

**BY ORDER OF THE COMMANDER
56TH FIGHTER WING (AETC)**

LUKE AIR FORCE BASE INSTRUCTION 11-100



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Flying Operations

**G-RISK INDICATOR MANAGEMENT
(GRIM)**

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This instruction provides guidance and procedures for the management of G-performance risk factors that may be experienced by student pilots in the USAF Basic Operational Training Course F-16C/D (B course) at Luke AFB AZ. It implements AFPD 11-4, *Aviation Service*. It references AFI 11-404, *Centrifuge Training for High-G Aircrew*. These procedures apply to all flying squadrons in the 56 OG. AFI 11-403, *Air Force Aerospace Physiological Training Program*, complements this instruction by providing detail on the training requirements for aerospace Physiologists and centrifuge technicians. AFPAM 11-419, *G-Awareness for Aircrew*, provides comprehensive information on the physiology of acceleration in flight. This publication applies to the Air Force Reserve Command (AFRC) and to Air National Guard (ANG) and their units. Refer recommended changes and questions about this publication to the Office of Primary Responsibility using the AF Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate functional's chain of command. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of in accordance with Air Force Records Information Management System (AFRIMS) Records Disposition Schedule (RDS). This publication requires the collection and/or maintenance of information protected by the Privacy Act (PA) of 1974. The authorities to collect and or maintain the records prescribed in this publication are Title 10 U.S.C. Sections 133 and 8013. Forms affected by the PA have an appropriate PA statement. System of records notice F044 AF SG H, Air Force Aerospace Physiology Training Programs, applies. The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force.

SUMMARY OF CHANGES

This document is substantially revised and must be completely reviewed. Major changes include updated procedures to align with the latest Combined Wingman Syllabus. Requirements from the latest AETCI 11-406 Fighter Aircrew Conditioning Program have also been incorporated. Deleted Luke AFB Form 126 as a prescribed form.

Chapter 1

INTRODUCTION

1.1. Purpose and Need for G-performance Risk Management. The F-16 aircraft operated by Luke AFB student pilots are easily capable of causing G-induced loss of consciousness (G-LOC). An effective anti-G straining maneuver (AGSM), optimum physical conditioning, functioning anti-G equipment and adequate G-oriented situational awareness are all important to aircrew G-performance. Early detection of G-performance risk indicators can aid in the establishment of tailored ground training programs designed to optimize a student's performance under G.

1.1.1. GRIM consists of initial assessment of a student's previous high-G-performance and present physical condition at the start of F-16 basic course ground training and assessment of student's performance under G while flying the F-16. Observations from these assessments are used to qualitatively determine the level of risk for the student and, if necessary, assist in development of tailored training programs for the student's specific needs.

1.1.2. The purpose of GRIM is to optimize combat capability and safety through the following methods:

1.1.2.1. Identify aircrew with a propensity towards poor G-performance prior to conversion training phase.

1.1.2.2. Assist these aircrew in the development of habit patterns and lifestyle decisions/management that will optimize their G-performance throughout the B course and beyond.

1.1.2.3. If students in TX or SOC courses demonstrate problems with G-performance while at Luke, GRIM program definitions, courses of action and control measures may be utilized at the discretion of FS CC/DO. However, these students need not be officially on GRIM nor follow the precise flow of the GRIM program as intended for B-course students.

1.2. Explanation of Terms:

1.2.1. Anti-G Straining Maneuver. Sustained lower body muscle tensing/straining and short air exchanges against a closed glottis in 3-second cycles.

1.2.2. G. Any force that produces an acceleration of 32.2 feet per second, which is equivalent to the acceleration produced by earth's gravity.

1.2.3. G-tolerance. The ability or capacity to maintain vision, consciousness, and effective performance when under G-stress.

1.2.4. G-endurance. The ability to sustain G for the period of time required by the flying scenario.

1.2.5. Inadequate G-performance. Any G-related incident to include greyout, blackout, or inadequate AGSM mechanics (as determined by IP/AP/FS) that result in a failure to meet training objectives or requires modification of the usual G profiles associated with any flying activity.

