

# Application of Screen Value

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After McMasters game against Waterloo, the planning begins for the game against Western in a must win scenario game. The use of screens was prevalent by both teams in the most recent game and is sure to be prevalent in the upcoming game as well. I will be focusing on McMaster's offence and defence in this paper. In this game against Waterloo, we typically had Quiring and Adu-Poku setting screens for McMaster with Quiring being very effective on screens and Adu-Poku being below average. Other players did set screens however these players did not provide a large enough sample size where as these two did. Quiring set 26 screens of which only 2 were broken where as Adu-Poku set 13 screens and still some how 5 screens were broken. These resulted in p values of 92.3% and 61.5% respectively. We can consider this to be our season average as it is probably how the season went for these two. From our statistics, through out the season Quiring has a 60% FG% on the pick and roll while Adu-Poku does not typically run pick and rolls but have a 50% FG% none the less. We will also assume that our ball handler was either Collins or McCulloch who both average roughly 37% as the ball handler after a pick and roll. Now fortunately Waterloo's defence rarely ever switched properly, in fact they only switch 3 times during the game on any type of screen (8%). Now we have found all of our values and we are able to plug them into the formula we have derived.

- Quiring  $p = 92.3\%$  Adu-Poku  $p = 61.5\%$
- $q = 92\%$
- Quiring  $k = 60\%$  Adu-Poku  $k = 50\%$
- $j = 37\%$

$$p(q + k - qk + 2j - jq - jk + jkq)$$

Now we will compute for Quiring and Adu-Poku. We will not worry about each with either Collins or McCulloch because they are so similar the difference is negligible.

Quiring Screen Value = 1.2459

Adu-Poku Screen Value = 0.820328

This effectively shows that all of the teams screen play should involve Quiring and try to stay away from Adu-Poku.

On the other end we look at McMasters defence against Waterloo. Unfortunately I am still new to this and didn't think to record who on Waterloo was creating screens or controlling the ball so for arguments sake we will allow whoever is the best statistically to take any given role. This being said I still have data for how many screens were broken.

- Center p = 72%
- q = 35.1%
- Center k = 51%
- Guard j = 37%

Waterloo Screen Value = 0.8424

Ultimately McMaster's defence combined with Waterloo's ineffective screen plays were the result of the dominating McMaster win.