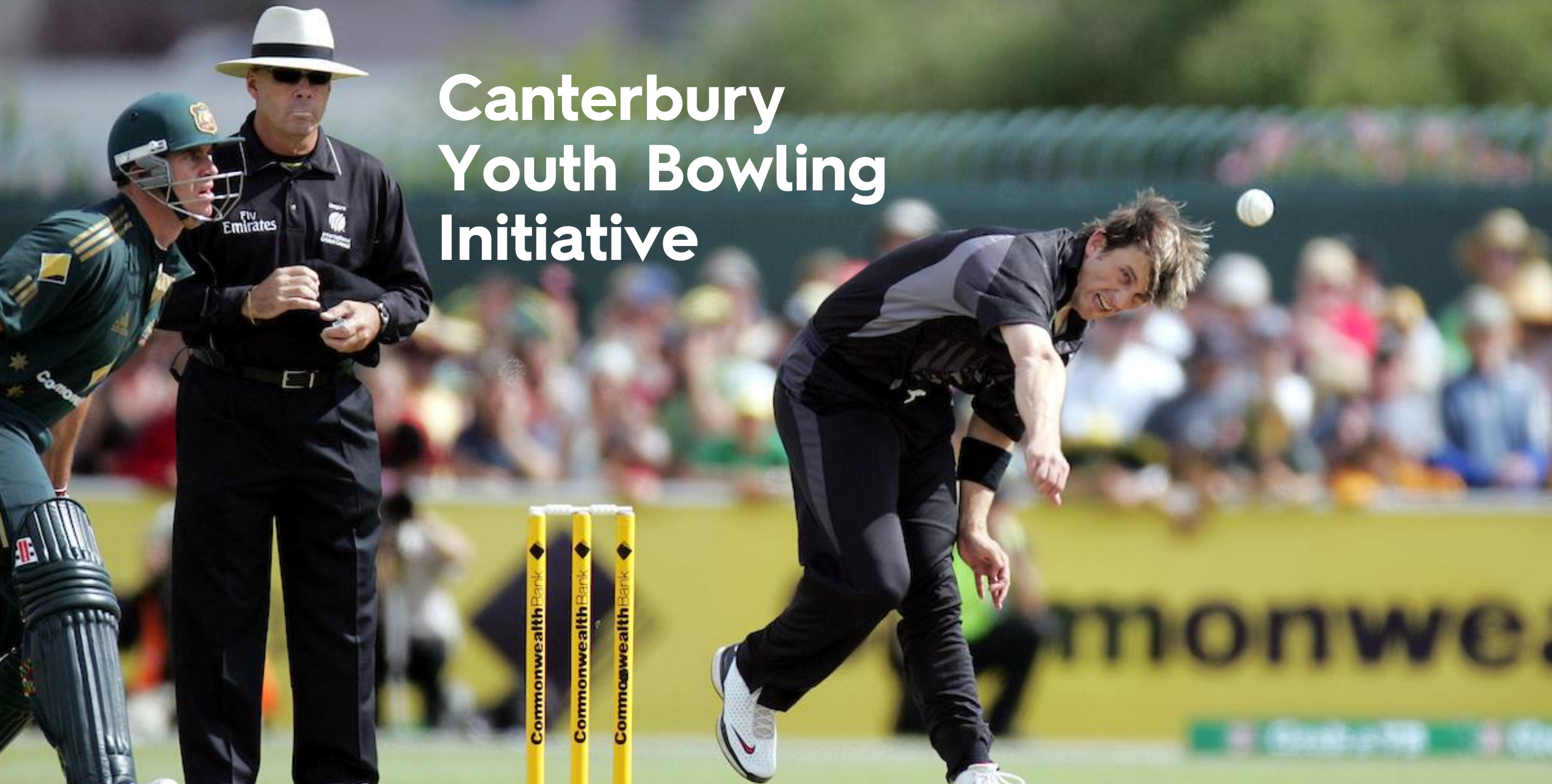


Canterbury Youth Bowling Initiative





THE GOALS

- Highlight risk factors for stress-related back injuries in young fast bowlers
- Provide pathways in the event of injury
- Encourage communication to ensure all are acting in the best interests of the athlete.

Your Questions

What should bowling workloads look like ? Intensity/overs?

How much bowling practice is too much?

What other sports contribute to more overloading of the bowlers body? Rugby swimming?

Injuries and how to overcome them/reduce them

Advice around injury prevention , training volumes and loading

Bowling action review?

What is the ideal load up for a side on fast bowler?

Technique that can improve his pace.

Pace bowling after stress fractures - playing safely.

How does bowling style cause back injury?

Road Map



- Discussion
- Risks and challenges
- Bowling technique
- Loading
- Spinal stress fractures
- Injury pathways
- Meet/discuss with presenters



Matt Henry

- Why do you think you got injured?
- What were your stress fractures like?
- What do you do differently now ?





Risk Factors

- Pace
- Technique
- Loading
- Health
- Previous injury
- Age





Challenges & Risks

1. Scheduling
2. Preseason
3. Surfaces
4. Weather
5. Pre-season tours
6. The Christmas Period
7. Winning (school, coach, parents)

2 Questions

What is a good
technique look like ?
How do I bowl fast ?





TECHNIQUE

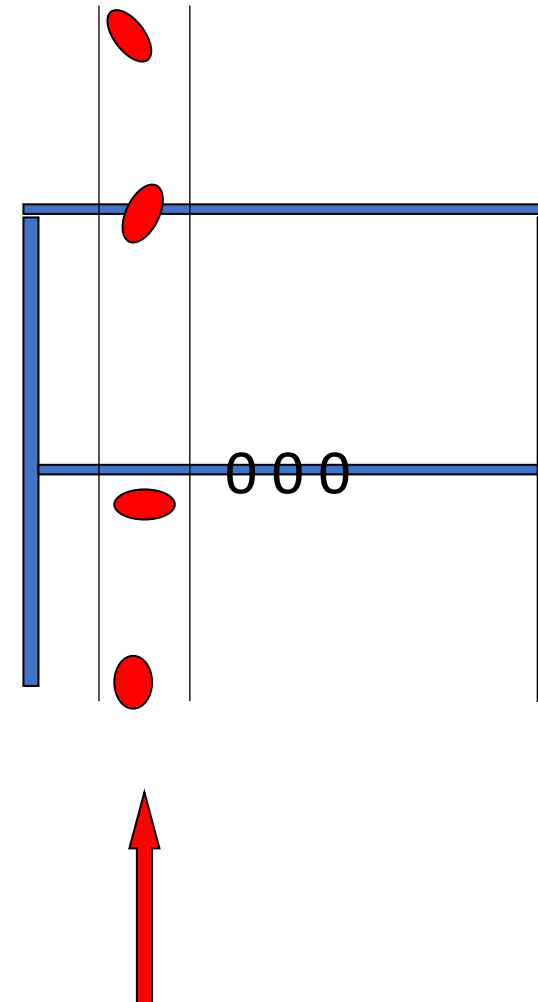
Everything in line (towards the target)

- Head
- Run up
- Arms
- Feet (running the tracks)
- Delivery
- Follow through

Head over feet (balance, lateral flexion!)

