**Medical Insider COPD Podcast, Season 2, Episode 4  
Professor MeiLan Han – The role of imaging in early COPD management**

Richard ([00:05](https://www.rev.com/transcript-editor/Edit?token=o3IIJiTtbAI5kgOguppPE1lt9X8R1Yi3jG0i8st3AoEBFwvtY4FoXG8AQIMvsbIvg7kP0B1vDyPgtUWD6lvYQfKNdUw&loadFrom=DocumentDeeplink&ts=5.25)):

This podcast is intended for healthcare professionals outside of the United Kingdom and the United States of America only.

Richard ([00:22](https://www.rev.com/transcript-editor/Edit?token=HRQ0YM4WogxuqSDMRojHK7zqXXZAVTGEKaID8fFfOc5yvYAisZgoW4ynWWs-3Guzb5rLgk2c-VSjZRqeNeMYPgn0O1k&loadFrom=DocumentDeeplink&ts=22.29)):

Welcome to the Medical Insider COPD by Boehringer Ingelheim, a podcast offering a breath of fresh air to clinicians treating COPD across the globe. My name is Dr Richard Russell, and I'm a Consultant Chest Physician at Lymington New Forest Hospital and a Senior Clinical Researcher at University of Oxford. I'm also Editor-in-Chief of the International Journal of COPD. I'm delighted today to be your moderating host for this season of Medical Insider COPD podcast. I'm here to bring news and insights in COPD, right from the source directly to you. So, thank you for joining us today. Be sure to follow Medical Insider COPD podcast to ensure you don't miss any of our exciting podcasts in this series.

Richard ([01:03](https://www.rev.com/transcript-editor/Edit?token=IQRy9xKnLaMpWmMdlkEBZiqphLXib7kebobGX2RlI_n64qTGUn2-WlZWEZucPQUEQqOghg8lJ2NhcIdoor4W8kNxgT4&loadFrom=DocumentDeeplink&ts=63.06)):

Today, we're going to be talking about early COPD, how we diagnose it, how we can look for it and also how we can treat it. And I'm joined by an expert in this, Professor MeiLan Han from the University of Michigan, Ann Arbor. MeiLan is an old friend and colleague of mine. We've shared a few platforms in the past. She trained at the University of Washington, then moved to Michigan. MeiLan, say hello to the audience.

MeiLan ([01:27](https://www.rev.com/transcript-editor/Edit?token=ewuiC8n8p1r7tzI6-2hoPke0-OzsEkEcE69pX6p36Bl5YcKxyidWL6wr1kRNBAIhqbE51Ov9CPH5rKJyA9rNwtZxgU0&loadFrom=DocumentDeeplink&ts=89.66)):

Hi, thank you so much, Richard. It's a pleasure to be here.

Richard ([01:](https://www.rev.com/transcript-editor/Edit?token=RQt9_ydL0V6ebUmndpCIN3ZRP5CWWgA7RKdfLsVC0uVmxjc2GsHRBjXhxUy6gI0x6VC34EDFxDiWfFljDo8uA90CBeg&loadFrom=DocumentDeeplink&ts=92.47)28):

And tell me, how did you get into this idea of early COPD? Where did that interest come from?

MeiLan ([01:35](https://www.rev.com/transcript-editor/Edit?token=o84JJYiMX2QC8s2ceudzZutmLNiFl8WBF6adGUYi2PYDEhKMqcm0UySZoEiJJ7ditLVadHpKrbjKEj0RSpr4-xMyjw4&loadFrom=DocumentDeeplink&ts=99.74)):

Well I think there's been so much in the literature lately suggesting that, particularly the paper from Peter Lange a few years ago in the New England Journal, suggesting COPD starts much earlier in life. And so, there's been huge interest in trying to better understand disease pathogenesis. And I think there was really a moment of realisation that if we want to understand how the disease develops, that studying a GOLD-0 80-year-old is probably the last place to start. And I've been seeing evidence of age interactions for some of the measures, the CT measures that I've been studying, and realising they're more likely to be pathogenic in early or younger individuals. I think this is just sort of where the field is moving and where everyone's heads are at right now. And the realisation that if this is sort of a nut we want to crack and we really want to understand how the disease develops and be able to intervene at the earliest moment, then we need to be studying much younger individuals than we have been.

