

ICMJE Form for Disclosure of Potential Conflicts of Interest

Instructions

The purpose of this form is to provide readers of your manuscript with information about your other interests that could influence how they receive and understand your work. The form is designed to be completed electronically and stored electronically. It contains programming that allows appropriate data display. Each author should submit a separate form and is responsible for the accuracy and completeness of the submitted information. The form is in six parts.

1. Identifying information.

2. The work under consideration for publication.

This section asks for information about the work that you have submitted for publication. The time frame for this reporting is that of the work itself, from the initial conception and planning to the present. The requested information is about resources that you received, either directly or indirectly (via your institution), to enable you to complete the work. Checking "No" means that you did the work without receiving any financial support from any third party -- that is, the work was supported by funds from the same institution that pays your salary and that institution did not receive third-party funds with which to pay you. If you or your institution received funds from a third party to support the work, such as a government granting agency, charitable foundation or commercial sponsor, check "Yes".

3. Relevant financial activities outside the submitted work.

This section asks about your financial relationships with entities in the bio-medical arena that could be perceived to influence, or that give the appearance of potentially influencing, what you wrote in the submitted work. You should disclose interactions with ANY entity that could be considered broadly relevant to the work. For example, if your article is about testing an epidermal growth factor receptor (EGFR) antagonist in lung cancer, you should report all associations with entities pursuing diagnostic or therapeutic strategies in cancer in general, not just in the area of EGFR or lung cancer.

Report all sources of revenue paid (or promised to be paid) directly to you or your institution on your behalf over the 36 months prior to submission of the work. This should include all monies from sources with relevance to the submitted work, not just monies from the entity that sponsored the research. Please note that your interactions with the work's sponsor that are outside the submitted work should also be listed here. If there is any question, it is usually better to disclose a relationship than not to do so.

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4. Intellectual Property.

This section asks about patents and copyrights, whether pending, issued, licensed and/or receiving royalties.

5. Relationships not covered above.

Use this section to report other relationships or activities that readers could perceive to have influenced, or that give the appearance of potentially influencing, what you wrote in the submitted work.

Definitions.

Entity: government agency, foundation, commercial sponsor, academic institution, etc.

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Other: Anything not covered under the previous three boxes

Pending: The patent has been filed but not issued

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Licensed: The patent has been licensed to an entity, whether earning royalties or not

Royalties: Funds are coming in to you or your institution due to your patent

ICMJE Form for Disclosure of Potential Conflicts of Interest

Section 1. Identifying Information

1. Given Name (First Name) Takashi	2. Surname (Last Name) Iwakura	3. Date 28-February-2014
4. Are you the corresponding author?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Corresponding Author's Name Takahiro Niikura
5. Manuscript Title Topical Transcutaneous Application of Carbon Dioxide Using An Absorption-Enhancing Hydrogel Accelerates Fracture Repair in Rats		
6. Manuscript Identifying Number (if you know it) JBJS-D-13-01498R1		

Section 2. The Work Under Consideration for Publication

Did you or your institution **at any time** receive payment or services from a third party (government, commercial, private foundation, etc.) for any aspect of the submitted work (including but not limited to grants, data monitoring board, study design, manuscript preparation, statistical analysis, etc.)?

Are there any relevant conflicts of interest? Yes No

Section 3. Relevant financial activities outside the submitted work.

Place a check in the appropriate boxes in the table to indicate whether you have financial relationships (regardless of amount of compensation) with entities as described in the instructions. Use one line for each entity; add as many lines as you need by clicking the "Add +" box. You should report relationships that were **present during the 36 months prior to publication**.

Are there any relevant conflicts of interest? Yes No

Section 4. Intellectual Property -- Patents & Copyrights

Do you have any patents, whether planned, pending or issued, broadly relevant to the work? Yes No

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Section 5. Relationships not covered above

Are there other relationships or activities that readers could perceive to have influenced, or that give the appearance of potentially influencing, what you wrote in the submitted work?

- Yes, the following relationships/conditions/circumstances are present (explain below):
- No other relationships/conditions/circumstances that present a potential conflict of interest

At the time of manuscript acceptance, journals will ask authors to confirm and, if necessary, update their disclosure statements. On occasion, journals may ask authors to disclose further information about reported relationships.

Section 6. Disclosure Statement

Based on the above disclosures, this form will automatically generate a disclosure statement, which will appear in the box below.