Eyes level

Technique Basic Principles



In-Posture?



Conversation positions
Side on
Semi open
Front on/open



Alignment Poles

Shoulder angle

Hip angle

Combined angles (counter rotation?)







Loading!!!



Is it about stopping you bowling?



You must bowl and bowl to get better ?



Who decides?



Once per week games
(e.g. Saturday Cricket)

AGE	BOWLING RESTRICTION
9-10yrs	<ul style="list-style-type: none">• 5 overs per day• 2 overs per spell
11-12yrs	<ul style="list-style-type: none">• 8 overs per day• 4 overs per spell
13yrs	<ul style="list-style-type: none">• 10 overs per day• 5 overs per spell
14yrs	<ul style="list-style-type: none">• 10 overs per day• 5 overs per spell
15yrs	<ul style="list-style-type: none">• 12 overs per day• 5 overs per spell
16yrs	<ul style="list-style-type: none">• 14 overs per day• 6 overs per spell
17yrs	<ul style="list-style-type: none">• 16 overs per day• 6 overs per spell
18yrs	<ul style="list-style-type: none">• 20 overs per day• 8 overs per spell



The guidelines below are based on
junior and youth cricket practice sessions

AGE	SESSIONS PER WEEK / BOWLING RESTRICTION
9-10yrs	<ul style="list-style-type: none">• 1 session per week• 4 overs per session
11-12yrs	<ul style="list-style-type: none">• 1 session per week• 4 overs per session
13yrs	<ul style="list-style-type: none">• 2 sessions per week• 5 overs per session
14yrs	<ul style="list-style-type: none">• 2 sessions per week• 5 overs per session
15yrs	<ul style="list-style-type: none">• 2 sessions per week• 5 overs per session
16yrs	<ul style="list-style-type: none">• 2 sessions per week• 6 overs per session
17yrs	<ul style="list-style-type: none">• 2 sessions per week• 6 overs per session
18yrs	<ul style="list-style-type: none">• 2 sessions per week• 6 overs per session



The table below is based on cricketers playing in
tournaments that are played for 3 or more days

AGE	SESSIONS PER WEEK / BOWLING RESTRICTION
9-10yrs	<ul style="list-style-type: none">• 4 overs per day• 2 overs per spell• Max 16 overs bowled during the tournament
11-12yrs	<ul style="list-style-type: none">• 8 overs per day• 4 overs per spell• Max 20 overs bowled during the tournament
13yrs	<ul style="list-style-type: none">• 10 overs per day• 5 overs per spell• Max 32 overs bowled during the tournament
14yrs	<ul style="list-style-type: none">• 10 overs per day• 5 overs per spell• Max 32 overs bowled during the tournament
15yrs	<ul style="list-style-type: none">• 10 overs per day• 6 overs per spell• Max 38 overs bowled during the tournament
16yrs	<ul style="list-style-type: none">• 10 overs per day• 6 overs per spell• Max 38 overs bowled during the tournament
17yrs	<ul style="list-style-type: none">• 10 overs per day• 6 overs per spell• Max 42 overs bowled during the tournament
18yrs	<ul style="list-style-type: none">• 10 overs per day• 6 overs per spell• Max 42 overs bowled during the tournament

2019/20 Pathway Bowling Guidelines

Bowling Recommendation – simple message

Under 15 and Under 17 bowlers

1 3 5

1,3,5 message [1 day off between bowling session, 3 days per week, 5 overs in a spell]

Under 19 bowlers

2 4 6

2,4,6 message [maximum 2 bowling days in a row , 4 days per week, 6 overs in a spell].

Elite v Community Cricket recommendations

Elite Recommendations

Elite Recommendations relate to bowlers in the elite pathways (state squads etc..) who have access to coaches, fitness and medical staff to help manage their training programs and injury concerns.

Weekly bowling volume targets are included as they have access to tools and resources to monitor this.

Community Recommendations

Community Recommendations target the broader cricket community. The bowling guidelines are available via the Cricket Australia Well-Played document

<https://www.community.cricket.com.au/clubs/running-your-club/well-played>

Common sense Approach

The guidelines are general in nature and every bowler needs to be managed on an individual basis. Some will cope with more or less load as there are other important variables other than age (e.g. physical maturity, technique, bowling speed, fitness, previous injury etc..) that are also important factors.



Summary

- 2-4 Bowling sessions per week
- 20-30 overs per week
- Rest in between bowling sessions



FIRST

Frequency

Intensity

Rest

Surface

Type (of
training)

CHRONIC (long term)LOAD:

28 day (4 week) average. It is a rolling average.

ACUTE LOAD(short term) :

What has been bowled in the last 7 days

SPIKE:

A jump in the chronic load of more than 150%

LEVELS OF INTENSITY



- **-1** Seam release drills, step and release into the mitt
- **0** Bowl $\frac{1}{2}$ way down pitch off a couple of steps into back of the net
- **1** Bowl full pitch length at low intensity (seam/technique)
- **2** Full run up, 80% intensity (skills/target)
- **3** Full intensity, including bouncers and yorkers

Graph Key

LEVEL 1: **BLUE**

LEVEL 2: **ORANGE**

LEVEL 3: **GREEN**

SPIKE: **RED**

MATCH: **GREY**



16-year old fast bowler

Match – 14 Overs/day (6 overs per spell)

Training – 6 overs per session (2 sessions per week)

