

UNIVERSITY OF DELAWARE PHYSICAL THERAPY

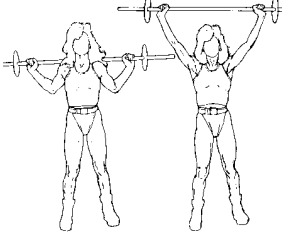
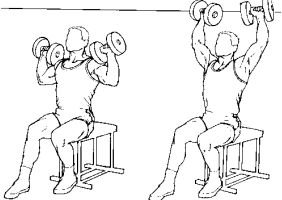
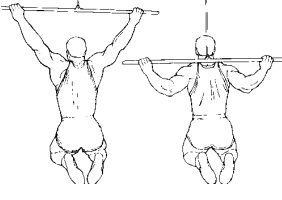
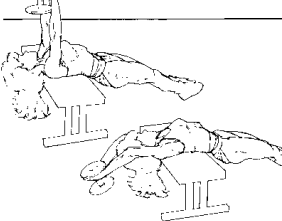
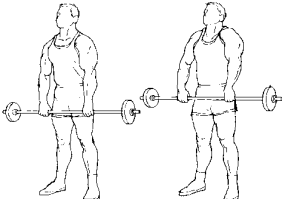
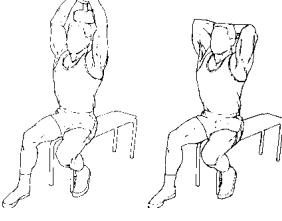
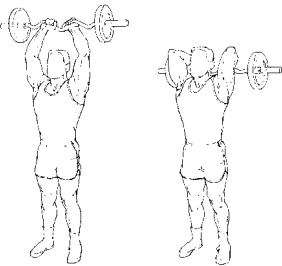
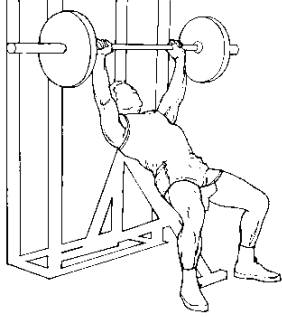
WEIGHT LIFTING PROGRESSION

SHOULDER SUBLUXATION/DISLOCATION/POST BANKART OR CAPSULAR SHIFT SURGERY (OPERATIVE)

A. CONTRAINDICATED EXERCISES (ILLUSTRATED BELOW)

- Overhead or military press, dumbbell press,
- Behind the neck lat pull down, pullovers, shrugs
- Seated overhead tricep extensions, French Curls, inclined bench press

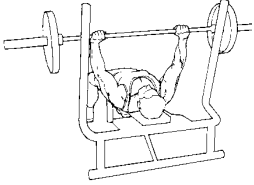
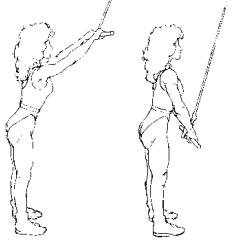
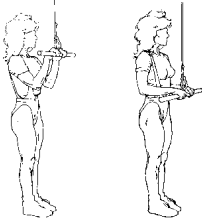
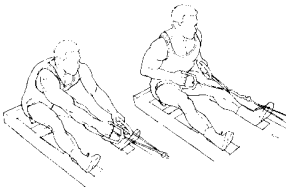
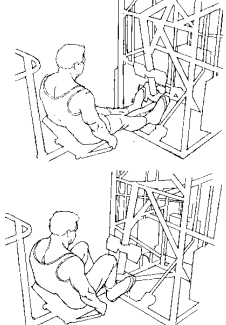
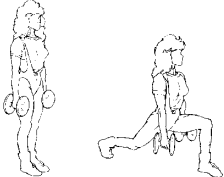
DO NOT DO:

 <p>Military Press</p>	 <p>Dumbbell Press</p>	 <p>Behind the neck Lat Pulldown</p>
 <p>Pullovers</p>	 <p>Shrugs</p>	 <p>Seated Overhead Tricep Ext</p>
 <p>French Curls</p>	 <p>Incline Bench Press</p>	

