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**IN A SEARCH FOR A SAFETY BUCKET TO PREVENT
CHILD DROWNING AT HOME**

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Objective To test different bucket shapes and to measure the force needed to spill the water contained into it.

Methods We designed six metal buckets, all 23 cm high and 26 cm of rim diameter, but with different base diameters: 26.00, 24.67, 23.26, 21.75, 20.14 and 18.38 cm. We fill all them with water up to 20 cm from bottom-to-top. Then, we exert a progressive pressure in a 45 downward direction until the bucket was tilted enough to pour the water it contained. The pressure in kg at that moment was measured and registered.

Results Base bucket diameter and kg pressured needed to till the bucket showed a straight and direct relationship, with $\beta=1.20$ kg, $\alpha=-14.05$, $r=0.99$ and $p<0.001$.

Conclusion For the bucket sample studied, its stability is in direct relationship with its base diameter: the bucket with the wider base (diameter of 26 cm) needed 17.3 kg to till, while the narrower (diameter of 18.38 cm) needed 8.0 kg. Since a 11 months old child weight about 9.7 kg, in the case he/her trips over a bucket and falls into it could more easily till the bucket (pour the water and save his/her life) when the base is narrower (at least 50%) than the diameter of the opening when the diameter of the rim is 26 cm and the height is 23 cm.