$$E = \frac{1}{2}mv^2 + mgh$$

$$h = L(1 - \cos\theta) + d$$

$$U_{max} = mg\left(L\left(1 - \cos\left(\frac{\pi}{2}\right)\right) + d\right)$$
$$= mg(L + d)$$
$$= E$$

$$mg(L + d) = \frac{1}{2}mv^2 + mgh$$
$$g(L + d) = \frac{1}{2}v^2 + gh$$

$$v^2 = 2g(L + d) - 2gh$$
$$= 2gL + 2gd - 2gh$$
$$= 2g(L + d - h)$$
$$= 2g(L + d - L + L\cos\theta - d)$$
$$= 2g(L\cos\theta)$$

$$v = \sqrt{2gL\cos\theta}$$