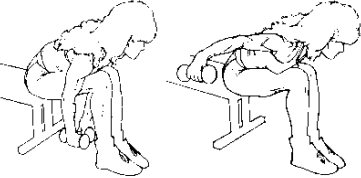
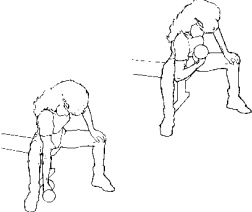
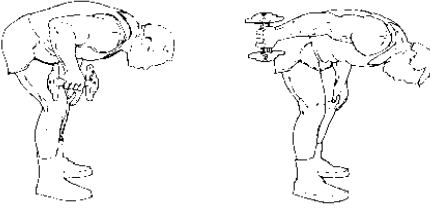

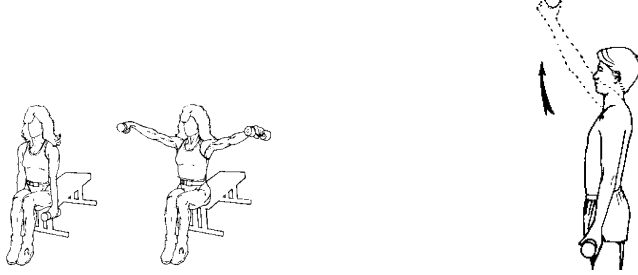
UNIVERSITY OF DELAWARE PHYSICAL THERAPY

B. SUBSTITUTION CORE EXERCISES (ILLUSTRATED BELOW)

- Scapular Protraction on Smith Machine or Universal
- Straight Arm Lat Pull down
- Tricep Extension Progression
- Wide Grip Rows

 <p style="text-align: center;">Scapular Protraction</p>	 <p style="text-align: center;">Straight Arm Lat Pull Down</p>	 <p style="text-align: center;">Tricep Ext</p>
 <p style="text-align: center;">Wide Grip Rows</p>	 <p style="text-align: center;">Leg Press</p>	 <p style="text-align: center;">Lunges</p>

Accessory Exercises

 <p style="text-align: center;">Rear Delt Raises</p>	 <p style="text-align: center;">Concentration Curls</p>	 <p style="text-align: center;">Dumbbell Tricep Ext</p>
 <p style="text-align: center;">Scapular Depression</p>	 <p style="text-align: center;">Deltoid Raises</p>	

UNIVERSITY OF DELAWARE PHYSICAL THERAPY

Calculating 1 Rep Maximums

1. Select a weight that can be completed with proper form 6 to 10 times for a given exercise
2. Perform the exercise with the selected weight and record the number of performed repetitions (the last repetition should be challenging but with good form)
3. On the 3% rule chart pictured below, find the number of repetitions performed in the max reps row. Scroll down inside the chart and find the weight closest to the weight you performed for the given exercise (the exact weight may not be available)
4. Your estimated 1 rep maximum for that given exercise is the load associated with the 100% 1RM column of that same row
5. Multiply the estimated 1 rep maximum by the percentage for the designated step to determine the prescribed weight for the given exercise

EXAMPLE: Bench Press- performed 6 repetitions at 120 lbs
 Approximated 1 rep max= 140 lbs
 65% 1 RM for Bench Press (140 x 0.65) = 91 lbs

