On ultimate: dumps and retaining possession

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Defence wins games and offence loses them because, having more turnovers than the other team results in scoring fewer goals[1]. Hence, being able to retain possession is important[2]. Being able to throw a dump is therefore a key skill for any ultimate player. If you're a handler being able to set up for and then receive a dump is vital too[3]

This document is a two-pager about throwing or receiving a dump pass[4]. It first discusses what a dump is and why it is important. Positioning for the dump is discussed, followed by how to engage with 'the dump' and complete a dump pass. Finally, using dumps to generate offensive opportunities is discussed.

What is a dump and why is it important?

What is a dump[5]? It can mean a lot of things, but usually it refers to 'dumping it' back to one of the handlers so as to reset the stall count and retain possession of the disc. In short, it is a high-percentage pass, made to reset the stall count and so retain possession[6]. It is important because it impacts, and to an extend dictates, whether your team can play low-risk, high-completion offense. With an effective dump-set your team can retain possession and wait for good opportunities. Without a reliable dump-set, you'll likely have to play higher-risk offence[7]. Unfortunately, it's time for...

...some probability

The probability of scoring is a function of the number of passes made and the completion rate of each of those passes[8]. Different players on your team will have different completion rates, and these too will be impacted by whether they are taking high- or low-risk options, so it all gets a bit complicated. But, in general, if the completion rate of your entire team goes up, your more experienced throws will likely be able to take less risky options[9].

If a handler has the disc one option might be to attempt a huck for a goal (40% chance of success). Alternatively, a (non-huck) regular throw to a cutter might advance the disc, (80% completion). However, if this does not score, the cutter will then have to throw another forward pass (40% completion rate = 32% overall), or a dump (60% completion rate = 48% overall). Every pass increases the overall risk of a turn, and the original 40% chance of a huck succeeding is

[1] There are some edge cases (e.g. so windy that no one can score upwind, so the flip decides the game.)

[2] More important than getting a big layout block on defence? Possibly, because at that point the job is only half done - your team still needs to convert the block into a goal!

[3] With the rare exception of if you are on the defence team and the team's strategy is to score as soon as possible after getting a turnover (e.g. D and huck and D).

[4] This is part of a series, available at `https://github.com/James-Reynolds/Ultimate-strategy-and-tactics`.

[5] A backwards pass? Sometimes. A short pass? Often. A pass back to a handler? Usually.

[6] There are three ways for a turnover to occur: 1) the stall count reaches 10; 2) a pass is incomplete; or 3) a pass is intercepted. Throwing a dump deals with all three as: it gets the stall count back to zero; dumps are generally easier throws to make; and there is not much that a defender can do about a well thrown dump, as they are difficult to intercept.

[7] Huck-and-zone anyone? Not that there is anything wrong with huck-and-zone if it is working. Just that it will not work against teams who don't turn the disc over much.

[8] For example, you might catch the pull and then immediately throw it deep to the endzone. Maybe there is a 40% chance of someone on your team catching it for a goal. Alternatively, your team might score with five lower-risk throws. However, if each has a 85% completion rate the chance of scoring is only 44%, as

$$0.85^5 = 0.44 \tag{1}$$

That single high-risk throw isn't looking to bad actually...

[9] Again, returning to the one high-risk versus five lower-risk throws example, if the completion rate goes up to 90%, we are now looking at:

$$0.9^5 = 0.59 \tag{2}$$

...and suddenly that 40% huck isn't looking too good anymore.

Table 1: Completion rates 1

	Completion rate		
Players	Huck	Regular	Dump
O_1, O_2, O_3, O_4	-	50%	60%
O_5, O_6, O_7	40%	80%	90%

already starting to look pretty good[10]

Now, compare to the situation shown in Table 2, with the cutters (O1-4) having a 80% completion rate for a dump. That 40% huck isn't looking very good any more, given that a handler-cutter (80%) and cutter-dump (80%) is overall 64% Table 2, therefore, suggests that, with the higher dump completion rate amongst the cutters, the handlers can be a bit more conservative when hucking[11].

Positioning

Engaging and completing

Gaining an advantage from dumping

[10] Essentially, if the dump completion rate is low the handler might as well have a shot for a goal given that if they take a lower risk option it's about the same overall chance of turning over anyway.

Table 2: Completion rates 2

	Completion rate		
Players	Huck	Regular	Dump
O1, O2, O3, O4	-	50%	80%
O5, O6, O7	60%	80%	90%

[11] The handler huck percentage is show as having increased to 60%, suggesting that the handlers will be looking off the riskier hucks. The point, in effect, being that if you (as a cutter) can improve your dumping it has flow-on benefits for throws by others and the team as a whole.

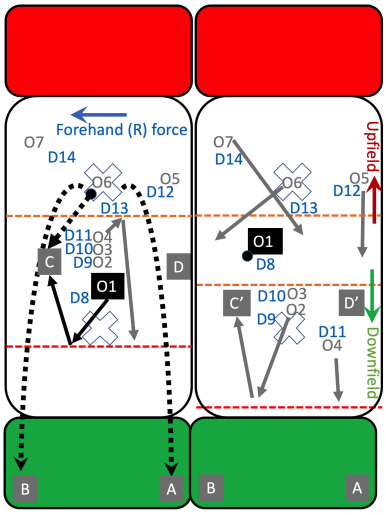

Figure 1: Vertical stack: starting position (left), and development (right)