Richard ([02:40](https://www.rev.com/transcript-editor/Edit?token=xzDvNXcfSZPqxrLdZHgTMHu9nm4jSOuZ9pbY8_aIUDCyiaezGS-In34OZFOW4330ZzUvpHDjUEpDiIYN9scAXinsFqQ&loadFrom=DocumentDeeplink&ts=166.17)):

I completely agree. And actually, I think the focus is definitely changing. Before of course, we've been focused on hospital admission and the worst end of the disease and trying to alleviate symptoms at the end. But I remember very clearly an American Thoracic Society meeting, which you were speaking at and that Gary Anderson from Australia beautifully outlined the scientific basis behind early COPD. And the fact that actually the COPD we see clinically is scientifically or from an inflammation point of view, really burnt out. We really need to get into this as early as possible.

MeiLan ([03:10](https://www.rev.com/transcript-editor/Edit?token=uD7_DLeH_dKWkFEwbawgg9KO93tqIstNKF2M7h3QUogEGPRRwUPpljd7Q36h_H-MlOPL9zDkxbm8PmWAm0HufP_PMbQ&loadFrom=DocumentDeeplink&ts=197.93)):

Well, I think some of the additional exciting data and other reasons to look at this has also come out in the last few years. If you look at, for instance, some of the subgroup analyses from UPLIFT, in addition to a Chinese study a few years ago, looking at GOLD 1 and 2 patients, that if we look at, at least milder stage patients, that we may actually be able to alter lung function decline, even with bronchodilators. This thought process that we've got to intervene earlier, I think has really been a bubbling up, but the addition of not only milder, but also if we add the younger piece, I think really does open some doors potentially for disease progression. I think we've been frustrated perhaps by some of the larger studies that have been designed and the main analyses suggesting perhaps that we can't alter disease progression.

MeiLan ([04:05](https://www.rev.com/transcript-editor/Edit?token=1CRcEYsMOcvoHHOuN_oqZ0qKDvZActSOZsqD_TVKy5xArj-1Oz4YmJRsXO64h2dR0vPOoG4XyoL6U6lw_8YKl4-xSUE&loadFrom=DocumentDeeplink&ts=252.86)):

I think one of the flaws there is that we've looked at patients that are too late, too burned out and perhaps too old. But one of the challenges is that these are the patients that we're able to enrol in clinical trials because they're the ones that are in our office and they're easy to find, they have a diagnosis. I think the challenge for us as clinicians and researchers is, we've got to start finding these patients earlier if we want to be able to show that we can alter disease progression.

Richard ([04:35](https://www.rev.com/transcript-editor/Edit?token=vOdQtlWSSQFCcU8pQSidCeNhW6Z7qAbg7TdDec_R5szu50xHf2BftHrjZi08f4832wtMJ8j4ePUyg7mMZw0h_Tnn1f8&loadFrom=DocumentDeeplink&ts=282.57)):

And I'm right in thinking these people have got significant symptoms and so we're probably also missing opportunities to maybe treat with bronchodilators that actually will improve the symptoms, improve their activity, improve quality of life.

MeiLan ([04:45](https://www.rev.com/transcript-editor/Edit?token=Ur2ENbQrmLQd3FT8lYvL7rqjhH3LdILZ35qtruAwCBLEFswTcPEd1KIwssKdRkgE6sEZ7oFSvfQKjlwxKT3gE74y1HQ&loadFrom=DocumentDeeplink&ts=293.71)):

Right, absolutely. I think many of these patients have a cough, sputum production, exercise limitation, if we actually ask the right questions. I think it is probably a myth that many of these patients actually do not have symptoms. And in fact, in the United States, where we do very little spirometry at all, we've got tons of patients who don't even have airflow obstruction who are actually being treated with bronchodilators. And we don't know, they may actually help these patients. In fact, I'm running a study right now through the National Institutes of Health, looking at dual bronchodilators, specifically in this symptomatic sort of GOLD-0 patient population to see if we can even help these individuals as well.

