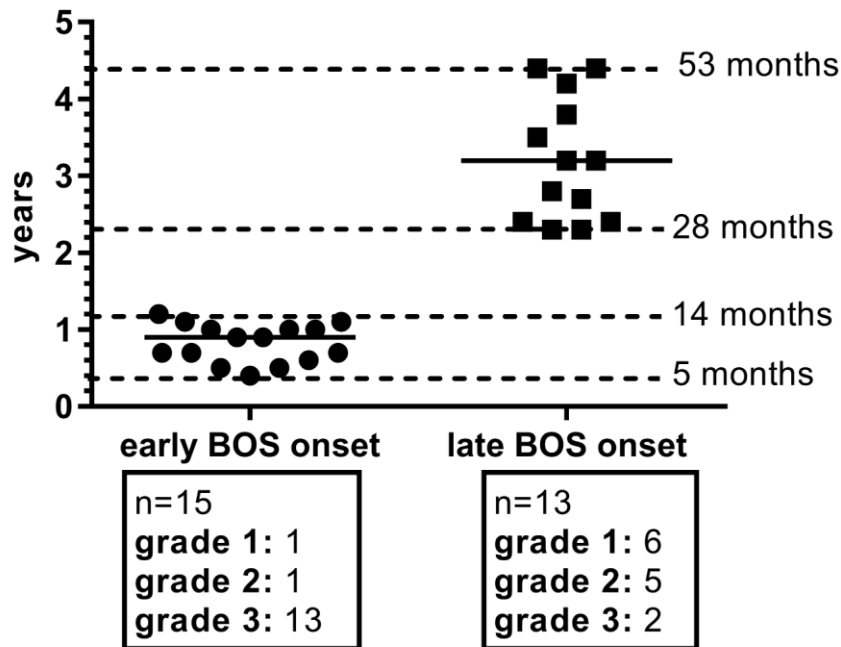
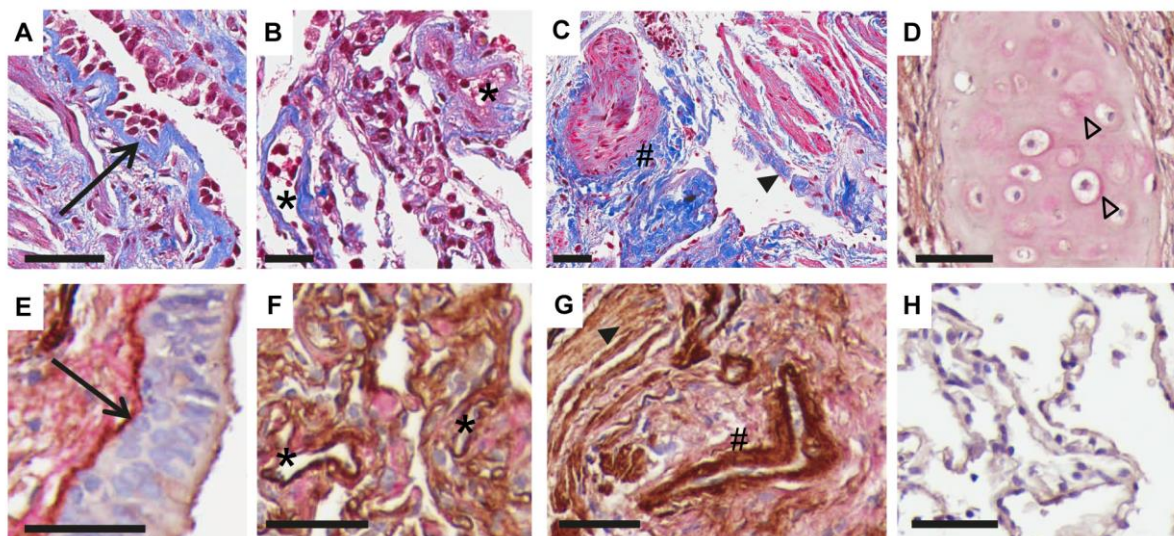


Supplementary figure S1: Distribution of BOS onset and max. BOS grades in the study population



Patients developed BOS early (≤ 1.2 years) or late (≥ 2.3 years). More early-onset patients developed BOS grade 3 compared to late-onset patients, within the 5-years follow-up.