1.2.6. Light Loss. Any peripheral light loss or general vision loss experienced under G which adversely impacts mission accomplishment and/or causes deviation from the prescribed maneuver or mission profile (i.e., Terminate or KIO). **NOTE:** Instructor pilot and commander judgment will determine what constitutes a significant impact to the mission. It is important to recognize that *transient peripheral vision loss* that is easily recovered by either appropriate reduction of G loading or by increased intensity of the AGSM are a normal part of flight in the high-G arena and should not be confused with a *light loss incident*.

1.2.7. Blackout. Complete vision loss experienced under G, but not accompanied by subsequent loss of consciousness.

1.2.8. GLOC. The transition from normal consciousness to a state of unconsciousness that results when blood flow to the nervous system under G is reduced below critical levels to support conscious function. GLOC symptoms include: loss of consciousness followed by myoclonic convulsive activity (muscle twitching), confusion, disorientation and memory loss. After a GLOC the average total incapacitation period is 24 seconds.

Chapter 2

GRIM RISK CONTROL INDICATIONS, PROCEDURES AND ADMINISTRATION

2.1. Overview. Many variables come into play in maximizing G-performance and in preventing GLOC. Although the individual aviator is ultimately responsible for his or her mental and physical condition, there are sources of information available to supervisors that may reveal a student's predisposition for poor G-performance in the F-16. The following paragraphs describe some of these risk indicators and the preferred procedures and protocols for their control or elimination.

2.1.1. Records Review: A thorough review of training records can reveal trends that may indicate poor G-performance.

2.1.1.1. Flight commanders or 56 TRS AP will check for problems with AGSM and G-tolerance by reviewing the IFF grade book and previous acceleration qualification training report AF Form 4293. (Should the AF Form 4293 not be in the student's IFF grade book, 56 TRS AP will contact the Brooks centrifuge).

2.1.1.2. The 56 TRS AP will document findings of significance in the GRIM spreadsheet database and provide GRIM recommendations to the FCM, Sq CC/DO and FS during the initial B-Course screening committee meeting (See Attachment 2). Based upon inputs from the FCM, AP & FS, the flying Sq CC/DO will make the final determination that a student be placed on the GRIM program. Flt CCs may use attachment 6 as a reference to document student placement on GRIM.

2.1.1.3. Implement appropriate risk control if necessary (See Chapter 3).

2.1.2. Fighter Aircrew Conditioning Program Assessment (FACPA):

2.1.2.1. Assess all B-Course students prior to start fly date.

2.1.2.2. 56 TRS AP will administer and assess FACPA results.

2.1.2.3. Summary of results will be documented in the GRIM spreadsheet database. FACPA results will be noted on GRIM spreadsheet and those students exhibiting marginal physical abilities will be highlighted for discussion at the flying screening committee meeting and/or brought to the attention of the flying Sq CC/DO.

2.1.2.4. Implement appropriate risk control if necessary (See Chapter 3).

2.1.3. Centrifuge Video Review. The 56 TRS AP can request a centrifuge video review from the Brooks centrifuge for students demonstrating problems in any of the previously mentioned areas.

2.2. Inadequate G-performance resulting in significant mission impact:

2.2.1. Squadron AFE will check the student's equipment and report any malfunctions to the student's Sq CC/DO.

2.2.2. Evaluation.

2.2.2.1. The AP and/or FS will review HUD video and will interview student and IP.

2.2.2.2. Student is immediately referred to Flight Medicine Clinic if not met at the aircraft for physical examination and evaluation by FS. Results will be briefed to Sq CC/DO & AP.

2.2.2.3. Implement appropriate risk control (GRIM) if necessary (See Chapter 3) Consider placement on GRIM.

2.2.2.4. No physiological safety report is required. The FS or AP will complete an incident report and distribute to Sq CC/DO/Flt CC and 56 FW/SE as well as the other OG Flt Surgeons for review.

2.2.2.5. Student will fly dual on the next sortie and shall continue normal syllabus directed training if no further problems are encountered. Consider maintaining student on GRIM.

2.3. GLOC (Incapacitation):

2.3.1. Squadron AFE will check student's equipment using protocols described in AETCI 11-301 Section 1F. Report any malfunctions to student's Sq CC/DO.

2.3.2. Evaluation.

2.3.2.1. Student is restricted to dual only flying until cleared by Sq CC/DO to resume normal syllabus directed training.

2.3.2.2. The AP or FS will review HUD video and will interview student and IP.

2.3.2.3. Student is referred to Flight Medicine Clinic for physical examination-

2.3.2.3.1. FS and/or AP will coordinate with flight safety for AFSAS/Physiological Incident Report, IAW AFI 48-123 and AFI 91-204.