Dr. Iwakura has nothing to disclose.

Evaluation and Feedback

Please visit <http://www.icmje.org/cgi-bin/feedback> to provide feedback on your experience with completing this form.

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ICMJE Form for Disclosure of Potential Conflicts of Interest

Section 1. Identifying Information

1. Given Name (First Name) Takaaki	2. Surname (Last Name) Koga	3. Date 28-February-2014
4. Are you the corresponding author?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Corresponding Author's Name Takahiro Niikura
5. Manuscript Title Topical Transcutaneous Application of Carbon Dioxide Using An Absorption-Enhancing Hydrogel Accelerates Fracture Repair in Rats		
6. Manuscript Identifying Number (if you know it) JBJS-D-13-01498R1		

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Are there any relevant conflicts of interest? Yes No

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Dr. Koga has nothing to disclose.

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Royalties: Funds are coming in to you or your institution due to your patent

ICMJE Form for Disclosure of Potential Conflicts of Interest

Section 1. Identifying Information

1. Given Name (First Name)
Ryosuke

2. Surname (Last Name)
Kuroda

3. Date
28-February-2014

4. Are you the corresponding author? Yes No
Corresponding Author's Name
Takahiro Niikura

5. Manuscript Title
Topical Transcutaneous Application of Carbon Dioxide Using An Absorption-Enhancing Hydrogel Accelerates Fracture Repair in Rats

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Are there any relevant conflicts of interest? Yes No

If yes, please fill out the appropriate information below.

Name of Entity	Grant?	Personal Fees?	Non-Financial Support?	Other?	Comments
Japanese Orthopaedic Association	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Board membership. No money paid to me and my institution.
Central Japan Association of Orthopaedic Surgery and Traumatology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Board membership. No money paid to me and my institution.
Japanese Orthopaedic Society of Knee, Arthroscopy and Sports Medicine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Board membership. No money paid to me and my institution.
Japanese Society of Clinical Sports Medicine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Board membership. No money paid to me and my institution.
HI-LEX CORPORATION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Consultancy. No money paid to me and my institution.

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Grant-in-Aid for Scientific Research (C)from Japan Society for the Promotion of Science	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Grant paid to my institution
University of Pittsburgh	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Grant paid to my institution
Hisamitsu pharmaceutical Co., Inc.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Payment for lectures
Taisho Toyama Pharmaceutical Co., Ltd.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Payment for lectures
Chugai Pharmaceutical Co., Ltd.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Payment for lectures
Daiichi Sankyo Company, Limited	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Payment for lectures
Kaken Pharmaceutical Co., Ltd.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Payment for lectures
Smith & Nephew Japan	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Payment for lectures
Arthrex, Inc.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Payment for lectures

Section 4. Intellectual Property -- Patents & Copyrights

Do you have any patents, whether planned, pending or issued, broadly relevant to the work? Yes No

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Dr. Kuroda reports other from Japanese Orthopaedic Association, other from Central Japan Association of Orthopaedic Surgery and Traumatology, other from Japanese Orthopaedic Society of Knee, Arthroscopy and Sports Medicine, other from Japanese Society of Clinical Sports Medicine, other from HI-LEX CORPORATION, grants from Grant-in-Aid for Scientific Research (C) from Japan Society for the Promotion of Science, grants from University of Pittsburgh, personal fees from Hisamitsu pharmaceutical Co., Inc., personal fees from Taisho Toyama Pharmaceutical Co., Ltd. , personal fees from Chugai Pharmaceutical Co., Ltd. , personal fees from Daiichi Sankyo Company, Limited, personal fees from Kaken Pharmaceutical Co., Ltd. , personal fees from Smith & Nephew Japan, personal fees from Arthrex, Inc., outside the submitted work; .

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1. Given Name (First Name)
Masahiro

2. Surname (Last Name)
Kurosaka

3. Date
28-February-2014

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Corresponding Author's Name
Takahiro Niikura

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Japanese Orthopaedic Society of Knee, Arthroscopy and Sports Medicine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Board membership. No money paid to me and my institution.
Japanese Society of Clinical Sports Medicine	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Board membership. No money paid to me and my institution.
Japanese Society for Clinical Biomechanics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Board membership. No money paid to me and my institution.
Japan College of Rheumatology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Board membership. No money paid to me and my institution.

