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Appendix 1

Orthopaedic Department

- No financial incentives exist.
- Research is on own time.
- No protected days, rvu credit, etc.
- we encourage our trauma fellows to write with varying results

In the end it comes down to a few motivated folks producing. That's probably true for most departments out there.

Appendix 2

DEPARTMENT OF ORTHOPAEDIC SURGERY ACADEMIC PRODUCTIVITY INDIVIDUAL REPORT

DEPARTMENTAL AVERAGE

Articles Published, In Press or Accepted/Impact Factor		
First/Last Author Multi-Center Articles/Impact Factor		
Total Articles/Impact Factor		
Case Reports/Book Chapters/Non-peer review articles/Impact Factor (max. of 3 impact factor points)		
Multi-Center Articles not first/last author/Impact Factor (max. of 5 impact factor points)		
Grants/Impact Factor		
TOTAL IMPACT FACTOR		

Extramural salary support (in %):

Collaborative effort (in impact factor points):

DEPARTMENT OF ORTHOPAEDIC SURGERY
ACADEMIC PRODUCTIVITY
INDIVIDUAL REPORT

DEPARTMENTAL AVERAGE

Articles Published, In Press or Accepted/Impact Factor		
First/Last Author Multi-Center Articles/Impact Factor		
Total Articles/Impact Factor		
Case Reports/Book Chapters/Non-peer review articles/Impact Factor (max. of 3 impact factor points)		
Multi-Center Articles not first/last author/Impact Factor (max. of 5 impact factor points)		
Grants/Impact Factor		
TOTAL IMPACT FACTOR		
POINTS (Research)		
		Dept. Avg Service Avg
Teaching Score		
	Rank:	
POINTS (Teaching)		

TOTAL POINTS		
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POINT SCALE			
Research		Education	
Impact Factor	Points	Teaching Score	Points
0-9.5	0		
10-17.5	1		
18 & above	2		

Appendix 3

FACULTY REPORT
DEPARTMENT OF ORTHOPAEDIC SURGERY
Personal Performance Review
(Month, Year – Month, Year)

Name:

Describe your contributions and accomplishments in the last year in the following areas:

Clinical practice/care:

Teaching and education:

Research and academic activities:

State the activities that you have engaged in to improve the work environment for staff, residents and, faculty members:

State your major goals for the upcoming year:

State your long-term career goals and objectives:

What are the areas, skills, and or activities that you would like to improve in over the next few years?

How would you rate your overall performance in the last year?

Outstanding	Fair
Excellent	Poor
Good	

Appendix 4

Faculty Name		Month Year - Month Year	NEW
Participation (10%)	Notes	Points Earned	
Citizenship: Function attendance # x 5			
Dept sponsored events (not on main campus, not during regular work hours):	Function Name		
Attended			
VOS days, Sounds, Softball, Roast, Chiefs' Dinner, KJ lecture, Hillman days, Divisional conferences off campus not during work hours.....			
Resident/Fellow Selection/Interview Days # x 5			
Faculty, Resident, Grand Round Meeting Attendance			
Faculty Meetings # x1			
Grand Rounds # x1		12	
Subtotal Participation Score			
Total Participation Score	Subtotal Score x1.0 [>50%] or x0.5 [<50%] or x0 [<10%] based on GR/fac. mtg attendance.		
Administrative (10%)			
National Society Membership			
Officer/Leader - 50			
Committee Name			
Committee Chair - 30			
Committee Name			
Member - 20			
Committee Name			
Hospital/University Committees (Unpaid)			
Officer/Leader - 50			
Committee Name			
Member - 20			
Committee Name			
Total Administrative Score			

Education Metric (35%)	Notes	Points Earned
Resident Director = 300		
Fellowship Program Director = 50		
Ken Johnson Teaching Award = 50		
Other VU or VUMC teaching award = 50		
Teaching Award Name		
Chair/Program Director of National Meeting # x 30		
National Meeting #*30		
Meeting 1		
Regional Meeting #*20		
Meeting 1		
Local Meeting #*10		
Meeting 1		
Courses & Lectures		
Outside VDO Course Instructor; # x 10		
Course Name		
Outside VDO Course Host, # x 50		
Course Name		
Resident/Fellow Lectures #x5		
Course Name		
# invited lectureships		
National # * 20		
Lectureship Name		
International # * 30		
Lectureship Name		
# Presentations		
National # * 20		
Presentation Name		
International # * 30		
Presentation Name		
Regional # * 10		
Presentation Name		
Local # * 10		
Presentation Name		
Editor of Textbook = 100		
Text Book Name		
# Chapters in Textbook # x 25		
Text Book Name, Chapter Name		

Article Reviews		
Non-peer-review publications (need to define) 5		
Articles reviewed for peer-reviewed journal 5		
Editorials/# X 5		
Dissertation/Mentoring Committee Membership (5)		
Total Education Score		