Ideal overs – 26

Tournament (3+ days) – 10 overs per day/6 overs per spell/38 total overs

Date	Load	Chronic Load	Acute Load	Spike	Weekly (sum)
10/08/20	0	0	0	#N/A	
11/08/20	0	0	0	#N/A	
12/08/20	6	2	6	400%	
13/08/20	0	2	6	400%	
14/08/20	6	3	12	400%	
15/08/20	0	3	12	400%	
16/08/20	0	3	12	400%	12
17/08/20	0	3	12	400%	
18/08/20	7	5	19	400%	
19/08/20	0	5	13	274%	
20/08/20	7	7	20	308%	
21/08/20	0	7	14	215%	
22/08/20	0	7	14	215%	
23/08/20	7	8	21	255%	21
24/08/20	0	8	21	255%	
25/08/20	9	11	23	219%	
26/08/20	0	11	23	219%	
27/08/20	0	11	16	152%	
28/08/20	9	13	25	196%	
29/08/20	0	13	25	196%	
30/08/20	0	13	18	#N/A	18
31/08/20	0	13	18	#N/A	
1/09/20	8	15	17	#N/A	
2/09/20	0	15	17	#N/A	
3/09/20	8	17	25	#N/A	
4/09/20	0		16	#N/A	
5/09/20	6	17	22	#N/A	
6/09/20	0	18	22	#N/A	22





WEEK 1-4

Date	Load	Chronic Load	Acute Load	Spike	Weekly (sum)
7/09/20	0	18	22	#N/A	
8/09/20	7	20	29	#N/A	
9/09/20	0	19	21	#N/A	
10/09/20	7	20	20	#N/A	
11/09/20	7	21	27	#N/A	
12/09/20	0	21	21	#N/A	
13/09/20	0	21	21	#N/A	21
14/09/20	0	21	21	#N/A	
15/09/20	8	21	22	#N/A	
16/09/20	0	21	22	#N/A	
17/09/20	9	21	24	#N/A	
18/09/20	0	21	17	#N/A	
19/09/20	8	23	25	#N/A	
20/09/20	0	22	25	#N/A	25
21/09/20	0	22	25	#N/A	
22/09/20	0	19	17	#N/A	
23/09/20	10	22	27	#N/A	
24/09/20	0	22	18	#N/A	
25/09/20	8	22	26	#N/A	
26/09/20	0	22	18	#N/A	
27/09/20	0	22	18	#N/A	18
28/09/20	0	22	18	#N/A	
29/09/20	9	24	27	#N/A	
30/09/20	4	23	21	#N/A	
1/10/20	0	21	21	#N/A	
2/10/20	0	21	13	#N/A	
3/10/20	7	21	20	#N/A	
4/10/20	0	21	20	#N/A	20

WEEK 5-8

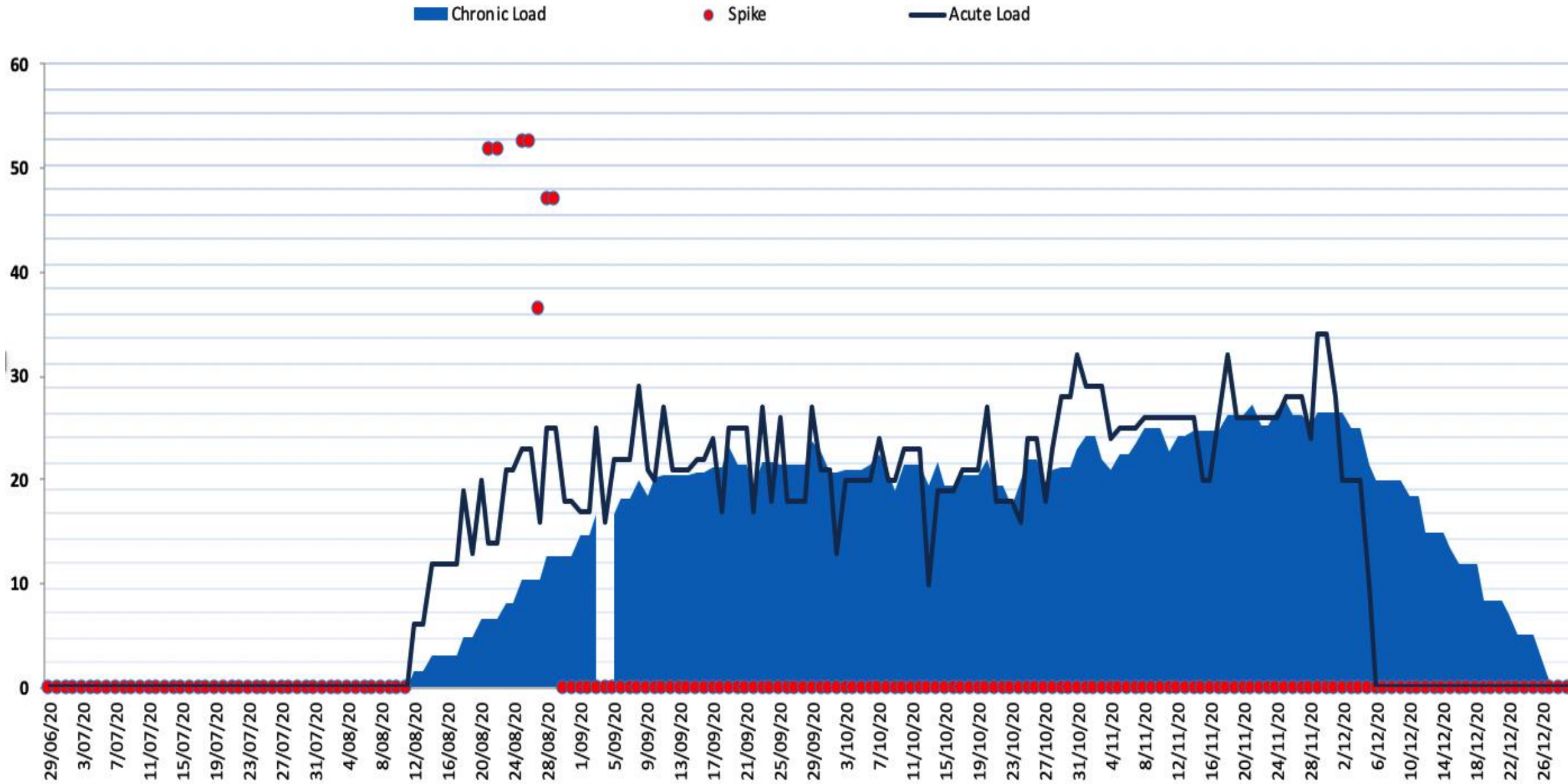
Date	Load	Chronic Load	Acute Load	Spike	Weekly (sum)
5/10/20	0	21	20	#N/A	
6/10/20	9	22	20	#N/A	
7/10/20	4	23	24	#N/A	
8/10/20	0	21	20	#N/A	
9/10/20	0	19	20	#N/A	
10/10/20	10	22	23	#N/A	
11/10/20	0	22	23	#N/A	23
12/10/20	0	22	23	#N/A	
13/10/20	0	20	10	#N/A	
14/10/20	9	22	19	#N/A	
15/10/20	0	20	19	#N/A	
16/10/20	0	20	19	#N/A	
17/10/20	12	21	21	#N/A	
18/10/20	0	21	21	#N/A	21
19/10/20	0	21	21	#N/A	
20/10/20	6	22	27	#N/A	
21/10/20	0	20	18	#N/A	
22/10/20	0	20	18	#N/A	
23/10/20	0	18	18	#N/A	
24/10/20	10	20	16	#N/A	
25/10/20	8	22	24	#N/A	24
26/10/20	0	22	24	#N/A	
27/10/20	0	20	18	#N/A	
28/10/20	5	21	23	#N/A	
29/10/20	5	21	28	#N/A	
30/10/20	0	21	28	#N/A	
31/10/20	14	23	32	#N/A	
1/11/20	5	24	29	#N/A	29