Estimating 1RM and Training Loads

Max reps (RM)	1	2	3	4	5	6	7	8	9	10	12	15	Max reps (RM)	1	2	3	4	5	6	7	8	9	10	12	15
%1RM	100	95	93	90	87	85	83	80	77	75	67	65	%1RM	100	95	93	90	87	85	83	80	77	75	67	65
Load (lb or kg)	10	10	9	9	9	9	8	8	8	8	7	7	Load (lb or kg)	300	285	279	270	261	255	249	240	231	225	201	195
	20	19	19	18	17	17	17	16	15	15	13	13		310	295	288	279	270	264	257	248	239	233	208	202
	30	29	28	27	26	26	25	24	23	23	20	20		320	304	298	288	278	272	266	256	246	240	214	208
	40	38	37	36	35	34	33	32	31	30	27	26		330	314	307	297	287	281	274	264	254	248	221	215
	50	48	47	45	44	43	42	40	39	38	34	33		340	323	316	306	296	289	282	272	262	255	228	221
	60	57	56	54	52	51	50	48	46	45	40	39		350	333	326	315	305	298	291	280	270	263	235	228
	70	67	65	63	61	60	58	56	54	53	47	46		360	342	335	324	313	306	299	288	277	270	241	234
	80	76	74	72	70	68	66	64	62	60	54	52		370	352	344	333	322	315	307	296	285	278	248	241
	90	86	84	81	78	77	75	72	69	68	60	59		380	361	353	342	331	323	315	304	293	285	255	247
	100	95	93	90	87	85	83	80	77	75	67	65		390	371	363	351	339	332	324	312	300	293	261	254
	110	105	102	99	96	94	91	88	85	83	74	72		400	380	372	360	348	340	332	320	308	300	268	260
	120	114	112	108	104	102	100	96	92	90	80	78		410	390	381	369	357	349	340	328	316	308	274	267
	130	124	121	117	113	111	108	104	100	98	87	85		420	399	391	378	365	357	349	336	323	315	281	273
	140	133	130	126	122	119	116	112	108	105	94	91		430	409	400	387	374	366	357	344	331	323	288	280
	150	143	140	135	131	128	125	120	116	113	101	98		440	418	409	396	383	374	365	352	339	330	295	286
	160	152	149	144	139	136	133	128	123	120	107	104		450	428	419	405	392	383	374	360	347	338	302	293
	170	162	158	153	148	145	141	136	131	128	114	111		460	437	428	414	400	391	382	368	354	345	308	299
	180	171	167	162	157	153	149	144	139	135	121	117		470	447	437	423	409	400	390	376	362	353	315	306
	190	181	177	171	165	162	158	152	146	143	127	124		480	456	446	432	418	408	398	384	370	360	322	312
	200	190	186	180	174	170	166	160	154	150	134	130		490	466	456	441	426	417	407	392	377	368	328	319
	210	200	195	189	183	179	174	168	162	158	141	137		500	475	465	450	435	425	415	400	385	375	335	325
	220	209	205	198	191	187	183	176	169	165	147	143		510	485	474	459	444	434	423	408	393	383	342	332
	230	219	214	207	200	196	191	184	177	173	154	150		520	494	484	468	452	442	432	416	400	390	348	338
	240	228	223	216	209	204	199	192	185	180	161	156		530	504	493	477	461	451	440	424	408	398	355	345
	250	238	233	225	218	213	208	200	193	188	168	163		540	513	502	486	470	459	448	432	416	405	362	351
	260	247	242	234	226	221	206	208	200	195	174	169		550	523	512	495	479	468	457	440	424	413	369	358
	270	257	251	243	235	230	224	216	208	203	181	176		560	532	521	504	487	476	465	448	431	420	375	364
	280	266	260	252	244	238	232	224	216	210	188	182		570	542	530	513	496	485	473	456	439	428	382	371
	290	276	270	261	252	247	241	232	223	218	194	189		580	551	539	522	505	493	481	464	447	435	389	377
														590	561	549	531	513	502	490	472	454	443	395	384

UNIVERSITY OF DELAWARE PHYSICAL THERAPY

SHOULDER SUBLUXATION/DISLOCATION/POST BANKART OR CAPSULAR SHIFT SURGERY (OPERATIVE)

Phase I– Substitution Exercises

Goals Phase I: Prepare the upper extremity for more intense strength training

Time Frame – 8 weeks or per MD orders (lift 2-3 X/ week with 1-2 days rest between sessions, follow soreness rules on page 17)

<p><u>Step 1</u></p> <p><u>Core Exercises</u></p> <p>Scapular Protraction Receive the bar in a normal bench press position (hands slightly less than shoulder width apart) with the elbows locked. Push the bar straight up using the shoulder and chest and round the shoulders (no bending elbows or wrists). Movement range is small. Alternate an overhand (palms turned downward) grip with an underhand grip (palms turned upward) every other set.</p> <p>Straight Arm Lat Pulldown Assume normal front lat pulldown position. Take shoulder width grip in underhand position (palms facing upward). Lean back to a comfortable position. Lock elbows and wrists. Squeeze shoulder blades together and pull bar down with just upper back muscles. Elbows and wrists remain locked.</p> <p>Tricep Extension with Lat Pull Down Bar</p> <p>Wide Grip Rows</p> <p>Leg Press or lunges</p> <p><u>Program Design-</u> 3 sets x 10 reps at 60% (2 days rest following each workout)</p>	<p><u>Accessory Exercises (Step 1-5)</u></p> <p>Rear Deltoid Raises Concentration Curls Front Raises Lateral Raises</p> <p><u>Program Design</u> - 3 sets x 8 reps</p>
<p><u>Step 2</u></p> <p>Same exercises as previous step</p>	