2.3.2.3.2. If a medical condition is suspected to be diminishing the student's G-tolerance or G-endurance, a medical waiver will be required for continued flying duties IAW AFI 48-123 and AFI 11-404.

2.3.2.4. If necessary, AP can conduct a physical training test to quantify any suspected physical performance weaknesses.

2.3.2.5. Student's high-G performance and options for risk control will be evaluated jointly by the AP, FS, Flt CC, and the Sq CC/DO.

2.3.3. Implement appropriate risk control/GRIM if necessary (see Chapter 3). If the flying Sq CC chooses to utilize CDAT, AP will help the flying Sq schedule the training with the Brooks centrifuge.

2.3.4. The Physiologist conducting the CDAT shall forward the report and recommendation to the flying Sq CC/DO, Flt CC 56 AMDS and 56 TRS AP. If student passes CDAT, resume normal training. Consider placement on GRIM program for remainder of BFM phase.

2.4. Centrifuge failure or persistently inadequate G-performance: With recommendation of the flying Sq CC, student will be considered for removal from the F-16 flying training program and considered for a low-G weapon system training program.

2.5. Administration.

2.5.1. Following each GRIM monitored training event (see attachment 5), a write-up shall be made referencing the evaluation of the pilot's HUD video review and AGSM/fitness issues (GTIMS/TR-x or BFM-x/documents/gradesheet reviews). Additionally, the AP and/or FS shall annotate when the next review is required, as occasionally a review may be warranted prior to the next scheduled GRIM review.

2.5.2. Reasonable efforts will be made to review the prescribed GRIM sortie prior to the next flight; however, this is not required.

2.5.3. In the event that a HUD video is not captured due to mechanical malfunctions or other reasons, the next available sortie can stand as a suitable substitute for GRIM review.

2.5.4. The AP and FSs shall be granted access to the GTIMS system.

2.6. Removal from GRIM supervision.

2.6.1. GRIM supervision will normally expire after BFM phase. However, if during the final BFM review, the AP or FS note significant AGSM flaws, a recommendation can be made to review additional syllabus sorties for AGSM mechanics. Once the AGSM is noted as satisfactory, the student can be removed from GRIM.

2.6.2. Flt CC will generate a removal from GRIM letter upon recommendation from 56 TRS AP or FS.

2.6.3. In order to facilitate continuity with gaining units, the AP may notify gaining unit DOs via email or phone of any students that struggled with G performance or were on GRIM status during B course.

Chapter 3

GRIM RISK CONTROL OPTIONS

3.1. Potential Options. Risk control options include but are not limited to AGSM technique employment coaching, HUD reviews, PCP, CDAT, and elimination from formal training.

3.2. Monitored Physical Conditioning Program (PCP):

3.2.1. Purpose: Optimize G tolerance and endurance through a specialized PCP.

3.2.2. Indicators:

3.2.2.1. Inadequate strength and/or endurance noted as a problem area during CAF qualification centrifuge training, CDAT failure or the 56 TRS AP. **NOTE:** If physical conditioning is deemed a significant limiting factor following centrifuge training or by 56 TRS AP, temporary removal from flying training may be necessary to allow sufficient time to improve the weakness. See AFI 11-404 for more details on CDAT.

3.2.3. Control Decision: Students who have demonstrated inadequate strength and/or endurance indicators of potential risk shall be considered by FCM (after consultation with AP or FS) for placement in GRIM for PCP until out of air-to-air flying training phase or until strength and endurance are deemed adequate for required performance under G. There are no pass/fail criteria for the FACPA. Discretion is left to the 56 TRS AP for recommendations on inadequate strength/endurance and potential utility of a monitored PCP for the student.

3.2.4. Control Implementation: Specialized/Personalized PCP.

3.2.4.1. Will be developed through consultation between student and AP or FS. The program will be designed to improve leg/core muscular strength/endurance. It may be tailored to meet the unique needs of the student.

3.2.4.2. Per AETCI 11-406, all students must accomplish and document (in GTIMS/additional syllabus requirements) at least 3 physical training sessions per week. Emphasis must be given to activities promoting good G performance.

