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Article:

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<https://doi.org/10.1183/23120541.00344-2022>

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NOVELTY: a NOVEL observational longiTudinal study
 ~12 000 patients ≥12 years of age, from primary and specialist clinical practices in 19 countries
 Diagnosis or suspected diagnosis of asthma and/or COPD



ADPro: Advanced Diagnostic Profiling substudy
 ~180 patients already enrolled in NOVELTY to be recruited from two primary care sites in York, UK
 Representative spread of physician-assigned diagnosis and severity

Imaging and physiological tests will be performed at the POLARIS lung imaging centre at the University of Sheffield, UK
 Patients will travel ~1 h by car from York to the imaging centre for visit 1 and visit 2



Visit 1 (Day 0)



Visit 2 (12±2 months)



Visits 1 and 2			
Physiological data	<ul style="list-style-type: none"> • Height • Weight 	<ul style="list-style-type: none"> • Calculated BMI • Waist circumference 	<ul style="list-style-type: none"> • Heart rate • Pregnancy status
Risk factor assessments	<ul style="list-style-type: none"> • Smoking status and history • Occupational exposure to pollutants 		<ul style="list-style-type: none"> • Allergens
Study questionnaire	<ul style="list-style-type: none"> • Asthma/COPD treatments (duration and posology) in last 12 months • Concomitant inhaled corticosteroid and bronchodilator medications in previous 24 h • Smoking activity in previous 24 h • Prior exacerbations in previous 6 weeks 		

Visit 1 All imaging and physiological testing performed post-BD
Imaging (¹²⁹ Xe MRI and ¹ H MRI)
MBW
AOS (R5–R20)
TL _{CO}
Body plethysmography
Spirometry



Visit 2 Imaging and physiological tests performed pre- and post-BD
AOS (R5–R20)
FeNO
TL _{CO}
Body plethysmography
Spirometry
Imaging (¹²⁹ Xe MRI and ¹ H MRI)
Administration of 400 µg of salbutamol
After ≥20 min, all imaging and physiological tests (except FeNO) will be repeated post-BD



Primary substudy objectives
 Determine the distributions of whole lung functional and morphological measurements assessed with MRI (ventilation, gas transfer, airway microstructural indices)