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Japanese Society for Joint Diseases	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Board membership. No money paid to me and my institution.
Japanese Society for Replacement Arthroplasty	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Board membership. No money paid to me and my institution.
Central Japan Association of Orthopaedic Surgery and Traumatology	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Board membership. No money paid to me and my institution.
Grant-in-Aid for Scientific Research (B) from Japan Society for the Promotion of Science	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Grant paid to my institution
Grants-in-Aid for Scientific Research, Challenging Exploratory Research from Japan Society for the Promotion of Science	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Grant paid to my institution
Johnson & Johnson	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Grant paid to my institution
B. Braun Aesculap	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Grant paid to my institution
8th Biennial International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine, Rio de Janeiro	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Payment for development of educational presentations
57th South African Orthopaedic Association Congress, Sun City	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Payment for development of educational presentations
9th Biennial International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine, Toronto	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Payment for development of educational presentations
Eli Lilly Japan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Scholarship donation to my institute
Daiichi-Sankyo Co., Ltd.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Scholarship donation to my institute
Teijin Pharma Ltd.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Scholarship donation to my institute
Otsuka Pharmaceutical Co., Ltd.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Scholarship donation to my institute

Section 4. Intellectual Property -- Patents & Copyrights

Do you have any patents, whether planned, pending or issued, broadly relevant to the work? Yes No

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Dr. Kurosaka reports other from Japanese Orthopaedic Association, other from Japanese Orthopaedic Society of Knee, Arthroscopy and Sports Medicine, other from Japanese Society of Clinical Sports Medicine, other from Japanese Society for Clinical Biomechanics , other from Japan College of Rheumatology, other from Japanese Society for Joint Diseases, other from Japanese Society for Replacement Arthroplasty , other from Central Japan Association of Orthopaedic Surgery and Traumatology, grants from Grant-in-Aid for Scientific Research (B)from Japan Society for the Promotion of Science, grants from Grants-in-Aid for Scientific Research, Challenging Exploratory Research from Japan Society for the Promotion of Science, grants from Johnson & Johnson, grants from B. Braun Aesculap, personal fees from 8th Biennial International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine, Rio de Janeiro, personal fees from 57th South African Orthopaedic Association Congress, Sun City, personal fees from 9th Biennial International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine, Toronto, other from Eli Lilly Japan , other from Daiichi-Sankyo Co., Ltd., other from Teijin Pharma Ltd., other from Otsuka Pharmaceutical Co., Ltd., outside the submitted work; .

Evaluation and Feedback

Please visit <http://www.icmje.org/cgi-bin/feedback> to provide feedback on your experience with completing this form.

ICMJE Form for Disclosure of Potential Conflicts of Interest

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3. Relevant financial activities outside the submitted work.

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4. Intellectual Property.

This section asks about patents and copyrights, whether pending, issued, licensed and/or receiving royalties.

5. Relationships not covered above.

Use this section to report other relationships or activities that readers could perceive to have influenced, or that give the appearance of potentially influencing, what you wrote in the submitted work.

Definitions.

Entity: government agency, foundation, commercial sponsor, academic institution, etc.

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Personal Fees: Monies paid to you for services rendered, generally honoraria, royalties, or fees for consulting, lectures, speakers bureaus, expert testimony, employment, or other affiliations

Non-Financial Support: Examples include drugs/equipment supplied by the entity, travel paid by the entity, writing assistance, administrative support, etc.

Other: Anything not covered under the previous three boxes

Pending: The patent has been filed but not issued

Issued: The patent has been issued by the agency

Licensed: The patent has been licensed to an entity, whether earning royalties or not

Royalties: Funds are coming in to you or your institution due to your patent

ICMJE Form for Disclosure of Potential Conflicts of Interest

Section 1. Identifying Information

1. Given Name (First Name) Sang Yang 2. Surname (Last Name) Lee 3. Date 28-February-2014

4. Are you the corresponding author? Yes No Corresponding Author's Name
Takahiro Niikura

5. Manuscript Title
Topical Transcutaneous Application of Carbon Dioxide Using An Absorption-Enhancing Hydrogel Accelerates Fracture Repair in Rats

6. Manuscript Identifying Number (if you know it)
JBJS-D-13-01498R1

Section 2. The Work Under Consideration for Publication

Did you or your institution **at any time** receive payment or services from a third party (government, commercial, private foundation, etc.) for any aspect of the submitted work (including but not limited to grants, data monitoring board, study design, manuscript preparation, statistical analysis, etc.)?

