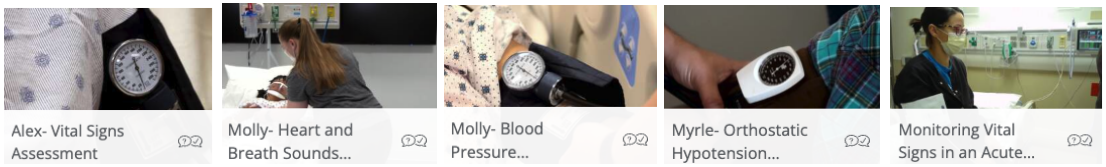
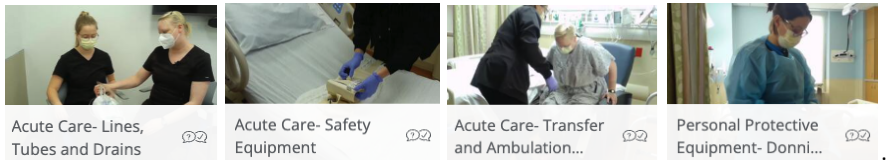
Hybrid Curriculum for Cardiovascular and Pulmonary Physical Therapy

Course Topic	Simucase® Simulations and Videos	Additional assignments that align with Simucase Content
Vital Signs, Auscultation, Breathing Pattern	**Simulation** Molly- Part Task Trainer Simulation, Heart and Lung Auscultation: Molly is a 63-year-old admitted to the hospital one week ago due to an exacerbation of congestive heart failure.  **Videos** 1) Molly- Heart and Breath Sounds Assessment 2) Alex- vital signs assessment 3) Molly- blood pressure assessment 4) Myrle- Orthostatic hypotension 5) Monitoring Vital Signs in an Acute Care Setting  	Write your findings from Molly's Part Task Trainer in SOAP format. Answer the following questions: 1) Were your findings consistent with Molly's diagnosis? Why or why not? 2) Determine one additional assessment for Molly's lung function that you would complete after auscultation. Watch the videos and answer the following: 1) List two things you would do differently. 2) Is each client safe to continue with physical therapy based on their vital signs? Why or why not? Explore open source videos of breath sounds and blood pressure.
Course Topic	**Simucase Videos**	**Additional assignments that align with Simucase Content**
Lines and Tubes	**Videos** 1) Acute Care- Lines, Tubes and Drains 2) Acute Care- Safety Equipment 3) Acute Care- Transfer and Ambulation Skills 4) Personal Protective Equipment- Donning and Doffing a Gown and Gloves  	Write a discussion board post to the following questions: 1) What are 3 pieces of information you learned from watching the videos? 2) Discuss what you should do if your patient's vital signs change to be unsafe during your evaluation. Lab activity: If tubes and lines are available, role-play transferring a classmate with an IV and catheter. Practice donning and doffing PPE with a peer.

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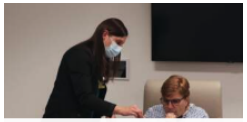
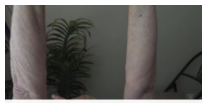
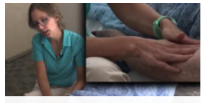
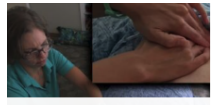
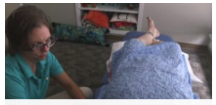
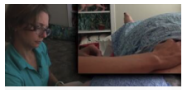
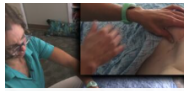
Airway Clearance Interventions	**Simulation** Dana Assessment: Dana is a 60-year-old admitted to the hospital one day ago for bacterial pneumonia.  **Video** 1) Dana- Incentive Spirometer  Dana- Incentive Spirometer	Complete Airway Clearance techniques within Dana's Assessment. Determine the following: 1) What interventions are indicated for Dana's diagnosis and why? 2) What are precautions for and contraindications to completing chest physical therapy? 3) What additional interventions would you complete? Write a discussion board post to the following questions: 1) What other airway clearance interventions would you use with Dana? Lab activity: Role-play teaching Dana how to use the incentive spirometer in addition to one additional piece of patient education for her diagnosis. Complete group work using short case vignettes.
Course Topic	**Simucase Simulation**	**Additional assignments that align with Simucase Content**
Positioning	**Simulation** Dana Assessment: Dana is a 60-year-old admitted to the hospital one day ago for bacterial pneumonia. 	Read Dana's Admission Report found in the Case History section. Submit a written assignment describing the positioning that would be indicated for her diagnosis. Participate in additional short case vignettes to practice.
Course Topic	**Simucase Simulations and Videos**	**Additional assignments that align with Simucase Content**
Heart Failure	**Simulation** Molly Assessment: Molly is a 63-year-old admitted to the hospital one week ago due to an exacerbation of congestive heart failure.  **Videos** 1) Molly-Pursed lip breathing and Energy conservation 2) Molly- Interprofessional Collaboration  Molly-Pursed lip breathing and...  Molly-Interprofessional...	Write your evaluation in SOAP format. Determine the following: • Discuss safety considerations for PT evaluation. • Observe the Basic ADL Assessment and discuss components of this occupational therapy assessment. • List normal blood panel value ranges. • Describe why monitoring lab values and vital signs is important in acute care rehabilitation. • Describe the effects of abnormal lab values and discuss precautions. • Consider red/yellow flags to be aware of. • Provide your discharge recommendations for Molly. What do you recommend for Molly and why? Complete written assignments and discussion board, hands-on demonstration, and participation in class.