WEEK 9-12

Date	Load	Chronic Load	Acute Load	Spike	Weekly (sum)
2/11/20	0	24	29	#N/A	
3/11/20	0 	21	29	#N/A	
4/11/20	0	21	24	#N/A	
5/11/20	6	23	25	#N/A	
6/11/20	0	23	25	#N/A	
7/11/20	14	24	25	#N/A	
8/11/20	6	25	26	#N/A	26
9/11/20	0	25	26	#N/A	
10/11/20	0	25	26	#N/A	
11/11/20	0 	23 	26	#N/A	
12/11/20	6	24	26	#N/A	
13/11/20	0	24	26	#N/A	
14/11/20	14	25	26	#N/A	
15/11/20	0	25	20	#N/A	20
16/11/20	0	25	20	#N/A	
17/11/20	6	25 	26	#N/A	
18/11/20	6	26	32	#N/A	
19/11/20	0	26	26	#N/A	
20/11/20	0	26	26	#N/A	
21/11/20	14	27	26	#N/A	
22/11/20	0	25	26	#N/A	26
23/11/20	0	25	26	#N/A	
24/11/20	6	27	26	#N/A	
25/11/20	8	28	28	#N/A	
26/11/20	0	26	28	#N/A	
27/11/20	0	26	28	#N/A	
28/11/20	10	25	24	#N/A	
29/11/20	10	27	34	#N/A	34

WEEK 13-16

PREDICTED LOADING SEASON - 16 weeks



What can I do ?



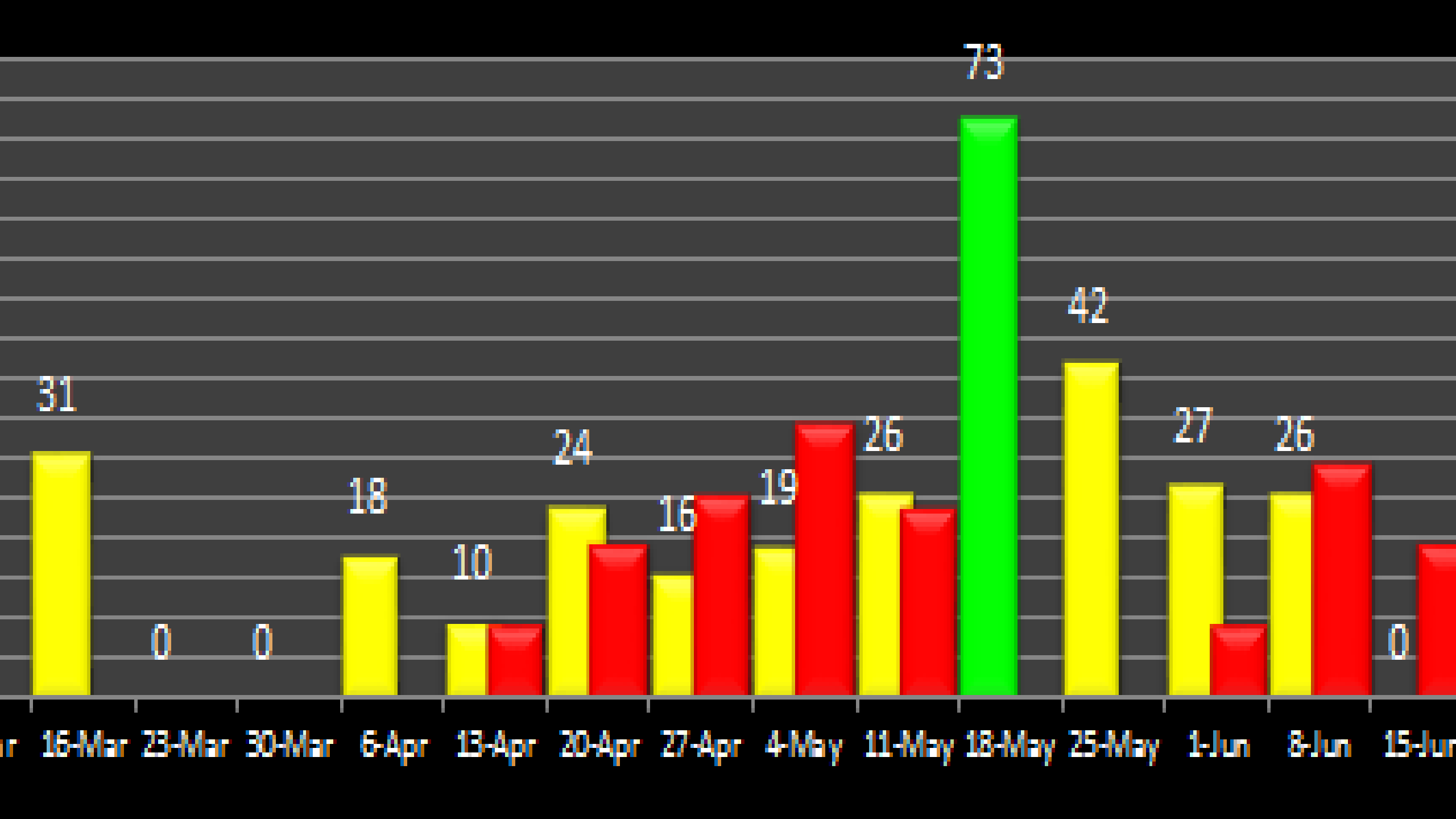
- Keep a diary
- Ask the player/ coach
- Pre plan
- Individualise

I TALK TO MYSELF BECAUSE I'M
THE ONLY ONE WHO *LISTENS!*



SearchID: man14008

TB2/66







Pars
Interarticularis



Spondylolysis
(Stress fracture in the
Pars Interarticularis)