Richard ([05:28](https://www.rev.com/transcript-editor/Edit?token=Z099Ltf6hpPS2uw3KVnhe3ivtsPH7_2xjQQM394XCU_GxeN1s83JZiXjQFVfs8c4oVnfo0xf7ybwAI0ewdmqN9P9Iy0&loadFrom=DocumentDeeplink&ts=346.27)):

I remember the excitement in the room when it was announced that the National Institute of Health was going to fund long-term cohort studies of COPD from pre-diagnosis, right the way through with multi-modality physiology, inflammatory and also imaging, which you've now been involved in. Maybe you can tell us a little bit about that cohort work you've done over the last 10 years or more.

MeiLan ([05:51](https://www.rev.com/transcript-editor/Edit?token=u_xQJWHeeI0fiY8BQz6V5bwhR0QdfEU5S5bO3VSCGE3k0wapdpiwcHEXV29cmfhqpqyGy8H2chjimqPBbvbXbvJaN0Y&loadFrom=DocumentDeeplink&ts=368.84)):

Right. We've been really fortunate to have two cohorts funding, one COPDGene and the other SPIROMICS, one which was designed as the name implies, to look at genetic risk factors. And the other was designed to look more at some of the omics and deeper biologic phenotypes, including blood and we've done sputum and bronchoscopies even. And so, there's so much we're learning about, for instance, CT features such as airway abnormality that are associated with lung function decline and even symptoms and exacerbations actually. We're also learning, I think the incredible importance of symptoms, chronic bronchitis in the SPIROMICS patient population. We've identified that that's associated with increased mucin concentrations in sputum and those are associated with more frequent exacerbations. And this goes all the way up to GOLD-0 that we're seeing these pathologic abnormalities in these patients. I think this is the kind of information that ultimately could open up new treatment avenues for these patients as well.

Richard ([06:57](https://www.rev.com/transcript-editor/Edit?token=eCfkJpq2wBinwum1NzIomyGB5Se2LwpRuL9MYB-DwbUYEKtxenbyl1mgfBBC__repR99qLE77rHVorloaDmgZtBoXO8&loadFrom=DocumentDeeplink&ts=435.39)):

So, the work, some of it's been very much focused on imaging and using imaging as a primary modality to look at these people. What have we learned from imaging and how can we take that forward? Because we're doing now lung cancer screening and maybe we should be picking up COPD there as well. And what can we take away?

MeiLan ([07:12](https://www.rev.com/transcript-editor/Edit?token=vXalyfAykYjyJ5GTInPs0WQj5TtX16-IOyIYjN4mr8N7zxsvC6icM3S6_h1fkWmIaZTPuAjs80a2RFFbIxKpGaqoFak&loadFrom=DocumentDeeplink&ts=450.78)):

Well I think we've seen that even small amounts of emphysema increased your risk for mortality and likelihood for disease progression. So, if we do see these types of things, abnormalities on lung cancer screening scans, this should be a flag for clinicians if you've not worked this patient up for COPD, now is your opportunity to do so. And I think that's opened up a really nice window of opportunity for us to sort of look under the hood perhaps when we wouldn't have otherwise, to learn more and identify patients earlier.

Richard ([07:43](https://www.rev.com/transcript-editor/Edit?token=kri_MjHBNnYu03LNfuPQ9gq9g2ZhzRDaq-PsTqTuzROcYGzFsLVPDBR78BdqpO_rvyTQoKLhy8RhGRf8VRmU8Aa3Vg4&loadFrom=DocumentDeeplink&ts=481.89)):

And we also don't want miss opportunities to look for people who may benefit from endobronchial interventions. What do you think about that?

