

Robotic automation in patient-individualized aseptic preparation

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Robotic automation in pharmaceutical aseptic preparation of individualized infusion solutions for cancer patients has gained rising importance since the last ten years. There are basically two technical approaches, semi- and fully-automated systems. Fully automated systems cover the whole preparation process, generally in a one by one preparation approach, including reconstitution of vials and sometimes disposal of waste. In contrast, semi-automated devices, which provide a less complex approach, usually located in a usual safety workbench, concentrating on the admixing process, being able to produce batches of several infusion bags.

There might be several reasons to purchase a robot in the field of aseptic preparation, e.g. impact on work safety, avoiding critical operator mistakes, lack of specialized staff, productivity, product quality. Thinking about purchasing, it is of utmost importance to thoroughly analyse the local situation, requirements and the intention to use a robot, eg. number and kind of preparations, which should be done, local infrastructure, budget and cost, influence on workflows, complexity and handling of the device, expected downtimes etc. In addition it is strongly advisable to screen the market to gain knowledge from different centers where different devices are used in practice before taking a decision.

Opportunities and limitations of robotic devices in cancer patient individualized aseptic preparation are presented.