3.3. AGSM Technique Employment Coaching/HUD Review:

3.3.1. Purpose: Decreases cognitive burden of performing the AGSM during mentally intense high-G flight maneuvers. Indicators: Inconsistent or inefficient AGSM mechanics noted as problem area during CAF qualification centrifuge training, IFF grade sheets and/or HUD review.

3.3.2. Control Decision: Students who have demonstrated an inconsistent or inefficient AGSM shall be considered by the FCM, AP or FS for counseling, coaching and GRIM.

3.3.3. Control Implementation: Counseling will include but not be limited to discussion on:

3.3.3.1. Practicing AGSM technique during chair flying and simulator training to make it a very natural part of the student's stick and rudder flying skills/habit patterns.

3.3.3.2. HUD AGSM reviews of TR-1, BFM-1, BFM-5, BFM-7, and BFM-9 (optional) are required for GRIM. Any other sortie deemed necessary by the squadron leadership, AP or FS will also be reviewed. (See Attachment 5)

3.3.3.3. Development of efficient and consistent AGSM mechanics and application.

3.3.3.4. Stress management strategies.

3.4. Commander Directed Acceleration Training (CDAT):

3.4.1. Purpose: CDAT is a tool that can be used by any flying Sq CC to evaluate and improve pilot performance under G. It can be used as a remedial tool for any degree of G-related problems.

3.4.2. Indicators: All the risk indicators outlined in chapter 2 of this instruction will be considered.

3.4.3. Control Decision: Upon HUD review by Flt CC, FS, or AP, the flying Sq CC can direct CDAT.

3.4.4. Control Implementation: Scheduling CDAT: Brooks City Base centrifuge is the point of contact for scheduling CDAT. The flying squadron or the AP can contact Brooks at 210-382-8719.

3.4.4.1. Duration of training is normally three days.

3.4.4.2. See AFI 11-404 for more details on CDAT.

3.5. Elimination from Training:

3.5.1. Purpose: Limits the student's exposure to the risks of high-G flight by removing him or her from F-16 training with potential redirection to a lower-G aircraft.

3.5.2. Indicators: CDAT failure, persistent inadequate G-performance or any of the risk indicators outlined in Chapter 2 of this instruction will be considered.

3.5.3. Control Decision: With recommendation from the flying Sq CC, 56 TRS AP and FS, the student will be considered for removal from the F-16 flying training program.

3.5.4. The flying Sq CC/DO will notify the 56 OG CC and 56 TRS DO immediately upon suspected elimination of a student in a formal training course.

3.5.5. Control Implementation: Refer to AETC Syllabus F16C0B00PL and AFI 11-402, AETC Sup 1 for administrative procedures on elimination.

MICHAEL D. ROTHSTEIN
Brigadier General, USAF
Commander

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFI 11-402, AETCSUP1, *Aviation and Parachute Service, Aeronautical Ratings and Badges*, 10 July 2012

AFI 11-403, *Aerospace Physiological Training Program*, 20 February 2010

AFI 11-404, *Centrifuge Training for High-G Aircrew*, 28 October 2005

AFI 48-123, *Medical Examinations and Standards*, 24 September 2009

AFI 91-204, *Safety Investigations and Reports*, 24 September 2008

AETC Syllabus F16C0B00PL, *USAF Basic Operational Training Course F-16C/D*

AFI 11-301v1 AETC Sup 1, *Aircrew Flight Equipment (AFE) Program*, 18 August 2009

AETCI 11-406, *Fighter Aircrew Conditioning Program*, 8 March 2012

AETCI 36-2205v1, *Formal Aircrew Training Administration and Management*, 29 May 2009

AETCI 36-2205v6_LUKEAFBSUP, *Formal Flying Training Administration and Management—Fighter and Introduction to Fighter Fundamentals (IFF)*, 7 August 2013

AFPAM 11-419, *G-Awareness for Aircrew*, 1 December 1999

AFPD 11-4, *Aviation Service*, 1 September 2004

Falcon Facts, Section III

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*

Abbreviations and Acronyms

AP—Aerospace Physiologist

ACM—Academic Course Manager

AETC—Air Education and Training Command

AFE—Aircrew Flight Equipment

AGSM—Anti-G Straining Maneuver

AFSAS—Air Force Safety Automated System

CAF—Combat Air Forces

CDAT—Commander Directed Acceleration Training

FACP—Fighter Aircrew Conditioning Program

FACPA—Fighter Aircrew Conditioning Program Assessment

FCM—Flying Course Manager

FS—Flight Surgeon

GLOC—G-Induced Loss of Consciousness

GRIM—G-Risk Indicator Management

HUD—Heads Up Display

IAW—In Accordance With

IFF—Introduction to Fighter Fundamentals

IP—Instructor Pilot

KIO—Knock-It-Off

PCP—Physical Conditioning Program

Attachment 2

SAMPLE GRIM SPREADSHEET DATABASE

Figure A2.1. Sample GRIM Spreadsheet Database.