UNIVERSITY OF DELAWARE PHYSICAL THERAPY

<p><u>Program Design-</u> 4 sets x 10 reps at 60%</p>	
<p><u>Step 3</u></p> <p>Same exercises as previous step</p> <p><u>Program Design-</u> 5 sets x 10 reps at 60%</p>	
<p><u>Step 4</u></p> <p>Same exercises as previous step -addition of Tricep Extensions with dumbbell to core exercises</p> <p><u>Program Design-</u> 4 sets x 10 reps at 65%</p>	
<p><u>Step 5</u></p> <p>Same exercises as previous step</p> <p><u>Program Design-</u> 5 sets x 10 reps at 65%</p>	
<p><u>Step 6</u></p> <p><u>Core Exercises</u></p> <p>Scapular Protraction Straight Arm Lat Pulldown Supine Tricep Extensions (Nose breakers) Tricep Extension with Lat Pull Down Bar Wide Grip Rows Leg Press or lunges</p> <p><u>Program Design-</u> 4 sets x 10 reps at 70%</p>	<p><u>Accessory Exercises (Steps 6-7)</u></p> <p>Rear Deltoid Raises Front and Lateral Raises Tricep Extensions with dumbbell Concentration Curls</p> <p><u>Program Design-</u> 3 sets x 8 reps</p>

UNIVERSITY OF DELAWARE PHYSICAL THERAPY

<p><u>Step 7</u></p> <p>Same as previous step</p> <p><u>Program Design</u>-5 sets x 10 reps at 70%</p>	
--	--

<p><u>Step 8</u></p> <p><u>Core Exercises</u></p> <p>Scapular Protraction Straight Arm Lat Pulldown Supine Tricep Extensions (Nose breakers) Tricep Extension with Lat Pull Down Bar Wide Grip Rows Leg Press or lunges</p> <p><u>Program Design</u>- 5 sets x 8 reps at 75%</p>	<p><u>Accessory Exercises</u></p> <p>Rear Deltoid Raises Front and Lateral Raises Tricep Extensions with dumbbell Concentration Curls Scapular Depression</p> <p><u>Program Design</u>- 3 sets x 8 reps</p>
---	---

UNIVERSITY OF DELAWARE PHYSICAL THERAPY

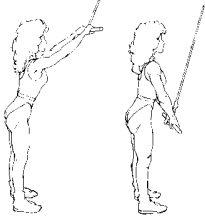
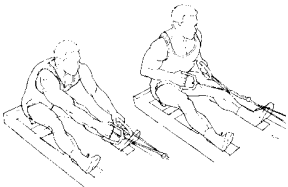

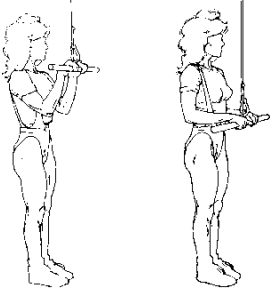
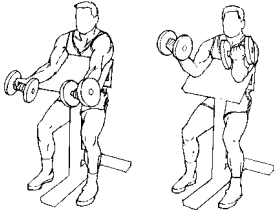
SHOULDER SUBLUXATION/DISLOCATION/POST BANKART OR CAPSULAR SHIFT SURGERY (OPERATIVE)

Phase II – Exercises (following completion of phase I)

Goals Phase II: Full ROM Bench Press, Lat Pull Down

Time Frame – 2.5 to 5 weeks (follow soreness rules on page 17, advance up to 2 steps/week)

Accessory Exercises - Phase II

<p>Straight Arm Lat Pulldown</p> 	<p>Seated and Widegrip Rows</p> 
<p>Deltoid Raises</p> 	<p>Triceps Ext</p> 
	<p>Preacher Curls</p> 

UNIVERSITY OF DELAWARE PHYSICAL THERAPY

Step 9

Core Exercises

Bench Press Shrugs

Receive the bar in a normal bench press position (hands slightly less than shoulder width apart) with the elbows locked. Push the bar straight up using the shoulder and chest and round the shoulders (**no bending elbows or wrists**). Movement range is small. Alternate an overhand (palms turned downward) grip with an underhand grip (palms turned upward) every other set.

Lat Pull Down Shrugs with underhand grip

Assume normal front lat pulldown position. Take shoulder width grip in underhand position (palms facing upward). Lean back to a comfortable position. Lock elbows and wrists. Squeeze shoulder blades together and pull bar down with just upper back muscles. Elbows and wrists remain locked.