Are there any relevant conflicts of interest? Yes No

Section 3. Relevant financial activities outside the submitted work.

Place a check in the appropriate boxes in the table to indicate whether you have financial relationships (regardless of amount of compensation) with entities as described in the instructions. Use one line for each entity; add as many lines as you need by clicking the "Add +" box. You should report relationships that were **present during the 36 months prior to publication**.

Are there any relevant conflicts of interest? Yes No

If yes, please fill out the appropriate information below.

Name of Entity	Grant?	Personal Fees?	Non-Financial Support?	Other?	Comments
Grant-in-Aid for Young Scientists (B) from Japan Society for the Promotion of Science	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Grant paid to my institution
The General Insurance Association in Japan	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Grant paid to my institution
The Nakatomi Foundation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Grant paid to my institution
Hyogo Science and Technology Association	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Grant paid to my institution
The Japan Orthopaedics and Traumatology Foundation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Grant paid to my institution
CO2BE Medical Engineering Inc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	I have 2/222 stocks, but no money was paid to me.

ICMJE Form for Disclosure of Potential Conflicts of Interest

Section 4. Intellectual Property -- Patents & Copyrights

Do you have any patents, whether planned, pending or issued, broadly relevant to the work? Yes No

Section 5. Relationships not covered above

Are there other relationships or activities that readers could perceive to have influenced, or that give the appearance of potentially influencing, what you wrote in the submitted work?

- Yes, the following relationships/conditions/circumstances are present (explain below):
- No other relationships/conditions/circumstances that present a potential conflict of interest

At the time of manuscript acceptance, journals will ask authors to confirm and, if necessary, update their disclosure statements. On occasion, journals may ask authors to disclose further information about reported relationships.

Section 6. Disclosure Statement

Based on the above disclosures, this form will automatically generate a disclosure statement, which will appear in the box below.

Dr. Lee reports grants from Grant-in-Aid for Young Scientists (B) from Japan Society for the Promotion of Science, grants from The General Insurance Association in Japan, grants from The Nakatomi Foundation, grants from Hyogo Science and Technology Association, grants from The Japan Orthopaedics and Traumatology Foundation, other from CO2BE Medical Engineering Inc., outside the submitted work; .

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3. Relevant financial activities outside the submitted work.

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4. Intellectual Property.

This section asks about patents and copyrights, whether pending, issued, licensed and/or receiving royalties.

5. Relationships not covered above.

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Definitions.

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Non-Financial Support: Examples include drugs/equipment supplied by the entity, travel paid by the entity, writing assistance, administrative support, etc.

Other: Anything not covered under the previous three boxes

Pending: The patent has been filed but not issued

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Royalties: Funds are coming in to you or your institution due to your patent

ICMJE Form for Disclosure of Potential Conflicts of Interest

Section 1. Identifying Information

1. Given Name (First Name)
Masahiko

2. Surname (Last Name)
Miwa

3. Date
28-February-2014

4. Are you the corresponding author? Yes No
Corresponding Author's Name
Takahiro Niikura

5. Manuscript Title
Topical Transcutaneous Application of Carbon Dioxide Using An Absorption-Enhancing Hydrogel Accelerates Fracture Repair in Rats

6. Manuscript Identifying Number (if you know it)
JBJS-D-13-01498R1

Section 2. The Work Under Consideration for Publication

Did you or your institution **at any time** receive payment or services from a third party (government, commercial, private foundation, etc.) for any aspect of the submitted work (including but not limited to grants, data monitoring board, study design, manuscript preparation, statistical analysis, etc.)?

Are there any relevant conflicts of interest? Yes No

Section 3. Relevant financial activities outside the submitted work.

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Are there any relevant conflicts of interest? Yes No

If yes, please fill out the appropriate information below.

Name of Entity	Grant?	Personal Fees?	Non-Financial Support?	Other?	Comments
CO2BE Medical Engineering Inc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	I have 60/222 stocks, but no money was paid to me.

Section 4. Intellectual Property -- Patents & Copyrights

Do you have any patents, whether planned, pending or issued, broadly relevant to the work? Yes No

ICMJE Form for Disclosure of Potential Conflicts of Interest

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Section 6. Disclosure Statement

Based on the above disclosures, this form will automatically generate a disclosure statement, which will appear in the box below.

Dr. Miwa reports other from CO2BE Medical Engineering Inc., outside the submitted work; .