NAME/RANK	RECOMMENDED RISK CONTROL	FACA	FUGE:	FUGE COMMENTS	IFF GRADEBOOK AGSM COMMENTS	WGT	HGT
Lt			2		F-2: IP prompts to initiate. AGSM faded as engagement went along. DB-1: Started breaking down at end of sortie when UP was getting tired. DB-3: Breath exchange was not crisp during 6K Pure. AGSM non-existent on 6K Lag until a/s issues were finally sorted out after ~270 deg. of turn. DB-4: Good AGSM all day.		
Lt			2		DB-2: Broke down once toward end of 6k pure. DB-4: Great job, no problems.		
Capt			2		None.		
Capt	RECOMMEND GRIM IAW LAFBI 11-100		2	4.6 G resting tolerance, 100% peripheral/20% central light loss on 9G run. Struggled little more than average.	DB-3: UP failed to execute AGSM in timely manner; no attempt during 6K until IP prompt. DB-4: Solid. HB-1B: Late to start AGSM on the first few fight, but improved by the end of the sortie.		
Lt			2	4.5 G resting tolerance, 50% peripheral light loss on 9G	DB-1: Minor deviation during the end of the 6K. HG-1B: Stress to practice even if not completely needed.		
Capt	RECOMMEND GRIM IAW LAFBI 11-100		2		OB-4: UP gives a lot of comments to himself during the fight, but needs to keep priority to correct and timely AGSM. DB-1: Needs to start fight with and maintain the AGSM! DB-4: UP needs to keep straining during 6Ks. HB-1B: Inconsistent, UP needs to recognize times to reset and continue Gstraining during lower G demands. ACM-1B: UP did not execute properly timed and effective AGSM. During ACM defensive break turns UP either failed to make crisp AGSM air exchanges or took normal breaths between AGSM air exchanges.		
Capt	RECOMMEND GRIM IAW LAFBI 11-100		2		OB-1: UP had some difficulty maintaining a good AGSM during the first 6K, but improved by the end of the sortie. OB-3: UP did not execute properly timed and effective AGSM. UP did not execute timely AGSM during OBFM and GX. AGSM was nonexistent during much of the OBFM despite repeated IP coaching. When UP did perform AGSM, proper technique was not used (in reference to breath interval). OB-4: No issues today. DB-1X(2): Not consistent. DB-2: UP did not execute a timely and effective AGSM. During 6k, UP's got extremely tired towards last 360deg. not doing a proper air exchange. Degraded UP's BFM. DB-3X: AGSM pacing still slightly erratic but improved as flight and BFM engagements progressed. DB-PC: AGSM - AGSM fine overall today. On 1 x fight, IP prompt to start AGSM, but otherwise fine after that prompt and on all other fights and during G-Ex. DB-4: AGSM - UP sl slow to start AGSM strain on 1st fight, but no issues afterwards. DB-PC: AGSM - No issues today -- good during G-ex and selfinitiated/ executed fine during BFM fights. HB-1B: Good AGSM during fights. HB-2B: Good.		
Lt			2		OB-2(2): Work on maintaining a properly timed and effective AGSM. DB-4: Sometimes neglected. Started late on 1st 6K. ACM-1B: Not a lot of AGSM heard.		
Lt	RECOMMEND GRIM IAW LAFBI 11-100		2	4.0 G resting tolerance. GLOC 2x on SACM runs. Passed 3rd attempt same day.	OB-2X: OK enough, but needs improvement. OB-4: Very nice. HB-1B: IP prompts to keep straining.		

Attachment 3
PROCEDURE FLOW CHARTS

Figure A3.1. GRIM Selection Process.