Research Metric (45%)	Notes	Points Earned
Annual \$ Fed Competitive grants (no points assigned - this is for review purposes only)		
Grant 1		
Grant 2		
Grant 3		
Annual \$ Foundation Grants or Corporate Grants/Gifts (no points assigned - this is for review purposes only)		
Gift/Grant 1		
Gift/Grant 2		
Gift/Grant 3		
# Peer-Review Publications (pub date/verified PUBMED)		
National publication w/ Impact factor >JBJS (i.e., NEJM, JAMA, Nature, etc.) 100 X #		
Specialty (50 * #)		
article 1		
article 2		
Subspecialty Journal (25 * #)		
article 1		
article 2		
One Point each for abstract, poster or solicited article, Non-peer reviewed		
NIH Study or Review Sections		
served on federal study section/review panel (# days *20)		
Chair on federal study section/review panel (100)		
Non-NIH Study or Review Sections		

Serving non-federal (#days *10)		
Chair non-federal (50)		
Research Award from National Body = 25		
Research Director = 20		
# of Extra-mural grants (>5000\$) active in calendar year X100 points		
Total Research Score		

Appendix 5

Orthopaedics: Academic Bonus Participation			
Bonus Qualifiers	Points Possible	Points Received	Information
Peer Reviewed Publication (Co-Author)	10		
Peer Reviewed Publication (1st/Last Author)	12		
Grant Written (PI)	7		
Grant Written (Co-Investigator)	3		
Grant Obtained (PI)	14		
Grant Obtained (Co-Investigator)	7		
Grant Value < \$20k	3		
Grant Value > \$75k	5		
Grant Value > \$100k	6		
Book Chapter	5		
Non-Peer Reviewed Paper	5		
National Course (Faculty)	4		
National Course (Organizer)	5		
Regional Course (Faculty)	2		
Regional Course (Organizer)	3		
National Committee	2		
National Committee (Chair)	4		
National Presentation	5		
Regional/State Presentation	3		
Teaching Award	10		
Resident Evaluation Scores (top 1/2)	2		
Student Evaluation Scores (top 1/2)	2		
Associate Professor	2		Every Year
Full Professor	3		Every Year
Other (Cadaver dissections, Doctors-On-Call Host, etc.)	3		
TOTALS:	127		>14 to reach threshold

Appendix 6

Table 2: Quotes form Chairs

1. Chair: "My own view is that the people who will do research do not need to be incentivized, they need to be supported to reach their goals and mentored well. We do provide some clinical \$ support to our lab though. We need to get the right people on the bus"

Question: Get the "right people on the bus" is the key. What does "supported to reach their goals and mentored well" mean to you?

Chair: "It means encourage, make notice of, publicly praise and demonstrate pride in their work and accomplishments, meet to review progress and see if there is anything I can do to help, make connections with national leaders in various areas. Look for national and international opportunities, courses, etc. to help them get involved. Strongly support in writing and with calls any advanced academic activities that they hold important (I wrote a three-page support letter for one who wanted to get some kind award from their college). Bottom line is that they feel like I will bend over to help, take the hits for things that need to get done and most important of all... truly value these efforts. I frequently email the dean or CEO or others with accomplishments of the staff, etc."

2. "However, just as important is the infrastructure that is developed for basic, translational, and clinical research as well as the culture and expectations. The other key factor is selecting faculty members that are committed to contributing to the field research and academic activities."
3. Short answer is 1. AR&T, 2. Amazing Residents and fellows and 3. Team- Picking the right folks.
4. Being an academic leader involves more than just comp plan. Here are our key tenets off the top of my head:

Culture

- * History: 155+ years of culture building (academics is a priority, remains a foundational element of organizations strategic plan, talked about at every meeting, in our organizational DNA)

- * Sub-Specialty Focus: enables academic pursuits in very specialty areas unlike anywhere else

- * Clinical Volume: pure volume of orthopedic patients allows for research with large numbers quickly

Talent

*Critical criteria for every new hire; needs to demonstrate academic leadership and desire to maintain and contribute; even with incentives, people need to be self-motivated/passionate about academic pursuits. This may be most important

Structure

*Leadership Structure: organizational academic physician leadership for research and teaching (paid positions); sub-specialty physician leadership for teaching and research (paid positions)

*Meeting Structure: organizational-level and sub-specialty service level meetings on research and research priorities; same for academics; sub-specialty conferences EVERY week. Most-widely attended meetings. Hold prior to OR starts.

Resources/Infrastructure:

Again, even with the best economic incentives, the pull-on time and towards clinical practice requires optimizing every second of the orthopedic surgeon's time. Providing resources so that the orthopedic surgeon can optimize the teaching and research time.

* Over 40MM a year dedicated to musculoskeletal research

*Basic science lab: dedicated team of some of the most world-renowned basic scientists in our field; support and collaborate with surgeon investigators

*Clinical research: sub-specialty registries, PhD level support for clinical research, sub-specialty service level research coordinators and RA teams, service-level objectives and projects combined with individual pursuits and RA support

*Residents and fellows: incredible talent, dedicated to academics, hardwired into training to support attendings with projects

*Academic training team and infrastructure – entire team dedicated to supporting orthopedic leaders in improving educational programming

Economic Incentives:

Admittedly hard due to the environment and how we compensate physicians, so having the above is critical.