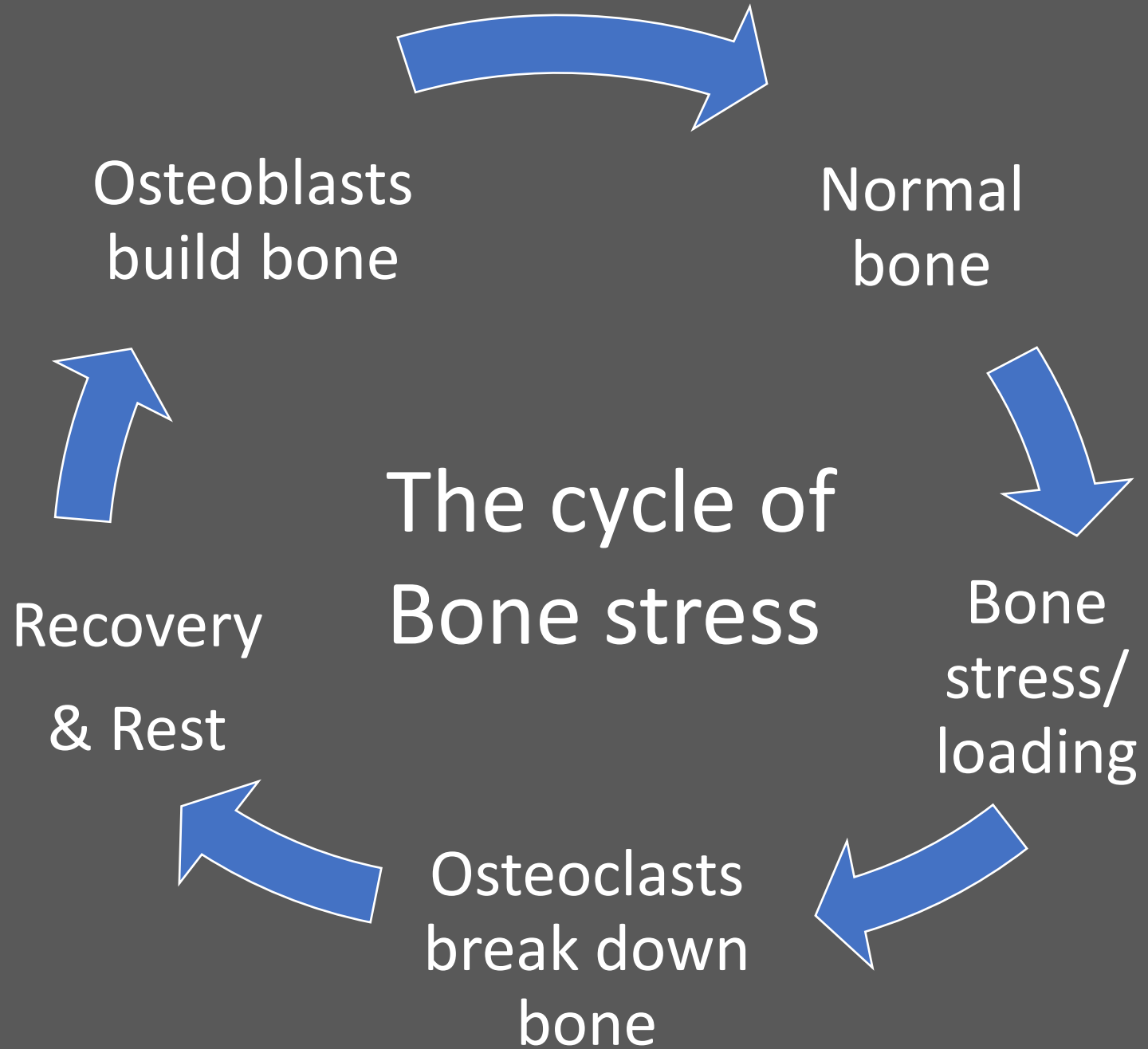
Spondylolisthesis
(Stress fracture and
sliding of vertebra)

- Where does a stress fracture occur ?
- Why does it occur?
- Why is it so important to prevent?