MeiLan ([07:52](https://www.rev.com/transcript-editor/Edit?token=c3MNHY_Rv8dTxXuhewe8nP42KrgDI-5yzQMc5I2BbyXizXK4YNJu7t7VU3ExmBQjuQ0mp9z2C_Y8NNTRkeuhSmV6l70&loadFrom=DocumentDeeplink&ts=492.31)):

I think with the advent of screening for lung cancer, as well as the introduction of valve therapy for emphysema, for me, it really kind of broadens the patient population that we would have perhaps not otherwise used imaging on. For the valves in particular, those for me are my GOLD 3 and 4 patients. And so, I'm now using imaging I think, in a lot more patients than I otherwise have. And I think there's all sorts of interesting things that we're finding. Not only is there emphysema that we can treat with targeted therapies, but we're also seeing things like bronchiectasis or atypical mycobacterial infections that might also indicate differences in treatment approaches.

Richard ([08:34](https://www.rev.com/transcript-editor/Edit?token=2CBL8xxck02ncwd3elWLfywvyqDtTK8BXheq73P5Bf--Qd6dxA7aG1F_GurU8dODR-B3q6uUXG3cO0YJz9B9ciFSqlI&loadFrom=DocumentDeeplink&ts=537.68)):

And what's been so great about these studies is that they've been effectively driven by the data and you've not gone in with pre-existing ideas and actually have findings of them saying, "Well actually, how can we develop this into maybe useful phenotypes?" Also, when these studies were designed, we were a long way back without understanding how digital and computerisation and machine learning may influence our learning as humans as well. Where is that going? Where do you think that may change?

MeiLan ([09:01](https://www.rev.com/transcript-editor/Edit?token=A3x347u0KdKXOGhVdlAwCK6YY9AmRcN4wxwoZ0ML5vUpIfgMzAdoT8lIokFO01jGYqqGTkfFsGPEz3LyJ4LoUY_9pAs&loadFrom=DocumentDeeplink&ts=562.95)):

Well, I think ultimately some of this may end up being embedded in the software for the electronic medical record for the hospital. We've been applying this just to images as opposed to some of the more quantitative algorithms to quantify emphysema or small airway disease, for instance. We may just use a machine learning approach to globally grab information from images and help use that for clinicians. But there's certainly other data in the medical record. One project that I've actually been working on at the University of Michigan and it's much more simple, but does leverage the electronic medical record, is just to get CAT scores on all of our patients with COPD so that I can better quantify symptoms and understand really who needs to be treated.

MeiLan ([09:47](https://www.rev.com/transcript-editor/Edit?token=iXC4NFRP-6i4FzNROf4PVhtVi5tuhvdPe7Y8XJnP2wRWNNeQogY29HwTgpVSM90FbpUrqioIEkghUN8_Vcv_KrFSQww&loadFrom=DocumentDeeplink&ts=608.99)):

I think that's one of the frustrating things for me, from a quality perspective for COPD treatment, we don't document symptoms or exacerbations in a way in the electronic medical record that you can actually then look at and say, "Well, this patient's being adequately treated or not." And I don't think that we as clinicians do a good job of systematically assessing symptoms. Even something as simple as getting those questionnaires pushed out to patients so that it's ready for me when I start the visit, as opposed to making me hunt for it or to do it, I think can be incredibly helpful for making sure patients with symptoms are getting appropriate treatment.

Richard ([10:28](https://www.rev.com/transcript-editor/Edit?token=oq1NkPVuncJyF0VtLt-osCzwRJDGVTud5euc6AGzzUv9SUbA--ftY-iyweUXcMQ8UtisXQySSS-aEVNKhTlMin5Bekk&loadFrom=DocumentDeeplink&ts=648.93)):

I think you've nailed that. You've nailed the fact that we need to have symptoms and then also we add in imaging. Let's talk for a moment about physiology and I'm going to be tough on you here. Difficult question, do you think spirometry FEV1 is fit for purpose for what we use it for and how we use it now?

MeiLan ([10:44](https://www.rev.com/transcript-editor/Edit?token=xMNZZleovNBRyoo568gl6DF3OYQ9vwhxuecsZqzA_mi08ks-7R228LnwIblkKRTtRXA5B3TWtuXo5kBqI5jHPnA2mkM&loadFrom=DocumentDeeplink&ts=666.47)):

I think it does a very good job of identifying patients that truly have disease. I think that it probably misses some patients with milder disease using the thresholds that typically have been put in place. And so, I think the question is, how would we expand that? Do we use different thresholds? Do we look at other things? Do we look at forced oscillometry? Do we just go based on symptoms? There's a lot of other things that we could do. And I don't think that we know for a 100% sure what the best approach is. One of the nice things about spirometry is that it's low cost and widely available in general.