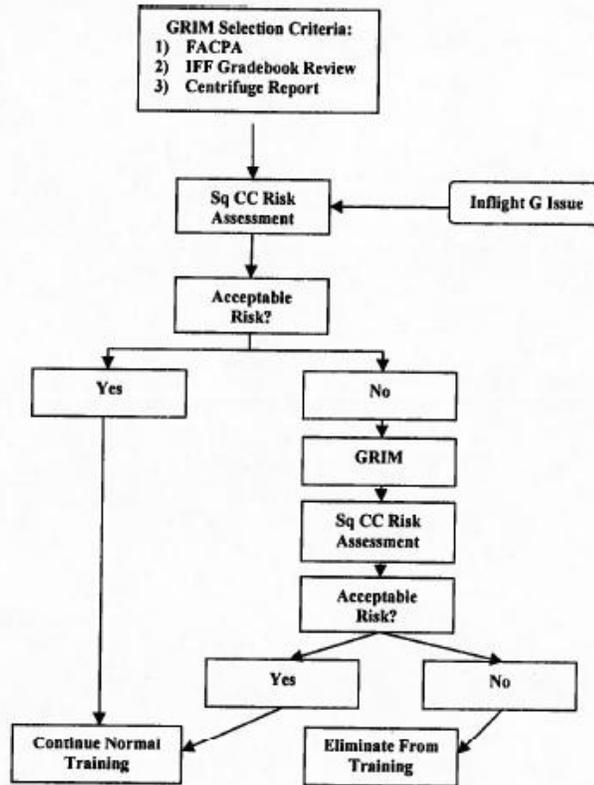
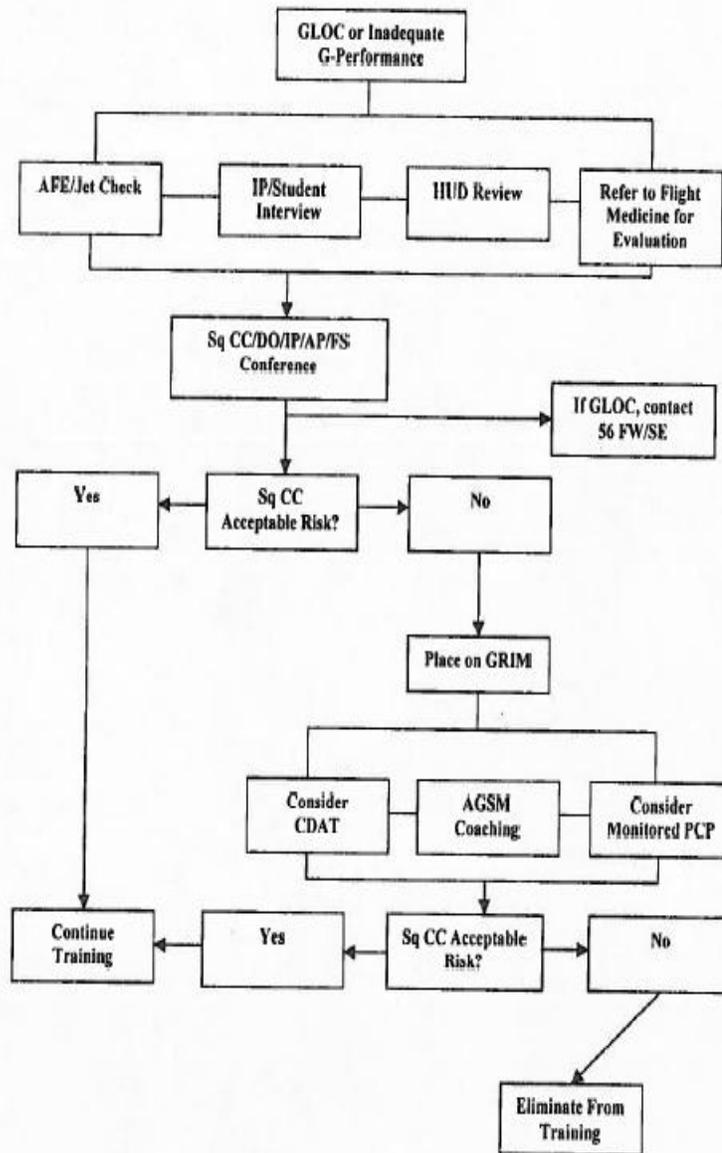


Figure A3.2. GLOC or Inadequate G-Performance Resulting in Significant Mission Impact.



