In another study, Bolgen et al. performed in vivo studies to examine nanofibrous drug delivery system for intra–abdominal treatment.90 Both ornidazole (active antibiotic against anaerobic intestinal bacteria) and bit– eral antibiotic were embedded into biodegradable poly– caprolactone by simply dropping antibiotic solution onto the membranes. They reported that due to the combined synergistic effect of membrane and the antibiotic, the healing process becomes better and faster. Supaphol et al. successfully prepared ultra–fine fiber mats of cellulose acetate comprising of four model drugs, i.e., naproxen, indomethacin, ibuprofen and sulindac by electrospinning.77 Mats of poly(vinyl alcohol) nanofibers with four different types of non–steroidal anti–inflammatory drug with vari– able water solubility; e.g., sodium salicylate, diclofenac sodium, naproxen, and indomethacin were also developed by them for transdermal drug delivery systems.91 Results indicate that with an increasing molecular weight of a drug, the rate and amount of drug release decreases. Also the drug–loaded mats exhibited better release character– istics as compared to solvent cast films due to a high porosity of the electrospun nonwoven mats. Khil et al. reported that electrospun polyurethane (PU) membranes are useful as wound dressing material because it is able to absorb wound exudates well, as it does not accumu– late under the covering and does not lead to any type of wound desiccation.92– 93 Histological examination suggests that the epithelialization rate is increased when wounds are covered with nanofibrous PU membrane.

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