MeiLan ([11:25](https://www.rev.com/transcript-editor/Edit?token=LV9FAdGQibgDa5ZDlK3nhYbq4B62RKCH8uZOLpLmQIYGq1gN2Yaf6-QhsazDODPbEL8bofeGMnyPFp2O3GB1MKClz3A&loadFrom=DocumentDeeplink&ts=707.62)):

But on the other hand, it's just not used as much as I think we would like it to be used and part of that might be our fault. We do hold it to a very high standard in terms of reproducibly when you compare it to say something like blood pressure measurement, which to be honest in the office, we just use that as a screening. So, maybe we would be better off and I'm just throwing this out here, but maybe we need to have a lower threshold and have some lower in-office screening and then move people onto something done in the lab because we do have a problem, it's not getting used enough.

Richard ([11:57](https://www.rev.com/transcript-editor/Edit?token=sx-lEAIYUQU5qBZD69d5y8UvpmXQT0RgSZ7elnEIuwS8OwZTeDscEDNwK_LaCpFzpMZV3-1tTDjWCARQOvHQynJDRK8&loadFrom=DocumentDeeplink&ts=749.6)):

And that's really important because GOLD has put it in stages and GOLD-0 was taken out of GOLD once. And that's difficult because GOLD-0 does not mean you've not got COPD, does it?

MeiLan ([12:09](https://www.rev.com/transcript-editor/Edit?token=uettPKcOZ8Fb8xyXAndplFsmcdVFD-TnN0znc4TWpGKenp8GHynFC7pWWEBNIlbxUd71kaCU2UvBaNLol_lO4CLz95k&loadFrom=DocumentDeeplink&ts=762.17)):

Correct. The reason GOLD-0 ultimately was introduced and then removed is they realised just having symptoms is not going to identify perhaps even the majority of patients that go on to develop COPD, so we need other things. And that's why we recently came out with a perspective in the Blue Journal, a couple of members of the GOLD committee, we call it from GOLD-0 to Pre-COPD. And here we sort of expand the concept of GOLD-0 to also include physiologic and CT abnormalities to try to better capture this bucket of patients that are at risk.

Richard ([12:44](https://www.rev.com/transcript-editor/Edit?token=qxh4zQXMF3ehT2yXStZSspyvnI0aUlX01-JbuEmgONlJx0VfH6dIOGIZfH2JqMg4xIGJuuMnmwFsaE71P1_DjucBKFM&loadFrom=DocumentDeeplink&ts=795.84)):

And I think another thing which is clear is the more we investigate this, more we understand that COPD as a disease is very heterogeneous and individual patients have different risk factors, genetics. What have we learned from the cohort studies about that?

MeiLan ([12:57](https://www.rev.com/transcript-editor/Edit?token=xhRJ8aP0oaB_Ib-YrPtjU-KTe3cHxmdlyZLUKPqo-6hmiIMWsFLmfKkrUHuxoBwwZfA2ao6Nqn9vd4Hzk6IknMS9b5c&loadFrom=DocumentDeeplink&ts=808.64)):

Hmm, you're absolutely right. Perhaps one of the most interesting things that I think we've learned comes out of COPDGene, where they've looked at this subgroup of patients that they call PRISm. And these are patients with normal FEV1 to FVC ratio, but the FEV1 and the FVC may actually just be reduced. Kind of a restrictive pattern. And what's shocking is that many of these patients are some of the fastest to progress and they don't go back to GOLD-0 or GOLD-1, 2. They drop immediately into GOLD-3 and 4. And so we're really learning that there probably are different pathways for disease progression among different individuals and that's something that I'm really interested in exploring in some of these early COPD cohorts that we're developing.

