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# The Recovery of Adverse Hormonal Symptoms Following Short-Term & Long-Term Androgen Deprivation Therapy in Localised Prostate Cancer Patients Receiving Radiation Therapy

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## Background

One of the treatment options for patients with localised prostate cancer (PCa):

Radiation therapy (RT)

+

Androgen deprivation therapy (ADT)

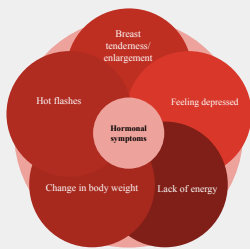
Short-term ADT

or Long-term ADT

(~ 6-month neoadjuvant)

(2-3 years)

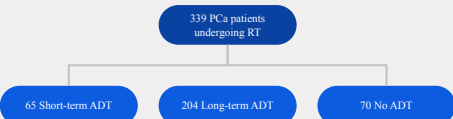
Adverse side effects of ADT in the hormonal domain:



## Objective

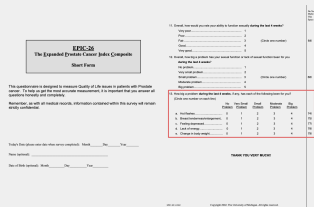
To assess the recovery of adverse hormonal symptoms following short-term and long-term ADT in patients with localised PCa receiving RT

## Patients & Methods



Prospectively-collected PROMs of Chinese patients who have undergone RT:

They were required to complete the EPIC-26 questionnaire at baseline and annually for 5 years, and were followed up until the most recent completion of the questionnaire, loss to follow-up, or death



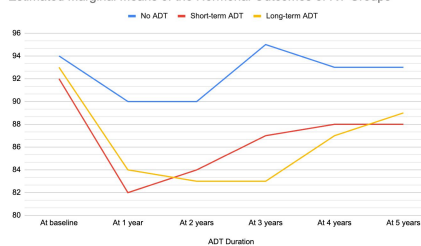
Longitudinal functional outcomes were analysed using linear mixed-effects models:

- Fixed effects for treatment modality
- Time
- Treatment-time interaction
- Clinically relevant covariates  
Age, BMI, Charlson Comorbidity Index, and AUA risk group classification

## Results

	No ADT	Short-term ADT	Long-term ADT
At baseline	94 (90 to 98)	92 (88 to 96)	93 (90 to 96)
At 1 year	90 (86 to 94)	82 (78 to 86)	84 (81 to 87)
At 2 years	90 (86 to 94)	84 (79 to 89)	83 (80 to 86)
At 3 years	95 (90 to 100)	87 (82 to 92)	83 (80 to 86)
At 4 years	93 (87 to 99)	88 (82 to 94)	87 (84 to 91)
At 5 years	93 (86 to 100)	88 (80 to 96)	89 (85 to 93)

Estimated Marginal Means of the Hormonal Outcomes of RT Groups



- All three groups had an initial fall followed by recovery from their respective baseline hormonal scores
- All three groups had an overall decline in the hormonal domain
  - No ADT declined to the smallest extent
  - Short-term and long-term ADT share a similar extent in their declines
- The recovery of short-term ADT began at year 1
- The recovery of long-term ADT began at year 3

Estimated Mean Difference between ADT Durations

	Short-term ADT - No ADT	P	Long-term ADT - No ADT	P	Long-term ADT - Short-term ADT	P
At baseline	-1.9 (-7.2 to 3.4)	0.5	-1.0 (-5.9 to 3.9)	0.7	0.90 (-3.8 to 5.6)	0.7
At 1 year	-7.7 (-13 to -2.0)	0.008	-5.5 (-11 to -0.35)	0.036	2.2 (-2.8 to 7.3)	0.4
At 2 years	-5.7 (-12 to 0.66)	0.079	-6.9 (-12 to -1.3)	0.015	-1.2 (-6.8 to 4.5)	0.7
At 3 years	-7.5 (-15 to -0.18)	0.045	-12 (-18 to -6)	<0.001	-4.5 (-11 to 1.7)	0.15
At 4 years	-4.7 (-13 to 4.2)	0.3	-5.8 (-13 to 1.6)	0.12	-1.2 (-8.4 to 6.1)	0.8
At 5 years	-4.9 (-16 to 6.2)	0.4	-4.0 (-13 to 4.7)	0.4	0.97 (-4.5 to 10)	0.8

- Comparing with no ADT as the reference to eliminate the contribution of natural decline due to ageing:
  - Difference became insignificant at year 2 for short-term ADT
  - Difference became insignificant at year 4 for long-term ADT

## Conclusion

- Recovery was observed to be similar between short-term and long-term ADT
  - Both have insignificant differences after stopping ADT for 1 year
- Long-term ADT group had a greater maximal drop in PROMs than short-term ADT group, when compared to no-ADT group
  - Likely related to the prolonged ADT suppression