



The RFID based solution would be to embed each part as it comes in with an electronic label (an RFID tag). The RFID tag would have a unique ID number which is linked to the material database, having all relevant information about the part. The electronic labeled part is now put into a smart shelf. The smart shelf is composed of a built in antenna and an RFID reader, which keeps track of all the RFID tags inside (the medical parts).

The moment a part is removed, the RFID reader senses this and communicates this fact to a central database which updates its material list. In fact, the system can be made even better, with requisitions also being routed through the database. When a doctor or paramedic enters a material requisition (say for a catheter) in his PDA, the database instantly “reserves” one for him in the smart shelf. This reserved part is typically which has the lowest shelf life amongst all the remaining catheters. This requisition is also flashed to the stores personnel, who also get a number of the particular catheter (not just any catheter that fits the bill), that has to be removed from the smart shelf for issue to the doctor. The storekeeper removes this particular catheter from the shelf, peels off the RFID tag and sends it across to the doctor. The instant the catheter is removed from the shelf, an entry is made in the central database, which informs the Purchasing guys that they just reduced their inventory of catheters by one. Once the number of such reductions reaches a critical mass, (the re-order level in inventory speak), an order will be automatically issued to replenish the stock. This system also has other side benefits. There is an automatic audit trail generated showing who issued a requisition for what, who removed the material from the shelf at what time, cost to be billed to patient, which catheter got used by which patient, etc. etc. There is very little scope for any malpractices like using date expired materials on unsuspecting patients, being suddenly short of supplies (because one day most of the catheters got used up and some were pinched or “lost”).