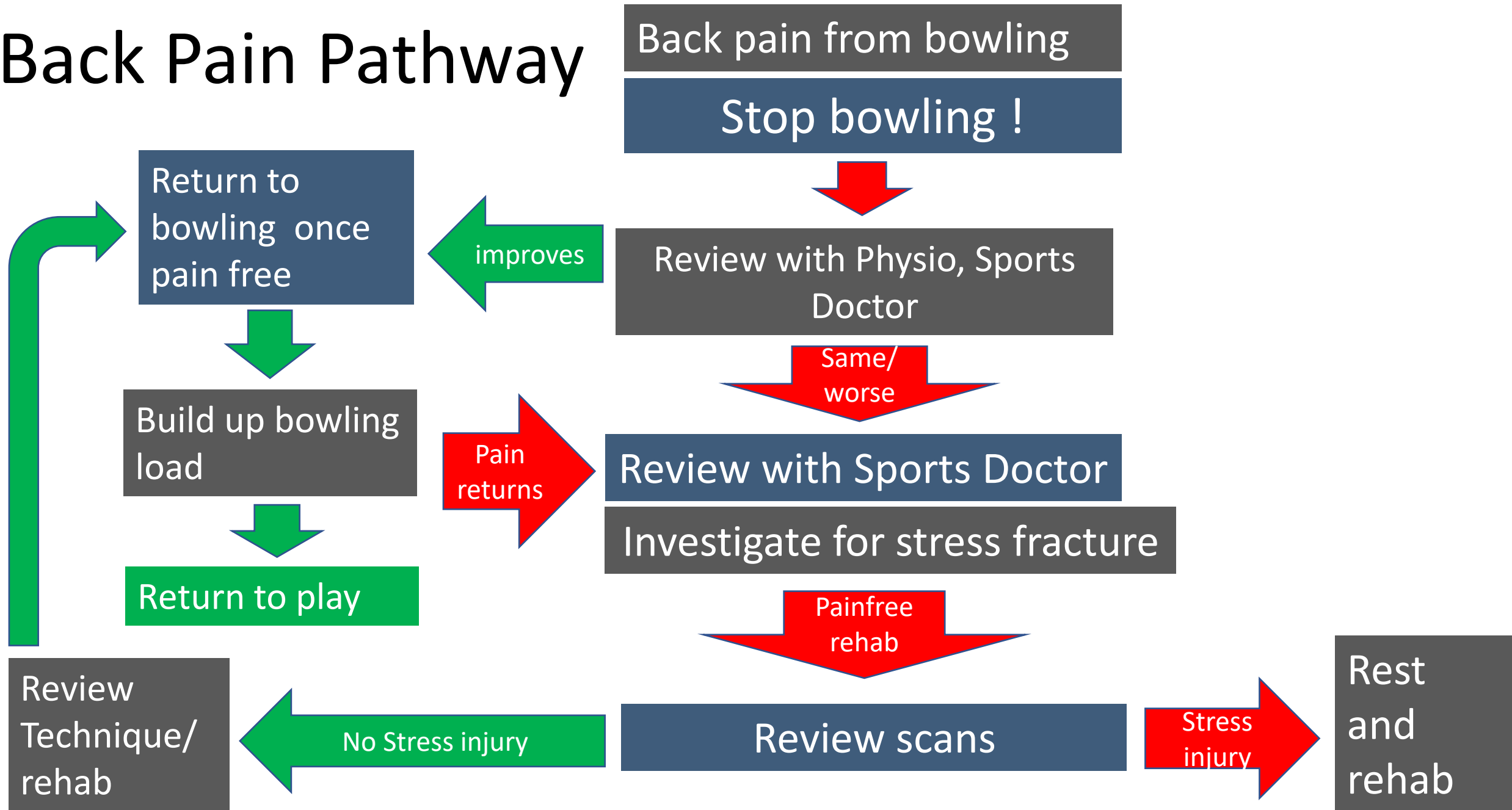
Lumbar Spine Stress Fracture

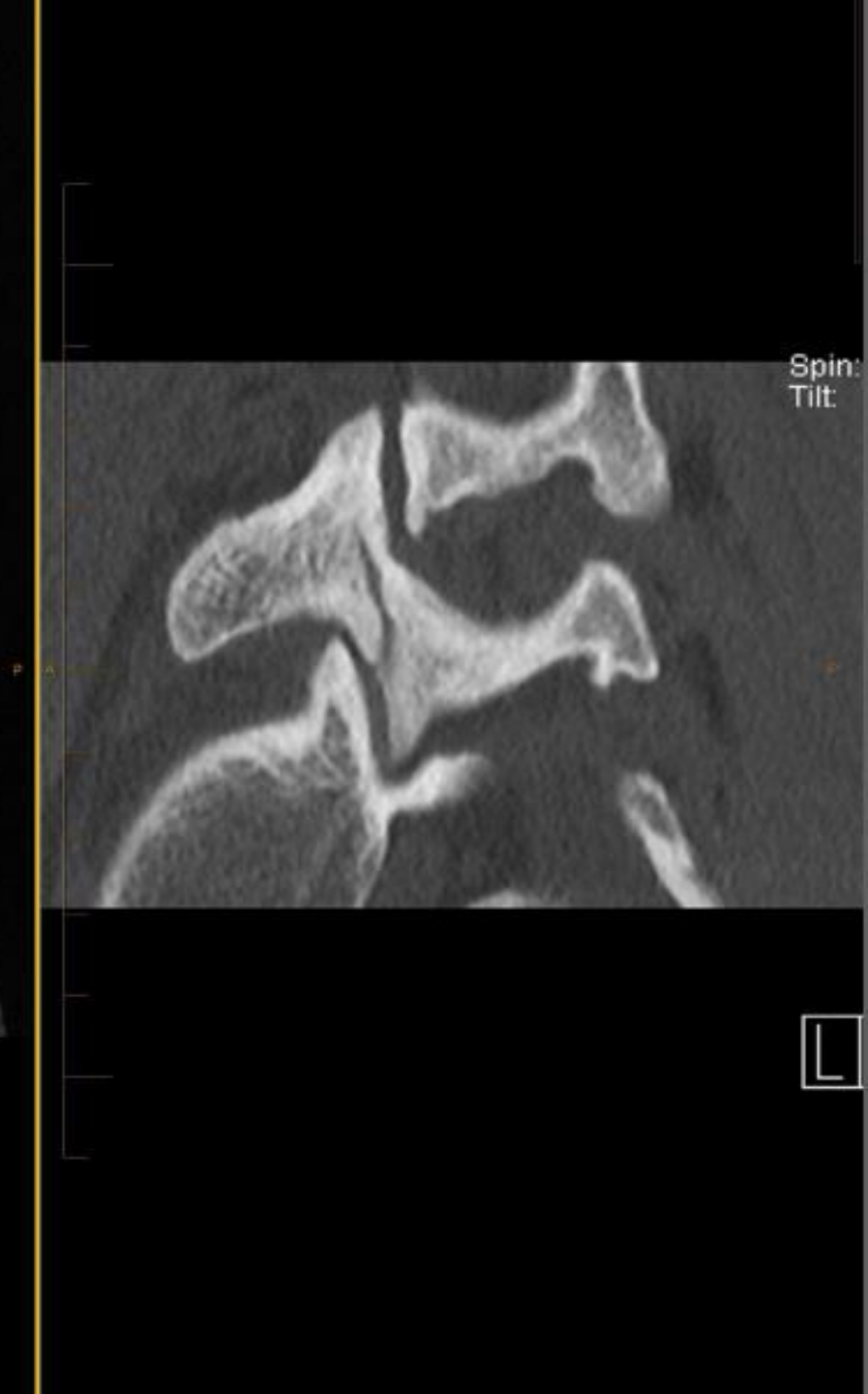
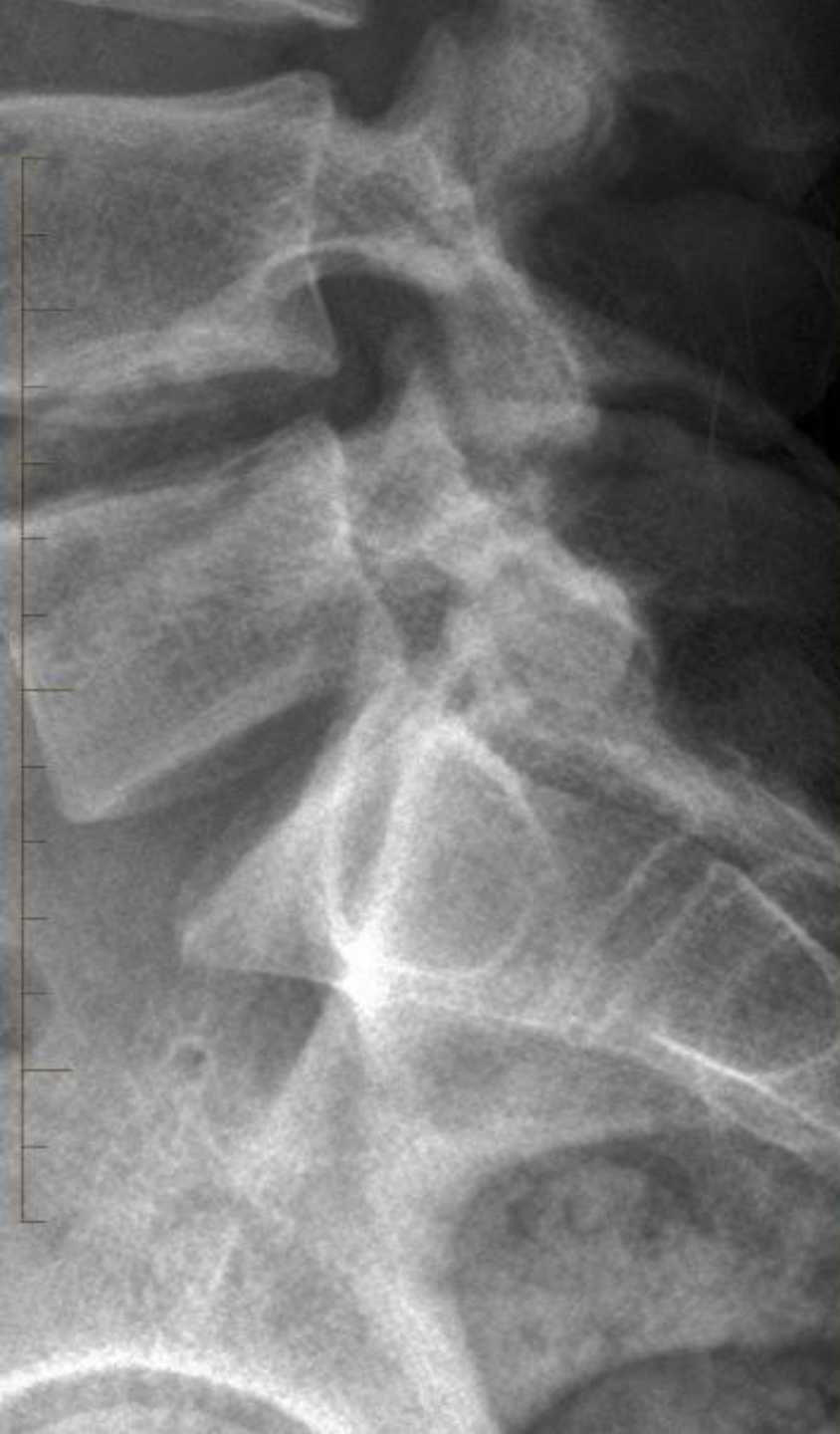