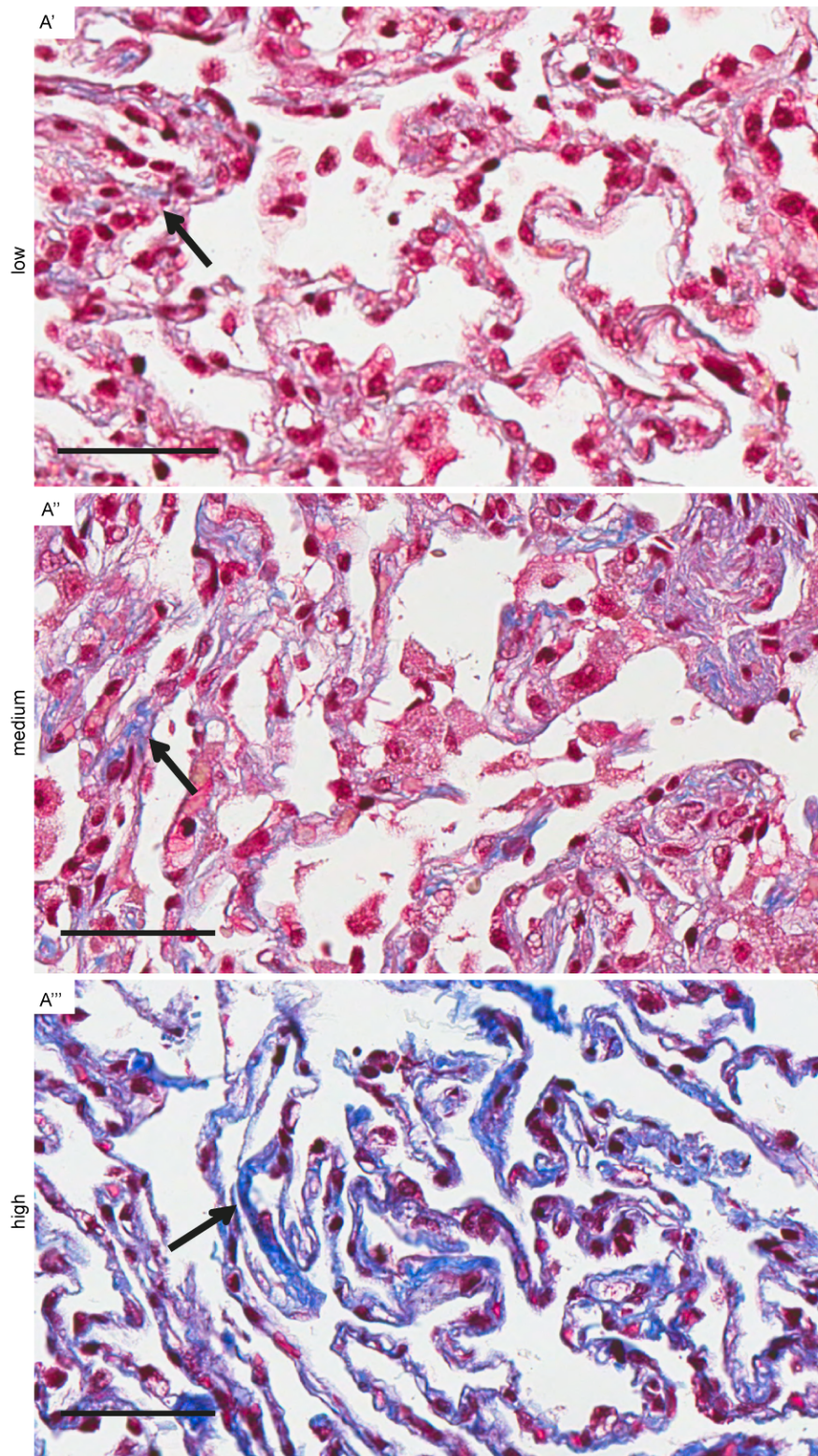
Supplementary figure S2: General distribution of total collagen and col IV/biglycan



Staining of total collagen in subepithelial structures of airways, especially in the (A) BM (→), in the adventitia of (B) small (*) and (C) large vessels (#) and in (C) streaks of interstitial ECM (▶) (D) Pericellular biglycan staining in cartilage confirming known localization and antibody specificity (Δ). Staining of Col IV in the BM of (E) airways (→), (F) alveoli and small vessels (*), (G) muscles (▶) and smooth muscle layers of larger vessels (#). The same pictures visualize biglycan staining (E) close or below the airway BM (→), (F) in the adventitia of small (*) and (G) larger vessels (#), and (F) patchy in alveolar septa. (H) Total absence of immunoreactivity when omitting the primary antibodies.