Richard ([13:45](https://www.rev.com/transcript-editor/Edit?token=J0hl8LZfwSHcSs-1xdSwBRqgIP5BAeDCE8xtOjJiw6rlKGsNbH4G8gQdarwWUMISQCYSSYq04cg8HgDecopL-ZpZpLM&loadFrom=DocumentDeeplink&ts=861.08)):

Yeah. And we need big studies to do that. Let's talk also about something else that is clearly dear to your heart, which is going to be the effect of gender. And we know that our female patients sometimes present in different ways. Maybe we don't diagnose them well enough. Maybe we don't treat them well enough. What have you shown about that?

MeiLan ([14:02](https://www.rev.com/transcript-editor/Edit?token=zRFg5b8h2s_Yem9QTp3M3SXDcVePv3sY2sWipvC5kk2XvU7ZO_ioiFIXtI0dtFZNcKNPBEEY_MXOgsVrLGWz2YgKnys&loadFrom=DocumentDeeplink&ts=878.09)):

Well, I think one of the concerning things is that there is a kind of a bi-modal distribution for age distribution of women. And there definitely is a younger group and that differs a little bit from men and women may actually be more susceptible to the effects of tobacco smoke. When you look at the bucket of people who never smoked and have COPD, we also have more women in that bucket. So, it means that clinicians need to remember COPD is not just a disease of old men. There are some data to suggest women are less likely to be appropriately diagnosed so we've got to probe about symptoms. We've got to talk to our patients, and we've got to, if there's any concern, get them in for testing to get these patients diagnosed and treated earlier.

Richard ([14:44](https://www.rev.com/transcript-editor/Edit?token=5DDTc08FbDJqIeOrEembXIvBn5r6Ph0s4VqMeSGY6uS_NAD2aKZsdlZOFzLUIIcS-1Gg1wPuzc1t4I-8og8q54M6O2M&loadFrom=DocumentDeeplink&ts=922.66)):

And we as humans sometimes adjust behaviour because of symptoms. We're very good at actually adapting. Maybe we should challenge that sometimes with our patients and maybe treat them earlier?

MeiLan ([14:52](https://www.rev.com/transcript-editor/Edit?token=s-rWei5ZwQPZchz0h5YA5x_zd7LoG-mpdF_iluhOWZNzkuYWQiVqAK4c4XnhckKi8SMJeVR6Pt_kFxnS_olWFILh7U4&loadFrom=DocumentDeeplink&ts=931.77)):

I think you're right. When we say asymptomatic, that doesn't mean the patient didn't happen to bring it up during a visit because there's a lot of other stuff that happens during a medical visit. That really means when they were probed appropriately. And symptom questionnaires really need to get at things like dyspnea on exertion. Do you alter your activities perhaps compared to what you were doing a few years ago? Cough, sputum production, are these patients having many exacerbations that were being blown off as colds and things like that? We can't really say a patient is asymptomatic unless we've probed appropriately.

Richard ([15:27](https://www.rev.com/transcript-editor/Edit?token=JsF5RCQJvwCDpaZgKaUjpaI8fyYt5eK0qyJvNJxZrUTDyFlEcS-0Iv5YMhh2EGeFwTogdYC6nnc0oo0CPpWVII4llL4&loadFrom=DocumentDeeplink&ts=974.33)):

Professor Han, thank you for joining me today. Perhaps we could finish by you briefly summarising what we've said, but also a couple of take-home takeaway messages for the audience.

MeiLan ([15:37](https://www.rev.com/transcript-editor/Edit?token=35r9zjNDtu-cwBrdww1n7-76ZybcGdsnE1TR89JAnD6AlzjTbH_CUjZ7-4YdXzpYHE0xWQ2NWos99c3JM4RbdfKgeVA&loadFrom=DocumentDeeplink&ts=983.96)):

I think that we're realizing that COPD starts much earlier in life than we realised and perhaps it manifests initially either through physiologic or CT or symptom abnormalities. And so, I think the onus on us as clinicians is to use all of the information available as to help identify patients earlier. Do they have symptoms? Would they qualify for treatment now? And my hope is that once we can actually start getting these patients into the office and identifying them, then we can ultimately get them into clinical trials and develop even better treatments for these patients moving forward.