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4. Intellectual Property.

This section asks about patents and copyrights, whether pending, issued, licensed and/or receiving royalties.

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ICMJE Form for Disclosure of Potential Conflicts of Interest

Section 1. Identifying Information

1. Given Name (First Name) Takahiro	2. Surname (Last Name) Niikura	3. Date 28-February-2014
4. Are you the corresponding author? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
5. Manuscript Title Topical Transcutaneous Application of Carbon Dioxide Using An Absorption-Enhancing Hydrogel Accelerates Fracture Repair in Rats		
6. Manuscript Identifying Number (if you know it) JBJS-D-13-01498R1		

Section 2. The Work Under Consideration for Publication

Did you or your institution **at any time** receive payment or services from a third party (government, commercial, private foundation, etc.) for any aspect of the submitted work (including but not limited to grants, data monitoring board, study design, manuscript preparation, statistical analysis, etc.)?

Are there any relevant conflicts of interest? Yes No

If yes, please fill out the appropriate information below. If you have more than one entity press the "ADD" button to add a row. Excess rows can be removed by pressing the "X" button.

Name of Institution/Company	Grant?	Personal Fees?	Non-Financial Support?	Other?	Comments
Nakatomi Foundation, Inc	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Grant payed to my institution

Section 3. Relevant financial activities outside the submitted work.

Place a check in the appropriate boxes in the table to indicate whether you have financial relationships (regardless of amount of compensation) with entities as described in the instructions. Use one line for each entity; add as many lines as you need by clicking the "Add +" box. You should report relationships that were **present during the 36 months prior to publication**.

Are there any relevant conflicts of interest? Yes No

If yes, please fill out the appropriate information below.

Name of Entity	Grant?	Personal Fees?	Non-Financial Support?	Other?	Comments
Grant-in-Aid for Young Scientists (B) from Japan Society for the Promotion of Science	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Grant payed to my institution
The Japan Orthopaedics and Traumatology Foundation	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Grant payed to my institution
Teijin Pharma	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Payment for lectures

ICMJE Form for Disclosure of Potential Conflicts of Interest

Name of Entity	Grant?	Personal Fees?	Non-Financial Support?	Other?	Comments
Eli Lilly Japan	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Payment for lectures
CO2BE Medical Engineering Inc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	I have 2/222 stocks, but no money was paid to me.

Section 4. Intellectual Property -- Patents & Copyrights

Do you have any patents, whether planned, pending or issued, broadly relevant to the work? Yes No

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Section 6. Disclosure Statement

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Dr. Niikura reports grants from Nakatomi Foundation, Inc, during the conduct of the study; grants from Grant-in-Aid for Young Scientists (B) from Japan Society for the Promotion of Science, grants from The Japan Orthopaedics and Traumatology Foundation, personal fees from Teijin Pharma, personal fees from Eli Lilly Japan, other from CO2BE Medical Engineering Inc., outside the submitted work; .

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This section asks about patents and copyrights, whether pending, issued, licensed and/or receiving royalties.

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Royalties: Funds are coming in to you or your institution due to your patent

ICMJE Form for Disclosure of Potential Conflicts of Interest

Section 1. Identifying Information

1. Given Name (First Name)
Yoshitada

2. Surname (Last Name)
Sakai

3. Date
28-February-2014

4. Are you the corresponding author? Yes No
Corresponding Author's Name
Takahiro Niikura

5. Manuscript Title
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Are there any relevant conflicts of interest? Yes No

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Are there any relevant conflicts of interest? Yes No

If yes, please fill out the appropriate information below.

Name of Entity	Grant?	Personal Fees?	Non-Financial Support?	Other?	Comments
Grant-in-Aid for Scientific Research (C) from Japan Society for the Promotion of Science,	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Grant paid to my institution
Research grant from The Descente and Ishimoto Memorial foundation for the promotion of sports science	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Grant paid to my institution
Asahi Kasei Pharma Corp.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Payment for lectures
Astellas Pharma Inc.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Payment for lectures
Eisai Co., Ltd.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Payment for lectures
Ono Pharmaceutical Co., Ltd.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Payment for lectures