Course Topic	Simucase Simulations and Videos	Additional assignments that align with Simucase Content
Restrictive Lung Disease: Pneumonia	**Simulation** Dana Assessment: Dana is a 60-year-old admitted to the hospital one day ago for bacterial pneumonia.  **Videos** 1) Dana- Breathing Exercise and Endurance Education 2) Dana- Gait Training on Level Surface and Stairs  Dana- Breathing Exercise and...  Dana- Gait Training on Level Surface a...	Write your evaluation in SOAP format. Determine the following: ● What questions would you ask Dana's nurse and occupational therapist? ● Describe why monitoring lab values and vital signs is important in acute care rehabilitation. ● Describe the effects of abnormal lab values and discuss precautions. ● Consider red/yellow flags to be aware of. ● Identify bodily systems affected by the patient's diagnosis of pneumonia. ○ Write your POC for Dana. Determine interventions to work on with her before hospital discharge. ● Provide your discharge recommendations for Dana. Do you recommend further PT services following her stay in the hospital? Why or why not?
Course Topic	**Simucase Simulations and Videos**	**Additional assignments that align with Simucase Content**
Lymphedema	**Simulation** Rebecca OT Assessment: Rebecca is a 69-year-old with a history of breast cancer who presents with chronic left upper quadrant lymphedema.  **Videos** 1) Mary- Edema Measurement 2) Mary- Manual Lymph Drainage and Education 3) Mary- Manual Lymph Upper Quadrant 4) Lisa- Manual Lymph Drainage Upper Quadrant 5) Lisa- Axillary Manual Drainage 6) Lisa- Manual Lymph Drainage and Scar Massage 7) Lisa- Lymphedema Treatment and Education  Mary- Edema Measurement  Mary- Manual Lymph Drainage...  Mary- Manual Lymph Drainage a...  Lisa- Manual Lymph Drainage Upper...  Lisa- Axillary Manual Drainage  Lisa- Manual Lymph Drainage and Scar...  Lisa- Lymphedema Treatment and...	Participate in a group peer discussion that addresses the following: ● Review basics of lymphedema etiology and how to assess it. ● What are best practices when treating a client with lymphedema? ● Discuss generalist versus specialist skills for treating lymphedema and when to refer to another professional. ● Discuss psychosocial factors in this case and with breast cancer in general. ● Review any precautions to take when working with Rebecca. ● What treatments other than lymphedema therapy are appropriate based on findings from Rebecca's assessment? ● Describe anticipated disease progression and what approach to take with the client's plan of care. ● How did Rebecca respond to initial treatment provided during this session? ● Describe billing for evaluation and treatment provided during the same visit.

Future Directions
Future directions encompass creating simulation and video content for hybrid curricula that include oxygen delivery; postsurgical (CABG); cardiac med: acute MI topics; exercise testing; exercise prescription; anatomy and physiology; and interpreting medical tests: ECGs, ABGs, PFTs. In addition to simulation and video content, these topics can be addressed in a hybrid curriculum through various open source online anatomy tools, written assignments and quizzes on cardiopulmonary anatomy, physiology (including cardiac conduction), short case vignettes to practice, and group discussion.