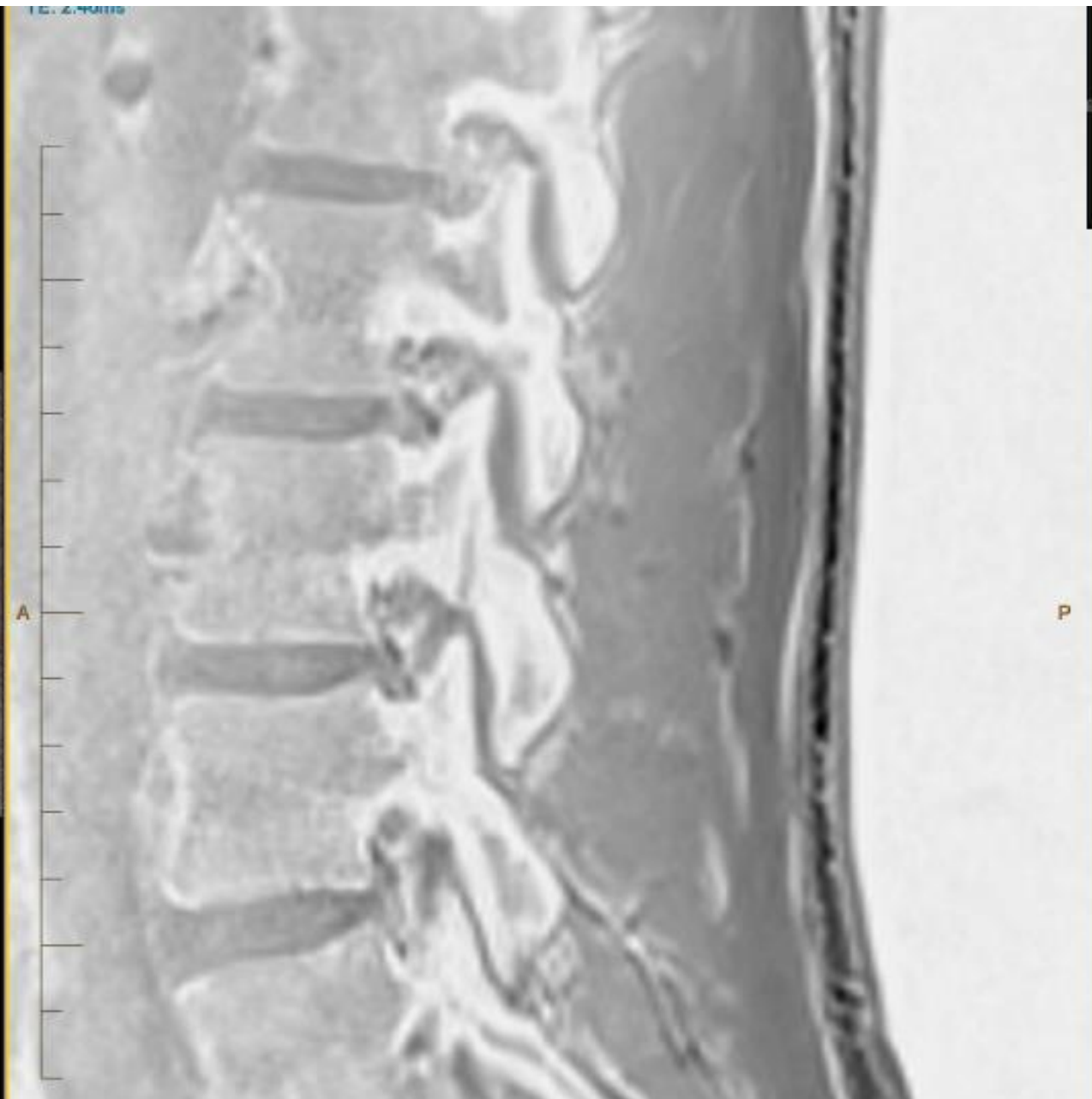
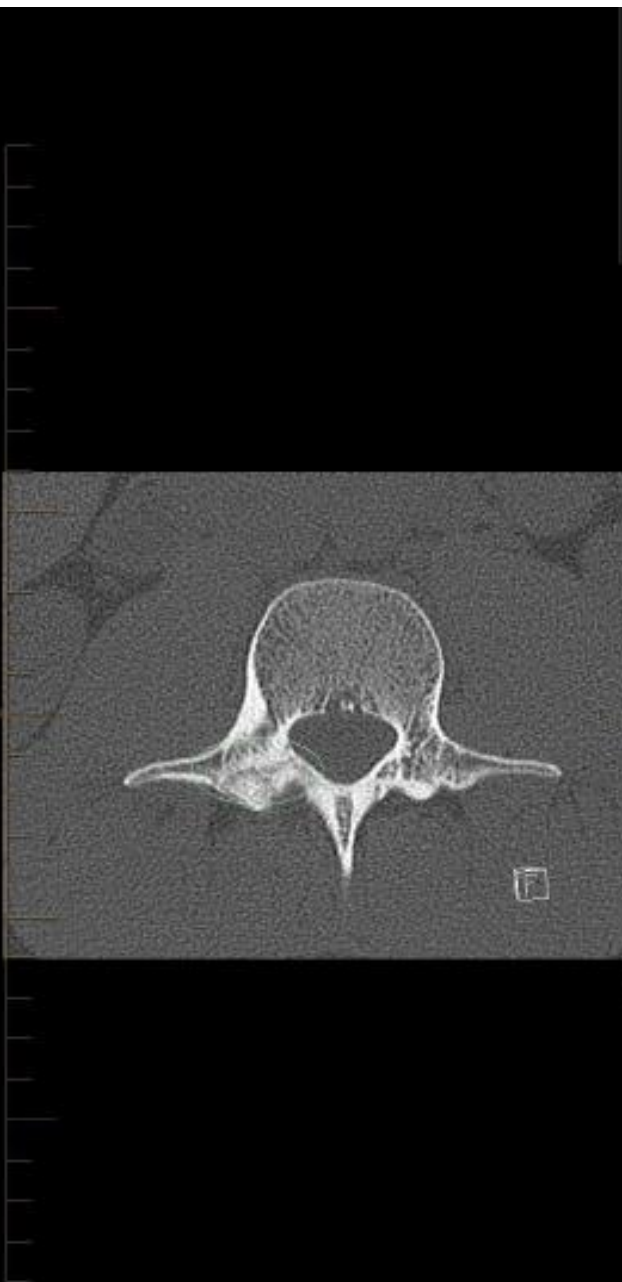




