A needle-shielding fluid transfer device for safely transferring fluid from a needle-bearing medical device to a separate container. The device includes a housing having a passage therethrough. At one end section of the housing, the passage has a relatively large diameter and the housing is adapted to easily accept and hold the needle-bearing medical device from which fluid is to be transferred. At a second end section, the housing is adapted to accept the container into which fluid is to be transferred. When a needle-bearing medical device is inserted into the passage at the first end section of the passage and a container is inserted into the second end section of the housing the needle of the needle-bearing medical device enters the container and fluid may be transferred. In one embodiment, the housing is split into two housing components to form a clamshell-like structure.