Richard ([16:15](https://www.rev.com/transcript-editor/Edit?token=hu_f92ibKR8Jsyt8PXzK3huYwsq3aMkHU5ySgyk_y6ccJJF4SdcZSgfk0XxiwjgB44GQvT1hXgRuZnVOW_CcTcOVI5k&loadFrom=DocumentDeeplink&ts=1021.76)):

And I'm going to finish by throwing back a quote that you gave me offline, which I thought was really good, that it's never been a better time to talk about people's lungs than now, right?

MeiLan ([16:23](https://www.rev.com/transcript-editor/Edit?token=Tw9sa2xpOMabUgsi1W6ckJoeWDukRy67YNZN5mT9N7m4UibOG2HYyIzy9qqNqa31tZpI33Cp2XDER-QMPySZeVrvNZI&loadFrom=DocumentDeeplink&ts=1030.53)):

Yes, absolutely. You're right with everything that's happened in this last year with COVID, I feel like the eyes are on us perhaps once in a lifetime, once ever perhaps, and people are thinking about lung health now more than they ever had. We have so many patients who have COVID and never had had premorbid pulmonary function testing. We really have no idea what these patients have lost. And so, I think now is the time to help raise public awareness about the importance of lung health and talking to their doctors about whether they have had symptoms. We've really got to get the message out there that lung disease is more prevalent than people thought.

Richard ([17:](https://www.rev.com/transcript-editor/Edit?token=-5sXqI8M6iwsUb7TpAbL8ONog8pDSgb1ppKvDTkMHy6VRLYtQxGK2kHbE2bL-sA4sYcskjoRCV8EK8gSPbI2RoM8E90&loadFrom=DocumentDeeplink&ts=1072.22)06):

Brilliant. So, in a moment I'm going to talk about beta-blocker use and acute exacerbations of COPD following myocardial infarction, a paper from a Danish nationwide cohort study published in Thorax in November. But before I do that, let me thank Professor MeiLan Han. MeiLan, thank you so much for joining me today.

MeiLan ([17:22](https://www.rev.com/transcript-editor/Edit?token=SIzMiB9xec8EmukWWnZefUSPTrP0STid9wI-r6YD38UpTFI5QSxIOY9SCFv6BQ8i8MmIjU6xuH1LLLRtMuNQmy8HBDM&loadFrom=DocumentDeeplink&ts=1090.48)):

Thank you so much, Richard. It was a lot of fun.

Richard ([17:](https://www.rev.com/transcript-editor/Edit?token=4H9gLQQmCrgkbwxUPxd_QI2ZILLaxmoAtSuxKqKTrMbrQZ1SPt1QxMq6smLdo3T_dBJlwN19ec8toWu8Yf5c3KjmxHM&loadFrom=DocumentDeeplink&ts=1094.15)29):

In a moment, I'm going to look at what's hot in COPD social media, but before I do, let's unpack an important new paper. This is entitled, ‘Beta-Blocker Use and Acute Exacerbations of COPD following Myocardial Infarction, a Danish Nationwide Cohort Study’ published in Thorax, November 2020, volume 75, page 928 to 933, by Daniel Rasmussen and colleagues. The background here is that we know COPD and cardiovascular disease co-exist. Data suggests that beta-blockers are underused post-myocardial infarction and therefore patients are missing out on benefits. Why is this? Are there safety concerns?

Richard ([18:06](https://www.rev.com/transcript-editor/Edit?token=D9m2UoGlkuRkQ2E-7bhLzRyPp2Xr8YoXW3bEduubfyP_wX-578R0XMo23tQuhaWNrvCz71-xJo8lJ0EnOQHYBeH3BGk&loadFrom=DocumentDeeplink&ts=1136.97)):

Well possibly. In this full national database study, they looked at the question, does beta-blocker use post myocardial infarction lead to an increased risk of exacerbations of COPD? They took everybody in Denmark who had a myocardial infarction in one year, that's over 96,000 patients, and followed them for between one and 13 years. They looked at those with coexistent COPD, that was over 10,880 patients and they looked at the beta-blocker use. So, what did they show? They showed that the hazard ratio for risk of exacerbation of COPD was significantly reduced if you are using a beta-blocker. To 0.81 for moderate exacerbations and 0.76 for severe exacerbations, both highly statistically significant. This was also there if you looked at people who had frequent exacerbations, with a hazard ratio of 0.78. We also know that from other studies, particularly looking at tiotropium and olodaterol, that actually beta-blockers do not affect the efficacy of these medications, of bronchodilators.