Back Pain Pathway





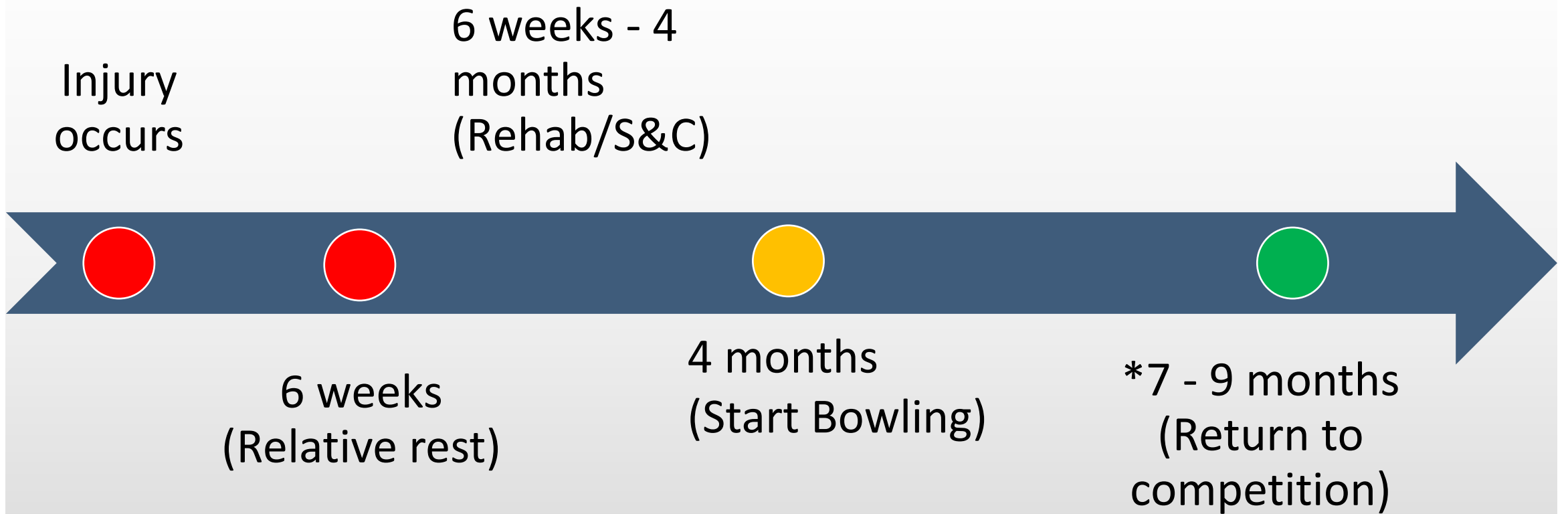




Stress fracture rehab

- No bowling for at least 4 months.
- No running/swimming or painful activities for at least 6 weeks.
- Physiotherapy led rehabilitation programme - always painfree.
- Review of contributing factors including technique.
- Return to bowling over minimum 8-10 weeks after 4 month rest. The longer the better.
- Consideration of surgery if persistent pain and complete fracture is present.

Timeline – Stress fracture



**Ideally load one week for each week off*

Physio considerations



- Back pain = High suspicion of stress fracture
- Previous bowling load
- Winter sports load
- What do I do physically to prepare my athlete

S&C

- No competition
- High reps 10+
- Not to Failure
- Good technique
- Supervised if possible
- Related to training age/ cricket specific





Conclusions

- Loading – 2-4 sessions per week
- Rest after bowling
- 20-30 overs
- Keep bowling diary
- Back pain suspect a stress fracture see a physio/doctor
- Communication



Resources

Bowling Guidelines

Medical + Physio support

Specialist bowling
coaches

Bowling loading
templates