

	Weight	Linear Punch	Rolling Punch	Concealed Blade
User Safety	0.25	3	2	2
Effectiveness	0.20	1	2	3
Pill Safety	0.20	1	1	3
Ease of use	0.20	2	2	2
Package Variety	0.15	1	2	3
TOTAL	1.00	1.70	1.80	2.55

Rating System:

Each category was assigned a weight based on overall importance to the design. The weights of all categories add up to 1. Each design was assigned a rating of 1-3 for how that design performed in the specific category. A rating of 3 indicates superior performance, a rating of 1 indicates poor performance, and a rating of 2 indicates fair performance. Each category's ratings were multiplied by the category weight and added together for each individual design. The total row shows each of the design's performances.

Design descriptions

Concealed blade:

This design requires minimal effort by the user to cut the packaging at the base of the pill. The device consists of a base where an opening exists for the pill to be placed into facing down, while another platform will lower onto the base. The blade will be built into the base of the design and will be controlled by the user only when the upper platform is on top of the base, concealing the blade from the user at all times. The user will control a lever on the side of the device causing the blade to slice the packaging allowing the pill to fall into a dish below the device.

Linear Punch:

The linear punch design utilizes a linear actuator to force the pill out of the packaging. The blister packaging sits directly under the punch with the pills facing up. The punch comes down, makes contact with the pill/packaging, and proceeds to force the pill out of the blister pack. The pill will fall beneath the packaging into a bowl which will make it easy for the user to pick up the pill. It may be possible to utilize a laser to aid the user in lining the pill up with the actuator. The user would simply position the pill such that the laser hits the top of it. Upon pressing a button the actuator would then lower itself onto the pill and dispense it.

o the counter.

Rolling Punch Design

The rolling punch design is a spinoff of the linear punch design. In this design the pill packaging is placed over a hole through which the pill can be pushed. Like the linear punch design, some sort of a punch, possibly driven by a motor or linear actuator will move to punch out the pill but instead of pressing straight down on the top surface of the pill, a curved head will be placed on the punch and some mechanism (possibly a second linear actuator) will be used to roll the curved head over the surface of the pill applying pressure first to one side of the pill and then across the pill to the other side. Using this curved head lowers the amount of force necessary to remove the pill by pressing the edge of the pill through the packaging first, and then punching out the rest of the pill, instead of trying to press the blunt face of the pill through the packaging like the linear design.