Richard ([19:0](https://www.rev.com/transcript-editor/Edit?token=qS49k9kHiZNb-3OlRpQcIXob_INwlXtUzvF4j3oMrOPlLXf3rekAK-TU-snlxJ-iIjk_tfN6HSM6I2i1WTCCJ3G_5dM&loadFrom=DocumentDeeplink&ts=1200.14)9):

So, should we be using beta-blockers in COPD post-MI? Yes, we should. There are still concerns from this study that actually people are not doing that, with only 60% of patients continuing to use beta-blockers at one year, but there is no doubt a strong recommendation should be there that if someone has a clear indication for beta-blockers, post-myocardial infarction with ischemic heart disease, then they should receive them in spite of having COPD.

Richard ([19:40](https://www.rev.com/transcript-editor/Edit?token=ijU0LGLCti9VCg59WKQ2u1N49BgQ_jOSvHnlOZDTrchiIbG3JuxOY-AzkfKfbTh3iDV6yNikmk0lfmqyyoM6L8qzhkg&loadFrom=DocumentDeeplink&ts=1230.79)):

What's hot and important in the world of social media and COPD at the moment? Well actually, people are talking about how difficult it is to still recognise COPD, that there's an invisible epidemic out there. This is what it has been called by the COPD Foundation in America, and indeed a recent TED Talk given by Jean Wright, one of their foundation members, actually addressed this. She said, "Where are the billboards? Where are the famous faces with COPD?" This follows lots of other social media chat at the moment about COPD and about finding this severe disease. The famous COPD athlete, Russ Winwood is always saying, "We need to find this invisible epidemic and stop people suffering." Do you know famous people with COPD? Social media does cover a few of them, famous faces in the past, such as Dean Martin, Johnny Carson, and indeed Leonard Nimoy, Mr. Spock.

Richard ([20:33](https://www.rev.com/transcript-editor/Edit?token=VpFoKIb8W8L2VmTxREO2lNgIJr2fKfWh2vmimuljkXo33FvAVLAf44jU1CRun5Vm0VzG1eiJyygbLDu9W4kIIsbi8ZE&loadFrom=DocumentDeeplink&ts=1281.55)):

The 26th of March, 2021 has been determined Leonard Nimoy Day in Boston and his family are picking up on this to try and find people with COPD. We need to recognise COPD, especially in men, but also in women and that European Lung Foundation has actually run a competition to look at artwork and how that impacts people with COPD, particularly with a female focus. So, social media has an urgent call to find COPD, ask about symptoms and particularly focus on women, which is a message we need to give to our patients and to all healthcare practitioners.

Richard ([21:](https://www.rev.com/transcript-editor/Edit?token=6wLal638Qf3G6QswiwIHFLvCNOPja3OZK2JY1p_sbKUVK-65Kc08BU1vbpRU7KdLFizzJrx1aqy_QEk89xxeTpB3UWc&loadFrom=DocumentDeeplink&ts=1317.84)06):

So, thank you for joining me today on a Medical Insider COPD podcast. We've been joined by Professor MeiLan Han from University of Michigan, looking at early COPD and long-term cohort studies. We've unpacked a new paper looking at coronary artery disease and COPD crossover, are beta-blockers useful? And the answer is yes. And we've also looked at actually patients want to have COPD diagnosis early as possible and to deal with the invisible epidemic. I hope you can join us again next time for the Medical Insider COPD podcast. And wherever you are, treat your patients well and remember, it's never been a better time to talk about COPD than now.