Scale bar=50μm, Masson's Trichrome total collagen=blue, IHC col IV= brown, IHC biglycan=red.

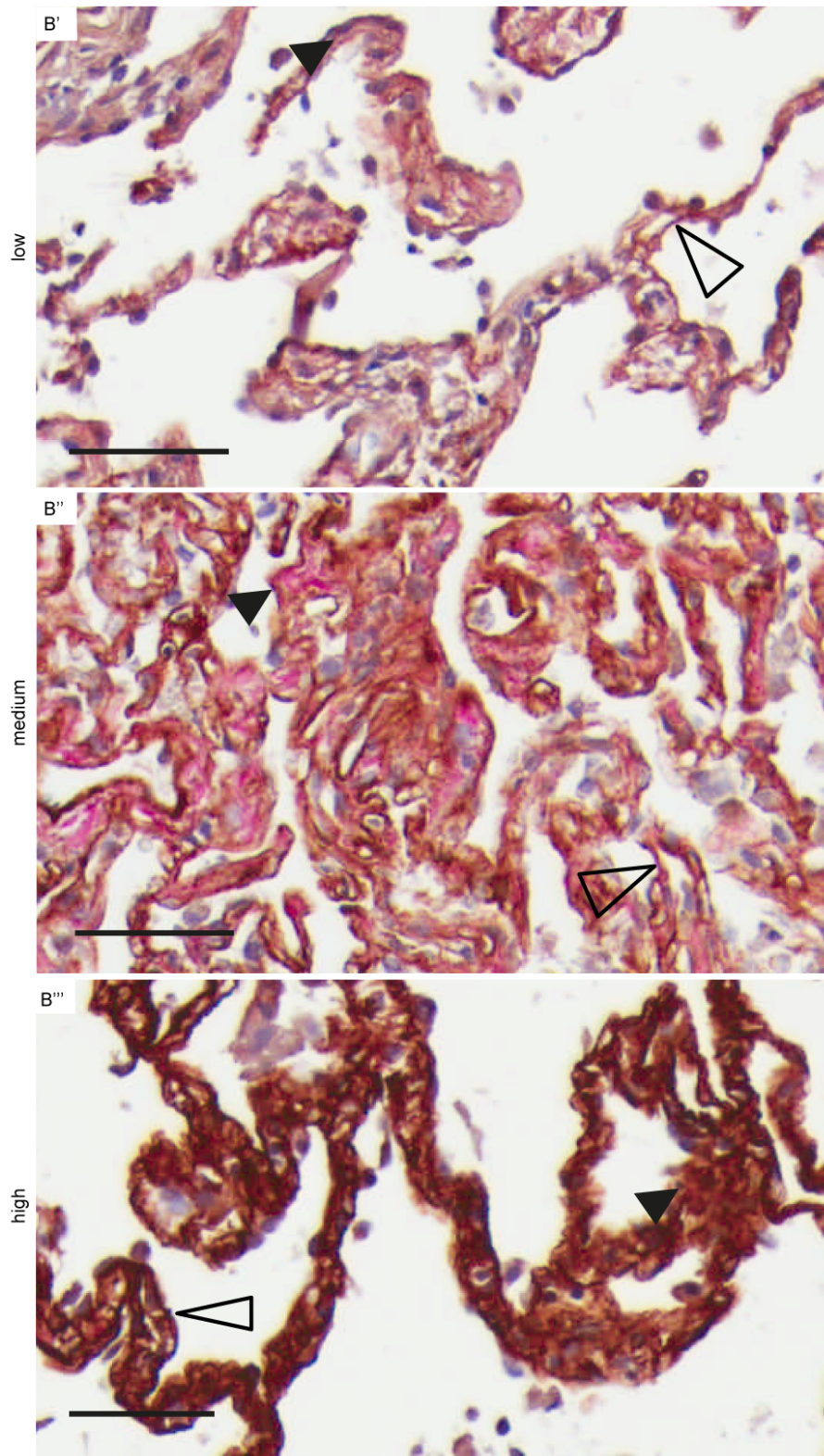
Supplementary figure S3A: Representative pictures of Masson's Trichrome staining (alveoli)



Exemplary pictures depict staining for total collagen (→) in the alveolar septa in (A') patchy, small isolated areas, (A'') patchy, larger streaks and (A''') continuous, intensely stained streaks.