ICMJE Form for Disclosure of Potential Conflicts of Interest

Name of Entity	Grant?	Personal Fees?	Non-Financial Support?	Other?	Comments
Takeda Pharmaceutical Company Limited	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Payment for lectures
Chugai Pharmaceutical Co., Ltd.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Payment for lectures
AstraZeneca K.K.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Payment for lectures
Glaxosmithkline K.K.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Payment for lectures
MSD K.K.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Payment for lectures
CO2BE Medical Engineering Inc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	I have 30/222 stocks, but no money was paid to me.
Asahi Kasei Pharma Corp.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Scholarship donation to my institute
Astellas Pharma Inc.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Scholarship donation to my institute
Eisai Co., Ltd.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Scholarship donation to my institute
Ono Pharmaceutical Co., Ltd.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Scholarship donation to my institute
Takeda Pharmaceutical Company Limited	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Scholarship donation to my institute
Mitsubishi Tanabe Pharma Corporation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Scholarship donation to my institute
Chugai Pharmaceutical Co., Ltd.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Scholarship donation to my institute
Kinki Gishi Corporation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Scholarship donation to my institute
Sawamura prosthetics and orthotics service Co., LTD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Scholarship donation to my institute

Section 4. Intellectual Property -- Patents & Copyrights

Do you have any patents, whether planned, pending or issued, broadly relevant to the work? Yes No

Section 5. Relationships not covered above

Are there other relationships or activities that readers could perceive to have influenced, or that give the appearance of potentially influencing, what you wrote in the submitted work?

- Yes, the following relationships/conditions/circumstances are present (explain below):
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Dr. Sakai reports grants from Grant-in-Aid for Scientific Research (C) from Japan Society for the Promotion of Science,, grants from Research grant from The Descente and Ishimoto Memorial foundation for the promotion of sports science, personal fees from Asahi Kasei Pharma Corp., personal fees from Astellas Pharma Inc., personal fees from Eisai Co., Ltd., personal fees from Ono Pharmaceutical Co., Ltd., personal fees from Takeda Pharmaceutical Company Limited, personal fees from Chugai Pharmaceutical Co., Ltd., personal fees from AstraZeneca K.K., personal fees from Glaxosmithkline K.K., personal fees from MSD K.K., other from CO2BE Medical Engineering Inc., other from Asahi Kasei Pharma Corp. , other from Astellas Pharma Inc., other from Eisai Co., Ltd., other from Ono Pharmaceutical Co., Ltd., other from Takeda Pharmaceutical Company Limited, other from Mitsubishi Tanabe Pharma Corporation., other from Chugai Pharmaceutical Co., Ltd., other from Kinki Gishi Corporation., other from Sawamura prosthetics and orthotics service Co., LTD, outside the submitted work; .

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This section asks for information about the work that you have submitted for publication. The time frame for this reporting is that of the work itself, from the initial conception and planning to the present. The requested information is about resources that you received, either directly or indirectly (via your institution), to enable you to complete the work. Checking "No" means that you did the work without receiving any financial support from any third party -- that is, the work was supported by funds from the same institution that pays your salary and that institution did not receive third-party funds with which to pay you. If you or your institution received funds from a third party to support the work, such as a government granting agency, charitable foundation or commercial sponsor, check "Yes".

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Report all sources of revenue paid (or promised to be paid) directly to you or your institution on your behalf over the 36 months prior to submission of the work. This should include all monies from sources with relevance to the submitted work, not just monies from the entity that sponsored the research. Please note that your interactions with the work's sponsor that are outside the submitted work should also be listed here. If there is any question, it is usually better to disclose a relationship than not to do so.

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Royalties: Funds are coming in to you or your institution due to your patent

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Takeshi

2. Surname (Last Name)
Ueha

3. Date
28-February-2014

4. Are you the corresponding author? Yes No
Corresponding Author's Name
Takahiro Niikura

5. Manuscript Title
Topical Transcutaneous Application of Carbon Dioxide Using An Absorption-Enhancing Hydrogel Accelerates Fracture Repair in Rats

6. Manuscript Identifying Number (if you know it)
JBJS-D-13-01498R1

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Are there any relevant conflicts of interest? Yes No

If yes, please fill out the appropriate information below.

Name of Entity	Grant?	Personal Fees?	Non-Financial Support?	Other?	Comments
NeoChemir Inc.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	I am an employee of NeoChemir Inc.

Section 4. Intellectual Property -- Patents & Copyrights

Do you have any patents, whether planned, pending or issued, broadly relevant to the work? Yes No

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Etsuko

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Okumachi

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28-February-2014

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