Back Squat

Front squat, modified center of gravity bar or stingray

Shoulder Press Isometrics

Using a squat rack or Smith Machine, lock bar in front shoulder press position in place so elbows are below shoulder level and perform isometric contractions (30 times contract 5 seconds). Move bar up so elbows are even with shoulders and perform isometric contractions (30 times contract 5 seconds).

Program Design-3 sets x 10 reps at 65%
(1-2 days rest between workouts;
follow soreness rules on page 17)

Accessory Exercises

Straight Arm Lat Pulldown

Seated Rows

Tricep Extensions with lat pull down machine

Lateral and Front Deltoid Raises

Preacher Curls

Program Design- 3 sets x 8 reps

UNIVERSITY OF DELAWARE PHYSICAL THERAPY

<p><u>Step 10</u></p> <p><u>Core Exercises</u></p> <p>Partial Bench Press with underhand grip <i>(Always warm up with straight arm bench press)</i> Place a 6 inch towel roll under T shirt before assuming normal bench press position. Assume a underhand grip (palms turned upward) with hands slightly less than shoulder width apart. The bar is lowered until it touches the towel then pressed to the starting position.</p> <p>Lat Pull Down Shrugs with overhand grip Assume normal front lat pulldown position. Take shoulder width grip in overhand position (palms facing downward). Lean back to a comfortable position. Lock elbows and wrists. Squeeze shoulder blades together and pull bar down with just upper back muscles. Elbows and wrists remain locked.</p> <p>Back Squat Front squat, modified center of gravity bar or stingray</p> <p>Shoulder Press – Functional Isometrics at 60 and 90 degrees Using a squat rack or Smith Machine, lock bar in front shoulder press position in place so elbows are below shoulder level and perform isometric contractions (30 times contract 5 seconds). Move bar up so elbows are even with shoulders and perform isometric contractions (30 times contract 5 seconds).</p> <p><u>Program Design</u>- 4 sets x 10 reps at 65</p>	<p><u>Accessory Exercises</u></p> <p>Straight Arm Lat Pulldown Seated Rows Tricep Extensions with lat pull down machine Lateral and Front Deltoid Raises Preacher Curls</p> <p><u>Program Design</u>- 3 sets x 8 reps</p>
---	--

UNIVERSITY OF DELAWARE PHYSICAL THERAPY

Step 11

Core Exercises

Bench Press – Partial Bench Press using normal grip

(Always warm up with straight arm bench press)

Place a 6 inch towel roll under T shirt before assuming normal bench press position. Assume an overhand grip (normal grip) with hands slightly less than shoulder width apart. The bar is lowered until it touches the towel then pressed to the starting position.

Partial Lat Pull Down with underhand grip

Place a 6 inch towel roll under T shirt before assuming normal lat pulldown position. Assume an underhand grip (palms turned upward) with hands slightly less than shoulder width apart. Lean back to a comfortable position. Initiate movement by squeezing shoulder blades together then pull bar down until it touches the towel roll. Return to starting position.

Back Squat

Front squat, modified center of gravity bar or stingray

Shoulder Press – Functional Isometrics at 60, 90 and 120 degrees

Using a squat rack or Smith Machine, lock bar in front shoulder press position in place so elbows are below shoulder level and perform isometric contractions (30 times contract 5 seconds). Move bar up so elbows are even with shoulders and perform isometric contractions (30 times contract 5 seconds).