*Pay AR&T (academic, research & training) dollars at Fair Market Value (FMV) per hour for time spent on teaching, research, and administrative time

*Pay incremental (based on hours) for physician leadership roles related to residency, fellowship, and research all at the sub-specialty level

*Have developed and tested different programs that pay for protected clinician-scientist time (tied to hours)

5. Honestly, it's just individual effort. No financial incentives exist. We do research on our own time. No protected days, RVU credit, etc. We encourage our trauma fellows to write, some do much, some do little. In the end it comes down to a few motivated folks producing. That's probably true for most departments out there.

6. First, we try to recruit faculty that have an interest in research.
Second, almost new faculty start out with a day for research. We then may make adjustments depending on their goals and research productivity.
Third, I have regular meetings with faculty and these sessions will focus on research, education and clinical activity. We try to delineate the obstacles to a successful research program and in many cases we will provide additional ad hoc financial support to move a research program forward.
We also encourage the senior faculty to support the jr. faculty. We have had variable success in this area.
Fourth, we strongly encourage the residents to do research.
Finally, we have hired people to help with IRB submission and data collection. We have relationships with stats folks who we pay by the hour.
We have not incorporated research productivity into our incentive plan yet.

7. Here are my thoughts about your question:

Most important is to recruit the right faculty who recognize the intrinsic value of academic productivity

The department needs to generate funds to support the mission. How to do that will vary from one place to another (that can be another conversation). The funds are essential and are used in our department for:

- a. Supporting a research infrastructure to support clinical research-personnel, biostats, technology
- b. Salary support for incoming faculty to protect a half day each week
- c. Salary support for true clinician scientists
- d. We have an academic incentive program that was developed by the faculty that recognizes academic achievement and intramural and extramural citizenship. Each point has a dollar value which is currently \$10. Bonuses have ranged from \$1000 to \$45,000.

Although we are on an RVU system I have a lot of input on salary changes so if someone is below RVU target but productive in academic areas there is no change-essentially rewarded for the time spent on academic activities.

Appendix 7

Orthopaedic Department

First: Recruit faculty that have an interest in research.

Second: A day of research for almost all new faculty; adjustments made depending on their goals and research productivity.

Third: Department Chair hold regular meetings with faculty. These sessions focus on research, education, and clinical activity. We try to delineate the obstacles to a successful research program and in many cases we will provide additional ad hoc financial support to move a research program forward.

Encourage senior faculty to support Junior faculty.

Fourth: Strongly encourage residents to do research.

Finally:

- If possible, hire staff to help with IRB submission and data collection.
- Consider relationships with statisticians who can be paid by the hour.
- Research productivity is not incorporated into the incentive plan.

Appendix 8

Orthopaedic Department

One provides information about our bonus system for academic activities (publications) and the other about teaching (resident teaching score). I have also included a bonus system that we use for our extramurally funded investigators.

Each faculty member is evaluated by the residents who have worked with that faculty member during the academic year (evaluation form used by the residents attached). Using those evaluations, each faculty member receives a numeric education score. Faculty members are awarded bonus points based on that score. The scale changes slightly each year, based on the scores. The following is a sample scale used to award points.

POINT SCALE			
RESEARCH		EDUCATION	
Impact Factor	Points	Teaching Score	Points
0-9.5	0	0-3.45	0
10-17.5	1	3.46-3.78	1
18 & above	2	3.79& above	2

* Less than 3 evaluations--eligible for half of points

Just as important is our mentoring program. Chair meets with all assistant professors quarterly to review ongoing projects, and where they are with regards to data collection, data analysis, manuscript writing, submission, and revised submission. This is on a standardized spread sheet form. The particular productive faculty might have as many as 15-20 projects/papers in various stages of process. Chair does this meeting every 6 months and alternates with another faculty member, who does the other every 6 month meeting (altogether quarterly for the faculty member).

The associate professors meet with Chair every 6 months.

We have a very detailed yearly faculty review. Each faculty member does a self-assessment. The Chair also receives an assessment from his/her division chief about each member of the division. The Chair has all of their clinical data for the year, their resident teaching scores, comments from the residents, and list of publications and academic activities.

Each faculty member gets a 2-page single spaced summary from the Chair that assesses performance/contributions in the following areas: Clinical care; Education; Research; National Engagement and Leadership activities (associate and full professors only); and Department Engagement and Leadership activities (all faculty).

We have integrated all of our divisional clinical research into a single center which provides comprehensive services around clinical research.

Finally, we have a program called Leadership for Achievement which is about how we can translate department values into individual values and more importantly, behaviors to enhance success in our mission and goals. Hired a well-known leadership firm to hold Leadership for Achievement program.

Key to Success = Right culture, the right people, a great environment, and excellent support and resources.