Attachment 4

SAMPLE FOR ADVANCED PCP

Figure A4.1. Sample for Advanced PCP.

	Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Wk 1	Light/leisure activity/sport or rest	Power clean: 5,5,5,5,5 2 min b/t sets Rest 5 min, then: 4 rds for time: Run 400m 10 pullups 25 double under jump rope	5 rds of: 10 ring dips 8 front squats 1 min front plank Rest 5 min, then: 30 burpees 30 back ext. 30 situps 20 burpees 20 back ext. 20 situps 10 burpees 10 back ext. 10 situps	30-45 min cardio, moderate intensity: Run, bike, swim, elliptical	On the minute for 20 minutes: 3 dead lifts 3 dynamic pushups Then: Neck strengthening	For time: Row 2000m 50 toes to bar 15 ft rope climb Row 1000m 25 toes to bar 15 ft rope climb Row 500m 12 toes to bar 15 ft rope climb	Rest
Wk 2	Light/leisure activity/sport or rest	Snatch 5,5,5,5,5 2 min b/t sets Rest 5 min, then: AMRAP 12 min: 12 push press 12 pullups 12 1-legged squats (alternate legs)	150 chest to floor push ups Every time a break is taken, run 400m, then continue	30-45 min cardio, moderate intensity: Run, bike, swim, elliptical	Back squat 3,3,3,3,3,3,3,3 2 min b/t sets 4 rds: 10 bar bent over row 20 GHD situps 1 min rest Neck strengthening	Bench press 6,6,6,6 2 min b/t sets 5 rds for time: Run 400m 30 24" box jumps 30 20# wall ball shots	Rest

SAMPLE FOR BEGINNER PCP

Figure A4.2. Sample for Beginner PCP.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Rest	Back squat: 6,6,6,6,6 2 min b/t sets Then: 6 rounds of: -10 walking lunges -25 pushups	For time: Row 2000 m 2 min of front plank Row 1000 m 1 min front plank Row 500 m 30 sec front plank Neck Strengthening	Light cardio activity, sport or rest	Dead lift: 6,6,6,6,6 2 min b/t sets Then: 5 rounds of: -10 push press -Max pull ups -50 single under jump rope	6 rounds of: -400 m run -10 ring dips -25 situps -30 sec rest Neck Strengthening	Rest

Attachment 5

GRIM MONITORING PROCESS

Figure A5.1. GRIM Monitoring Process.

SUBJECT
Monitored PCP (If required per 3.2) (AP/FS/Flt CC)
Preflight G-performance counseling (Conducted by AP/FS during L100 academics)
TR-1 AGSM HUD video review (AP or FS. Annotate in GTIMS)
BFM-1 PCP review (If required per 3.2) (AP/FS/Flt CC)
BFM-1 AGSM HUD video review (AP or FS. Annotate in GTIMS)
BFM-5 AGSM HUD video review (AP or FS. Annotate in GTIMS)
BFM-7 AGSM HUD video review (AP or FS. Annotate in GTIMS)
BFM-9 OPTIONAL AGSM HUD video review (AP or FS. Conducted at discretion of AP/FS based on BFM-7 AGSM performance. Annotate in GTIMS)
Upon last scheduled GRIM review, AP/FS will recommend either removal from GRIM or continuation past BFM phase until student fixes dramatic AGSM errors. Upon recommendation to remove, Flt CC will remove student from GRIM status.

Attachment 6
SAMPLE GRIM LETTER

DATE

MEMORANDUM FOR RECORD

FROM:

SUBJECT: G-Risk Indicator Management (GRIM)

1. Lt Sonny Day is being placed on GRIM. Lt Day struggled with proper AGSM mechanics at IFF. 56 TRS AP has recommended that Lt Day receive additional training and supervision to enhance G-performance.
2. Lt Day's attitude and work ethic up to this point are outstanding.
3. Capt Pail (B-Flight CC) counseled Lt Day on DATE.
4. Lt Day should accomplish the following training (Annotated in GTIMS):

Monitored PCP (If required per 3.2) (AP/FS/Flt CC)
Preflight G-performance counseling (Conducted by AP/FS during L100 academics)
TR-1 AGSM HUD video review (AP or FS. Annotate in GTIMS)
BFM-1 PCP review (If required per 3.2) (AP/FS/Flt CC)
BFM-1 AGSM HUD video review (AP or FS. Annotate in GTIMS)
BFM-5 AGSM HUD video review (AP or FS. Annotate in GTIMS)
BFM-7 AGSM HUD video review (AP or FS. Annotate in GTIMS)
BFM-9 OPTIONAL AGSM HUD video review (AP or FS. Conducted at discretion of AP/FS based on BFM-7 AGSM performance. Annotate in GTIMS)

5. At the end of the BFM phase, an evaluation will be made by the 56 TRS AP, FS & Sq leadership to determine Lt Day's removal from GRIM.