Program Design- 5 sets x 10 reps at 65%

Accessory Exercises

Straight Arm Lat Pulldown

Seated Rows

Tricep Extensions with lat pull down machine

Lateral and Front Deltoid Raises

Preacher Curls

Program Design- 3 sets x 8 reps

UNIVERSITY OF DELAWARE PHYSICAL THERAPY

<p><u>Step 12</u></p> <p><u>Core Exercises</u></p> <p>Bench Press –Full Bench Press using underhand grip <i>(Always warm up with straight arm bench press)</i></p> <p>Assume an underhand grip (palms turned upward) with hands slightly less than shoulder width apart. Complete full bench press using an underhand grip. Concentrate on keeping arms close to the sides.</p> <p>Partial Lat Pulldown with overhand grip Place a 6 inch towel roll under T shirt before assuming normal lat pulldown position. Assume an overhand grip (palms turned downward) with hands slightly less than shoulder width apart. Lean back to a comfortable position Initiate movement by squeezing shoulder blades together then pull bar down until it touches the towel roll. Return to starting position.</p> <p>Back Squat Front squat, modified center of gravity bar or stingray</p> <p>Shoulder Press – Functional Isometrics at 60, 90 and 120 degrees Using a squat rack or Smith Machine, lock bar in front shoulder press position in place so elbows are below shoulder level and perform isometric contractions (30 times contract 5 seconds). Move bar up so elbows are even with shoulders and perform isometric contractions (30 times contract 5 seconds).</p> <p><u>Program Design</u>- 4 sets x 10 reps at 70%</p>	<p><u>Accessory Exercises</u></p> <p>Straight Arm Lat Pulldown Seated Rows Tricep Extensions with lat pull down machine Lateral and Front Deltoid Raises Preacher Curls</p> <p><u>Program Design</u>- 3 sets x 8 reps</p>
---	--

UNIVERSITY OF DELAWARE PHYSICAL THERAPY

<p><u>Step 13</u></p> <p><u>Core Exercises</u></p> <p>Bench Press –Full Bench Press with normal grip <i>(Always warm up with straight arm bench press)</i></p> <p>Assume a normal grip with hands slightly less than shoulder width apart. Complete full bench press using an overhand grip. Concentrate on keeping arms close to the side. Do not allow weight to bounce off chest.</p> <p>Lat Pull Down</p> <p>Assume normal lat pulldown position. Assume an overhand grip (palms turned downward) with hands slightly less than shoulder width apart. Lean back to a comfortable position. Initiate movement by squeezing shoulder blades together then pull bar down until it touches your chest. Return to starting position.</p> <p>Back Squat</p> <p>Front squat, modified center of gravity bar or stingray</p> <p>Shoulder Press – Functional Isometrics at 60, 90 and 120 degrees</p> <p>Using a squat rack or Smith Machine, lock bar in front shoulder press position in place so elbows are below shoulder level and perform isometric contractions (30 times contract 5 seconds). Move bar up so elbows are even with shoulders and perform isometric contractions (30 times contract 5 seconds).</p> <p><u>Program Design-</u> 5 sets x 10 reps at 70%</p>	<p><u>Accessory Exercises</u></p> <p>Straight Arm Lat Pulldown Seated Rows Tricep Extensions with lat pull down machine Lateral and Front Deltoid Raises Preacher Curls</p> <p><u>Program Design-</u> 3 sets x 8 reps</p>
---	--

UNIVERSITY OF DELAWARE PHYSICAL THERAPY

SHOULDER SUBLUXATION/DISLOCATION/POST BANKART OR CAPSULAR SHIFT SURGERY (OPERATIVE)

Phase III – Exercises (following phase II)

Goals Phase III: Full ROM Power Clean

Time Frame – 2 to 4 weeks (1-2 steps/ week; follow soreness rules on page 17)

Step 14

Core Exercises

Standard Bench Press

Standard Lat Pull down

Power Shrug

Lift bar off a waist-level rack using a power clean grip. Lower the bar to mid thigh with the knees bent and shoulders slightly in front of the bar. Extend the legs and back, then shrug the bar with a quick powerful motion. The elbows remain straight throughout the movement.

Back Squat

Front squat, modified center of gravity bar or stingray

Partial Shoulder Press

Using a squat rack or Smith Machine place the bar in a starting position for the front shoulder press position. Press the bar from the starting position until equal with the top of the forehead. Return to starting position.

Program Design –

5 sets x 10 reps at 70% **(H)**

4 sets x10 reps x 60% **(L)**

(H) - Heavy Day with emphasis on increased repetitions and increase percentage of (1) repetition maximum.

(L) - Light Day with emphasis on decreased repetitions and decreased percentage of (1) repetition maximum. The rationale is to allow the muscle tissue to rest and recover for the next heavy session.

If the athlete lifts two days per week he/she should complete one heavy and one light day. If the athlete lifted three days per week, here is a sample alternate heavy /light schedule.

