that required a hospital to have a set number of air changes. And, when he started working at Evans 10 years later, the air changes varied in the hospital's ORs from 13 to 20 air changes per hour.

Shortly after he began working here, the hospital leadership decided to standardize all ORs to 15 air changes per hour. A couple years after Evans made the change, the American Institute of Architects Guidelines for Healthcare specified a minimum of 15 air changes per hour. The U.S. Department of Labor's Occupational Safety and Health Administration has adopted this recommendation.

"It is hard to maintain 15 air changes in those rooms because of the infrastructure, the size of the duct," said Hicks. "These new air handlers will be oversized and easily be able to produce 25 ACH which exceeds the AIA and OSHA recommendations."



New air handlers at Evans Army Community Hospital will improve the quality of air in critical care areas such as the hospital Operating Rooms. Photo by Jeff Troth)