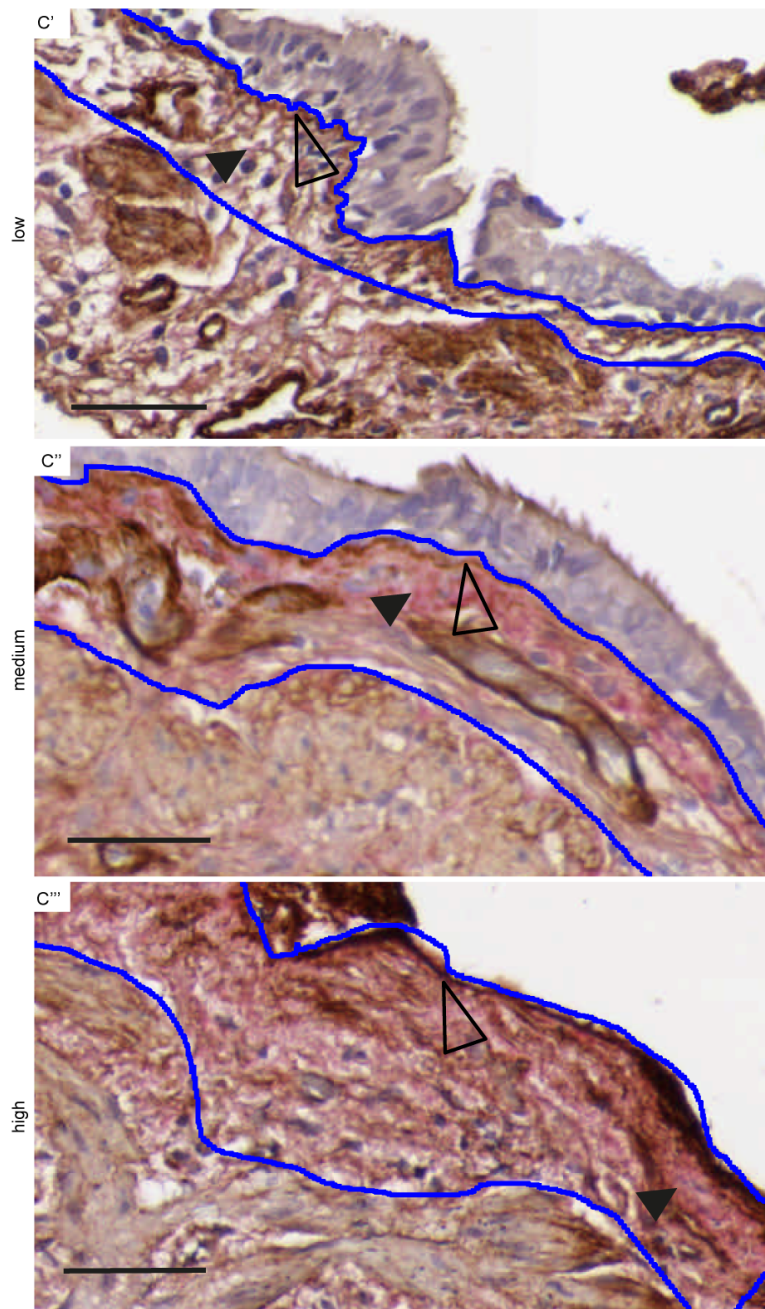
Scale bar=50μm, Masson's Trichrome total collagen=blue

Supplementary figure S3B: Representative pictures of col IV/biglyan IHC (alveoli)



IHC staining for collagen type IV (Δ) varied between (B') low intensity staining in a thin line in the alveolar BM, (B'') intense, distinct staining in the alveolar BM and (B''') very strong staining. In the same pictures one can identify biglycan staining (\blacktriangleright) with (B') low intensity staining in the alveolar parenchyma and (B'') patchy areas of intense staining.

Supplementary figure S3C: Representative pictures of col IV/biglycan IHC (small airways)



IHC staining for collagen type IV (Δ) varied between (B') low intensity staining in a thin line in the small airway BM and capillary BM, (B'') more intense staining and (B''') very strong staining. In the same pictures one can identify biglycan staining (\blacktriangleright) with (B') very low intensity staining in the small airway submucosa, (B'') more intense staining in parts of the submucosa and (B''') staining throughout the submucosa.