UNIVERSITY OF DELAWARE PHYSICAL THERAPY

	Day 1	Day 3	Day 5
Week 1	Heavy	Heavy	Light
Week 2	Light	Light	Heavy

Accessory Exercises for Step 14

Straight Arm Lat Pulldown
Seated Rows
Tricep Extensions with lat pull down machine
Lateral and Front Deltoid Raises
Preacher Curls

Program Design- 3 sets x 8 reps

Step 15

Core Exercises

Standard Bench Press
Standard Lat Pull down
Power pull from the floor

Begin with the bar at mid shin level using a power clean grip. During the initial phase the bar is lifted from the floor and the athlete moves through a normal power clean motion finishing in an upright row position. **Do not** rack the bar. Mid shin level should be attained through the use of bumper plates or wooden practice plates

Back Squat

Front squat, modified center of gravity bar or stingray

Partial Shoulder Press

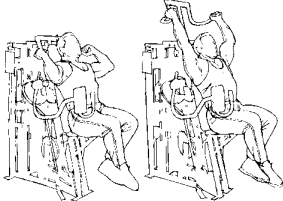
Using a squat rack or Smith Machine place the bar in a starting position for the front shoulder press position. Press the bar from the starting position until equal with the top of the forehead.

Accessory Exercises

Chest Flys
Straight Arm Lat Pulldown
Seated Rows
Tricep Extensions with lat pull down machine
Lateral and Front Deltoid Raises
Preacher Curls

Program Design- 3 sets x 8 reps

UNIVERSITY OF DELAWARE PHYSICAL THERAPY

<p>Return to starting position.</p> <p>Program Design- 5 sets x 8 reps x 75% (H) 4 sets x 8 reps x 65 % (L)</p>	
<p><u>Step 16</u></p> <p><u>Core Exercises</u></p> <p>Standard Bench Press Standard Lat Pull down Power pull from the floor Begin with the bar at mid shin level using a power clean grip. During the initial phase the bar is lifted from the floor and the athlete moves through a normal power clean motion finishing in an upright row position. Do not rack the bar. Mid shin level should be attained through the use of bumper plates or wooden practice plates</p> <p>Back Squat Front squat, modified center of gravity bar or stingray</p> <p>Partial Shoulder Press Using a squat rack or Smith Machine place the bar in a starting position for the front shoulder press position. Press the bar from the starting position until equal with the top of the forehead. Return to starting position. Or Physician Approved Weight Training Machine (as illustrated):</p> <div style="text-align: center;">  </div> <p><u>Program Design</u> 4 sets x 6 reps at 80% (H) 4 sets x 6 reps at 70 % (L)</p>	<p><u>Accessory Exercises</u></p> <p>Straight Arm Lat Pulldown Seated Rows Tricep Extensions with lat pull down machine Lateral and Front Deltoid Raises Bicep Curls</p> <p><u>Program Design-</u> 3 sets x 8 reps</p>

UNIVERSITY OF DELAWARE PHYSICAL THERAPY

<p><u>Step 17</u></p> <p><u>Core Exercises</u></p> <p>Standard Bench Press Standard Lat Pull down Power Clean from the floor Resume normal power clean from the floor with emphasis on timing, bar path and proper rack position. Keep the bar close to the body and do not allow the bar to “crash” on the shoulders. In addition, the athlete should be taught to absorb the impact of the bar by bending the knees as the bar is racked on the shoulders. Athletes should drop the bar after each clean. Hands should be kept on the bar, but only to control the bar, not to decelerate it.</p> <p>Back Squat High bar squat, modified center of gravity bar or stingray</p> <p>Standard Shoulder Press Incline Bench Press</p> <p><u>Program Design</u> 4 sets x 5 reps at 85% (H) 3 sets x 5 reps at 75% (L)</p>	<p><u>Accessory Exercises</u></p> <p>Straight Arm Lat Pulldown Seated Rows Tricep Extensions with lat pull down machine Lateral and Front Deltoid Raises Preacher Curls</p> <p><u>Program Design-</u> 3 sets x 8 reps</p>
---	--

UNIVERSITY OF DELAWARE PHYSICAL THERAPY

Soreness Rules

Criterion	Action
1. Soreness during warm-up that continues	2 days off, drop down 1 step
2. Soreness during warm-up that goes away	Stay at step that led to soreness
3. Soreness during warm-up that goes away but redevelops during session	2 days off, drop down 1 step
4. Soreness the day after lifting (Not muscle soreness)	1 day off, do not advance program to the next step
5. No soreness	Advance 1 step per week or as instructed by healthcare professional