RUSS T. PAIL, Capt, USAF

B-Flight Commander

Concur / Non-Concur

ADAM BAUM, Lt Col, USAF

Operations Officer

Concur / Non-concur

FRANK N. STEIN, Lt Col, USAF

Commander

Attachment 7

GTIMS ADMINISTRATION EXAMPLES

Figure A7.1. GTIMS Administration Examples.

Per 11-100 GRIM program requirements I reviewed Capt X's AGSM technique on BFM-9. He was present for the review and was debriefed.

Gx/G Awareness:

4.7 G, 6.5 G. All AGSM mech correct.

Butterfly Set:

7.9 G. Good prep breath, little early on 1st air exchange. All other AGSM was correct. Air exchanges could be slightly shorter/crisper, a trend this ride and from previous GRIM reviews.

Butterfly Set:

7.5 G. Good prep breath. Little early on 1st air exchange, habitually not quite making it to 3 sec mark. 1st air exchange a little too large, would like to see shorter/crisper. All other AGSM mech good.

Def Beam Set:

7.3 G. Again, a little early on 1st air exchange. Cadence faster than the 2.5-3 sec standard.

Def Beam Set:

8.6 G. Only required 2 air exchanges during set, all AGSM mech was good.

Overall Assessment/Recommendations:

Capt X demonstrated a safe and seemingly effective AGSM on BFM-9. Overall, his AGSM is safe and mostly correct. Things to work on: ensure timing of 1st air exchange is at 3 sec/peak G, whichever arrives first. Strive to keep air exchanges short/crisp and not move so much air. Recommend removal from GRIM at this time.

Attachment 8

FLIGHT SURGEON G-RELATED EVENT RESPONSE CHECKLIST**Figure A8.1. Flight Surgeon G-Related Event Response Checklist.**

1. Mask and helmet connections marked by flight surgeon or life support prior to pilot egress from aircraft, if possible, obtain pulse oximetry at aircraft.
2. Transport to Flight Medicine clinic for evaluation
3. Vital signs, to include pulse oximetry
4. Consider orthostatic vital signs if dehydration suspected
5. Inspect life support gear for any signs of gross malfunction (decayed mask seals, broken g-suit zippers, etc)
6. Routine suggested labs may include:
 - a. CBC with differential
 - b. CMP or BMP
 - c. Blood alcohol (may be considered [Do not use alcohol prep])
 - d. UA with micro exam
 - e. Urine drug screen (may be considered)
7. Consider additional labs such as Carboxyhemoglobin, etc. especially if exposed to smoke/fumes or severe hypoxia is suspected
8. Monitor and treat in Flight Medicine as appropriate for condition
9. Release with f/u instructions
 - a. DNIF 24-72 hours if GLOC
 - b. DNIF 24 hours if light-loss incident

Attachment 9

56 FW AETCI 11-406 FACP EXECUTION PLAN

A9.1. Luke AFB will execute the Fighter Aircrew Conditioning Plan (FACP) IAW AETCI 11-406. All FTU students will receive the Education Phase of the FACP either during L-100 academics or during daily scheduled workout periods (B-Course). Students requiring the Assessment Phase of FACP will be scheduled for the assessment during the academic phase of the syllabi.

A9.2. The Assessment used by Luke AFB is at the discretion of 56 TRS/APE, as authorized by AETCI 11-406. A sample Assessment for the B-Course is as follows:

Table A9.1. Sample assessment for the B-Course.

Events :	Rd	Rd	Rd	Rd	Rd
5 Rds for Reps	1	2	3	4	5
30 Sec Body Weight Dead Lift (.8 Female)					
45 Sec Butt to Medicine Ball Squats					
30 Sec V-ups					
90 Sec Rest	-	-	-	-	-
Totals					